

Durham E-Theses

The army of Alexander the great

Stephen English

How to cite:

English, Stephen (2002) *The army of Alexander the great*. Masters thesis, Durham University.

Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a <https://etheses.durham.ac.uk/id/eprint/4162/> is made to the metadata record in Durham E-Theses
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full Durham E-Theses policy](#) for further details.

The Army of Alexander the Great

Stephen English

The copyright of this thesis rests with the author.
No quotation from it should be published without
his prior written consent and information derived
from it should be acknowledged.

Submitted for degree of M.A
Department of Classics and Ancient History
University of Durham

2002



30 MAY 2003

Thesis Title: [Faint, illegible text]

[Faint, illegible text]

Thesis

2002

ENG

Stephen English

The Army of Alexander the Great

Submitted for degree of M.A.

Department of Classics, University of Durham

2002

Abstract.

The purpose of this thesis is to be an examination of the army of Alexander the Great, concentrating upon questions of organization and equipment.

Chapter 1 considers the Macedonian heavy infantry, the *pezhetairoi*.

Chapter 2 is an examination of the hypaspists, the elite heavy infantry units of the Macedonian order of battle.

Chapter 3 is a discussion of the Macedonian cavalry. This includes the *prodromoi* as well as the more famous Companion cavalry.

Chapter 4 concentrates on the Thessalian cavalry.

Chapter 5 contains a discussion of the mercenaries and allied troops employed by Alexander.

Chapter 6 considers Alexander's Mediterranean fleets.

Chapter 7 is an examination of the siege equipment used by Alexander, particularly during siege warfare but also during field operations on occasion.

Chapter 8 is a summing up of the overall command structure of the army.

The conclusion reached is that Alexander's army was an extremely complex organization with individual elements specifically trained and equipped to perform specific tasks.

The copyright of this thesis rests with the author. No quotation from it should be published without his prior consent and information derived from it should be acknowledged.

I allow consultation by bona fide scholars without delay.

The material in this thesis has not previously been submitted for a degree in this or any other university.

This thesis contains approximately 48,500 words and thus conforms to the word limit set out in degree regulations.

Acknowledgements.

There are some people whom I would like to thank for their help at various points during the writing of this thesis.

My greatest thanks must go to Peter Rhodes, initially for his accepting my application to write this thesis, and then for his constant help and support during its research and writing. He was always available to answer any of my questions and provide constructive criticism wherever and whenever it was required. I believe myself to be extremely fortunate to have had Peter as my supervisor both during my time as an undergraduate and now as a postgraduate.

I must also extend my heartfelt thanks to Sue and Martin Foulkes for providing the excellent colour plates of the Alexander Mosaic to be found at the end of this thesis.

Table of Contents

Introduction.....	1
Chapter 1: Macedonian Heavy Infantry.....	4
Chapter 2: Hypaspists.....	46
Chapter 3: Macedonian Cavalry.....	58
Chapter 4: Thessalian Cavalry.....	99
Chapter 5: Mercenaries and Allies.....	109
Chapter 6: Alexander's Mediterranean Fleets.....	152
Chapter 7: Siege Engines.....	164
Chapter 8: Command Structure.....	182
Conclusion.....	202
Colour Plates.....	208



Bibliography: Ancient sources.....211

Bibliography: Modern Authors.....213

Introduction

*“With a small army, but distinguished for its intrinsic perfection,
Alexander overthrew the decayed fabric of the Asiatic States;
without rest, and regardless of risks, he traversed the breadth of Asia”¹*

Even today, 23 centuries after his death, Alexander is still a figure that inspires awe and respect. The sheer numbers of books published every year, both historical and fictional, along with the upcoming Hollywood movies are a testimony to the enduring quality of the story.

Alexander’s achievements as a general remain unparalleled; this thesis, however, is intended to be an examination of the instrument that made his conquest of the Persian Empire possible, his army.

Alexander’s career is largely one of a military campaign lasting some 11 years; with this in mind it is surprising indeed that the subject of his army has received comparatively slight treatment from modern scholars. There are a number of journal articles which deal with some of the individual elements within the Macedonian order of battle, and many biographies of Alexander that contain some information on the subject, but there is still no comprehensive work dedicated exclusively to this topic; it is for this reason that I believe this subject to be worthy of study.

During the course of this thesis I intend to examine each of the different elements within the army, concentrating all the while on questions of organization and equipment, as well as numbers.

The historian is always presented with difficulties of historiography: this problem is particularly acute with the historian of Alexander, partly because there are five main ancient sources, but more significantly that the earliest was writing in the 1st century A.D. Of the five sources the most reliable is undoubtedly Arrian, partly because his own career as a commander would have given him certain insights, but far more importantly that his primary sources were Ptolemy and Aristobulus who were both with Alexander and thus can be considered to provide good evidence. I do not believe, however, that the other sources should be ignored; indeed much that is extremely interesting can be gleaned from them. I also believe that wherever appropriate archaeological and visual evidence should be used, as this, again, can provide us with information not found in the written sources.²

Introduction: Footnotes.

1. Clausewitz 5.111.

2. Such as the size and weight of the sarissa for example: see chapters 1 and 3.

Chapter 1.

Macedonian Heavy Infantry.

Macedonia had always been renowned for having some of the finest cavalry in the Greek world, but it had never been a significant military power until it possessed an equally strong body of infantry. It therefore seems appropriate to begin this thesis by examining the origins and composition of this force.

The men that comprised the Macedonian heavy infantry are almost exclusively referred to collectively as “the Phalanx” by both ancient and modern authors. The adoption of this term is partly due to convenience¹ and partly due to a lack of understanding on the part of some as to the tactical role of the heavy infantry.² Throughout this thesis I have tried to avoid using this generic term, simply because in the strictest sense it should not apply to the Macedonian *pezhetairoi*. In reality the *pezhetairoi* were essentially an evolved version of the standard phalanx.

The origins of the *Pezhetairoi*.³

At some point in time it seems clear that the peasantry of Macedonia were organized into an infantry body recruited territorially. Anaximenes⁴ tells us quite clearly that at some point the infantry were given the title *pezhetairoi*,⁵ effectively making them equal in status to the Companion cavalry. Theopompus⁶ defines who

the *pezhetairoi* were and how they were recruited; these two fragments together are crucial to an understanding of the origins of the Macedonian heavy infantry and will be referred to frequently.

These two fragments unfortunately do not present us with a coherent picture; Anaximenes calls all of the Macedonian infantry *pezhetairoi*, whilst Theopompus believes them to have been picked troops, a bodyguard to the king and not front line infantry. Anaximenes attributes their creation to Alexander;⁷ Theopompus makes no statements as to their origins. What can we draw from these two accounts, were they even talking about the same thing? And who was the Alexander that Anaximenes referred to? Milns⁸ points out that the general tendency among scholars has been to accept the testimony of Anaximenes and reject Theopompus where there are contradictions; this only leaves open the question of which Alexander is meant. Some scholars have claimed that Alexander II must have been the king Anaximenes is referring to, although the brevity of his reign⁹ would tend to eliminate him from such serious reforms. That is if we assume that reforms Diodorus¹⁰ mentions occurred at the same time as the creation of the *pezhetairoi*. Diodorus and Anaximenes can only be reconciled if we assume that Alexander II conceptualized the new force and Philip II actually created it. The belief that Philip II was the originator of the *pezhetairoi* has had some significant proponents, including Tarn, Plaumann, Kaerst and Milns.¹¹

Momigliano¹² argued that the Alexander Anaximenes is referring to must be Alexander I and dismisses any possibility that it could be Alexander II simply on the grounds that if it were Alexander II, then the reforms made by Archelaus mentioned in Thucydides¹³ would be reduced to nothing. This argument, however, is unsound as it relies upon a dubious interpretation of Thucydides¹⁴ and ignores the evidence of Polyaeus¹⁵ and Xenophon,¹⁶ both of whom tell us clearly that even as late as the early 4th century, Macedonia still possessed no properly trained or equipped infantry forces.

Milns¹⁷ points out that Demosthenes in the *Second Olynthiac*¹⁸ makes a clear distinction between the privileged position occupied by the *pezhetairoi* and the mass of the Macedonians, who derived no benefits from Philip's policies. His conclusion, therefore, is that the *pezhetairoi* were not the whole body of infantry that Macedonia possessed, but a select body of guards, equivalent to the *hetairoi* cavalry, and that it is the creation of this body to which Anaximenes refers. If this theory were correct then it was this original unit of guards that was expanded and evolved into the *pezhetairoi* that we recognize from the reigns of Philip and Alexander. This theory satisfies Theopompus¹⁹ but does not satisfy Anaximenes, who stated that Alexander gave the name to the majority of his men. Griffith²⁰ adds the very sensible point that Theopompus could have been referring to the *pezhetairoi* as he knew them in the late 340's and that therefore Theopompus' claim that they were an elite group and not the entire body of Macedonian infantry is reasonable. If this is correct then the only way to reconcile the two passages is to

assume that the Alexander being referred to is Alexander III, and that the reform was not a significant military one, but that Alexander simply widened the use of the term *pezhetairoi* to include all members of the heavy infantry, at the same time widening the use of the term *hetairoi* to include all of the Macedonian cavalry. This would have had the effect of bonding the troops more closely to the person of the king and slightly reducing their regional ties and the ties to their commanding officers.²¹

The most reasonable argument therefore is that at some point in history, perhaps the reign of Alexander I,²² an elite group of infantry was created, whilst at the same time the main body of infantry was also trained and equipped in a similar or identical manner, and that it was during the reign of Alexander III that the term *pezhetairoi* was expanded in use to include all of the phalanx infantry. Alexander III was therefore simply changing the nomenclature and status of existing troops rather than instituting some major reform.

What then happened to the original *pezhetairoi* after Alexander, whichever Alexander that may have been, expanded the use of the term? Milns²³ argues that it would be logical to assume that their elite status and special relationship to the king would continue to be recognized in some way and that they would not simply have been absorbed into the phalanx along with the rest of the heavy infantry. He tentatively therefore proposes that the preexisting elite infantry unit was now given the name hypaspists with which we are so familiar from the pages of Arrian.²⁴

Creating the army.

Now that we have seen the origins of the *pezhetairoi* we should turn to the question of their training and how they were persuaded to fight with such ferocity and dedication through almost countless battles.

In order to create an army, civilians need to become militarized. Throughout different periods of history this process has involved a number of classic elements; these could include the wearing of a uniform, uniformity of equipment amongst individual units, the swearing of an oath and training designed to engender conformity and solidarity, participation in social events and the playing of competitive games etc. The creation of the Macedonian army showed many of these classic features: a uniform was probably worn; combining this with conformity of offensive equipment amongst the leading units of the army would have led to considerable uniformity of appearance.²⁵ To exactly what extent Philip and Alexander attempted to create complete uniformity of dress and defensive equipment is far from clear. The historical sources mention little on this subject and the pictorial evidence is too limited to decide the point, and questions such as a possible change from the use of the Phrygian helmet to the Boeotian within the cavalry, the usage of the *pilos* helmet within the infantry and even the use of the Macedonian star symbol on shields is all open to debate.²⁶ All we can say is that

there was probably considerable if not complete uniformity of dress and equipment amongst the leading units of the Macedonian army.

The swearing of an oath²⁷ to the king was also a feature of the training of the Macedonian troops. The training programme itself was particularly rigorous, a revolution in fact: nothing quite like it had been seen in the ancient world before this time.²⁸ Diodorus²⁹ describes it as follows: -

“...having put their military organization on a sounder footing and equipped the men with appropriate weapons of war, he held unremitting exercises in full kit as well as competitive exercises.”

Polyaenus³⁰ gives us a little more information: -

“Philip used to train the Macedonians before they underwent dangers to march with full kit often three hundred stades carrying at one and the same time helmets, shields, greaves, pikes, and, as well as their weapons, provisions and utensils for their daily fare.”

Frontinus³¹ tells us that the stamina produced by such a training programme was quite deliberately used by Philip to wear down his opponents at Chaeronea. Alexander clearly understood the importance of these training principles that his father had introduced: at the very beginning of his reign Diodorus³² tells us that he

ordered his army to undertake regular manoeuvres. After the campaigns at Miletus and Halicarnassus, Alexander spent time putting his troops through a rigorous training programme, and when 30,000 Persian youths were to be incorporated into the army they were ordered to be trained in the Macedonian way of war and with Macedonian weapons.³³ The efficiency of what this system produced is best described by Curtius: -³⁴

“With attention fixed on the nod of their commander, they have learned to follow the standards and keep their ranks; what is ordered they obey to a man. When it comes to standing fast, executing enveloping manoeuvres, running to the wing, changing battle order, the soldiers are every bit as skilled as their leaders”

Lloyd describes this discipline as a sort of “corporate unity”,³⁵ a feeling that would have been reinforced by ceremonial parades in full battle order,³⁶ and further reinforced by the use of the terms ‘Companion Cavalry’ and ‘Foot Companions’, the latter which Alexander had expanded in meaning to include all of the phalanx infantry rather than simply an elite body-guard, as we saw earlier.

This solidarity was further reinforced by what amounted to the playing of team games; hunting was a particular favourite amongst Macedonians. The scene depicted in tomb II at Vergina³⁷ probably shows a royal hunt and gives a good illustration of this preoccupation, one which can be amply supported by the sources: The conspiracy of the pages occurred after a royal boar hunt,³⁸ and whilst

in India Alexander took part in the hunting of elephants.³⁹ Alexander won great personal renown by personally hunting and slaying a lion during which episode Plutarch⁴⁰ links the ethos of hunting with that of the warrior. The hunting of less fearsome quarry was also undertaken;⁴¹ apparently the act of hunting was enjoyable in itself, even if the animal being hunted was of no threat to the hunter.

Highly organized competitive games were also played relatively frequently throughout Alexander's reign. It is by no means surprising that they tended to be played at critical junctures during the campaign when group solidarity needed to be reinforced or when there was some other pressing psychological need. Soon after the crossing into Asia Minor, when the army visited Troy, Alexander held a competitive race with the Companions in honour of Achilles.⁴² Whilst in India,⁴³ after the army had refused to follow Alexander any further, he was presented with an acute problem of how to restore solidarity and repair the psychological damage the army's refusal had caused; part of this process was again to hold competitive games.⁴⁴ Even during less stressful times games played an important role in creating and maintaining the army's spirit: Plutarch⁴⁵ tells us of Alexander and his Companions playing some kind of ball game together, and it is clear that banquets would often be punctuated by contests or games of one kind or another.⁴⁶

A further important factor in the creation of an effective army is its attunement to violence; this comes either naturally because of the society from which the individuals come, or is imparted artificially.⁴⁷ In this regard the Macedonians were

almost uniquely positioned: even during times of peace, which were rare, they lived a vigorous outdoor lifestyle which was not conducive to the development of more delicate sensibilities. Further to this, decades of almost ceaseless warfare must have left them almost totally desensitised to violence, a sadly desirable quality when forging an army.

The final factor essential for creating an army was leadership. The leadership provided by both Philip and Alexander is legendary, but this is far from the whole story. We should not forget that quality leadership was spread liberally throughout the army. Whether Alexander's officers were new or inherited from Philip they were generally of the highest quality, men like Parmenio, Perdiccas, Coenus, Cleitus, Ptolemy, etc. It is clear that Alexander took great care in selecting and training his officers,⁴⁸ time that was evidently well spent. These officers are often, unsurprisingly, overshadowed by Alexander in the sources, but they are praised by Curtius⁴⁹ for their bravery during the battle of Gaugamela.

Organisation – The Commanders.

In Greek warfare a phalanx was a heavily armed mass of infantrymen who fought as a coherent mass. They wielded spears in their right hands and carried a large shield in their left. This led to the tendency described by Thucydides⁵⁰ for men to move not only forward, but to the right as well in order to gain greater protection from the shield of the hoplite stationed there.⁵¹ The hoplites that fought in these

phalanxes were relatively untrained, being citizens of the various city-states who were pressed into service as situations demanded. The hoplite phalanx was therefore a relatively inflexible body mostly incapable of complex manoeuvres.⁵² The hoplite phalanx also possessed an individual commander. The Macedonian heavy infantry on the other hand were a highly trained professional force; they were extremely flexible and capable of fighting on any terrain that Alexander encountered during the campaign. The *pezhetairoi* were organized into 6 distinct *taxeis*, each having its own *taxiarch*.⁵³ Each individual *taxis* could be used as a separate tactical unit, or be grouped together with other *taxeis* or other units to form what the Wehrmacht would have termed Kampfgruppen.⁵⁴ The Macedonian heavy infantry possessed no overall commander; these factors being considered as a whole it is clear to see that the Macedonian *pezhetairoi* represent something of an evolution from the standard phalanx.

The army of invasion contained 6 *taxis* of heavy infantry and 3 of hypaspists,⁵⁵ totalling 12000 men.⁵⁶ Each *taxis* had a nominal strength of 1500 men, giving a total of 9000 *pezhetairoi* with the invasion force. Diodorus tells us that an equal number, 12000, infantry were left behind in Macedonia with Antipater.⁵⁷ We are not explicitly told but the obvious assumption is that there were 9000 *pezhetairoi* and 3000 hypaspists, the same as there were with the invasion force.

The battle of Gaugamela was the first instance where Alexander needed every available man and is therefore what Tarn⁵⁸ describes as a 'fixed point'. We know

for certain that there were 6 *taxeis* at Gaugamela. All are named by Arrian,⁵⁹ those commanded by: - Perdikkas, Craterus, Coenus, Amyntas, Meleager and Polyperchon. Amyntas, although named, was not present at the actual battle; he was away recruiting in Macedonia. Who actually commanded his *taxeis* is far from clear; Tarn⁶⁰ and Berve⁶¹ both opt for Simmias, but Bosworth⁶² points out that this is the minority choice, believing that Aristobulus was in command, although the vulgate sources name Philippus as the temporary commander. Amyntas died in Drangiana⁶³ and his brother, Attalus, was given his command. Meleager, Polyperchon and Attalus all outlived Alexander and maintained their commands until his death; they may therefore be regarded as fixtures. But between the assault on the Persian Gates and his return from India we are given the names of 6 other *taxiarchs*,⁶⁴ Alcetas, Antigenes, Cleitus the White, Gorgias, Peithon and Philotas; whilst 3 of the original *taxiarchs*, Craterus, Coenus and Perdikkas, were given promotions to various positions. What may be regarded as another 'fixed point' was the battle of the Hydaspes; here there are clearly 7 *taxeis*.⁶⁵ How do all of these names fit together? Berve⁶⁶ believed that there were in fact 9 or 10 *taxeis* in India but there is no positive evidence of reinforcements from Macedonia arriving after 330, and therefore there could not have been the increase in numbers required to create another 2 or 3 *taxeis* after the battle of the Hydaspes as would be required by Berve's theory. The additional names can probably be accounted for as being temporary commanders such as Simmias⁶⁷ at Gaugamela. Let us now look at each of the *taxeis* individually to discover how many *taxeis* there were and who were the commanders.

There were three taxiarchs who remained in their positions until after the death of Alexander: as mentioned above, these were Meleager, Polyperchon and Attalus, and they therefore require no further comment.

Perdiccas' *taxis*.

Perdiccas' *taxis* is not mentioned again after the battle of Gaugamela and we know that he was promoted before Sogdiana;⁶⁸ his *taxis* therefore must have been given a new permanent commander and therefore a new name. At the Persian Gates Philotas appears as taxiarch. Tarn⁶⁹ believes it can only be the *taxis* formerly commanded by Perdiccas that is being referred to. This is unlikely to have been an extra battalion as Berve⁷⁰ supposed, because Alexander had not had the time for any reorganization between Gaugamela and the Persian Gates,⁷¹ and the only place he received any Macedonian reinforcements was Susa and we are told specifically that they were incorporated into the 6 existing *taxeis*.⁷² There is, however, a problem: when Ptolemy was detailed to capture Bessus, he was given command of a number of troops that included Philotas' *taxis*;⁷³ these were the only heavy infantry troops he was assigned. The problem occurs in Arrian 4.24.10: Alexander formed two columns, commanded by Ptolemy and Leonnatus, besides that commanded by himself. Arrian clearly implies that Ptolemy was given 2 *taxeis*, those of Philotas and Philippus. Philippus' *taxis* cannot have been a heavy infantry *taxis* because there were 7 at the Hydaspes and the 7th *taxis*, that of Cleitus, had

already been named.⁷⁴ The solution that Tarn⁷⁵ proposes and Bosworth⁷⁶ in general terms agrees with is that the term *taxis* was used by Arrian as a utility word, and could refer to units outside of the heavy infantry. Both Philotas and Leonnatus were given 2 *taxis*, in Leonnatus' case those of Attalus and Balacrus; this latter is clearly the unit of javelin-men that Balacrus commanded at Gaugamela⁷⁷ and the Jaxartes.⁷⁸ Bosworth⁷⁹ is opposed to the view that *any* heavy infantry were used in this campaign: he points out that speed and mobility were all important, and that a phalanx battalion would be ill equipped and entirely unsuitable for such an operation. I believe that there were in fact two *taxis* involved in this campaign, those of Philotas and Attalus, and I will hope to show that the Macedonian heavy infantry were in fact nothing of the sort when compared to other infantry troops of the day, and that at times like these they may well have used a regular infantry spear, rather than the sarissa, in order to gain greater speed and mobility.

Craterus' *taxis*.

There was no change in command of this *taxis* until the army reached Bactra. When Alexander set off to suppress the revolt in Sogdiana, he left Craterus in military command of the region of Bactria.⁸⁰ After this time Craterus regularly acted as essentially Alexander's second-in-command, often with licence to act independently. It is unlikely that he could have held this new post and retained command of his *taxis*; it must then, have been given a new taxiarch. We know that 4 *taxis* were assigned to him in Bactria,⁸¹ those of Polyperchon, Attalus, Meleager

and Gorgias.⁸² The first three names are fixtures as already noted, but this is the first time we meet Gorgias as commander of a *taxis*, and presumably it must be that formerly commanded by Craterus as his former troops would more than likely still be under his overall command. When Alexander returned from Sogdiana he sent Craterus to Catanes and Austanes to reduce these areas;⁸³ Craterus was assigned 4 *taxeis* for the task, presumably the same 4 which he had formerly commanded: they were called those of Polyperchon, Attalus, Alceitas and 'his own'.⁸⁴ 'His own' probably refers to the *taxis* formerly commanded by Craterus, but now under the command of Gorgias. The third of the *taxeis* mentioned was commanded by Meleager and not Alceitas. Alceitas did not gain a command until Gandhara; Tarn⁸⁵ believes this to be a simple mistake of Arrian.

Coenus' *taxis*.

Coenus was certainly still commanding his *taxis* in Gandhara⁸⁶ but was promoted to the command of a hipparchy of cavalry probably at Taxila,⁸⁷ a hipparchy which he later commanded at the Hydaspes; his battalion must therefore have received a new commander. There are 3 names of *taxiarchs* that we have not accounted for, those of Cleitus the White, Antigenes and Peithon; who therefore was Coenus' successor? It certainly was not Cleitus as Alexander had Coenus' *taxis* with him in Gandhara⁸⁸ whilst Cleitus' *taxis* was with Hephaestion and Perdikkas.⁸⁹ Peithon is not mentioned in the narrative until much later and so, Tarn believes, the new commander of Coenus' *taxis* must have been his son, Antigenes.⁹⁰ The 7 *taxeis* at

the battle of the Hydaspes are therefore those of Alceitas and Polyperchon,⁹¹ Meleager, Attalus and Gorgias,⁹² Cleitus and Coenus.⁹³ By this time as we have just mentioned Coenus was no longer commanding his *taxis*, he had been promoted to command a hipparchy, his battalion now being commanded by Antigenes. We can be certain that Antigenes did in fact command a *taxis* in the battle,⁹⁴ and there is no real alternative to assuming it was that of his father, Coenus, even though the old battalion name was still being used. After the battle of the Hydaspes, Coenus' *taxis* is named as such a further 2 times. It was left behind at the Acesines⁹⁵ with Coenus himself shortly before his death and is referred to as Antigenes' *taxis* thereafter.

Cleitus' *taxis*.

As mentioned previously Alexander originally possessed 6 *taxeis*; Cleitus' was the seventh. It is specifically named for the first time soon after the army crossed the Hindu Kush Mountains and its origins therefore can be dated to Bactra.⁹⁶ Alexander took Cleitus' *taxis* with him when he crossed the Hydaspes, along with that of Coenus. Coenus' *taxis* can legitimately be regarded as one of the foremost *taxeis* of the heavy infantry as it was selected to lead the attacks on both Tyre and Aornus. It is likely therefore as Alexander picked these 2 *taxeis* that the new 7th battalion was not made up of raw recruits. Tarn⁹⁷ believes that it was a seasoned *taxis* sent to Asia by Antipater after his defeat of Agis, the Spartan king.

On the death of Coenus, which occurred just before Alexander set sail down the Indus, Cleitus was promoted to the command of his hipparchy as noted above, and Peithon⁹⁸ took over the command formerly held by Cleitus. This battalion appears under the name of Peithon for the first time during the Mallian campaign.⁹⁹ This man is not the same Peithon who was later named as being the son of Agenor, the future satrap of Sind. This Peithon is clearly an important individual. He was given the temporary command of 2 hipparchies as well as his own *taxeis* during the Mallian campaign:¹⁰⁰ this is a position that a mere taxiarch would never have held, as a hipparch was of higher rank than a taxiarch and the former therefore would not have been placed under the command of the latter. Tarn¹⁰¹ believes this Peithon to be the bodyguard, the son of Craterus, who was holding the interim command of a *taxeis* but was in fact no ordinary taxiarch.

The evidence therefore seems to support the idea that there were 6 heavy infantry *taxeis* until the army reached Bactra, at which point a 7th was introduced. Whether Antipater had sent this 7th *taxeis* is an interesting idea but not wholly relevant; the 7th battalion certainly existed, we can also say with reasonable assuredness that there were never more than 7 *taxeis*.

Infantry Equipment.

We should begin this section by discussing the principal offensive weapon of the heavy infantry, the sarissa, or pike, before going on to discuss the defensive equipment that they used. This section relies heavily upon Manti¹⁰² and Markle.¹⁰³

The literary evidence can tell us much about the sarissa. Appian¹⁰⁴ describes the infantry sarissa as a “long spear,” whilst the anonymous Byzantine historian¹⁰⁵ contrasts the “long spear” of the infantry with the “spear” of the cavalry and Aelian¹⁰⁶ contrasts the *dorata*¹⁰⁷ of the peltasts with the sarissa of the heavy infantry, noting that the Macedonians were armed with a much longer weapon. Lucian¹⁰⁸ tells us that the sarissa had a sharp iron blade at the fore and a spike on the aft of the weapon, in order that the pike might be dug into the ground so as to impale a charging horseman or infantryman. The butt-spike also acted as a counter balance,¹⁰⁹ allowing the weapon to be held closer to the aft, enabling more of the weapon to be projected to the front of the infantryman.

Theophrastus,¹¹⁰ a contemporary source, tells us that the longest sarissa was 12 cubits, or 18 feet;¹¹¹ whilst Asclepiodotus¹¹² adds that smallest pike was not shorter than 10 cubits, or 15 feet.¹¹³ Soon after the death of Alexander, around 300 Cleonymus of Sparta had increased the length of the sarissa to 16 cubits,¹¹⁴ and in addition to this 16 cubit pike a 14 cubit one was also issued; this was the one which was most commonly used.¹¹⁵

The shaft of the sarissa was made of cornel wood¹¹⁶ which gave the best combination of straightness, hardness and elasticity,¹¹⁷ in these respects cornel wood was believed to be superior to all other woods available. Cornel wood was also deemed suitable because of its great abundance throughout the Balkans, and was common as far east as Syria.

From a brief examination of the literary evidence we can draw a number of conclusions:-

1. The infantry sarissa was longer than the cavalry sarissa, and longer than the standard spear and javelin.
2. The infantry sarissa was issued in 10, 12, 14 and 16 cubit lengths.¹¹⁸
3. The sarissa was constructed from a cornel wood shaft.
4. An iron blade was affixed to the fore of the weapon, and a butt-spike was affixed to the aft to dig into the ground or act as a counterweight.

The visual evidence can provide us with more information. The Boscoreale mural, which probably depicts Alexander IV, the son of Alexander the Great, his wife Roxanne and his tutor,¹¹⁹ shows the figure of Alexander IV holding a sarissa, the upper part of which is hidden by the architrave above and behind him.¹²⁰ The weapon can be identified as an infantry sarissa because of its evident size, even though much of it is not visible, and from the buttspike that is clearly visible in the

foreground, distinguishing it from a cavalry sarissa as this had a large weapon head on its aft point.¹²¹ The shaft of the sarissa appears to be of approximately uniform diameter throughout its visible length. Tightly wound around the shaft at a point closer to the aft than the fore of the weapon is a cord of some unknown material, most likely leather. This is undoubtedly a handgrip serving two main purposes, to ensure that the user was able to hold the weapon if it became slippery during battle, and to define where the weapon was to be held. This essentially ensured that every infantryman carried the weapon in the same position so that each pike projected an identical length in front of and behind each individual soldier.¹²² This corded grip is quite distinct from that found on the cavalry sarissa, which consisted of a shoulder strap and wristloop.¹²³

The Alexander mosaic (Plate 1) is an intriguing piece of evidence; it probably depicts Alexander's final charge at the battle of Issus, with the figure of Alexander wielding a sarissa (Plate 2). The weapon is something of an oddity: it possesses a hand grip but no wristloop as would be expected on a cavalry sarissa, and is in this regard identical to the weapon in the Boscorale mural. The sarissa wielded by the figure of Alexander is also quite different from that lying broken in the foreground in front of Alexander (Plate 5).¹²⁴ The portion of the mosaic that would depict the aft of Alexander's sarissa is missing, but the large weapon head along with the shaft which appears to be both thicker and longer than that of the cavalry sarissa on the ground strongly suggests that Alexander is being portrayed as wielding an infantry sarissa whilst on horseback. Militarily the wielding of a pike by a

cavalryman is next to impossible: it would have been simply too long and too heavy to have been wielded effectively in one hand, and would have been almost as difficult in two. Yet it is the wielding of such a weapon that Markle¹²⁵ expects us to believe when he says that "...the cavalry sarissa differed in no significant way... from the infantry sarissa".¹²⁶ It is also more probable that Alexander would have used his back-up weapon, his sword, rather than pick up a virtually useless infantry sarissa.

The shafts of the sarissas depicted on the mosaic all appear to be of uniform diameter (Plates 1, 2 & 4) and all possess the same weapon head. They also all appear to be equipped with a small tube just behind the weapon head. This tube is of the same colour, and thus presumably the same material, as the weapon head. This tube, hereafter referred to as a foreshaft guard (Plate 4), is of such a size that it would extend down the shaft to a point roughly equal to the level of the next row of sarissas protruding from the line. Its primary purpose therefore is to prevent sword-armed opponents from hacking the blade off the sarissa and thus rendering the weapon useless.¹²⁷ Markle¹²⁸ noted the existence of this "tube", but concluded that it was a coupling-sleeve designed to join the two halves of the sarissa together, therefore obviously assuming that the sarissa was actually a two-piece weapon and not a single shaft. This is a highly unlikely conclusion as it would be very difficult for any join to be strong enough to hold two very lengthy and very heavy halves of a pike together.

The pictorial evidence for the infantry sarissa provides a level of support for the literary evidence; from the pictorial evidence alone we can conclude: -¹²⁹

1. The infantry sarissa had a large bladed weaponhead on the fore part of the weapon and a buttspike on the aft.
2. A foreshaft guard was positioned flush with the weaponhead to protect the shaft from being severed by an enemy.
3. The shaft was uniform throughout its length.
4. There was a (probably leather) grip wrapped around the shaft of the weapon towards the aft, partly designed to ensure the weapon would not slip and partly to ensure that every man wielded the weapon in the same position.

The material remains can provide us with yet more information. The numbers of sarissa heads, along with spear and javelin heads that have been found, are of sufficient quality and quantity to be able to distinguish between them. The artifacts found at Vergina include the iron parts of both infantry and cavalry sarissas along with hoplite spears and peltast javelins. The ordinary spear found at Vergina in tumulus 68 burial E¹³⁰ had an iron spear head 10 7/8 in. long and 4 ½ oz. in weight and an iron buttspike of 2 ½ in. in length and a weight of 1 ½ oz. The spearhead and buttspike were found 6ft.2in. apart with some fragments of wood in the intervening space; the ordinary spear therefore can be assumed to be 7.32 ft. in length and weighing 2.5 lbs. Total. The cavalry sarissa consisted of a double-edged flaring aft blade of length 19 ½ in. and weight of 1.16 lbs, and a smaller fore

weapon head of 11 in. in length and 0.59 lbs. Total length of around 9 feet and weight of 4.2 lbs.¹³¹ The infantry sarissa consisted of a 4 sided tapering buttspike, total length of 18 in. and weight 2.3 lbs. and a pointed weapon head with a large flaring double-edged blade of length 20 3/16 in and 2.7 lbs. Weight. It also included a foreshaft guard, discussed above.

The fragments of the infantry sarissa can be identified as such for several reasons:-

1. The presence of the foreshaft guard and buttspike confirms the literary and visual sources.
2. The similar socket diameters of both weapon heads and the foreshaft guard show they came from a weapon with a larger shaft than the ordinary spear, javelin or cavalry sarissa.
3. The much greater size and weight of the weapon heads of the pike compared to the lance, spear or javelin.

The physical remains of the infantry sarissa clearly confirm the existence of such a weapon and furthermore confirm the literary and visual sources. The archaeological evidence considered in isolation can tell us the following: -

1. The fore weapon head is both longer and heavier than the buttspike; the foreshaft guard places even greater weight to the fore of the weapon.

2. Both the fore and aft weapon heads of the infantry sarissa are larger and heavier than the corresponding elements of the cavalry lance and the spear/javelin.
3. The similar socket diameter of the weapon heads and the foreshaft guard show the shaft of the pike to have had a uniform cross-sectional area throughout its length.

Summing up the evidence.

Whilst marching in open order each pikeman occupied a space of 4 cubits (laterally).¹³² The open order was employed for route marching¹³³ but was also employed in certain combat situations in order to close with the enemy quickly whilst at the same time minimising casualties from projectile weapons. It could also be employed defensively if the enemy might be expected to use chariots or even carts or wagons.¹³⁴ In close order each man occupied 2 cubits of space:¹³⁵ this formation was the standard formation for manoeuvring on the battlefield¹³⁶ and for fighting when a broad front was required or when less disciplined troops were encountered.¹³⁷ The final formation employed by the Macedonian heavy infantry was the compact order, or locked-shield formation, during which time each man occupied only 1 cubit of space.¹³⁸ The compact order was used to engage an enemy which was equally disciplined,¹³⁹ or when weight of numbers was more important than frontage; this formation was especially useful defensively to combat a charge by infantry or especially cavalry.¹⁴⁰ When wielding the sarissa in both hands it would be necessary to rotate the shoulders so that they would essentially face the

enemy; thus a smaller space would be required left and right of each pikeman. Thus 1 cubit spacing could be achieved laterally; it would not realistically be possible for each rank to be closer than 2 cubits to the man in front or behind because the spacing of the hands on the weapon required additional space, thus 2 cubit intervals were maintained from rank to rank.

The Macedonian heavy infantry *taxeis* required very disciplined rank-depth spacing. Using a 14-cubit sarissa as an example, 4 cubits were taken up by the spacing between the infantryman's hands, and by the weighted rear portion of the weapon up to the buttspike. This left 10 cubits to project in front of the pikeman. In this case 4 ranks of sarissa would extend beyond the front rank at 2 cubit intervals and thus 5 ranks of sarissa heads would extend towards the enemy for each rank of infantry. The sarissa of the second rank would project 2 cubits behind those of the front rank, the 3rd rank's sarissa 2 cubits behind that etc. The 2 cubits of each weapon that projects in front of the next rank of weapon heads would be protected by its foreshaft guard, preventing an enemy from hacking off the sarissa head.¹⁴¹ Projecting towards the enemy, then, was what would have looked like a virtually impenetrable wall of large spear heads. At the battle of Issus Curtius¹⁴² described the Macedonians as an army gleaming not with gold and silver, but with iron and bronze; it would have been an awe-inspiring sight indeed.

The relative effectiveness of this kind of formation required a high degree of discipline and training in each member of the *taxis*, but most particularly in the

front few ranks. This is why the front 2 ranks were manned by officers who earned a higher rate of pay than the rest, although Curtius tells us that the common soldier was no less skilled than the officers.¹⁴³ The formation would only work if every sarissa head was positioned correctly in relation to every other sarissa around it; otherwise gaps would form in the front of the line that could be quite easily exploited by even a relatively competent enemy. The extreme length of the sarissa was a huge tactical advantage for the Macedonian heavy infantry when first encountering an enemy who was equipped as a peltast or as a hoplite. Several ranks of enemy could be killed before the Macedonians were seriously threatened. It was a weapon that also brought with it serious disadvantages. The very size and weight of the weapon meant that it was extremely unwieldy, and crossing broken ground, such as a river, was difficult¹⁴⁴ The very nature of the weapon also meant that it provided almost no defensive protection: a short spear or a sword (Plate6) could be employed to some extent to fend off an enemy blow, but not a sarissa. If it were dropped so that the infantryman could use his secondary weapon, a sword, in combat, then gaps in the line would immediately open in the 'wall of sarissas'; thus the main advantage of the weapons around it would be lost. Coupling this with the almost complete lack of defensive equipment (discussed below) I would conclude that the Macedonian heavy infantry were not at all a defensive formation, but were a strike weapon in much the same way as the Companion cavalry. A hammer and anvil analogy is often employed to describe the Macedonian army, with the Companions as the hammer and the heavy infantry as the anvil. This would imply that the phalanx was fundamentally defensive: it certainly was not. If this analogy

is to persist then the Thessalian cavalry should be described as the anvil, not the heavy infantry, as it is they who essentially performed a defensive role on the battlefield.¹⁴⁵

Defensive Equipment.

We have a number of literary clues as to the equipment employed by the heavy infantry, Polyaeus¹⁴⁶ tells us that Philip, in order to train his troops, had them march 300 stadia under arms with their helmets, shields, greaves, pikes and also their provisions. The Amphipolis Code¹⁴⁷ generally agrees with Polyaeus' list and states that fines were imposed for the loss of any pieces of equipment.

Since the sarissa required the use of both hands in order to wield it, the infantryman could only carry a small shield suspended from the neck and covering his left shoulder.¹⁴⁸ Asclepiodotus¹⁴⁹ is our only source for the diameter and shape of the shield: he tells us that the Macedonian shield was made of bronze and that it was 8 palms in width and not too hollow. There is little doubt that the Greek palm equated to 3 inches,¹⁵⁰ so the shield was 24 inches in diameter; the diameter of hoplite shields excavated at Olympia ranged from 31 to 39.3 inches.¹⁵¹ It is unfortunate that these small shields are never portrayed in ancient art,¹⁵² but the reason for this is obvious enough: if a depiction of the sarissa armed infantry did exist then the sarissa would so dominate the scene that the shields would either be left off by the artist or completely hidden. Markle¹⁵³ proposed that the sarissa

would not have been the only weapon employed by the heavy infantry; he believes that they did not use it at the Granicus or at Issus, and that infantry that accompanied Alexander on operations that required speed and endurance would also not have carried the sarissa and small shield. He believed that at these times they would be equipped as regular hoplites, with a spear and hoplite shield.¹⁵⁴ Whilst this theory appears superficially interesting, there is no evidence that Philip or Alexander ever ordered the production of large numbers of hoplite panoplies for the heavy infantry.¹⁵⁵ The expense alone would have been prohibitive, especially early in Alexander's reign when we know that gold was scarce. The training required for the heavy infantry to have operated with both types of equipment would also tend to indicate that hoplite panoplies were never used.¹⁵⁶ It seems most likely that during situations when the sarissa was inappropriate a regular hoplite spear or javelin would be used, along with the small shield. The situations that Markle describes¹⁵⁷ where speed is required would themselves suggest that relatively little equipment was used; a full hoplite panoply would probably slow down and sap the endurance of troops far more than carrying the sarissa would. It is further unlikely that the baggage train would be employed to carry vast panoplies of equipment that were not at any given time being used. We know that Philip placed the greatest emphasis on speed and mobility, to such an extent that he banned carts and severely limited the number of servants that accompanied the army.¹⁵⁸ It is far from clear if Alexander was quite as strict as Philip in this regard, but it is likely that he did adopt similar ideas. Although there were certainly more people that attached themselves to the army as it advanced through Asia these

people would generally have been left to trail miles behind the army; Alexander would not have allowed them to slow his progress.

The heavy infantry wore very little armour. In order that mobility be achieved the weight of equipment had to be reduced: it is usually believed that the mass of sarissas offered a measure of protection, thus rendering the corslet a burdensome and expensive luxury. There was also a financial necessity for reducing the amount of equipment as Philip and Alexander could equip far more troops with lighter armour than they otherwise could have done. The corslet was not totally abandoned, however: officers tended to be issued with one, partly as a status symbol and partly as a necessity. These officers were then stationed in the front 2 ranks of a *taxis*, these ranks being in the greatest need of protection. Thus the heavy infantry achieved the greatest combination of defence with mobility and offensive capability.

The Problem of the *Asthetairoi*.

There are 6 instances in Arrian where the correct manuscript reading is *asthetairoi* and not *pezhetairoi*.¹⁵⁹ The word itself occurs nowhere else in ancient literature and therefore begs the obvious question, what are the *asthetairoi*?. The word appears on one occasion¹⁶⁰ in the same sentence as *pezhetairoi* and Milns¹⁶¹ argues on this basis that this is not simply another name for the *pezhetairoi*; he suggests a similar argument can be applied to the hypaspists. Bosworth agrees with Milns on this

general point, that “the *asthetairoi* are a hitherto unrecognized unit of the Macedonian Infantry”.¹⁶² It is clear from the context in which *asthetairoi* is used each time that Arrian is referring to a unit of Macedonian heavy infantry with some special connection to the king¹⁶³ and performing no discernibly different function from the *pezhetairoi*. The first reference to *asthetairoi* seems to indicate that there is only 1 *taxis*, but all later references describe them in the plural, *taxeis*, indeed 2 passages strongly imply that the total number of *asthetairoi taxeis* is equal to half the total *taxeis* of heavy infantry in the Macedonian order of battle.¹⁶⁴ Bosworth¹⁶⁵ notes that at least 2 of the *taxeis* called *asthetairoi*, those of Coenus, Polyperchon and Alcebas, were originally recruited from the old kingdom of Upper Macedonia, he concludes that *asthetairoi* was a “technical term, used to denote the infantry from Upper Macedonia”. Bosworth goes on to say that “These troops were absorbed into the national army long after the infantry had been organized into regular cadres”.

Bosworth then, believes the *asthetairoi* to be a generic term applied to any unit of heavy infantry recruited from Upper Macedonia. Goukowsky¹⁶⁶ however believes the *asthetairoi* to be not whole *taxeis*, but a subdivision, a *corps d'elite* within each *taxis*. This theory is not wholly convincing: at several places, notably 2.23.2, Arrian clearly seems to be applying the term to Coenus' *taxis* in full, suggesting that the entire *taxis* carried the title not simply a part of it.¹⁶⁷ The context does describe the storming of the walls of Tyre using assault bridges mounted on ships, so the entire *taxis* could not have taken part, but neither could the entire unit of hypaspists that

accompanied Alexander, and they are still referred to using their standard title.

Both Coenus and Alexander took as many men with them as they could cram into their ships; there is no hint that these men were a specially selected elite.

Griffith proposed an entirely different answer:¹⁶⁸ he argued that during the siege of Tyre when Arrian makes his first reference to the *asthetairoi* there is clearly only 1 unit that is described as such, that of Coenus.¹⁶⁹ He goes on to argue that at Issus Coenus' *taxis* had been "promoted"¹⁷⁰ from the position it had held at the Granicus and that during both the battle of Issus and Gaugamela it held the position of honour on the extreme right of the heavy infantry,¹⁷¹ next to the hypaspists. On this reading, then, the term *asthetairoi* was a battle honour, recognition of particular bravery, and the fact that they were from Upper Macedonia is incidental.¹⁷²

Griffith's case is strengthened when we consider that the number of *asthetairoi* units did increase over time to a point where half of the *taxis* were thus described: if this is the correct interpretation it would be an interesting piece of propaganda on Alexander's part, as it would have the effect of bonding these units even more closely to the person of the king and reduce regional affiliations and loyalties to individual taxiarchs.

The Macedonian infantry seem to have consisted of 3 elements, the *pezhetairoi*, the *asthetairoi* who were also *pezhetairoi*, and the hypaspists whom we will consider next.

Macedonian Heavy Infantry: Footnotes.

1. Because everyone both uses and (mis)understands it.
2. The actual tactical role of the heavy infantry, and their differences from a standard phalanx, will be discussed later.
3. The term *pezhetairoi* is extremely rare in ancient literature; its only occurrence outside of the period of Philip and Alexander is Plut. *Flam.* 17,8; the term also occurs infrequently in Arrian (he is the only Alexander historian to use it), e.g. 1.28.3; 7.2.1; 7.11.3, and seems to refer to the heavy infantry battalions, excluding the hypaspists, see Bosworth (1980) 170.
4. *FGrH* 72 F 4.
5. Foot Companions.
6. *FGrH* 115 F 348.
7. Although he does not make it clear *which* Alexander, discussed below.
8. Milns (1976) 91.
9. 369-8.
10. Diodorus 17.3; 17.13, attributes the introduction of the phalanx formation and the sarissa to Philip II but says nothing about the *pezhetairoi* as such.
11. See Milns (1976) 91 for details. Milns (1967) 509-12 argued that Theopompus was referring to the hypaspists and was simply confused by the Macedonian military terminology. Milns (1976) 91, however, reverses his position by claiming that if any Greek would have been aware of these terms it would be someone like Theopompus who had spent time in Macedonia.

12. Momigliano (1935) 3 *ff.*
13. Thucydides 2.100.2.
14. See Milns (1976) 91 for details.
15. Polyaeus 2.1.17 (on 394 BC).
16. Xenophon *HG* 5.2.40, (on 379 BC).
17. Milns (1976) 94, quoting a (then) unpublished Doctoral thesis by R.Lock.
18. 2.19, this rather disparaging reference could refer to either a select body or all of the heavy infantry.
19. *FGrH* 115 F 348 states that the *pezhetairoi* were a select group of infantry who acted as a royal bodyguard.
20. Quoted in Milns (1976) 94.
21. It has been pointed out that Alexander's position at the start of his reign was a comparatively insecure one and that he relied heavily upon the support of Parmenio and his family: see later.
22. This is certainly the view of Green (1991) 18, who dismisses Alexander II on the grounds that his reign was too brief.
23. Milns (1976) 96.
24. See the following chapter.
25. This conformity would certainly have existed within the heavy infantry *taxeis*, the hypaspists and the companion cavalry. It is likely that there was a certain amount of conformity of equipment within other units, but the wearing of a uniform amongst, for example, the mercenaries is unlikely.

26. See for example, Sekunda (1984), Devine, in Hackett (ed.) (1989) 104-29, Kingsley (1981) 39-46.
27. Hammond (1989).
28. With the possible exception of ancient Sparta, although even here there was nothing quite like that instituted by Philip.
29. 17.3.
30. 4.2.10.
31. 2.1.9.
32. 17.2.3.
33. Arrian 7.6; Plutarch, *Alex.* 71.
34. 3.2.13-14.
35. Lloyd (1996) 172.
36. Arrian 1.18.2; 2.5.8; 2.24.6.
37. Andronikos (1987) 100-19, Whether this was the tomb of Philip is becoming increasingly debated but is not relevant to our discussion here: see Borza (1990) 260-6, 299 *f.*
38. Arrian 4.14.
39. Arrian 4.30.7-8.
40. Plutarch *Alex.* 40.
41. Plutarch *Alex.* 23 mentions the hunting of foxes and birds.
42. Plutarch *Alex.* 15.
43. Arrian 5.29.

44. Games are frequently referred to on important occasions in Arrian, e.g. after the capture of Tyre 2.24.6; after the capture of Memphis 3.1.4; after the capture of Susa 3.16.9; after the capture of Zadracarta, the main city in Hyrcania 3.25.1; after founding a new city 4.4.1; at Taxila 5.8.3; after the battle of the Hydaspes 5.20.1; after escaping the Gedrosian desert 6.28.3; at Ecbatana 7.14.1; at Hephaestion's funeral 7.14.10.
45. Plutarch *Alex.* 73.
46. On ball games in general see Gardiner (1930) 230 *ff*; Harris (1972) 83 *ff*.
47. Lloyd (1996) 175.
48. Diodorus 17.65.3; Curtius 5.2.2-7.
49. Curtius 4.16.31-3.
50. Thucydides 5.71.1; *cf.* Xenophon *Hellenica* 4.2.18-19.
51. This is the standard interpretation: for an examination of its veracity see Holladay (1982) 94.
52. Although the actions of the Athenian hoplites at Marathon would tend to suggest that this was not always the case.
53. A fuller discussion of the command structure of the infantry, including all of the sub-divisions of command, can be found in chapter 8.
54. Lucas (1993).
55. For a discussion of the hypaspists see the following chapter.
56. Diodorus 17.17.4.
57. Diodorus 17.17.5 is the only source that records the numbers of troops left behind in Europe; he records 1500 cavalry left behind also.

58. Tarn (1948) 2.142.
59. Arrian 3.11.9, Heavy infantry *taxeis* can be identified as they were named after their commanders.
60. Tarn (1948) 2.142.
61. Berve (1926) 1.116.
62. Bosworth (1980) 301. Only Ptolemy mentions the name of Simmias, and both he and Philippus are very obscure.
63. Arrian 3.27.3.
64. Tarn (1948) 2.142.
65. Arrian 5.12 *ff.*
66. Berve (1926) 1.116.
67. Or Philippus or Aristobulus: whichever theory is correct they were certainly temporary taxiarchs.
68. Arrian 4.21.4.
69. Tarn (1948) 2.143, This is not the son of Parmenio, but some other Philotas; it was a rather common name.
70. Berve (1926) 1.116.
71. Tarn (1948) 2.144.
72. Arrian 3.16.11.
73. Arrian 3.29.7.
74. Arrian 4.22.7.
75. Tarn (1948) 2.144.
76. Bosworth (1995) 164-5.

77. Arrian 3.12.3; 3.13.5.

78. Arrian 4.4.6, It should be noted that Berve made Balacrus another heavy infantry taxiarch.

79. Bosworth (1980) 376; (1995) 164-5; *CQ* 23 (1973) 252-3.

80. Arrian 4.17.1.

81. Arrian 4.16.1.

82. Bosworth (1995) 112, does not believe that these 4 taxiarchs were commanding heavy infantry battalions, he sees it as unlikely that Alexander would have detached 4 entire *taxeis* from the main army at this time. He sees these commanders as being in charge of mercenaries whilst temporarily detached from their commands. This argument of Bosworth's is, however, incompatible with the argument presented at Bosworth (1980) 376 and (1995) 164-5, where he does not see the logic in Alexander employing heavy infantry troops in terrain not suited to their use, yet here he essentially has all of the heavy infantry with the king in exactly such terrain. I believe that Craterus was given overall command of 4 heavy infantry *taxeis*; it became increasingly common throughout the campaign for *taxeis* to act singularly or in small groups rather than acting as a whole. It should also be noted here that Bosworth (1995) 140 believes that Craterus' *taxis* was taken over by Cleitus (the white) and not by Gorgias.

83. Arrian 4.22.1; Curtius 8.5.2. Curtius adds that while in this region Polyperchon's *taxis* was detached for operations in an otherwise unknown area called Bubacene.

84. Arrian 4.22.1.

85. Tarn (1948) 2.145.
86. Arrian 4.24.1; 4.25.6; 4.28.8.
87. Tarn (1948) 2.146.
88. Arrian 4.24.1.
89. Arrian 4.22.7.
90. Tarn (1948) 2.146.
91. Arrian 5.11.3.
92. Arrian 5.12.1.
93. Arrian 5.12.2.
94. Arrian 6.17.3.
95. Arrian 5.21.1.
96. Arrian 4.22.7.
97. Tarn (1948) 2.147. Bosworth (1995) 140, believes that Cleitus took over the command of Craterus' *taxis* after his promotion, but I think it more likely that Gorgias got that command and that this was a new *taxis*. Tarn's belief that they were veterans from Macedonian seems plausible enough, as Antipater no longer needed all of the troops that he had under his command.
98. Peithon is the last of the taxiarchs that must be accounted for.
99. Arrian 6.6.1.
100. Arrian 6.7.2.
101. Tarn (1948) 2.147; Milns (1976) 108 disagrees with Tarn, believing that the distances involved would preclude Antipater from sending troops from Macedonian to India; he believes that the 7th *taxeis* was made up of Greek

mercenaries already with the army. I think this unlikely simply because Greek mercenaries were not equipped or trained sufficiently to perform the role of a heavy infantry *taxis*; there is also no evidence that any special training took place.

102.Manti (1992), (1994).

103.Markle (1977), (1978).

104.Appian 11.19.7-10.

105.Koehly 3.223-4.

106.Aelian *Tact.* B. 533.

107. See Manti (1983) 73-80 for a discussion of the various synonyms and metaphors used to describe Greek and Macedonian spears.

108.Lucian *Dial. Mort.* 27.

109.Polybius 17.764.

110.Theophrastus *Hist. Pl.* 3.12.3.

111.Manti (1992) 41, and Markle (1977) 323, both agree that 12 cubits equates to 18 feet: for a discussion of the Attic/Macedonian cubits see Manti (1992) 40.

112.Asclepiodotus *Tact.* 5.1.

113.Manti (1992) 41, and Markle (1977) 323, both agree that 10 cubits equates to 15 feet.

114.Polyaenus *Strat.* 2.29.2.

115.Polybius 18.29; 29.2; Aelian *Tact.* 14.

116.Arrian 1.15.5.

117.Manti (1992) 32.

118. In what looks like a sleight of hand, Manti (1992) 41, believes that

Theophrastus' 12 cubits and Polybius 14 cubits and Polyainus 16 cubits all actually equate to the same absolute length of 18 feet. He achieves this by assuming that Theophrastus was using the Attic cubit of 20 ½ inches, whilst Polybius and Polyaeus (amongst others) were using the Macedonian cubit of 15 ¾ inches. It remains unclear however how Polybius' 14 cubits can be the same length as Polyaeus' 16 cubits if both were using the Macedonian cubit of 15 ¾ inches. This small point aside it seems that the general consensus is that the Macedonian infantry sarissa was around 18 feet in length.

119. Schoder (1982) 27-32, plates I and II.

120. Manti (1992) 32.

121. Manti (1983) 74-77.

122. Manti (1992) 33.

123. Manti (1983) 75-76.

124. Manti (1983) 76 *ff.*

125. Markle (1977) 333.

126. See Manti (1994) 77-91 for a scathingly critical examination of both Markle's methods and conclusions concerning the Macedonian sarissa.

127. Manti (1992) 34.

128. Markle (1977) 323.

129. Manti (1992) 34-36.

130. The details in this following section are from Manti (1992) 36; see also Andronicos (1970) 98-102. The units cited (i.e. Imperial measurements) are those employed by Manti, Markle and Andronicos.
131. See chapter 3 for more details on the cavalry sarissa.
132. Aelian *Tact.* 11.
133. Polybius 12.19.7.
134. Arrian 1.1.9; 3.13.5-6.
135. Aelian *Tact.* 4.5.11.
136. Aelian *Tact.* 11.
137. Arrian 1.4.1-3; 1.6.1-4.
138. Aelian *Tact.* 11.
139. Plutarch *Tit. Flam.* 8.4.
140. Xenophon. *Cyropaedia* 7.178; Diodorus 17.575; Aelian *Tact.* 11.4-5.
141. Manti (1992) 38, Markle's (1977) 323-339 formation would be vulnerable to such a tactic.
142. Curtius 3.3.26-27.
143. Curtius 3.2.14.
144. This has led Markle (1978) 483-497 to suggest that the Macedonian heavy infantry did not use the sarissa at all during the battles of Granicus and Issus, and that it was used for the first time as an infantry weapon at Gaugamela. Manti (1994) 77-91 convincingly argues against Markle's position.
145. See chapter 4.
146. Polyaeus, *Strat.* 4.2.10.

147. The Amphipolis Code, Moretti no. 144, quoted in Sage (1996) 171, states that the fines were 2 obols for a protective belt for the lower stomach, 2 obols for a helmet, 3 obols for a sarissa or a sword, 2 obols for greaves and a drachma for a shield, again no mention of a corslet.
148. Asclepiodotus *Tact.* 5; Aelian *Tact.* 12. Griffith (1981) 161 points out that although the shields were small, they were very stout. Anderson (1970) 133, 306 also noted this, quoting Arrian 1.1.9 in support of his argument.
149. Asclepiodotus *Tact.* 5.
150. Markle (1977) 326.
151. Lorimer (1947) 76 n. 3.
152. Markle (1977) 326.
153. Markle (1978) 483-497.
154. Markle (1978) 493.
155. Manti (1994) 88.
156. Manti (1994) 88.
157. Markle (1978) 493.
158. Frontinus, *Strat.* 4.1.6 tells us that Philip banned the use of carts and allowed only 1 servant for each cavalryman, and only 1 servant per 10 infantrymen. The troops were expected to carry food for themselves, thus giving the army the greatest possible mobility.
159. Arrian 2.23.2; 4.23.6; 6.6.1; 7.21.3; 7.11.3. Every modern editor, with the exception of the Loeb by Brunt, has emended the text to read *pezhetairoi* in every case.

160. Arrian 7.11.3.
161. Milns (1976) 97.
162. Bosworth (1980) 252, see also Bosworth (1973) 245-53; Lane Fox (1973) 512.
163. Milns (1976) 97.
164. Milns (1976) 97; Bosworth (1980) 252; Bosworth (1973) 247.
165. Bosworth (1973) 250.
166. The theory is quoted in Bosworth (1995) 154-5.
167. Bosworth (1995) 154.
168. Hammond and Griffith (1979) 711-12.
169. Arrian 2.23.2.
170. Milns (1976) 99-100.
171. Bosworth (1980) 252, argues that the *taxis* that occupied the position of honour on the extreme right changed each day, and the fact that that Coenus' *taxis* occupied this position on both occasions was a coincidence. If this were true, however, there would only be a 1 in 6 chance of Coenus' *taxis* occupying that position on each of the 2 days in question, and therefore only a 1 in 36 chance of this occurring on both of the 2 days, making coincidence seem unlikely.
172. Milns (1976) 100 points out a modern parallel may be the use of the term 'King's Own' in the British army.

Chapter 2.

Hypaspists.

The Hypaspists were among the most capable and hard worked troops in the Macedonian order of battle, receiving no less than 28 mentions in the pages of Arrian.¹ With this in mind, then, it is perhaps surprising that some of the most basic details regarding this corps are far from certain; these include their origins and organization as well as their equipment; even their numbers are not directly known. Each of these issues will be therefore examined separately.

Origins of the Hypaspists.

The word 'hypaspist' is not a common one in Greek, outside the pages of Arrian; indeed amongst the Alexander historians Arrian is the only writer to give the corps its correct technical designation; the others tend to rely upon terms like *doryphoroi*² and *somatophylakes*,³ or Latin equivalents like *armigeri*⁴ or *custodes corporis*.⁵ This fact alone would tend to suggest that the term 'hypaspist' comes directly from Ptolemy, Arrian's main source for military and administrative matters, and is used in the Macedonian dialect to denote 'bodyguard', having lost its original significance of a 'shield-bearer'.⁶ It is highly likely that this is because when a Greek writer was confronted by a highly specialized Macedonian military term he preferred to translate it into something more familiar, like *doryphoroi*.

The origins of the soldiers themselves are a little easier to determine; although they were a fighting elite they certainly were not recruited from any kind of social elite; they were recruited from the same social class as the *pezhetairoi*, that is to say the peasantry of Macedonia. Unlike the *pezhetairoi*, however, they were not recruited along tribal lines; each hypaspist *taxis* had no tribal or regional affiliations and was therefore connected exclusively to the person of the king; the very name was probably chosen specifically to cement this relationship. Each hypaspist trooper was individually selected for his skill and physique⁷ and they received a greater level of training than the ordinary *pezhetairoi*, because far more was expected of a member of the king's bodyguard. The king who first instituted the corps of the hypaspists was, in all likelihood, Philip II at some time after 356.⁸ They were, therefore, still a relatively new creation at the time of Alexander's accession in 336.

Hypaspist Equipment.

Our lack of knowledge is probably more clearly demonstrated with this most basic question than with any other aspect of the hypaspists. A view that prevailed for some time⁹ was that the hypaspists were more lightly armed than the *pezhetairoi*; there were several reasons for this conclusion; representations of soldiers on coins, thought to be hypaspists, wearing no body armour and carrying a spear;¹⁰ the fact that Alexander took the hypaspists with him on forced marches, along with the

Agrianian javelin men, whilst leaving the *pezhetairoi* behind to follow at a slower pace,¹¹ and comparisons between them and the peltasts of Philip V.¹² The main passage in Arrian that can be cited to support Parke's view that the hypaspists were more lightly armed than the *pezhetairoi* is 2.4.3, Alexander's march to the Cilician Gates. In this case Arrian tells us that in order to surprise the defenders Alexander left the heavy infantry with Parmenio and advanced under cover of darkness with the guards and the Agrianians. It is dangerous to draw the conclusion that the hypaspists were more lightly armed than the *pezhetairoi* from this passage; as Milns¹³ points out Arrian is here drawing a comparison between the column that Alexander took with him and the rest of the army as a whole, not specifically the *pezhetairoi*. I think it likely that on occasions such as these, Alexander took with him the hypaspists because of their superior training and discipline, and that on such occasions it is highly likely that they would have been equipped with a hoplite spear or javelin and not with a sarissa which would have been a liability whilst marching through mountainous terrain at night.

We may reasonably conclude that as the hypaspists were stationed to the right of the *pezetairoi* in the front line at Issus and Gaugamela they were equipped in a similar manner; their defensive equipment must have been the same because if they were armoured as skirmishers they would have been annihilated in any prolonged frontal assault. The main tactical advantage that the *pezhetairoi* had over enemy hoplites was the sarissa, and I think it further safe to conclude that at the very least

during the set piece battles this was also the main offensive weapon of the hypaspist corps.¹⁴

There is no literary or archaeological evidence that conclusively shows the hypaspists as being more lightly equipped than the *pezhetairoi*, however, the circumstantial evidence from their activities and position during the set piece battles indicates that they were equipped in a manner that was identical, or at least almost identical, to the *pezhetairoi*, although the lack of direct evidence for either point of view must be remembered. We can also say, however, with rather more certainty that the level of training the hypaspists received was sufficient to allow them to use a hoplite spear or javelin as their primary weapon as circumstances dictated, and it was at these times that they could be considered as being more lightly equipped than the *pezhetairoi*.

Arrian frequently uses military terms in a vague and imprecise manner;¹⁵ his use of such terms as 'light' and 'heavy' is often contradictory and confused and he cannot be taken as anything more than a general guide as to the equipment of the units involved, and sometimes not even that. At 3.18.1 *f* Arrian classes the Thessalian cavalry as being 'heavy' and the Companions as being 'light'.¹⁶ To the best of my knowledge, however, nobody has taken this passage to mean anything of the sort.¹⁷ Arrian is not entirely to blame here, however, as use of such terms in a military context is always rather subjective. Peltasts were lightly equipped whilst hoplites were heavy; the main difference was that the former wore no armour.¹⁸

Since we have seen that the only the front couple of ranks of the *pezhetairoi* wore *any* armour, it would hardly seem plausible for the hypaspists to have served as front line troops with less armour than the *pezhetairoi*.¹⁹

Organisation.

With regard to the tactical subdivisions within the hypaspist corps we have virtually no information from our sources. The very fact that there were 3000 hypaspists is never explicitly stated in any of the extant historians and is only inferred from the fact that the hypaspists occupied the same frontage as 2 *pezhetairoi taxeis* at Issus.²⁰ This general confusion led Berve²¹ to suggest that there were in fact 3 kinds of hypaspist, the 'Royal' hypaspists or bodyguards of the king, the actual hypaspist-corps and, after 327, the *argyraspids* whom he believed to be an elite. Tarn²² showed that this theory was false; there was never anything but the original hypaspists.

With regard to the subdivisions of the hypaspists, Berve,²³ on the basis of certain texts,²⁴ argued that originally the corps was organized into tactical units of 500 men,²⁵ one of which was the *agema*. Tarn,²⁶ by implication at least, believed that the hypaspists had always been organized into 3 units of 1000 men.²⁷ It is certain that at some point the hypaspists were organized into chiliarchies,²⁸ but the passages in Arrian where he cites the term are all in later books, the earliest being at the end of book 4.²⁹ The term "chiliarch", i.e. the commander of a chiliarchy,

does occur in Arrian before book 4;³⁰ during the siege of Halicarnassus, a Macedonian officer called Adaeus is given the title chiliarch. There is nothing in the text of Arrian that even suggests that Adaeus was an officer of the hypaspists; other bodies of infantry could well have been organized into 1000 men units, the mercenaries for example, and therefore this cannot be taken as proof that the hypaspists were organized into chiliarchies any time before the capture of the Aornus Rock.

The key evidence is Curtius 5.2.3 *ff.* Late in 331, when the army was near Susa, Curtius says that “lest the men become slothful through idleness and so relax their minds, he (Alexander) appointed judges and put forward novel rewards to those who entered a contest concerning military prowess. For those who should be judged the bravest were to have the command of 1000 men each. It was on that occasion that the force were for the first time divided up into this number; for previously they had been in cohorts of 500 men and bravery had not been the yardstick for rewards”. What followed was a list of 8 soldiers who received the prizes awarded by the judges; the final verdict apparently was dependent upon the approval of the army: the list of 8 names appears in descending order of merit.

Shortly before this contest 6000 Macedonian infantry and 500 cavalry reinforcements under the command of Amyntas, son of Andromenes, reached the army.³¹ Berve³² believed that within these 6000 reinforcements were 1000 hypaspists, taking their paper strength to 4000; he also believed that the change to

chiliarchies occurred at or just before the contest in Curtius. The victors of the contest, Berve believed, were given the rank of pentacosiarchs, thus he has 4000 hypaspists divided into 4 chiliarchies of 1000 men, each chiliarchy being divided into 2 pentacosiarchies.

This argument is suspiciously neat and there are certainly problems with it. Arrian strongly implies that the 6000 infantry reinforcements were only *pezhetairoi* and not a mixture of *pezhetairoi* and hypaspists. There is no evidence in any source that the numbers of hypaspists was ever raised to 4000. Such evidence as exists tends to suggest that their numbers remained relatively constant at or around 3000: ³³ in India (Gandahara) for example Ptolemy was given command of “the third part of the hypaspists”; ³⁴ this is far more likely to be 1/3 of 3 *taxeis* rather than 1/3 of 4. We also know from Diodorus ³⁵ that by 318 the hypaspists, now called argyraspids, numbered not more than 3000.

What can we make of Curtius’ narrative? We can probably deduce that Curtius is referring to the hypaspists even though he does not explicitly say this, as we can say that Alexander would not have made such big issue out of reforming the League of Corinth troops (who were to be dismissed very shortly after this anyway) ³⁶ nor the mercenaries or Balkan allies, and we have no evidence at all that the organization of the heavy infantry was ever changed in this manner. The question remains, however, is Curtius to be believed? He is, after all, the only source to mention this reform. I think the answer is in two parts: we perhaps can

believe that there was a reform at this time in which the hypaspists were reorganized from pentacosarchies into chiliarchies. The reform is very simply stated and there is nothing particularly sensational about it that would make us doubt it. This is not a particularly strong argument, however; all we can really say is that the reform is plausible and there are no grounds to reject it.

The question of the manner in which the reforms took place is an entirely different matter. The chiliarchs of the hypaspists were men of great distinction and at least ranked as highly as a taxiarch of the *pezhetairoi*.³⁷ It is virtually impossible to conceive that a man like Alexander would allow anybody or any process to make any officer appointment, let alone an appointment to a command (or significant sub-command) of the elite heavy infantry units in the entire army, his own bodyguards.

Milns³⁸ proposed a very plausible solution to this Curtius passage: he believed that either in Curtius or in one of his sources there was a conflation of 2 separate incidents which both took place whilst the army was at or near Susa. The first was the reorganization of the hypaspists into chiliarchies and the consequent appointment of chiliarchs; the second was a military decoration ceremony in which men who displayed outstanding bravery in previous campaigns were presented with some kind of rewards or awards. During this ceremony Alexander appointed an panel of judges for this purpose and rank and file soldiers were encouraged to voice their approval or disapproval of the judges' verdicts; after all there could be no

better witness to bravery on the battlefield than the comrades-in-arms of those being rewarded. It is easy to imagine such a situation occurring and it would have been psychologically sound at this juncture, towards the end of the war (as far as the Greeks were concerned that is!).

Diodorus³⁹ appears to be using the same source as Curtius at this point,⁴⁰ but his narrative is too vague and compressed to be of any real help; all we can say is that at this time the army was reorganized; we are not told which elements or what the details of these reorganizations were.

This reform took place during the pivotal year of 331, at which time many other elements in the army were reorganized or disbanded.⁴¹ We can only speculate as to the purpose of this reform: the case that is often made for the reorganizations at this time is that they were to make the army more mobile, a realization of the changing topography that the army was about to enter. This argument can apply to the Companions whose new 16 *lochoi* would certainly have been more flexible than their old 8 *ilai*, but the reverse occurred with the hypaspists, they went from 500 men to 1000 men units. It may be that Alexander had come to realize, as the Romans later did when they switched from the manipular to the cohort legion, that 500 men was simply too small a tactical unit to operate independently.

Hypaspists: Footnotes.

1. Milns (1971) 186.
2. Diodorus 7.5.40.
3. Plutarch, *Alex.* 51.6.
4. Curtius 6.8.24.
5. Curtius 7.5.40.
6. Milns (1971) 187.
7. Bosworth (1988) 259.
8. Milns (1967) 509 *ff.*
9. Parke (1933) 136, Berve (1926) 1.125 and Hamilton (1955) 218, for example.
10. Milns (1971) 187.
11. Arrian 4.3.2 and 3.23.3, for example.
12. Walbank (1940), Appendix II, 289 *ff.*
13. Milns (1976) 123.
14. Tarn (1948) 2.153-4; Hamilton (1955) 218-19; Milns (1971) 186-8 (1976) 123; Ellis (1975); Hammond and Griffith (1979) 2.414-18 all believe that the hypaspists were equipped in the same way as the *pezhetairoi*. The view that they were more lightly equipped has few supporters now.
15. Milns (1976) 123.
16. Ellis (1975) 617.
17. Bosworth (1980) 324, makes no comment on the distinction.
18. Snodgrass (1967) 79.

19. Ellis (1975) 618.
20. Milns (1971) 189.
21. Berve (1926) 1.122 *ff.*
22. Tarn (1948) 2.148 *ff.*
23. Berve (1926) 1.127.
24. For example, Arrian 4.21.9; 4.30.3 and Curtius 5.2.3 *ff.*
25. So called “pentacosiararchies”.
26. Tarn (1948) 2.140 and 2.148 implies that there were 3 *taxeis* of 1000 men each.
27. So called “chiliarchies”.
28. Milns (1971) 189.
29. Arrian 4.30.6.
30. Arrian 1.22.7.
31. Arrian 3.16.10; Curtius 5.1.40.
32. Berve (1926) 1.127.
33. Milns (1971) 190.
34. Arrian 4.24.10.
35. Diodorus 19.28.1.
36. Arrian 3.19.5, they were dismissed at Ecbatana.
37. Milns (1971) 191.
38. Milns (1971) 192.
39. Diodorus 17.65.2 *ff.*
40. Milns (1971) 192.

41. For example, the League of Corinth troops were dismissed soon after this, as were the Thessalians, although most reenlisted as mercenaries, only to be dismissed a few months later. The Companions were also reorganized from *ilai* to *lochoi*: see chapter 3.

Chapter 3.

Macedonian Cavalry.

The following two chapters are devoted to the core of Alexander's army, his native Macedonian troops. Every element in the army was there to undertake a specific role, however small that role may have been; there seems little doubt, however, that without the Macedonian troops Alexander's conquests would have been difficult to say the least. The Macedonian cavalry can be divided into two sub sections, the Companions and the *prodromoi*; each of these will be dealt with separately. First, however, we will examine the total number of cavalry Alexander had at his disposal in 334.

Cavalry Numbers.

Diodorus is the only source that gives us the strengths of individual contingents within the army that crossed the Hellespont.¹ His account leaves us with problems in almost every part of the army, not least the cavalry, but with careful study we can eliminate many of them. We are fortunate in this regard that although we have no details regarding strength from other sources we do have troop totals as listed below: -

Source	Reference	Cavalry Total
Livy	9.19.5	4000
Aristobulus	<i>FGrH</i> 138 F 4	4000
Justin	11.6.2	4500
Callisthenes	<i>FGrH</i> 124 F 35	4500
Diodorus	17.17.4 ²	4500
Diodorus	17.17.4 ³	5100
Ptolemy	<i>FGrH</i> 138 F 4	5000
Arrian	1.11.3	Over 5000
Anaximenes	<i>FGrH</i> 72 F 29	5500

For the troop totals that they provide, Arrian's source was Ptolemy, and Diodorus', Callisthenes.⁴ The total of 4500 given by Diodorus corresponds nicely with that given by his source, Callisthenes, and by Justin. The actual total of 5100 in Diodorus corresponds almost exactly with that in Arrian, and his source Ptolemy. Brunt believes that the difference of 600 lies with a contingent that Ptolemy/Arrian included but Diodorus/Callisthenes did not.⁵ Anaximenes on the other hand gives a larger total than any of the other sources. Given that it is highly likely that the Alexander historians would have had a general tendency to underestimate the size of Alexander's army and its losses etc, we are probably drawn towards accepting a figure that is towards the highest end of the estimated range, or perhaps a figure even higher still.

If we accept as a starting point Arrian's, Ptolemy's and Diodorus' calculated figure of 5100 as being substantially correct, (and Bosworth does not: see footnote 8), how do we explain the discrepancies with the other sources?. Why does Callisthenes give a figure 600 lower than Ptolemy? It is important to realise at this point that we do not have the actual words of Callisthenes, only Polybius' statement that Alexander possessed 40000 infantry and 4500 cavalry "for the crossing into Asia".⁶ Brunt speculates that Callisthenes gave two detailed army lists, the first for the army that was mobilized in Macedonia, the second for the army that crossed into Asia; Polybius provides us with Callisthenes' first list, not the second,⁷ thus missing out a contingent picked up between Pella and the Hellespont; he speculates a contingent of 600 Thracian cavalry.⁸

If Anaximenes is in any way correct with his figure of 5500 cavalry, how can we explain the difference of 400 from Ptolemy? If we accept the idea that Ptolemy gave the army total for the crossing and Anaximenes is giving a total that includes the remnants of the expeditionary force, is it likely that this force consisted of only 400 cavalry? It can almost certainly be assumed that Philip would have realised that his enemies'⁹ main strength was in cavalry, not infantry. With this in mind it seems odd that the only cavalry that he sent with the expeditionary force were around 400 mercenary cavalry, and even these are not known directly: their presence is inferred from the fact they are not present at Diodorus 17.17.4, but are with the army soon after during the siege of Halicarnassus, and no reinforcements are recorded in the interim. If the expeditionary force did contain

only 400 cavalry, then the figures of Callisthenes, Ptolemy and Anaximenes can be made to agree with very little difficulty simply by assuming that they were the troop totals at different times on the expedition.

Were there only 400 cavalry with the expeditionary force, however? It is at this point that we first encounter the problems with the *prodromoi*. It is often assumed that Diodorus includes them in his army list: ¹⁰ he does indeed use the word *prodromoi*, but actually says “.... 900 Thracian and Paeonian *prodromoi* with Cassander in command”. As discussed below, however, the word *prodromoi* can be a generic term simply referring to “scouts”, or it can specifically refer to a corps of Macedonian light cavalry. In this case I believe Diodorus is using it in the wider sense, meaning scouts without the ethnic meaning attached.

Berve¹¹ believed that the 600 Macedonian *prodromoi* which Alexander undoubtedly possessed were included in Diodorus' figure of 1800 Macedonian cavalry. It is certainly true that Diodorus does not call the Macedonian cavalry Companions, but a figure of 1200 Companion cavalry seems far too low for the roles they performed in set-piece battles. We also know that there were 8 *ilai* of Companions and that each *ile* consisted in all likelihood of 200 troops with the *agema* being of double strength; thus 1200 is not possible.

If Berve is wrong in his assumption, and Diodorus is talking about the Balkan light cavalry and not the Macedonian *prodromoi* at 17.17.4, then where were they

in 334? I believe it highly unlikely that Philip would have only sent 400 cavalry with the expeditionary force in 336, and no Macedonians at all.¹² If the Macedonian *prodromoi* had been with the expeditionary force too, the 10000 troops sent to Asia Minor in 336 would have included 1000 cavalry and would have been far better equipped to meet and deal with the strength of their Persian opposition. Some small corroboration of this is that their commander at the Granicus was Amyntas, one of the commanders of the expeditionary force in 336. If these assumptions are correct the cavalry forces would look something like this: -

Number	Troops	Joined army where?
1800	Companion Cavalry	Pella
1800	Thessalian Cavalry	Pella
600	Supplied by the League of Corinth	Pella
300	Paeonian <i>prodromoi</i>	Pella
600	Thracian <i>prodromoi</i>	<i>en route to the Hellespont</i>
400	Mercenary Cavalry	In Asia
600	Macedonian <i>prodromoi</i>	In Asia

On this reckoning the troops that set off from Pella totalled Callisthenes' 4500, the troops that actually crossed the Hellespont give Ptolemy's 5100, including the

mercenary cavalry gives Anaximenes' 5500, but the real total of cavalry soon after landing in Asia was closer to 6100,¹³ assuming few losses in cavalry from 336-4.

Reinforcements.

The first cavalry reinforcements that we hear of are 300 Macedonian horse that joined Alexander at Gordium.¹⁴ Very soon after this Callisthenes, reported by Polybius,¹⁵ has 500 more reaching the army before it enters Cilicia. Tarn¹⁶ dismissed the evidence of Callisthenes here, claiming that he was no military expert, but this does not seem a necessary qualification to record the numbers of troops that arrived at any given point. Arrian¹⁷ tells us of a further group of Macedonian reinforcements that arrived at Susa, but gives no numbers. These are in all likelihood the same as those mentioned in both Curtius¹⁸ and Diodorus¹⁹ as having arrived at Babylon; they were 500 Macedonian cavalry, along with 6000 Macedonian infantry. The difference in location is a minor point and is probably a mistake by one of our sources. This would mean that by late 331 Alexander had removed from Macedonia 3700 native cavalry.²⁰

Brunt²¹ goes on to argue that probably 500 more Macedonian cavalry would have reached the army in 328/7, at the time the seventh heavy infantry *taxis* was formed. His reasoning seems plausible enough, but there is no positive evidence for the hypothesis. In all likelihood Alexander would have received no more Macedonian reinforcements until his return from India, during which time his losses would have

been serious. Casualties are always difficult to determine: along with the general tendency to understate the size of the army, casualties were also underestimated in a deliberate effort to make Alexander's victories seem all the more glorious. The only occasion where casualties are admitted is the one occasion when Alexander was not present²² and therefore could not be blamed. Losses in battle would probably have accounted for only a small percentage of the total losses, with disease, starvation and fatigue being more significant factors, particularly during the Gedrosian disaster.²³

Prodromoi.

We should first note, with a certain amount of surprise, that the ethnic origin of the *prodromoi* is far from clear. Frequently Arrian refers to the *prodromoi* with no reference to ethnicity²⁴ but at 3.8.1 he includes the Paeonians as part of this unit; at other times, however, he does differentiate the two.²⁵ Diodorus' army list for 334 does not make the situation any clearer, calling the Thracians and the Paeonians *prodromoi*.²⁶ Tarn goes along with the evidence of Diodorus, calling the *prodromoi* Thracians and linking them with the rest of the Balkan cavalry,²⁷ but he seems to be in a relatively small minority when taking this line. The confusion can in all likelihood be cleared up quite simply. The word *prodromoi* translates as "scouts"; it can thus be used to denote not just a specific unit, but a role too. The Balkan horse were light cavalry, as were the *prodromoi*, and thus could both be employed on scouting missions. We can probably assume that any confusion over their ethnicity

arises out of the non-technical or non-specific use of the word. Balkan cavalry could act as scouts, but they should not be referred to as *prodromoi* in any specific way. We can, I think, safely assume that the *prodromoi* were Macedonian, as Arrian frequently refers to them together with the Companion cavalry,²⁸ whom he also never calls Macedonian. He similarly never refers to the hypaspists or the heavy infantry as being Macedonian, although there can be little doubt, whereas non-Macedonian units are carefully distinguished: although this is an argument from silence, it is not an unreasonable one, I think. We can go a little further than this, though: the *prodromoi* always seem to have been stationed alongside the companion cavalry during the set-piece battles, and were quite separate from the Balkan cavalry,²⁹ strongly indicating that they were separate units.

Plutarch,³⁰ in his account of the battle of the Granicus, says that Alexander charged into the river with 13 *ilai* of cavalry. Brunt³¹ identifies these 13 *ilai* as being the 8 squadrons of Companions and 5 of *prodromoi*. As discussed above, however, *prodromoi* in this passage simply refers to light cavalry; Plutarch is using the word in its non-specific sense. These 5 *ilai* of *prodromoi* therefore include the 1 squadron of Paeonians, leaving us 4 *ilai* of Macedonian *prodromoi*. This figure corresponds nicely with Arrian 1.12.7, where he also gives 4 *ilai* of *prodromoi*, and later 4.4.6, where he lists 4 *ilai* of *sarissophoroi*.³² Bosworth³³ points out that Plutarch gives no indication as to the nationality of his 13 *ilai*; they could conceivably have been Thracians or mercenaries. A total of 600 *prodromoi* seems the most likely; corroboration of this figure is given below.³⁴

The *prodromoi* seem to have been amongst the most versatile troops in the army: we could consider them as being the mounted equivalent of the Agrianians. As discussed above, the word actually means scouts, and in this capacity they would often have been sent well ahead of the main army to gain more accurate intelligence of the regions the army was about to enter. They would have been looking, not only for the easiest terrain through which the army could traverse, but also for sources of fresh water and supplies; this function was quite simply vital to the success of the campaign. Whilst on scouting duty they would have been as lightly equipped as possible, wearing very little armour and carrying a javelin rather than the sarissa.³⁵ The versatility of these troops becomes apparent when we consider the great set-piece battles. During these battles the *prodromoi* were equipped with the sarissa and were called *sarissophoroi*, or lancers. Their function was to act as anti-cavalry troops and they were deployed in open order, Bosworth³⁶ noting that this was vital in order to prevent danger from the buttspikes of the sarissa to friendly troops riding behind the front line.

However useful the *prodromoi* were in the early years of the campaign, they were evidently far from essential; we hear nothing of them after the reorganization of the army in 329. Tarn believed that they were demobilized and sent home,³⁷ but Brunt,³⁸ agreeing with Berve,³⁹ suggests that this is highly unlikely even given Tarn's belief that the *prodromoi* were Paeonians. The far more likely fate of these troops is that they were incorporated into the newly formed hipparchies of the

Companion cavalry, discussed below. They were no longer required to perform the role of *prodromoi/sarissophoroi* as they had previously: their role as scouts was taken by the increasing numbers of Persian light cavalry that the army was recruiting. Incorporation into the hipparchies meant that they effectively became Companions and in any future set piece battle they would be stationed alongside the previously existing Companions as they had been previously.

Companion Cavalry.

The Companion cavalry were among the most important units in the Macedonian order of battle. They were heavy cavalry recruited from amongst the nobility of Macedonia, 1800 in number at the start of the expedition. It is unknown if any were left behind in Macedonia with Antipater but it is likely that *some* cavalry were left behind; but what they were specifically is unknown. There were originally 8 *ilai*⁴⁰ (squadrons) of companions, one of which was the Royal Squadron, or *agema*. It was the role of the *agema* to defend the king whenever he fought on horseback; and when satrapal governors or unit commanders were required they were usually chosen from amongst this group. The Companions seem to have been organized on a territorial basis: we know of 5 named *ilai*, those of Bottiaea, Amphipolis, Apollonia, Anthemus⁴¹ and the “so-called Leugaeon *ile*”.⁴² There is very little difficulty over the first four of these *ilai* names; they are areas of Thraceward Macedonia where Philip had established settlements.⁴³ The exception is the Leugaeon *ile*: the name itself presents problems; it refers to no known place in

Macedonia and emendations to the text of Arrian seem to present more problems than they solve.⁴⁴ Arrian's qualification "so-called" may give us a clue as to the solution: it may not refer to a specific geographical location at all, but may be a "native Macedonian title for the squadron",⁴⁵ Bosworth believing it to be a unit recruited from the heartland of Macedonia and thus a much older unit, the other named *ilai* being those formed during the reign of Philip II in newly settled areas. Bosworth does not say this but it would seem likely on these grounds that the other *ilai*, of whom we know little beyond their existence, could well have come from the heartland of Macedonia as well and may also have had non-territorial names.

The average strength of an *ile* at the outset of the campaign was around 215 men, with the *agema* consisting of 300,⁴⁶ giving a total cited earlier of 1800 troopers. This general organisation⁴⁷ survived until the army reached Susa in 331, at which point we see the first of several reorganizations of the Companions. At this time Alexander received reinforcements from Macedonia: these were distributed among the existing *ilai*, but each *ile* was hereby subdivided into 2 *lochoi*, under the command of a *lochagos*. Brunt⁴⁸ supposes the reason for the reorganization was that by 331 there were more Companions than in 334, and that the *ilai* were becoming too large to function satisfactorily as tactical units.

Hipparchies.

In 334 the Companions were under the overall command of Philotas, but upon his death in 330 the command was divided between Hephaestion and Cleitus, presumably each given command of 4 *ilai*, although we are only told that the 8 *ilai* were divided between these two commanders, and each was given the title hipparch. It does not necessarily follow, however, that the hipparchies proper were also formed at the same time; this came two years later in 328. It has been proposed by Tarn⁴⁹ that after the murder of Cleitus in 328, Alexander took personal command of Cleitus' 4 *ilai*. He points out that in 327, when the army was divided in the Parapamisadae, Hephaestion and Perdiccas were sent via the most direct route to India⁵⁰ with a large force that included 4 *ilai* of Companions. The remainder of the Companions, those that were formerly commanded by Cleitus, accompanied Alexander himself.⁵¹ This organization imagined by Tarn does not seem likely; Arrian⁵² does not say that Hephaestion had sole command of the troops that were sent via the direct route to India, indeed he strongly implies that Hephaestion and Perdiccas had joint command, presumably of the Companions as well as the other elements present. Indeed in 328-7 both Craterus⁵³ and Coenus⁵⁴ were given commands of detachments of troops that included Companion cavalry, indicating that the command structure within the army was becoming more fluid and less reliant upon a small group of generals.

There are references to hipparchies before the murder of Cleitus⁵⁵ late in 328, and these deserve some examination as they may reveal an evolving system. The first reference is to the winter of 334/3: Alexander sent Parmenio to Sardis with “a hipparchy of the companions, and the Thessalian cavalry, and the rest of the allied troops and the baggage train”.⁵⁶ Griffith⁵⁷ sees this as being a reference to a group of *ilai*; he believes that a single *ile* of 200 men would be an “incongruous detail” compared with the many thousands of other troops under Parmenio’s command at this point. He goes on to note that Alexander’s winter campaign in Lycia and Pamphylia shows that very few *ilai* of companions took part as they receive only a passing mention in the sources, because the terrain was not suited to their employment. He sees the 8 *ilai* of Companions as being equally divided between Alexander and Parmenio, and therefore the term hipparchy would be used by Arrian to refer to a group of *ilai*, essentially what it means later. Simply because the Companions are seldom mentioned in Lycia and Pamphylia does not of course mean that they were not there, just that they were not used. The tens of thousands of Allied and mercenary troops that Alexander undoubtedly commanded are not mentioned at the Granicus; again this does not mean they were not present, just that they were not used. Both Bosworth⁵⁸ and Brunt⁵⁹ believe that the term hipparchy is here anachronistically used by Arrian’s source. Bosworth points out that there are occasions⁶⁰ where a group of *ilai* is not referred to as a hipparchy before the key date of 328 and that this is not an example of Arrian being “scrupulously pedantic”, but simply of following the term used by his source.

The second example occurs in Sogdiana in 330: Ptolemy is given “3 hipparchies of the companions and all of the *hippakontistai*” (discussed below),⁶¹ and charged with the capture of Bessus. This reference is far more revealing: it is the first mention of the term hipparchy in a passage that definitely derives from Ptolemy.⁶² This passage is confusing because very shortly before this point Arrian told us of the appointment of Hephaestion and Cleitus as hipparchs, but if there were indeed at least 3 hipparchies then there should be at least 3 hipparchs. Griffith⁶³ again believes this passage to refer to 3 “groups of *ilai*” rather than 3 *ilai* with the term hipparchy being anachronistically used. Bosworth⁶⁴ notes that from this time the term *ile* virtually disappears from Arrian’s narrative; he sees a gradual reconstruction and reorganization of the cavalry forces lasting from 331 to 328, when the 8 hipparchies emerge seemingly fully formed. I would tend to think that the hipparchy principle was one that evolved from the time of the murder of Philotas in 330 and the appointment of 2 hipparchs, to 328 when we certainly have the 8 hipparchies.

We know then that there were 8 hipparchies in 328, but just how many were there at the time of the Indian expedition? Brunt⁶⁵ points out that no complete list of the hipparchies exists from this period, when Tarn⁶⁶ believed they were first created, just as no list of *ilai* exists for the period before 328. We can infer from the sources, however, that Alexander possessed at least 8 hipparchies in India. Whilst at the confluence of the Hydaspes and Acesines rivers Alexander divided the army into 4 parts (and later 5, see below), commanded by Craterus, Hephaestion, Ptolemy and

himself; each of the detachments was given orders to reunite at the junction of the Acesines and Hydraotes rivers.⁶⁷ We know that Alexander had half the Companions during the Mallian campaign⁶⁸ and we can only surmise that this would have included the *agema*, along with the two hipparchies that were specifically told about, those of Perdiccas and Cleitus the White,⁶⁹ these both being detached for independent operations. When Alexander was at the Hydraotes he still had with him 2 hipparchies,⁷⁰ one of which was commanded by Demetrius.⁷¹ There is no evidence that Perdiccas had rejoined Alexander before the attack on the city of the Malli.⁷² Brunt⁷³ concludes that ‘half the hipparchies’ were in fact three. This figure is incorrect; just before the assault on the city of the Malli, Perdiccas still had not rejoined Alexander, Ptolemy was fighting elsewhere,⁷⁴ Hephaestion was already waiting at the appointed rendezvous⁷⁵ and Craterus was in command of no Companions.⁷⁶ It therefore seems that there were 8 hipparchies along with the *agema*; Brunt has miscalculated.

There is further evidence for the number of hipparchies, evidence that again suggests that Tarn’s⁷⁷ figure of 5 is incorrect. Our sources record the names of 6 hipparchies, and Brunt supposes that the name of a seventh (and presumably the eighth) has been lost.⁷⁸ They are: -

Hephaestion	Arrian 5.12.2; 21.5
Perdiccas	Arrian 5.12.2; 22.6; 6.6.4
Demetrius	Arrian 4.27.5; 5.12.2; 16.3; 21.5;

	6.8.2
Craterus	Arrian 5.11.3
Cleitus the White	Arrian 5.22.6; 6.6.4
Coenus	Arrian 5.16.3

Although there are six commanders named, Tarn⁷⁹ believed that there were only five hipparchies, believing that Coenus and Cleitus the White were successive commanders of the same unit; he believed that Coenus was left behind on the Acesines and Cleitus was given command after this. This is not possible, however: Coenus was left to supervise the crossing of the rearguard and we are specifically told that he had with him his hipparchy,⁸⁰ so Cleitus could not have been given this command, his hipparchy must be a separate one.

Although I tend to agree with Bosworth's conclusion that there were 8 hipparchies along with the *agema*⁸¹ during the Indian campaign, we can not escape the fact that in 324 we are told of the *addition* of a fifth hipparchy. This would seem to cast doubt on Brunt's theory, but it need not. Losses during the Indian campaign and during the ill fated march through the Gedrosian desert must have been heavy and it is certainly reasonable to assume that at some point the 8/9 under-strength hipparchies were reorganized into 4 and later 5. It would further seem likely that the initial division into 8/9 hipparchies occurred in 329 or 328⁸² perhaps soon after the death of Cleitus.

Why the reorganization to hipparchies?

Without detailed evidence from our sources on this question it is very difficult to answer with any degree of certainty. Several different ideas have been proposed, all of which carry problems. Hammond⁸³ believes the change to have been for essentially military reasons. He believes that after the discharge of the Thessalian cavalry Alexander reorganized his Companions into 8 hipparchies, these were subdivided into 2 *ilai*, each *ile* being further divided into 2 *lochoi*. Since a hipparch was of a higher status than the old ilarches, Hammond sees this partly as a deliberate attempt to increase the numbers of senior cavalry officers, perhaps to act as a counterbalance to the infantry. He also sees a doubling in the numbers of Companions from around 2000 to around 4000.⁸⁴ Hammond's other main reason for the change seems to be a tactical one, in order to make the heavy cavalry more flexible in order to deal with the changing theatre that Alexander found himself in and the changing character of the fighting that he was conducting. With this in mind Hammond believes that each hipparchy now consisted not only of heavy cavalry but also light cavalry. This allowed the new hipparchies to be deployed as skirmishers and quick response troops, but also allowed them to retain their role as combat troops in the more traditional sense.

Brunt⁸⁵ believed that the reorganization was more for political reasons than military ones. He believes that there is a significant difference in the distinction of the eight ilarchs named at the battle of Gaugamela, and the later known hipparchs.

Of the former ilarchs only three are persons of note, Black Cleitus, who commanded the *agema*, Hegelochus, formerly one of Alexander's admirals, and Demetrius who retained his position, as one of the known hipparchs. The ilarchs did have some influence, they were allowed to attend councils of war for example,⁸⁶ but they are, with the three exceptions noted above, nonentities. On the other hand the later hipparchs were some of the most powerful men in the army, Hephaestion, Perdikkas, Craterus, Coenus, White Cleitus and to a much lesser extent Demetrius. Brunt believes that the change was at least partly due to Alexander's increasing distrust of his principal officers. The sentiments expressed by Black Cleitus before his murder, coming from a previously loyal commander, would have worried Alexander greatly, and he had no way of knowing how far such sentiment went, if other officers felt the same resentment. Thus dividing the heavy cavalry between as many senior men as possible would dilute any potential risk of an uprising. This does seem to be unlikely at this stage of Alexander's career, but he did become increasingly paranoid as time went on; besides, even if it was unlikely it was not necessarily unsound to divide the hipparchies in this way.

This explanation in itself is not a sufficient reason for Alexander to change the whole organization of the cavalry so drastically: he could simply have made these powerful men ilarchs, and their status would have automatically increased the status of the rank they occupied. Brunt, quoting Griffith, says, "I doubt if it is military practice in general to change or switch old-established names like *lochos* and *ile* (names universal in Greek practice and not only in Macedonia). And I think

an entirely new name (hipparchy) ought to predispose us to expecting an entirely new thing.”⁸⁷ It would seem then that the hipparchies were indeed a new creation, and not simply a larger version of an *ile*.⁸⁸

Bosworth⁸⁹ offers a third possible explanation: he believes that between late 331 and 328 the Companion cavalry units were gradually reconstructed with the aim of reducing the regional affiliations of each *ile*. After the arrival of Amyntas’ reinforcements from Macedonia, new subdivisions of the *ilai* were formed and called *lochoi*. These *lochoi* were then grouped into new units, *tetrarchiai*, perhaps comprising four *lochoi* each from separate *ilai*. There would therefore have been four *tetrarchiai* along with the *agema*. Bosworth further believes that these *tetrarchiai* evolved into the hipparchies that are mentioned from 329 onwards by Ptolemy. If this is true then the hipparchies were not only larger than the old *ilai* but were also far more heterogeneous with little or no regional affiliations. This would have the effect of reducing their loyalty to their original regional commanders, who had more than likely been replaced by the more senior officers mentioned above; it would have the further effect that the troops would feel greater central loyalty to the person of Alexander himself. This would be a further indication that Alexander was increasingly distrustful of his unit commanders and wanted to break any loyalty felt by the army for anyone but himself.

I do not believe that these theories are mutually exclusive. It is certainly true that the hipparchies were larger than the *ilai* (probably 1000 strong); it also seems

likely, judging by their actions, that the hipparchies were more versatile than the older units, and therefore may well have comprised some mixture of heavy and light cavalry. It also seems likely that Alexander was seeking to increase the status of the Companion cavalry to act as a balance against the heavy infantry: several of the hipparchs were former taxiarchs; this would no doubt have been presented as a promotion. It is also likely that Alexander wanted to make the army loyal to himself, and not to individual unit commanders who happened to be from the same region as the troops themselves. This reorganization seems to have been necessary for several reasons, both military and political, and is an indication of Alexander's vision, that one change could solve several actual or potential problems. We can also conclude that the change was relatively successful, as we seldom hear of the Macedonian cavalry causing Alexander serious political problems; their future actions also demonstrate how militarily successful this change was.

Oriental.

There is no doubt that Alexander made an ever-increasing use of oriental troops after the death of Darius. Arrian tells us of units of Arachosians, Bactrians, Parapamisadae, Scythians, Sogdians⁹⁰ and Indians:⁹¹ all were part of the grand army that Alexander assembled by 324; we are told that the army reached the remarkable size of 120,000 at one point,⁹² only a small proportion of which could have been Macedonian. This being said, however, it is difficult to ascertain when Alexander first began to employ Oriental troops. At the end of 330 Arrian⁹³ tells us

of a new cavalry unit called *hippakontistai*; we know that they were something new, Arrian says as much, we also know that they were mounted javelin men and were as such light cavalry, but their origin is never attested. Berve⁹⁴ assumes that they were Persian deserters but this seems highly unlikely given that they also formed a significant part of the garrison of Areia;⁹⁵ if they were Persian this would make them unique in that it was Alexander's general practice to employ mercenaries or allied Greeks as garrison troops, not Persians. Bosworth sees them as being Macedonian⁹⁶ or European cavalry,⁹⁷ the key being that Arrian links the *hippakontistai* with the regular units of the Macedonian army, the Companions and the Agrianians.

The other possible reference to Persian troops employed at an early date are the *hippotoxotai*.⁹⁸ There is much less confusion surrounding this unit, Arrian describing them as Dahae. This region surrendered to Alexander in the winter of 328/7 and we can only assume that they supplied a contingent shortly after this date. They were horse archers but Bosworth⁹⁹ believes it is "... unlikely that they were only horse archers." However, he is not specific in what he believes them to have been, perhaps a combination of horse archers and javelin men. The Oriental troops that we have mentioned to this point have all been brigaded into specific national units and used either separately or in conjunction with the Companion cavalry. It remains to be discussed if, and how early, Orientals were included in the hipparchies, alongside the Companions: there are essentially two schools of thought on this.

Brunt¹⁰⁰ believes that at the latest by 324 Oriental troops had been incorporated within the hipparchies themselves, and the complaints voiced at the Opis mutiny show this quite clearly. Bactrian, Sogdian, Arachosian along with horsemen from the Zarangians, Areians, Parthyaecans and the Euacae were all brigaded in the Companion cavalry.¹⁰¹ Further to this a fifth hipparchy (more later) had been created which was “not wholly barbarian”, and several Oriental nobles had even been included among the ranks of the *agema*; these oriental troops were using Macedonian weapons and not native javelins. The Zarangians, Areians and Parthyaecans had been incorporated into the army in Carmania in late 325¹⁰² and the Euacae soon after.¹⁰³ The mention of the creation of a fifth hipparchy implies that for some time there had been only 4, but we know that in 326 there had been 8. Brunt¹⁰⁴ and Berve¹⁰⁵ both believe that the reduction from 8 to 4 hipparchies is to be connected with the losses incurred during the Indian campaign and the march through the Gedrosian desert: at some point during this time the surviving Companions were consolidated to prevent them from being seriously under strength. Brunt goes on to say that the increase in strength that must have occurred for the number of hipparchies to be raised from 4 to 5 was the result of Oriental (and possibly Macedonian) reinforcements, only a very few of which were included in the fifth hipparchy, which he believes to be what was formerly the *agema*. At this point for the first time the *agema* was given the designation hipparchy.¹⁰⁶ The Opis mutiny passage in Arrian¹⁰⁷ seems to disprove this, noting the fifth hipparchy and the *agema* as separate entities, but Brunt believes the text to be corrupt and

proposes emending so that the fifth hipparchy and the *agema* are from this time forth one and the same. In short then, Brunt believes that Orientals were incorporated within the hipparchies very late indeed, probably as late as 324 or very soon before then.

The second theory was proposed by Griffith,¹⁰⁸ and is, at least in part, an argument from absence. He notes that all of the Oriental cavalry that are mentioned in our sources, be they as separate national units or actually in the hipparchies, represent only a small fraction of those that were potentially available to Alexander. He notes that by the end of 330 the central and western satrapies¹⁰⁹ were securely in Alexander's hands but that there is no mention in our sources of any troops from these satrapies having participated in any of Alexander's subsequent campaigns. By contrast, however, troops from the north east of the former Persian Empire, Bactrians and Sogdians for example, were incorporated by 328,¹¹⁰ before those regions were fully "pacified". Griffith agrees with Brunt that Arrian 7.6.3 (the Opis mutiny grievances passage) refers to the final reorganization of 324, and that this cannot be used therefore to prove Orientals in the hipparchies much before this date. Griffith goes on to say that the absence of any mention of these western and central Persian troops from our sources is a strong indication that they never served as separate units, but their absence *may* indicate that they were incorporated within the hipparchies from a relatively early date, thus achieving anonymity.

One of the strongest arguments that Griffith uses to argue his point is what he calls “an argument from general probability”.¹¹¹ He believes that from 330 there were very sound military and political reasons to employ troops from the recently conquered central and western satrapies. Militarily Alexander was always short of quality cavalry; his Macedonians had proven themselves invaluable many times but they were a limited resource. The nature of the warfare that Alexander was facing after Gaugamela was significantly different from the large set-piece battles that he had fought before this point, but this did not reduce his need for cavalry, it actually increased it. Troops that could move rapidly in response to any situation would now be at a premium and the Persian empire had always been renowned for its military strength being in its cavalry.

Politically it was also vital, Griffith argues, to employ Iranian troops. Since Alexander’s rejection of Darius’ peace overtures in 333 Alexander had gradually been setting himself up as the legitimate alternative to the great king.¹¹² There could have been no clearer sign of this status after Darius’ death than to employ his new subjects in the army. We can probably go a little further than Griffith does and suggest that politically it would have had greater impact on the Iranians if they had been included in the *ilai*, alongside the Companion cavalry units, and not simply as separate units as happened with the troops from the north east of the empire.

Griffith cites several passages of Arrian¹¹³ which he believes suggest at least the possibility of the hipparchies containing other than Companion cavalry, but the

evidence is far from conclusive. He finds himself returning to 7.6.3, the Opis mutiny passage, claiming that it shows that what really upset the Macedonians was the equipping of Persian troops already within the hipparchies with Macedonian spears, and that this was the recent innovation, but that the Persian troops had already formed part of the hipparchies “all through the Indian campaign”.¹¹⁴ Hammond¹¹⁵ follows Griffith’s general thinking; including Persians within the hipparchies, but incorporates them from the early date of 328, claiming that a hipparchy now consisted of 1 *ile* of Macedonian heavy cavalry and 1 *ile* of Persian light cavalry.

I would tend to lean towards Griffith’s idea that it seems a very strange decision on the part of Alexander not to use any Iranian troops at all; there existed both the political necessity and the military requirement for them but there is unfortunately very little positive evidence for this position. The conclusion must be therefore that until further evidence presents itself we have to accept that the earliest evidence for the inclusion of Oriental troops within the hipparchies is 324 or shortly before, and further accept that we simply do not know why Alexander did not make use of the greatest natural resource of the central satrapies, their men.

Macedonian cavalry equipment.

In chapter 1 the Macedonian infantry sarissa was discussed; it seems appropriate to end this chapter by discussing the possibility of the existence of a specifically

designed cavalry sarissa. Until relatively recent times historians have tended to fall into one of two camps; either the cavalry did not use a sarissa at all, but something more like the standard spear,¹¹⁶ or the Macedonian cavalry did use a sarissa of exactly the same dimensions as that employed by the infantry;¹¹⁷ the possibility that a weapon could have been specifically designed for use by cavalry was ignored but will be examined here.

The great advantage of the sarissa was that it enabled the wielder to outreach his opponent, to be able to strike before his enemy had any chance of landing a blow. This most basic advantage enjoyed by lancers was not specific to the ancient world but has persisted into modern times; the last recorded use of lance-armed cavalry was the 3rd September 1939 when the Polish Pomorska cavalry brigade charged the German 3rd Panzer Division, with all too predictable results.¹¹⁸

Manti¹¹⁹ begins his discussion of the cavalry sarissa (Plate 5) by attempting a ‘reconstruction’ of the weapon; this would seem an appropriate place to start. We shall therefore examine the ancient and modern literary sources before looking at the pictorial and archaeological evidence for the existence of such a weapon.

According to Aristotle¹²⁰ Alexander’s cavalry used a sword as well as the sarissa, the anonymous Byzantine historian¹²¹ contrasts the infantry’s “long spear” with the “spear” of the cavalry, Appian¹²² uses similar language for the infantry weapon to that of the cavalry. Arrian¹²³ also tells us that when Alexander enrolled Persians

into his army he replaced the Persian javelin with the cavalry spear, i.e. the sarissa. Aelian¹²⁴ gives us the vital information that the cavalry sarissa¹²⁵ was no shorter than 8 cubits¹²⁶ in length. Strabo¹²⁷ gives us a good idea as to the weight of the cavalry sarissa when he tells us that it could be used both in hand-to-hand combat, or it could be thrown like a javelin, something you simply could not do with an infantry sarissa. Asclepiodotus¹²⁸ also affirms that the cavalry use something different from other cavalry of the day, stating “The cavalry which fights at close quarters uses...long spears and is therefore called *doratophoroi*, or also *xystophoroi*”. There are also of course Arrian’s numerous references to *sarissophoroi*, as mentioned earlier, these are the *prodromoi* who are equipped with the sarissa during the set piece battles, again illustrating that Alexander’s Macedonian cavalry used something other than the javelin.

From the literary sources we also know that the shaft of the sarissa was made of cornel wood;¹²⁹ this had been used for javelins since at least the 7th century¹³⁰ because of its superior combination of elasticity and strength but also for its relatively low impact resistance; it would break rather than unseating the cavalryman from his horse.

The cavalry sarissa had two spear points, one affixed to each end of the shaft. This was necessary because if the spear broke the cavalryman could simply turn the weapon around and use the other end.¹³¹ In this regard the cavalry sarissa can be contrasted with that of the infantry which had only one spear point; on the rear of

that weapon was a butt-spike which could be driven into the ground so as to impale an onrushing cavalryman or indeed an infantryman.

Manti¹³² points out that from the literary evidence alone, considering nothing else, we can conclude that the cavalry sarissa is: -

1. 8 cubits long.
2. made from cornel wood.
3. equipped with a spear point at both ends of the shaft.
4. light enough to be thrown like a javelin.

Visual evidence is often problematic due sometimes to the substrate upon which the image is placed, its degree of preservation or indeed the size of the image in the case of coins, but there is perhaps some supporting evidence. A funerary bas-relief from Apollonia in Epirus¹³³ shows a mounted figure holding a double-pointed cavalry sarissa. The aft point of the weapon can clearly be seen to be larger than the forepoint, presumably to add weight to the rear of the weapon so it could be held closer to the rear, allowing more of the spear to protrude in front of the cavalryman. It is impossible to make a determination of the length of the weapon because of the size of the funerary monument; the artist found it necessary to foreshorten the spear in order for it to fit within the parameters of the monument.

The fresco from the Naoussa tomb depicting a Macedonian cavalryman drilling with his groom¹³⁴ shows the lance being held in the 3:5 position, that is to say 40% of the lance protruding to the rear of the cavalryman and the other 60% to the front. Therefore confirming that the aftpoint must have been heavier than the forepoint allowing the weapon to be balanced at this point.¹³⁵

The Alexander mosaic (Plate 1), now in the Naples museum, depicts the presence of a strap on the lance which the cavalryman would use to prevent the weapon slipping in his hand; it would also be used to ensure the weapon would not be easily dropped, as the loop of the strap would be wound round the wrist. The strap would also be used to carry the weapon over the shoulder whilst marching, to prevent any accidental injuries to those around him. In the foreground of the mosaic (Plate 5), beneath Alexander, is a discarded lance. The lance is discarded presumably because both of its spear points are missing, but the strap and wrist-loop are still present. Behind Alexander and to the left there is a Boeotian-helmeted figure that is striking an overhead blow with the aftpoint of his broken sarissa. These two figures, the Boeotian-helmeted figure and that of Alexander, depict what Manti and Markle¹³⁶ believes to be the two basic combat strokes allowed by the cavalry sarissa.

We can therefore conclude several points from the pictorial evidence: -

1. The cavalry sarissa has weapon points at both ends of the shaft.

2. The shaft is of approximately uniform diameter along its length and when used in combat is held in the 3:5 position
3. It is held in one hand and can be used either to thrust underarm or to stab down on an enemy using an overarm stroke.
4. The cavalry sarissa includes a strap for both carrying the lance over the shoulder whilst marching, and to help the rider grip and hold on to the lance during combat.

The number of sarissa heads and hoplite spear and javelin heads that have been found are of a sufficient quantity and quality to be able to clearly distinguish between them.¹³⁷ The hoplite spear found at Vergina in *tumulus LXVIII burial E* had an iron spearhead of 10 7/8 in. and weighed 4 ½ oz. and an iron butt-spike of 2 ½ in. weighing 1 ½ oz., with fragments of wood found in between the two, strongly suggesting that they once belonged to the same weapon. The infantry sarissa was considerably larger, the iron head being 20 3/16 in. long weighing 2.7 lbs. And the iron butt-spike of 18 in. and a weight of 2.3 lbs.¹³⁸ The cavalry sarissa on the other hand lies somewhere between the two; its aft spear point consisted of a double-edged flaring blade 19 ½ in. long weighing 1.16 lbs. The fore weapon had a similarly double-edged flaring blade, but rather smaller at 11 in. long weighing 0.59 lbs. The two spear points of the cavalry sarissa can be identified as coming from the same weapon because, aside from being found together: -

1. The presence of two spear points of such dissimilar size supports the visual evidence.

2. The two spear heads have identical socket diameters¹³⁹
3. The identical method of affixing the heads to the shaft: both spear heads are pierced by two diametrically opposed holes through which nails (1/8 diameter) could be driven. These holes are set 3/8 in. from the end of each socket.
4. The socket dimensions are similar to some other identified spear points, but the large double-edged flaring nature of the lance heads sets them apart from other spear points.
5. The smaller socket diameter of the cavalry sarissa as against the infantry weapon¹⁴⁰ and the lighter weight clearly differentiate the two types of weapon.

A review of the available evidence allows us to make several general conclusions: first of all, that the cavalry sarissa did in fact exist; second, it was of a different design and construction from that used by the infantry. Manti¹⁴¹ calculated that the cavalry sarissa was around 9 ft. long and weighed 4.2 lbs, thus confirming Strabo's¹⁴² claim that it was light enough to be thrown. The lance itself had two spear heads, one considerable larger than the other, the larger of the two being at the rear, partially to act as a counter weight, allowing the weapon to be held in the 3.5 position. The weapon was also fitted with a strap to allow the user greater flexibility and to reduce the risk of the lance being dropped in combat.

Macedonian Cavalry: Footnotes.

1. Diodorus 17.17.
2. 4500 is the total number of cavalry stated at 17.17.4.
3. 5100 is the total arrived at by adding the strengths of the contingents as given at 17.17.4.
4. Bosworth (1980), 98.
5. Brunt (1963), 32-33. Brunt also believes that the figure of 4000 provided by Aristobulus is simply rounded down from Callisthenes.
6. *FGrH* 124 F 35 = Polybius 12.19.1.
7. Brunt (1963), 34. This is of course speculation and unprovable, but I do not think it unlikely that Callisthenes, as the official expedition historian, would give two detailed lists, especially if the totals would be different after the incorporation of the remnants of the expeditionary force.
8. Bosworth (1980), 99, does not agree with Brunt on this point, stating that “we can no longer dogmatically assume that Ptolemy’s figures are correct”, but does not offer a positive answer, only that the discrepancies “cannot be explained in the present state of the evidence”.
9. That is to say his Persian enemies, rather than those in Greece.
10. Diodorus 17.17.4.
11. Berve, (1926). Spence, (1993), 134, believes that the Macedonian *prodromoi* were the first cavalry units in western history that were specifically equipped and trained to act as scouts.

12. The infantry of this force were in all likelihood all mercenaries; His Macedonians would have been too valuable to him to send to Asia at this time. Milns (1966), 167 also believes that the *prodromoi* were already in Asia when the army invaded. Hammond (1998), 408 also believes that some Macedonian cavalry would have been with the expeditionary force, although he believes it to have been 1 *ile* of Companions and not the *prodromoi*: I believe this to be incorrect as Diodorus' army for 334 clearly gives us the location of all 1800 Companions that Alexander had access to.
13. This reasoning comes largely from Brunt (1963), 27-35.
14. Arrian 1.29.4, Hammond (1998), 62 believes that these 300 cavalry were a hastily gathered together group and were not of the citizen class of Macedonia.
15. Polybius 9.19.2.
16. Tarn (1948) 2.158, n.1.
17. Arrian 3.16.10.
18. Curtius 5.1.40.
19. Diodorus 17.65.1.
20. 1800 Companions, 600 *prodromoi* and 1300 reinforcements. Assuming that the *prodromoi* were indeed Macedonian: see below.
21. Brunt (1963), 37.
22. Arrian 4.6.2 with 3.7.
23. Brunt (1963), 37 n.2 showed a total of 50000 casualties for the Gedrosian campaign alone, although he concluded that losses amongst the Macedonians may well have been relatively small in comparison with other groups.

24. Arrian 1.12.7 for example.
25. Arrian 1.14.6, 2.9.2, 3.12.3.
26. Diodorus 17.17.4.
27. Tarn, (1948), 2.157.
28. Arrian 1.12.7; 1.14.1 and 6; 2.9.2; 3.12.3; 3.18.2; 3.20.1; 3.21.2. Hammond (1998), 411, also believes that the *prodromoi* were Macedonian, although in an interesting twist suggests they were "... Macedonian in the geographical sense rather than in the political sense". He proposes that only the Companions, both cavalry and infantry (along with presumably the hypaspists) were called 'citizens' and allowed to attend the 'assembly' (Diodorus 17.109.1-2).
29. For the positions of the *prodromoi* see Arrian 1.14.6 (Granicus); 2.9.2. (Issus); 3.12.3 (Gaugamela). For the positioning of the Balkan cavalry see Arrian 1.14.3 (Granicus); 3.12.4. (Gaugamela).
30. Plutarch Alexander 16.3; see also Hamilton, (1969), 40.
31. Brunt (1963), 27.
32. *Prodromoi* and *sarissophoroi* are in all probability the same troops, just equipped differently for their different roles, the former being scouts, the latter being front line cavalry.
33. Bosworth (1980), 110.
34. Markle (1977), 81, 337 also believes that there were 600 *prodromoi/sarissophoroi* with Alexander and an unspecified number left behind with Antipater in Macedonia. This would mean that an *ile* of *prodromoi* was smaller than that of Companions, consisting of 150 troopers. Berve believed that

there were 600 *prodromoi* with the army of invasion too, but that they are included in the total of 1800 Companions, but a total of 1200 Companion cavalry seems far too low.

35. The sarissa will be discussed at length in the following chapter.

36. Bosworth (1988), 262.

37. Tarn (1948), 2.158.

38. Brunt (1963), 28.

39. Berve (1926), 134.

40. Arrian 1.12.7; 14.1; 2.9.3; 3.11.8 etc.

41. Arrian 1.2.5; 12.7; 11.9.3.

42. Arrian 2.9.3.

43. Bosworth (1988), 261.

44. Bosworth (1980), 211.

45. Bosworth (1980), 211.

46. Milns (1966), 167.

47. For a little more detail see chapter 8.

48. Brunt (1963), 28.

49. Tarn (1948), 2.161.

50. The exact route is not known: see Bosworth (1995), 149 *ff.*

51. Arrian 4.23.1.

52. Arrian 4.22.7.

53. Arrian 4.22.1.

54. Arrian 4.17.3.

55. Arrian 1.24.3; 3.29.7; 4.4.6-7; Diodorus 17.57.1.
56. Arrian 1.24.3.
57. Griffith (1963), 70.
58. Bosworth (1980), 155.
59. Brunt (1963), 29.
60. Arrian 1.18.3; 2.20.4.
61. Arrian 3.29.7.
62. Bosworth (1980), 375.
63. Griffith (1963), 71.
64. Bosworth (1980), 375.
65. Brunt (1963,) 29.
66. Tarn (1948), 2.163, where he believed that they were only 5 in number.
67. Arrian 6.5.5-7.
68. Arrian 6.6.1.
69. Arrian 6.6.4.
70. Arrian 6.6.1.
71. Arrian 6.7.2.
72. Arrian 6.9.1.
73. Brunt (1963), 29, wrongly assuming that Perdikkas had rejoined Alexander,
although there is no positive evidence for this: see Bosworth (1980), 375.
74. Arrian 6.11.8.
75. Arrian 6.13.1.
76. Brunt (1963), 29.

77. Tarn (1948), 2.163.
78. Brunt (1963), 30. The table that follows is also from Brunt.
79. Tarn (1948), 2.163.
80. Arrian 4.21.4.
81. Bosworth (1980), 375.
82. Brunt (1963), 30 believes 328, Hammond (1998), 418 and Bosworth (1980), 375-6 believe 329, Ptolemy's first reference is certainly in 329.
83. Hammond (1998), 418; Hammond (1980), 455 *ff*; Hammond (1980), 191 *f*.
84. There were initially 1800 Companions; reinforcements down to 328 take the total to 3600, including the *prodromoi* gives a total of around 4400. There would have been some losses, however, so a total of 4000 cavalry in the hipparchies in 328 seems reasonable: see below for more details.
85. Brunt (1963), 30-32.
86. Arrian 2.7.3; 10.2; 16.8; 3.9.3.
87. Brunt (1963) 31.
88. Bosworth (1980), 375, agrees with Brunt on this point.
89. Bosworth (1980), 375-6.
90. Arrian 5.11.3; 12.2.
91. Arrian 5.2.2-4; 3.6; 6.2.3.
92. Arrian *Indica* 19.5.
93. Arrian 3.24.1.
94. Berve 1.151, Griffith (1963), 69, also assumes them to have been of Persian origin.

95. Arrian 3.25.2,5.
96. Bosworth (1980), 352, he suggests that the *hippakontistai* could be the Macedonian *prodromoi*, who are never mentioned after the pursuit of Darius.
97. Bosworth (1988), 271: he points out that the Paeonians are never again mentioned and that the Paeonians and *hippakontistai* may well be one and the same. These two theories are virtually the same; on Bosworth's reckoning the *hippakontistai* were Greek light cavalry and performed essentially the same role as the *prodromoi*.
98. Arrian 5.12.2; 16.4 cf. Curtius 9.2.24.
99. Bosworth (1995), 279.
100. Brunt (1963), 43 *ff.*
101. Arrian 7.6.3.
102. Arrian 6.27.3.
103. Arrian 6.29 *ff.*
104. Brunt (1963), 43.
105. Berve 1.111.
106. Brunt also believes that only the Orientals incorporated within the fifth hipparchy would have been designated Companions; on this reckoning only the smallest handful of Oriental cavalry would have achieved this status.
107. Arrian 7.6.3.
108. Griffith (1963), 68 *ff.*
109. Areas such as Media, Susiana, Hyrcania, Persis and Aria etc. etc.
110. Arrian 4.17.3.

111.Griffith (1963), 69.

112.I say alternative rather than successor quite deliberately. The old view was that Alexander did indeed portray himself as successor to the Achaemenids, but Fredricksmeier (2000) 137 *ff* convincingly argues that this is not the case, that Alexander in fact used rather different imperial titles and symbolism, and therefore was perhaps more alternative than successor.

113.Arrian 5.12.2; 6.7.2.

114.Griffith (1963), 72.

115.Hammond (1980), 191 *f*.

116.Tarn (1948) 2.299, those in this camp tended to argue that the sarissa would have been too heavy and cumbersome to be used by cavalry or that without stirrups or a saddle a long lance would loose most of its effectiveness.

117.Markle (1977), 333.

118.Guderian (1957), 53.

119.Manti (1983), 74 *ff*; see also Mixter (1992), 21-29.

120.Koehly 3.215.6.

121.Koehly 3.223-24.

122.Appian 11.19.7-10.

123.Arrian 7.6.5.

124.Aelian *Tact.*12.

125.The terms ‘sarissa’, or ‘cavalry sarissa’ are the ones that I will try to stick to throughout this section, although I will also use ‘lance’ at times. The ancient sources seem to use a range of confusing terminology to refer to what is

- probably the same thing, the cavalry sarissa. We see sarissa, pike, dory, lance, xyston, spear and kontos, all seemingly interchangeable; see Mixer (1992), 26.
126. Almost all modern authorities would equate 8 cubits to be around 12 feet in length. For an alternative see Tarn (1948) 2.169-171 for his theory on the short Macedonian cubit: he believed that a cubit was around 13-14 inches.
127. Strabo 10.1.12.
128. Asclepiodotus *Tact* 1.3.
129. Arrian 1.15.5.
130. Manti (1983), 75.
131. Arrian 1.15.6; Polybius 6.25.6, 11.8.4.
132. Manti (1983), 75.
133. Manti (1983), 79.
134. Manti (1983), 76, points out that the usual interpretation is of a Macedonian cavalryman in battle with an infantryman; however the Macedonian star on the infantryman's shield is suggestive of this being the cavalryman's groom.
135. Markle (1977), 333 believes there to have been no significant difference in any way between the sarissa used by the cavalry and that used by the infantry, furthermore believing there to have been no difference in size or weight between the spear point at each end of the shaft of the cavalry sarissa. This must be wrong for it to have been balanced as it clearly is in the visual depictions we have examined; there is further archaeological evidence for this point too: see later.
136. Manti (1983), 76; Markle (1977), 333 *ff.*

137. The following archaeological evidence is drawn largely from Manti (1983) 76 *ff.*, and to a lesser extent on Mixter (1992) and Markle (1977) and (1978). As in chapter 1 the units are as used by these authors.

138. Andronicos (1970) 91-107, a more detailed discussion of the infantry sarissa can be found in chapter 1.

139. 1.08 in.

140. 1 ½ in.

141. Manti (1983), 78.

142. Strabo 10.1.12.

Chapter 4.

Thessalian Cavalry.

Probably the most important non-Macedonian contingent within the whole army during the early stages of the war was the Thessalian cavalry. The Thessalian contingent was not newly recruited by Alexander, but had fought alongside the Macedonians under Philip for some years before his death. They had, for instance gained distinction during the battle of Chaeronea, during which they may have taken part in the final cavalry charge led by the young Alexander,¹ although the details of this battle are sketchy at best.

At the outset of the expedition Alexander commanded 1800 Companions and it seems that he had a similar number of Thessalians. These troops had been raised from among the nobility of Thessaly, which had a long-standing reputation for producing the finest cavalry in the Greek world. The initial 1800 men were supplemented by a group of 200 reinforcements that reached the army at Gordium.² These troops were among the first batch of reinforcements received by Alexander. Arrian mentions no others during the early stages of the campaign, although Bosworth³ believes that there must have been a “wave of new levies” reaching the army throughout 333. It should be stated, however, that it is unlikely that any more Thessalians arrived at the early stages of the campaign and that their nominal strength probably never exceeded 2000. It is unclear from our sources what

Alexander did with these reinforcements; Sekunda⁴ believes that they were incorporated amongst existing *ilai* to make up for losses incurred up to that point. Whilst this sounds a reasonable enough assumption, it is based upon a false premise; the Thessalian cavalry had not been heavily involved in the most serious fighting to that point⁵ and thus could not have incurred such heavy losses, i.e. more than 10% of their previous total. The only other option would be to assume that a ninth *ile* was created, but our sources do not even hint at this, so we are left to agree with Sekunda, with the qualification that the existing 8 *ilai* would have been somewhat over strength for a time.

We are not told explicitly how the Thessalians were organized, but it would seem logical if it were along the same lines as for the Macedonian Companion cavalry. That is to say they were organized into 8 *ilai* of 200 men, one of which was probably double strength, the so-called Pharsalian *ile*.⁶ This double strength *ile* is the only one Arrian or any of our sources explicitly names, but the others were no doubt also named after prominent Thessalian cities or regions, again echoing the Companions.

At the outset of the campaign up to the battle of the Granicus, the Thessalians were under the command of Calas, a man whom had served under Parmenio on the expeditionary force and surely one of "Parmenio's men".⁷ Alexander removed him from this position immediately after the battle, however, appointing him satrap of Hellespontine Phrygia.⁸ Alexander appointed Philip, son of Menelaus, as Calas'

successor.⁹ Green¹⁰ sees this as part of a grand strategy of Alexander to remove those who were favourites of Parmenio and replace them with his own men. Alexander may well have had this idea in mind; but as Bosworth¹¹ points out the appointment of Calas is a logical choice as he had local knowledge of the region gained during his time with the expeditionary force. We also know that Calas was given the satrapy¹² of Paphlagonia by Alexander in 333,¹³ so he could not have been seen as anything other than loyal by the king.

The Thessalian cavalry carried virtually the same equipment as the Companions,¹⁴ but one superficial distinction can be made. The two horsemen depicted on the Alexander sarcophagus, one hunting the other in battle, wear the distinctive Thessalian cloak¹⁵ and can probably therefore be identified with this contingent. The cloak is identified by the two points that hang down both in front of and behind the figures. Other than the cloak there seems very little to distinguish them from the Companions in terms of dress or equipment.

Bosworth¹⁶ states that the Thessalians "...performed much the same functions as the Companions..." but this is demonstrably not the case. They did form the bodyguard for Parmenio in the same way that the Companions did to Alexander, but their actual role in the set piece battles was significantly different. The Companions were the main offensive weapon of the army, trained and employed to punch a hole in the enemy's line, drive troops through and then to wheel on the enemy centre, thus ensuring that it would be attacked in two directions at the same



time, from the side and the front by the heavy infantry.¹⁷ The Thessalians on the other hand were assigned to fight defensive actions¹⁸ on the left wing, to prevent the army from being outflanked or encircled by superior Persian numbers. Their role was perhaps equally important as that performed by the Companions on the right but was certainly not the same.

Although the Thessalians were without question amongst the finest troops in the Macedonian order of battle, Alexander evidently saw them as being far from indispensable. In 331 whilst at Ecbatana, Alexander disbanded the Thessalian cavalry and all other allied contingents ordering them back to the Aegean.¹⁹ A very generous settlement was given²⁰ and an escort was organized to take them back to the Aegean coast.²¹ Any who wished were allowed to re-enroll with the army, but their status would no longer be that of allies, they would be mercenaries, and each man who remained with the army was given a massive bonus of 3 talents; many evidently stayed.²² The distinction between mercenaries and allies is perhaps a fine one; they would most likely receive the same rate of pay as they had done previously, and would be equipped and probably organized in the same manner.

Why though, were the allied troops disbanded at this point? Diodorus perhaps gives us the answer. While at Ecbatana, Diodorus tells us that Alexander "...was aware that the Macedonians regarded Darius' death as the end of the campaign..."²³ If Diodorus is right that even the Macedonians felt this way, then it is almost certain that the Greek allies did. Beside this point, the Greeks had been

obliged to aid Alexander in the destruction of the Persian Empire, the death of Darius signaled that this goal had been achieved and thus the obligation of the city-states was at an end; essentially the League of Corinth's war was at an end. Many of them chose to stay, no doubt for the financial incentives offered by Alexander.

There were purely military reasons for the disbanding of the Thessalians too; Alexander would have been aware that the terrain he was about to enter in the north east of the former Persian empire would not lend itself to the kind of set-piece battles that had given him victory over Darius in the previous few years. There would, therefore, be no need for a primarily defensive detachment of cavalry; the main fighting would be done by the Companions and the Macedonian heavy infantry units. Those allied troops that re-enlisted were finally and fully disbanded less than a year later.

Allied cavalry

The Greek states of the League of Corinth were obliged to provide cavalry as well as infantry to the royal army. Not all states were required or expected to furnish cavalry; what was required of each would have depended to an extent on what they were best able to provide. Diodorus²⁴ tells us that 600 Greek cavalry commanded by Erigyius crossed the Hellespont with the main body of the army in 334. These 600 can probably be equated with the 3 *ilai* of allied horse at Gaugamela.²⁵ These three squadrons were from the Peloponnese and Achaea, from Phthiotis and Malis

and the squadron from Locris and Phocis. These troops seem to have been stationed on the right wing.²⁶ As a complement to the allied cavalry on the right, there was also a contingent stationed on the left wing at Gaugamela.²⁷ This second group were commanded by Coeranus and probably numbered 600 divided into 3 *ilai*, as with those on the right. This group may well have contained the Boeotians (mentioned below), the Acarnanians and the Aetolians, along with perhaps the Eleians. No individual state initially seems to have made a contribution of a full *ile*, rather troops from different states in the same geographical area were brigaded together.

We often do not have a complete picture of what the allied cavalry units were doing at any given time for example, when Alexander entered Egypt only part of the army accompanied him.²⁸ Whilst Alexander was in Egypt our sources dwell upon Alexander's activities and almost totally ignore the rest of the army. We do know that the allied cavalry had been attached to the satrap of Syria temporarily, after the battle of Issus.²⁹ We can perhaps assume that at some point a batch of allied cavalry reinforcements arrived from Greece. Curtius³⁰ reports a conversation between Darius and the exiled Charidemus in which Charidemus mentions an otherwise unknown contingent of Acarnanians and Aetolians. The speech is almost certainly apocryphal as Charidemus was exiled from Athens some time before, at the orders of Alexander. Curtius in creating this conversation could well be using sources that were aware of the existence of these two contingents. If they are genuine then they must have been part of a batch of reinforcements of which we

otherwise hear nothing. We also know that a contingent from Boeotia reached the army in Asia at some point; an inscription found at Orchomenus records a dedication made by those who served with Alexander, also mentioning their *ilarch*.³¹

Balkan Cavalry.

As mentioned in the previous chapter the army also contained a contingent of 300 Paeonian *prodromoi*. These troops were probably supplied from two areas; one was Paeonian and the other Odrysian. The Paeonians were commanded by Ariston, a member of the royal house of Paeonia.³² The Odrysians on the other hand were commanded by Agathon, a Macedonian.

We can assume that these *prodromoi* were equipped in a similar way to the Macedonian *prodromoi*, as discussed in the previous chapter, but their national dress was significantly different. They were dressed in long-sleeved tunics and wore a crested helmet and may have used a panther skin saddlecloth. These troops are those mentioned as being with the army at the crossing of the Hellespont, described by Diodorus as part of the “900 Thracian and Paeonian *prodromoi*”.³³

Thessalian Cavalry: Footnotes.

1. Hammond (1980) 31.
2. Arrian 1.29.4.
3. Bosworth (1980) 174-5.
4. Sekunda (1984) 18.
5. Namely the battle of the Granicus and the siege of Halicarnassus.
6. Arrian 3.11.10. The Pharsalian *ile* would have performed the same role as the royal squadron of the Companions; they would have been effectively the bodyguard of their commander in battle.
7. Green (1991) 203-4.
8. Arrian 1.17.1.
9. Parmenio of course had overall command of these troops during the set-piece battles, and indeed at other times. They acted as his personal bodyguard in the same way as the Companions did with Alexander.
10. Green (1991) 203-4.
11. Bosworth (1980) 127.
12. Calas was the first satrap appointed by Alexander. In these positions Alexander followed the mechanism and nomenclature of the previous Persian administration, merely substituting Macedonians in the place of Persians see Bosworth (1980) 127. This is one example where he does seem to have portrayed himself as successor to, rather than an alternative to, the Achemenid kings. See chapter 3 note 112.

13. Arrian 2.4.1.
14. See previous chapter for details.
15. Sekunda (1984) 19.
16. Bosworth (1988) 264.
17. This strategy is essentially Alexander's hallmark and is eerily reminiscent of the German *Blitzkrieg* strategy developed in the main by Heinz Guderian. See Guderian (1937) for a discussion of the need for a new strategy after WWI and Guderian (1953) for a discussion of how the strategy was actually employed during WWII. Guderian gives no credit to early strategists who employed an embryonic form of *Blitzkrieg* and makes no references at all to any periods earlier than Clausewitz.
18. During at least the battles of Issus and Gaugamela, Their role at the Granicus is unclear.
19. Arrian 3.19.6.
20. Arrian 3.19.6 states that the Thessalians were given a total of 2000 talents, Diodorus 17.74.4 and Curtius 6.2.17 claim 1 talent per cavalryman and 10 mina per infantryman and so the total of 12000 talents at Curtius 6.2.10 is consistent with the allied numbers in 334 in Diodorus 17.17. See Bosworth (1980) 336 for more detail.
21. It seems that the Thessalians were marching on foot with a cavalry escort, having evidently sold their horses presumably to the Companions. Attrition amongst horses on the expedition must have been particularly high.
22. Diodorus 17.74.4.

23. Diodorus 17.74.3.
24. Diodorus 17.17.4.
25. Diodorus 17.57.2.
26. Arrian 3.12.1.
27. Arrian 3.12.2.
28. Arrian 3.2.2, Alexander appears to have taken mainly Macedonian troops with him into Egypt, along with the Agrianians.
29. Arrian 2.14.1.
30. Curtius 3.2.10 *ff.*
31. Sekunda (1984) 19.
32. Sekunda (1984) 21.
33. Diodorus 17.17.4 these troops were discussed at greater length in the previous chapter.

Chapter 5.

Mercenaries and Allies.

The distinction drawn by Alexander between allied troops and mercenaries was not sharp and could lead to some confusion. We must first therefore clarify what these terms actually mean before we consider the individual contingents themselves. The meaning of the term 'mercenary' would seem at first obvious, a soldier who fights for pay, but of course everyone in Alexander's army was being paid, including the Macedonian and allied contingents. I believe that we can narrow the meaning down to 'someone who fights without a political imperative', i.e. a soldier who is not compelled to fight by his city state, but does so solely for personal reasons. The distinction therefore becomes a little clearer, but the status of the Balkan troops¹ in the army is still something of a problem. Griffith considers them mercenaries, stating, "They came from peoples whose princes were more or less formally subject to the king of Macedonia, so that it is hard to say whether they were mercenaries or allies. It is probably best to avoid a splitting of hairs, and to call them all mercenaries, because if they were allies in the first place they certainly became mercenaries later".² I will here consider them amongst the allied contingent, as Griffith says they were initially allies and Diodorus³ certainly does not include them amongst the mercenaries in his troop list.

By the time of the accession of Alexander in Macedon, mercenary soldiers formed an integral part, not just of the Macedonian army, but also that of Persia and a number of the city-states. The mercenary soldier himself, however, had undergone considerable change. In the fifth century, mercenaries were few in number and employment opportunities were limited.⁴ Their first large scale employment in Greece was during the Peloponnesian War and was at first confined to the Spartan side, Athens having no access to the large recruiting grounds of Arcadia, and Pericles' defensive strategy had little need of mercenaries anyway.⁵ Persia tended not to employ Greek mercenaries in large numbers in the fifth century, the first large scale employment being Cyrus' force of 10,000. Mercenaries in the fifth century tended to be grouped into one of the following classifications: -

1. Archers, often from Crete. Archery was a specialized field and required considerable training. It was very difficult for a citizen hoplite to acquire the necessary skills and so specialists were hired. Crete is often mentioned as a source of such troops throughout the fifth and fourth centuries, and it even furnished a contingent in Alexander's army.
2. Cavalry. Usually few in number primarily because of the expense involved, and the geography of Greece generally did not lend itself well to cavalry engagements, with a few notable exceptions.
3. Hoplites. Troops armed and equipped in the same manner as a citizen soldier, a heavily armed infantryman wearing a breastplate and often greaves and carrying a spear. Their main offensive weapon was weight of numbers. Heavily armed

hoplites were the main fighting force on either side in the fifth and into the fourth century.

4. Peltasts. Light armed troops carrying a small shield and little or no body armour. Their effectiveness was based largely on their mobility. Most mercenaries in the fourth century fell into this group after the 'reforms of Iphicrates' early in that century.

Iphicrates' Reforms.

Iphicrates was born towards the end of the fifth century into a poor and rather obscure Athenian family.⁶ Despite his lowly background he rose to a position of command in Athens, fighting in a number of campaigns including the Corinthian War and the Social War; he also spent time in Persian service after the peace of Antalcidas. Diodorus places his peltast reforms after 374, after his Persian sojourn, using his experiences to that point to develop this new type of soldier.⁷ The exact dating of the reforms is not relevant here, but their nature certainly is as it was this type of soldier that constituted the bulk of Alexander's mercenary forces.

The primary sources of information that we have for the peltast reforms of Iphicrates are Diodorus⁸ and Nepos,⁹ both of whose accounts are very similar. According to them the most significant changes were as follows: - "Iphicrates replaced the large (shield) of the Greeks by the light pelte, which had the advantage that it protected the body while allowing the wearer more freedom of movement;

the soldiers who had formerly carried the (large hoplite shield) and who were called hoplites, were henceforth called peltasts after the name of their new shields; their new spears were half as long again or even twice as long as the old ones, the new swords were also double in length, In addition Iphicrates introduced light and easily untied footwear, and the bronze harness was replaced by a linen covering, which although it was lighter, still protected the body.”¹⁰ Diodorus regards these changes as having been introduced into the existing hoplite troops,¹¹ and in the process discounts the possibility of already existing peltasts. Parke writes, “Modern commentators have generally been struck with the absurdity of this, and have taken up an opposite attitude. For them the change was a trivial one and consisted chiefly in the standardizing of the existing, but rather haphazard, peltast equipment”.¹² This argument, however, simply will not do. It assumes that the light-armed skirmishers of earlier narratives were equipped in the same manner that Diodorus describes. This simply cannot be the case; light-armed skirmishers would not have carried a sword and spear twice the length of those carried by hoplites. Earlier narratives also tell of peltasts actually throwing their spears. If Iphicrates was standardizing that which already existed then why did he not provide his troops with these throwing spears? We are surely not to believe that they carried these as well. Some other explanation must be sought.

Was Iphicrates actually inventing a new type of peltast, one with specific and specialized equipment? Best believes not, seeing the Iphicratean peltast as being “...in no way different from Thracian peltasts”,¹³ and thus seeing Iphicrates’

reforms as being considerably less significant than others have. The truth probably lies somewhere between these two extreme positions. There was probably no uniformity of peltast equipment before Iphicrates, some using primarily throwing spears, some longer spears, some using swords of various sizes. The size of the shield probably varied too. I suspect therefore that Iphicrates studied the light infantry of his day and based his reforms around choosing from the various groups the equipment that best suited the type of soldier that he was trying to create. We may see Iphicrates therefore not as creating something entirely new, or as standardizing that which already existed, but as refining the equipment and tactics of the peltasts of his day.

Mercenaries had not been a significant part of the military forces of the city-states in the fifth century. There was, on the one hand, very little fiscal means to support such troops, and, on the other, a generally held belief that it was a citizen's duty to take up arms and defend his polis as need arose. Any Greek mercenaries that did exist were generally employed in Persia or in Egypt.¹⁴ The most significant event that sparked a major increase in the employment of mercenary troops on mainland Greece was the Peloponnesian War. The Peloponnesian states were the first to employ mercenaries in numbers. These mercenaries were initially not light armed troops but hoplites from Arcadia. Athens was slow to hire such troops, largely because of the geographical difficulty in reaching them, but by the end of the war mercenaries of all kinds were finding employment on both sides. The reasons for this change lay in the nature of the war itself. The war was prolonged and almost

continuous and there were few large-scale set piece battles fought: most engagements were on a small scale and fought by troops who were relatively lightly equipped and very mobile. Mercenaries were simply better at this kind of combat than heavily armoured hoplites. The hiring of mercenaries was made possible now, and less so earlier, by the relative prosperity of the warring states as compared to earlier in the fifth century.

The end of the Peloponnesian War did not see an ending of the employment of mercenaries in Greece. The peace itself led to a large number of men who had become accustomed to earning their living as hired soldiers suddenly becoming unemployed. This would generally have a destabilizing effect upon any society, but they would not have stayed unemployed for long. The political situation in Greece in the fourth century meant that there were always potential paymasters. Their other great sphere of employment, Persia, was also undergoing change. "The central authority of the Persian empire had begun to weaken. The local governors grew more independent and ambitious. Their position needed military support, and they found it most readily in Greek mercenaries".¹⁵ It had long been recognized that mercenaries formed a more secure power base for tyrants, rather than citizen soldiers whose loyalty was more open to question if a usurper came along. Greek mercenary infantry in Persian service continually proved themselves more capable than anything that the native Persians were able to achieve, so the great king himself was also forced to hire his own contingents to keep pace with his potentially disloyal satraps.

Philip.

The use of mercenary troops became commonplace in the fourth century, spreading ultimately to Macedonia. Our sources give us very little information about the composition or effectiveness of the Macedonian army at the accession of Philip, save to imply that it was strong in cavalry and very weak in infantry. Mercenaries had been used in Macedonia before the reign of Philip,¹⁶ and had perhaps even been employed by Philip himself before he became king. Carystius of Pergamon relates the following: "Speusippus, on hearing that Philip was speaking ill of Plato, wrote in a letter somewhat as follows: People do not know that Philip actually secured the beginnings of his kingship through Plato. For Plato sent Euphraeus of Oreus to Perdiccas, who persuaded him to allot a portion of land to Philip. From that revenue he kept a standing army, and so when Perdiccas died, with his army ready he threw himself into political power".¹⁷ The story does not come to us directly and is unlikely to be completely accurate; it may, however, contain some degree of truth.¹⁸

In order to hire any significant numbers of mercenaries vast quantities of gold and silver were required. Throughout the fifth century the city-states struggled financially to cope with the almost continuous warfare that they were presented with. Macedonia, however, was in a very different position. After 357, with the capture of Amphipolis, Philip had access to the gold, and perhaps more

importantly, silver mines of Mount Pangaeus. These mines were then worked with more energy than they ever had been before,¹⁹ to such an extent that they produced 1000 talents a year for the treasuries of Macedonia, more than Athens had produced at the height of her empire,²⁰ and more than Athens was capable of producing in the fourth century. This income ensured that Philip need never be short of mercenaries, but to what extent did he actually employ them? The first recorded instance of the employment of mercenaries in Philip's army came in 352 when they aided in the capture of Pharcedon in Thessaly,²¹ although they may well have been present the previous year when Philip was defeated by Onomarchus.²² It was also at this same period that Chares the Athenian general hosted a feast in the agora to celebrate a victory over the mercenaries of Philip.²³ Mercenaries were certainly present in the army of occupation in Phocis in 346 at the end of the Sacred War,²⁴ and they appear several times in later years; as reinforcements to Messene and Argos in 344²⁵ and at Megara. Four mercenary armies are also known on Euboea,²⁶ they are also known in the Chersonese,²⁷ and probably at Chaeronea in 338.²⁸

Diodorus' account of the career of Philip is lacking in details, in fact it is almost totally devoid of detail after 346, and thus it is very difficult indeed to make any kind of assessment as to how important mercenaries were in the Macedonia that Philip created. Diodorus' account of the battle of Chaeronea²⁹ is a good example of this; he gives no details on the armies themselves and almost suggests that the victory was due to the bravery of the young Alexander alone. Demosthenes, on the

surface, gives us a little more information. He lays great stress upon Philip's reliance upon mercenaries, even to the extent of belittling the heavy infantry: "and you hear of Philip going wherever he wants, not by virtue of commanding a phalanx of hoplites, but because he has fitted out light-armed infantry, horsemen, archers, mercenaries and that sort of army",³⁰ he also emphasizes Philip's great wealth, implying that it was this that enabled him to buy "this sort of army", and therefore essentially to buy success rather than earning it with a more traditional army of hoplites. Demosthenes, however, was writing for an Athenian audience and with a very specific agenda; he said whatever it suited him to say and what his audience wished to hear. Demosthenes, therefore, only really tells us that Philip employed mercenaries to some extent, which we already knew. The only other thing that he tells us is that Philip probably made greater use of mercenaries than was usual at the time, but tells us nothing about tactics or numbers.

The use of mercenaries by Philip can be divided into two distinct parts, separated by the year 346. Before this date only three mentions are made of mercenaries in the Macedonian army, the first against Chares and the second in the capture of Pharcedon in 353-2.³¹ The third instance was when he loaned a contingent of mercenaries to Phocion in 348.³² During the early part of Philip's reign his Macedonian national army was in the process of being trained and I believe it likely that mercenaries played a far greater role in military operations during this period than these sparse references would seem to indicate. After 346 when Philip had gained control of much of Greece mercenaries were used to form garrisons at

strategic points throughout the Greek world; this was a policy that Alexander continued and greatly expanded upon, as we shall see. They also continued to be used in a combat role as evidenced by the composition of the expeditionary force sent to Asia Minor by Philip in 336.

Alexander.

The majority of mercenaries employed by Alexander at the beginning of his reign would have been with Alexander himself or with the expeditionary force that Philip had sent to Asia Minor in 336; it is unlikely that any would have been left behind with the standing army in Macedonia; this would have been an unnecessary expense, although Alexander had left garrisons at strategic points throughout Greece.³³ These garrisons would almost certainly have been mercenaries as this was the beginning of a trend that Alexander used throughout his career.

In his detailed order of battle for 334, Diodorus³⁴ tells us that of the 32000 infantry in the army of invasion, 5000 were mercenaries.³⁵ 5000 seems to be a remarkably small number as a percentage of the total, only 15.6%: there are four main reasons for this: -

1. Mercenaries, historically, had not constituted a large part of Greek armies.
2. Philip seems to have seriously depleted the Macedonian treasury, leaving Alexander with very little money with which to hire mercenaries.³⁶

3. In 334, Darius was a competing paymaster. The Persians had always been a large employer of Greek mercenaries and had the resources to hire as many as they required at any given time. Darius was also a seemingly attractive prospective employer as the Persian Empire was vast in comparison to Macedonia.
4. Alexander had very little need for mercenaries in his army at the outset of the campaign. See later for more details.

It has long been realized, however, that Diodorus' figure of 5000 mercenaries carries with it some serious problems. During the first year of the campaign in Asia, up to the battle of Issus, Alexander left behind garrisons at Side,³⁷ Mytilene,³⁸ and possibly Ephesus and Miletus too. A force of 3000 mercenary infantry was also left to complete the reduction of Halicarnassus and to act as a garrison for Caria.³⁹ Our sources do not tell us the size of the garrisons left in Side and Mytilene, or the numbers of casualties in combat to this point,⁴⁰ but we can perhaps safely assume that the total left behind before Issus would amount to in excess of 5000, more than the number with which Alexander had invaded Asia. To the best of our knowledge the only additional mercenaries that Alexander received were the 300 that joined from the Persian garrison at Miletus.⁴¹

The problem arises when we look at the battle of Issus. There clearly seem to be two bodies of mercenaries that form a reserve line behind the Macedonian heavy infantry.⁴² Arrian's description of the dispositions of Alexander's army are not as

detailed as we would like; he does not tell us, for example, the number of mercenaries present. It is probable that such a force, forming a second line, would have been fairly considerable; Griffith argues for between 5000 and 8000.⁴³ If we take the lower of these two figures, this leaves us with a significant shortfall. There are only two possible explanations: either we make up the deficit by suggesting that these troops were the remnants of the expeditionary force, whose fate we otherwise know nothing about, or there was a draft of reinforcements from Greece between 334 and 333 that our sources tell us nothing about. It would seem that the former explanation is the more plausible as it is unsafe to invent troops just for our own convenience and to fill a gap in our available evidence.⁴⁴

Soon after landing in Asia Alexander seems to have been in the following position with regard to his mercenaries: -

5000	Army of invasion	Diodorus 17.17.3
- 2500	Garrison at Ephesus?	Bosworth (1980), 134
- 3000	Garrison of Caria	Arrian 1.23.6
- 2000	Garrisons at Side, Mytilene, Miletus? and casualties estimate	See Footnotes 38 and 39
+ 300	Miletus	Arrian 1.19.6

Assuming 5000 at Issus, this therefore leaves around 7200 mercenaries unaccounted for; these must be the remnants of the 10000 sent to Asia as an expeditionary force in 336. This does raise the question as to how Philip could have afforded so many mercenaries at this time; all we can say is that his financial reserves must have been, to say the least, stretched, because it seems undeniable that these missing troops were mercenaries.

Logic may tend to suggest that with every successful campaign of Alexander more and more mercenaries would flock to his banner: a successful general is always a far more attractive paymaster than an unsuccessful one, and after Issus he was not short of funds. This does not seem to have been the case, however, at least until that pivotal year of 331. Our sources only record two batches of mercenary reinforcements received by Alexander before Gaugamela, 4000 from Sidon⁴⁵ and 3000 from Chios.⁴⁶ We are also told of a mercenary garrison of 4000 left behind in Egypt: these must be the reinforcements from Sidon, as they are not mentioned at the battle of Gaugamela. Although the total number of mercenary troops may have increased slightly during the first 3 years of the campaign, so did the number of Macedonian troops, so that the proportion of mercenaries to Macedonians remained almost constant. Reinforcements were arriving at roughly the same rate as they were required to form garrisons in the newly conquered territory.

After Gaugamela, when there was essentially no competing paymaster, there seems to have been an explosion in the numbers of mercenaries enrolling with

Alexander's army, to such an extent that both Arrian and Curtius agree that Alexander had 120,000 men with him for the invasion of India.⁴⁷ What follows is a table of all of the mercenary reinforcements that our sources record were received by Alexander throughout his career: -⁴⁸

At Miletus	300 infantry	Arrian 1.19.6
From Chios	3000 infantry (Persian garrison)	Arrian 2.13.5; Curtius 4.5.18
At Sidon	4000 Infantry (Probably left as Egyptian garrison)	Arrian 2.20.5
At Memphis	400 cavalry 500 Thracian cavalry	Arrian 3.5.1
At Susa	4000 infantry from the Peloponnese 980 cavalry from the Peloponnese 3500 Trallians 600 Thracian cavalry	Curtius 5.1.41; Diodorus 17.65.1
In Media	5000 infantry 1000 cavalry 1500 infantry (remnants of Darius' mercenaries)	Curtius 5.7.12 Arrian

	X number of infantry and cavalry from among the Greek allies who volunteered to remain with Alexander after their contingents had been demobilized.	3.23.8; Curtius 6.5.6 Arrian 3.19.6; Diodorus 17.74.4
At Bactra	2600 infantry 500 cavalry 3000 Illyrian cavalry 300 cavalry	Curtius 6.6.35
At Zariaspa	16400 infantry 2600 cavalry	Curtius 6.10.11; Arrian 4.7.2
In India	7000 infantry 5000 cavalry 30000 infantry 6000 cavalry	Curtius 9.3.21 Diodorus 17.95.4
In Carmania	5000 infantry 1000 cavalry	Curtius 10.1.1

At Babylon	Unknown ⁴⁹	Arrian 7.23.1
---------------	-----------------------	------------------

It should be noted that these are only the reinforcements that our sources record; it is highly likely that many more were received by Alexander that we hear nothing about. It is also true that many mercenaries were hired directly by the city or province in which they were to act as garrison: thus they would never have been part of the army itself, they would have largely escaped the notice of our sources.⁵⁰

Organization of the Mercenaries.

Throughout Alexander's career, most particularly in later years, there was an almost constant influx of new troops as existing ones were assigned to garrison duty. The organization of the mercenary contingent within Alexander's army was therefore, by necessity, fluid and difficult to pin down. Berve⁵¹ believed that he had made an important discovery with regard to their organization, when he isolated what he believed to be a terminological distinction preserved by Arrian. He believed that Arrian uses the word *xenoi* to refer to mercenaries that had been with the army from the outset, whilst the word *misthophoroi* refers to mercenaries subsequently recruited in Asia. This distinction generally works down to the battle of Gaugamela, particularly with regard to the mercenary cavalry.

At Gaugamela two bodies of mercenary cavalry are recorded: those who joined the army in Egypt, commanded by Menidas, are called *misthophoroi*, those under the command of Andromachus are called *xenoi*. It can be presumed that these were originally with the expeditionary force of Parmenio, as no mercenary cavalry are recorded with the army of invasion in Diodorus⁵² and no other reinforcements were recorded beside those in Egypt.

Berve believed that this distinction was universally true in Arrian, but an examination of the mercenary infantry will show this not to be the case.

Misthophoroi infantry are first mentioned just before the battle of Issus:⁵³ Parmenio is sent ahead of the main body with a small force, consisting of *misthophoroi*, the Thessalian cavalry and the Thracians. This incident is, however, too early for a significant number of *misthophoroi* to be present; the only mercenary infantry to have been enlisted with the army to that point were the 300 from the garrison at Miletus, and this seems far too small a number to be taking part in the expedition that Arrian is describing, especially when compared to the other, significantly larger, contingents being used. Griffith believes it is "much more likely that the mercenaries Parmenio took were all the Greek mercenaries with the army, a force of perhaps 5000 men or more."⁵⁴ Griffith goes on to note that the same problem recurs soon after this at the battle of Issus, where there are two bodies of mercenary infantry mentioned: the *xenoi* can of course be explained as the remnants of the expeditionary force, but the 300 of Miletus are still the only new recruits. Are we to believe that of the two bodies, one consisted of in excess of

5000 men, the other only 300? I think not. It is far more likely that they were of roughly equal size.

Another problem with Berve's theory, if one were needed, comes with the reinforcements received at Sidon. These were 4000 in number and are the only known reinforcements to have arrived before 331. These troops do not appear, however, in the Greek order of battle at Gaugamela and therefore must have been left on garrison duty in some location before that battle: the only logical place is in Egypt, where, coincidentally enough, we know that Alexander left a garrison, 4000 strong.⁵⁵ Arrian calls the new recruits received at Sidon *misthophoroi*, as he should if Berve is correct, but the troops left behind in Egypt *xenoi*. If, however, the Egyptian garrison were original mercenaries, which Berve understands *xenoi* to be, this does not solve the problem, as the Sidonian reinforcements are still not mentioned at Gaugamela nor are they known to have been left on garrison duty anywhere else; this scenario would also mean that there were more *xenoi* at Gaugamela than there could have been (as 4000 of them would have been left behind in Egypt). The simplest answer to the problem of this use of terminology in Arrian is to assume that although the words could mean exactly what Berve wants them to mean, the distinction does not always hold true. Either it is a misunderstanding on the part of either Arrian or his sources, or perhaps the terms originally referred to the two separate bodies of mercenaries, but the distinction between them was lost: as garrison duty and natural wastage reduced the size of

both bodies, new recruits could be assigned to either *misthophoroi* or *xenoi* to keep the numbers at relatively stable levels.

Role of Mercenary and Allied Troops.

Mercenaries formed a fundamental and immensely important part of Alexander's army throughout the course of his career, despite their seeming lack of involvement in the set piece battles. Their roles can be summed up as follows: -

1. Secondary columns
2. Garrisons
3. Front line troops
4. Colonies
5. Hostages

Each of these roles was vital to the overall success of the campaign and each will be considered separately.

Secondary Columns.

Before 331, Alexander, with very few exceptions, kept his Macedonian troops with him. If any areas needed to be conquered that were not directly on his route of march then secondary columns would be detached to deal with these threats. These

columns were often, although not exclusively, commanded by Parmenio; as with the column sent by Alexander to Magnesia and Tralles when the main body was at Ephesus. This column is particularly interesting as Arrian states that it consisted of 2500 mercenaries, 2500 Macedonians and 200 Companion cavalry.⁵⁶ This force seems excessively large as the two cities had already offered their joint surrender⁵⁷ and so this was not an army of conquest, rather one of occupation. Bosworth notes that the mercenaries were probably intended for garrison duty;⁵⁸ this does not explain, however, the presence of so many Macedonians. This difficulty is compounded by Arrian a few lines further on when he states that a similar force was sent to “the Aeolian towns and all the Ionian ones still subject to Persia”⁵⁹ under the command of Alcimachus. It seems highly unlikely that Alexander would have detached 5000 Macedonian heavy infantry and 400 Companion cavalry to conduct these relatively minor operations⁶⁰ at the very outset of the campaign, when he was unsure how swiftly Darius could regroup, or even whether the Persian force at the Granicus was designed to slow his advance in anticipation of Darius’ arrival, rather than defeat him itself.

How then, do we deal with this problem? Either Alexander did not do what we may reasonably have expected, or Arrian is wrong. In this instance I believe the latter to be true. I suspect that when Arrian mentions Macedonians he was actually referring to a contingent of Alexander’s Balkan allies, an easy enough mistake perhaps, especially when we realise that he calls the second detachment⁶¹ a “similar force”, not mentioning the Macedonians directly and therefore perhaps not

noticing his earlier slight error. This argument is supported by the fact that neither the Illyrian nor the Thracian allied contingents are mentioned as being present on the march to Miletus.⁶² What the Companion cavalry were on these expeditions is more difficult to ascertain: they either were what they appear to be, or they were *prodromoi*, which Bosworth⁶³ points out are also not mentioned as being in the army at 1.18.3.

These secondary columns were, however, not always successful in their assigned tasks. When Satibarzanes and Spitamenes revolted in Aria, Alexander sent two expeditions. The first, sent against Satibarzanes, consisted entirely of mercenaries⁶⁴ and was wholly successful. The expedition sent against Spitamenes, on the other hand, was not. This second expedition consisted of 60 Companion Cavalry, 800 mercenary cavalry and 1500 mercenary infantry;⁶⁵ they were under the overall command of Pharnuches, a Lydian. This represents a significant break from the norm, a non-Macedonian commanding Macedonian troops. Curtius and Arrian give different accounts of how the disaster came about but both represent it as a crushing blow. Neither account apportions any blame to the mercenary troops; it is most likely that “fault lay either with the individual commanders, or more probably with the unsound method of appointing a native civilian to the leadership of a military expedition”.⁶⁶

The very nature of some of these secondary columns also changed after 331: several times a relatively small group, consisting usually of Macedonians, was

detached and led by Alexander himself, whilst the main body of the army, along with the baggage train, proceeded along safer paths. However, this change probably had more to do with Alexander's need for conquest and personal glory rather than any judgment on his behalf as to the relative effectiveness of the mercenary troops left behind.⁶⁷

Garrisons.

One of the most important roles the mercenaries played was that of garrison troops. Virtually all of the fighting troops in the newly conquered empire that were not with the immediate entourage of the king were mercenaries. Most of the cities that Alexander captured were left a garrison of mercenaries, for example Ephesus, Halicarnassus, Mytilene, Miletus, Egypt; the list of garrisoned towns is, of course, as extensive as Alexander's newly forming empire.

The first certain example of a garrison that is of significant size is that of Caria. Alexander left Halicarnassus after only a week-long siege, (having captured only 1 of the 3 citadels)⁶⁸ leaving behind 3000 troops, under the command of Ptolemy, to complete the capture. We are told nothing more about the organization of a mercenary garrison from this example, save that Ada was appointed civilian governor of the region. In order to learn more we must move on to the next great employment of mercenaries, Egypt.

Egypt provides us with the best view of the military organization of a province, a model that was to be repeated many times, as we shall see. Alexander appointed two native Egyptian governors,⁶⁹ and two Companions to command the Macedonian garrisons at Memphis and Pelusium;⁷⁰ Lycidas, a Greek, was given command of the mercenary forces throughout the province. Alexander also appointed a “secretary of foreign troops”, these being the mercenaries, and two commissioners.⁷¹ Bosworth⁷² suggests a number of problems, firstly that the mercenaries are “implausibly overstaffed, with four separate officers”, secondly that Curtius⁷³ seems to have the view that Aeschylus, one of the commissioners, and Peucestas, the military commander, are of the same status, seemingly regarding Aeschylus as the administrative head of Egypt. We cannot be certain, however, that the mercenary troops were “overstaffed” as we have very little evidence of the organization of any other provinces, and even less with regard to the organization of mercenaries (or allies) in the main army. This organization may well be completely normal; there were 4000 mercenaries after all, and only two small Macedonian garrisons requiring fewer officers. Bosworth’s suggestion that the two commissioners,⁷⁴ or as he calls them “inspectors of the mercenaries”⁷⁵ were in fact there to oversee the civilian governors and in reality had little to do with the troops seems likely. This would parallel the later situation in Eastern Iran where Tlepolemus and Neiloxenus oversaw the work of the native satraps.⁷⁶

Front Line Troops.

The Macedonian elements in the army of course played the leading roles in each of Alexander's set piece battles, but we should not overlook the contributions made by the mercenary troops. At the battle of the Granicus river,⁷⁷ neither the mercenaries nor the allied troops are mentioned at all. This should not worry us too much as the Granicus was a relatively small battle, in comparison to Issus and Gaugamela that is. The question remains, however, what they were doing at the time of the battle? The only answers can be either away from the main body of the army taking part in the battle, on some secondary mission,⁷⁸ or that they formed a reserve or second line which is not mentioned because it was not called into use. I find this latter argument to be the more likely considering their later roles at Issus and Gaugamela.

At Issus the picture is a little clearer; Alexander drew up his heavy infantry facing the Persians, with the Companion Cavalry to the right of the infantry.⁷⁹ A strong flank guard was assigned to the right wing, where the Persian line overlapped his own; on the left it seems that he sent the mercenary troops, along with the Peloponnesians and the rest of the allied cavalry.⁸⁰ A curious decision, as they were essentially hoplites assigned to the sandy area next to the sea, terrain most suited to a charge by the Persian cavalry. Alexander seems to have soon realised his error and sent the Thessalian cavalry to the left wing. What then happened to the mercenaries is unclear: they occupied a position between the Thessalian cavalry

and the Macedonian heavy infantry, similar to the role played by the hypaspists on the right of the line, or they had a position on the far right of the line, equally unlikely, or they were withdrawn from the front to form part of a second line. The sources do not provide us with enough information to answer this directly, The confusion results from Arrian's use of the word '*epitasso*',⁸¹ which can mean station either alongside or behind, but as Griffith points out the context of the passage "makes it almost certain that here it must mean that the mercenaries were placed behind everybody.....the other interpretation would land us with the mercenaries, a medium-heavy infantry division, on the extreme left of the whole army, where it was Alexander's practice to put his lightest cavalry and skirmishers".⁸² It seems certain then that Alexander used a second line, what some may call a tactical reserve, at the battle of Issus.

The role of the allied infantry supplied by the League of Corinth and the Balkan allies is more difficult to ascertain. Bosworth points out that they are not mentioned along with the mercenaries as forming the second line,⁸³ but they are surely too numerous to have been left behind to guard the baggage train. Arrian's order of battle is not exhaustive for this campaign, "the Odrysian cavalry and Balacrus' javelin men are not mentioned either",⁸⁴ and so an absence is no doubt an omission by Arrian, and not some deeper mystery. The mercenaries and allies therefore seemed to form a tactically important second line. It should be realized that by "second line" we mean something distinct from the front line, not simply a group of

troops that attached themselves to the back of the heavy infantry *taxeis*, but an entirely separate line with a separate tactical role, discussed below.

Gaugamela provides us with the best evidence for the combat role of the mercenary and allied troops. Alexander laid out his heavy infantry, companion cavalry and Thessalian cavalry according to his standard plan. The *prodromoi* and a number of other minor contingents were positioned to the right of the Companions, and Menidas' mercenary cavalry to the extreme right of the formation, with Cleander's mercenary infantry behind them.⁸⁵ On the left of the formation were Sitalces' Thracian infantry⁸⁶ and three bodies of allied or League cavalry and Andromachos' mercenary horse.

A second line of infantry was positioned parallel to the front: it consisted of the allied troops supplied from the League of Corinth and a smaller number of Balkan allies and mercenaries not stationed elsewhere. Closing the gap between the two lines on the right were Cleander's mercenaries, the Agrianians and archers, and the corresponding position on the left; closing the "box" that was thus formed were the remainder of the Thracian infantry, those not commanded by Sitalces.⁸⁷ The formation thus created was therefore a box with two protrusions to the right and left. It was not a closed formation, however: it would seem that the second line only extended about halfway along the formation, starting from the left wing, resulting in the left hand half of the front line having no troops positioned behind it. This is suggested by the fact that when a small group of Bactrian cavalry broke through the

front line, they met no further resistance before reaching Alexander's camp. The mercenary and allied troops at Gaugamela were positioned in order that if Alexander's position were turned, highly likely given the discrepancy in numbers, he would not automatically be defeated. The second line could simply turn around and fight with their backs to the front line. They were there, in short, to ensure that if the battle did not go well, Alexander could still win. Their ability to perform this function was not seriously tested but that should not detract from the importance of this role.

Colonies.

After 331 when Alexander began to enter the northeastern parts of the former Persian Empire his mercenary and allied troops began to become increasingly important. Alexander founded a series of colonies:⁸⁸ this was a move perhaps partly designed to spread Greek culture, but was primarily designed to help pacify the outer parts of the empire. It was to be hoped that these new foundations, which were, essentially, military colonies, would act as a calming influence on the potentially rebellious natives. These colonies, then, had a largely strategic rather than a tactical function. They were also partly forced upon Alexander because he had ever-increasing numbers of troops who were past service. The best attested evidence for a colony that we have is Alexandria in Caucaso, the modern Begram in the central Hindu Kush Mountains at the confluence of the Gorband and Panjshir rivers. "Here Alexander established a city with a nucleus of 3000 Graeco-

Macedonian settlers, soldiers no longer fit for service and volunteers from among the mercenaries, together with 7000 of the local population".⁸⁹ Alexander no doubt hoped that, if there was a native revolt, these retired troops would act to suppress it, and that they would also spread Greek culture to the furthest reaches of the known world, although this later point would be an added bonus that came with foundation of the cities, rather than a primary purpose. These cities were essentially garrison towns and administrative centres.

Later evidence suggests that these Greeks were far from being the willing settlers that our sources portray them as being. On two separate occasions they themselves effectively revolted against Alexander. The first revolt occurred in Bactria when rumour spread that Alexander had died on the Indus.⁹⁰ Some of the Greeks revolted under the banner of Athenodorus with the express intent of returning to Greece. This insurrection, however, fell in upon itself, with Athenodorus being assassinated by Biton, who was in turn tortured for such an act by the Greeks themselves.⁹¹ Diodorus' account of the fate of these 3000 rebels is obscure,⁹² but Curtius has them eventually getting home.⁹³ This small revolt was the precursor to a much larger one that occurred after Alexander's death: it seems the Greeks were not at all happy with being left on the edge of the civilised world.

Hostages.

It may seem slightly odd to include something with such a negative connotation amongst the roles played by the allied, although not the mercenary troops, but it was an important one. The main reason that Alexander had for including 7000 Balkan allies at the outset of the expedition was not to increase his number of front line troops, it was to remove a significant number of young men from a potentially dangerous region of Europe; dangerous for Antipater that is. Many of these Odrysians, Thracians, Illyrians etc. would have remembered the time when they were free from Macedonian rule, and with the absence of Alexander and the main part of the Macedonian army in Asia, they might very easily have been persuaded to revolt.⁹⁴

The same argument can be applied to the troops supplied by the League of Corinth: if they had been allowed to stay in Greece the Persians could quite easily have created rebellion at home, which may very well have been Memnon's strategy when he luckily (for Alexander that is) died in 334. We should also note that the League supplied Alexander with a number of ships; Alexander's fleet will be discussed in a separate chapter.

The allies' main function on the expedition seems to have been to act as a guarantor of the good behaviour of the home states: they are seldom used as front

line troops, as discussed above, and are seldom left as garrisons.⁹⁵ They are always kept close to Alexander; their loyalty, it would seem, was questionable.

Did Alexander Trust His Mercenary and Allied Troops?

It would seem appropriate to look at this question in two parts, first considering the allied troops, then the mercenaries separately. As stated above, it seems that the primary reason for the presence of the Balkan troops and those supplied by the League of Corinth was to act as hostages. Removing large numbers of young men from the native populations, young men who had in all likelihood fought against Philip or Alexander in the recent past, would tend to pacify those regions of Greece. The question of trust is far more complex than this, though. The allied troops were numerically very strong indeed, 7000 supplied by the League of Corinth and a further 7000 Thracians, Triballians and Illyrians.⁹⁶ 14000 troops could easily have caused Alexander's defeat at Issus or at Gaugamela, but they did not.⁹⁷ If they did form part of a second line, behind the Macedonian front, then they were supremely positioned to attack the Macedonians in the rear, which would have led to certain defeat: the fact that they did not speaks to their having some degree of loyalty. Counter to this argument seems to be the fact that Alexander seldom seems to have let them out of his sight. They are seldom used as garrison troops, and equally seldom used to form parts of subsidiary expeditions: League troops are mentioned under the command of Parmenio in the Troad, at the Amanid Gates, in Phrygia and in the march on Persis.⁹⁸

It would seem, then, that although the opportunity for disloyalty did present itself, the fact that they did not act upon it is suggestive of a certain level of loyalty. This sense of loyalty may very well not have been a positive feeling; it could have been out of fear of reprisals against their home states by Alexander's regent Antipater.

Darius and Memnon seem to have made a significant strategic error in not, as far as we know, seeking to exploit any anti-Macedonian sentiment. However if Memnon had lived longer and carried the war on to mainland Greece we could very well have seen the expedition fall into serious difficulties.

The mercenaries present a different problem; they were with the expedition out of choice and not because of some political hold Alexander may have had over their home city-states. Their reasons for any potential disloyalty would, therefore, have been very different from that of the allied troops. Disloyalty among mercenaries is often on financial rather than political grounds, after all. Judeich⁹⁹ believed that a possible explanation for Alexander's seemingly slight use of mercenary troops in his set-piece battles was precisely that he did not entirely trust them. The only real evidence, if we can call it evidence, for this hypothesis is that Curtius records an attempt by Darius to "buy off" some of Alexander's mercenaries.¹⁰⁰ It seems that a letter from Darius to an unnamed recipient was intercepted, some time just before the battle of Gaugamela. In the letter Darius was attempting to sow the seeds of dissension among Alexander's mercenary troops; Alexander was in favour of

reading the letter to a general assembly of troops but was persuaded out of this course of action by Parmenio who stated "... Alexander was vulnerable even if only one man were a traitor".¹⁰¹ Parmenio, then, seems to have had potential doubts over their loyalty, but the ultimate proof is simply that they were never disloyal,¹⁰² not whilst with the main army or whilst they were attached to secondary columns. They had far greater opportunities for rebellion than the allies did as they had far more wide reaching roles, for instance as garrisons in every key city Alexander captured. The real reason that Alexander did not make great use of his mercenaries and allies was not that he did not trust them, but simply that they were trained and equipped to perform a different role from that which the Macedonian heavy infantry were trained for.

Demobilization decree.

Soon after leaving the Gedrosian desert¹⁰³ Alexander issued one of the most controversial decrees of his career: he ordered all of his satraps in Asia to disband their mercenary armies. The only source that mentions this decree is Diodorus,¹⁰⁴ and he does so only briefly. He says that Alexander had come to realize that several of his satraps had "... acted arbitrarily and selfishly" and that some had committed "... serious offences".¹⁰⁵ Upon realizing that they could be potentially in trouble, several satraps revolted, others fled with as much money as they could. Diodorus tells us "As news of this was brought to the king, he wrote to all of his generals and satraps in Asia, ordering them, as soon as they had read his letter, to disband all

their mercenaries instantly.”¹⁰⁶ Diodorus sets this decree in the context of Alexander’s attempts to suppress certain satraps who had been acting more as despots than subordinates to the king. Bosworth¹⁰⁷ notes a precedent to this decree: in 359/8 Artaxerxes III instructed his western satraps to disband their mercenaries, thereby precipitating the revolt of Artabazus. Artaxerxes’ decree was a security measure and Diodorus presents Alexander’s decree in the same light, but there is more to Alexander’s decree than this.

Alexander did not simply demobilize these troops; he did not intend them to disappear, or to return home to Greece,¹⁰⁸ that would have been unrealistic in the extreme. Tens of thousands of men who had been mercenaries all or most of their adult lives would not simply have returned to Greece to become farmers: they would, in all likelihood, have caused great problems for Alexander. Alexander, I believe, did not intend to disband these mercenaries, they were intended to become part of his field army: it is therefore misleading to speak of demobilization, they were to be transferred from the satraps to the mobile field army. Greek mercenary troops acted as garrisons in every major town and city throughout the empire and their demobilization would suggest that the satrapies were to be left relatively defenceless against internal uprisings, a situation that Alexander would never have allowed. If it had been Alexander’s intent to demobilize these mercenaries completely, to leave the satraps with no garrisons, then we should see evidence of this in the sources, and we do not. We in fact see the exact opposite: we know for example that Peucestas who was appointed to the satrapy of Persis in early 324

raised an army in excess of 20000 strong within a year of taking up his position;¹⁰⁹ if Peucestas raised a very strong army within a remarkably short period of time we can safely assume that others did too. We know with some certainty, therefore, that satrapal armies were not outlawed.

Why would Alexander require such a huge injection of new troops? Alexander's reserves of mercenaries must have been very low at this point in the campaign, after the demands of his foundations in India, the constant demands for garrisons and the severe losses in the Gedrosian desert. It seems to me, therefore, that this decree was not a reactive measure, as Diodorus would suggest, but a proactive one. Alexander was using the mercenaries that were already at his disposal in the satrapal armies to replenish his army almost instantly after its recent losses. The satraps would then be allowed to rebuild their forces at their own leisure: they had the time, Alexander did not. Some satraps seem to have misunderstood this decree, those who evidently had been exploiting their positions for personal gain. This decree, then, led to several satraps revolting, it was not the case that these revolts led to the decree.

Mercenaries and Allies: Footnotes.

1. Diodorus 17.17.3 tells us that the army of invasion contained 7000 Odrysians, Triballians and Illyrians and 1000 Agrianians and archers. Diodorus is the only source that provides us with a detailed troop list for the army of invasion.
2. Griffith (1935), 14.
3. Diodorus 17.17.3.
4. Parke (1933), 14.
5. Athens' first recorded use of hoplite mercenaries was on the Sicilian expedition and even here there were only 250 "Mantineans and other mercenary troops":
Thucydides 6.43.
6. Dupuy (1992), 365.
7. Diodorus 15.44.2-4.
8. Diodorus 15.44.2-4.
9. Nepos *Iphicrates* 9.1.3-4.
10. Best (1969), 102 .
11. Diodorus' failure to realise the existence of peltast troops before Iphicrates is indeed very striking. In this omission Diodorus shows his serious lack of understanding of the military situation of the day.
12. Parke (1933), 80.
13. Best (1969), 103. Griffith (1980) 162, also takes this line, and believes that the reforms of Iphicrates were not major; he points out that they are suspiciously absent from the whole corpus of Xenophon's writings. Stylianou (1998) 345,

interestingly believes that the reforms of Iphicrates were temporary, only meant for a campaign in Egypt and they disappear after 373, with the exception of the Iphicratean boots, which certainly did persist.

14. Mercenaries were also employed in Sicily in significant numbers from an early date. "By 481 it seems possible that Gelon, tyrant of Syracuse, maintained an army that included as many as fifteen thousand mercenaries. They presumably constituted a significant part of the army that won the decisive victory over the Carthaginians at Himera": Sage, (1996), 148.
15. Parke (1933), 21.
16. Polyaeus 4.10.2.
17. Parke (1933) 21.
18. For a more detailed discussion of this passage see Parke, (1933), 157, footnote 1.
19. Diodorus, 16.8.6.
20. Hornblower (1991), 27, claims that the tribute from Athens' subjects totalled around 460 talents, although he does concede that some states provided ships instead of money. As the empire grew, however, the numbers of member states who made their contributions in kind declined; Athens preferred to receive financial contributions as this made her position more secure, all of the fleet being provided by her and therefore loyal to her alone.
21. Polyaeus 4.2.8; cf. Diodorus 16.35.3.
22. This was the incident when Onomarchus lured Philip into a trap and used catapults for the first time against the Macedonians; see chapter 7 for more detail, see also Diodorus 16.35.1.

23. Theopompus *FGrH* 115 F 11.
24. Demosthenes 19.81.
25. Demosthenes 7.15.
26. Griffith (1935), 10-11.
27. Demosthenes 9.16.
28. Curtius 8.1.24.
29. Diodorus 16.86.
30. Demosthenes 3.49.
31. Polyaeus 4.2.18.
32. Plutarch *Phocion* 12.
33. For example at Corinth (Polybius 38.3.3), Sicyon (Demosthenes 17.16), and in Ambracia (Diodorus 17.3.3).
34. Diodorus 17.17.3.
35. This figure assumes that we consider the Balkan troops as allies.
36. Arrian 7.9.6 has Alexander say at Opis that he inherited "... a few gold and silver cups and not 60 talents in the treasuries" and that "... 5000 talents of debt were owing through Philip".
37. Arrian 1.26.5; Bosworth (1980), 167, points out that Side was a prominent Phoenician port and almost certainly would have supplied ships to the Persian navy; Alexander would have been keen therefore to deny this strategic city to his enemy. We are not explicitly told that these troops were mercenaries but it is highly likely.

38. Arrian 2.1.4. In this instance he does speak of "... mercenary troops sent to fight for them (i.e. the people of Mytilene) by Alexander".
39. Arrian 1.23.6 cf. 2.5.7. There could quite easily have been more Macedonian garrisons that we hear nothing about: Bosworth (1980), 140, suggests Miletus may be such a place.
40. Alexander did not use mercenaries as front line troops and so their casualty figures were probably small.
41. Arrian 1.19.6.
42. Arrian 2.9.3.
43. Griffith (1935), 27.
44. We can say that the former explanation looks even more implausible when we consider that a few days after Alexander sent an expedition of 2500 mercenaries to Ephesus (Arrian 1.18.1): Bosworth (1980), 134, believes these were intended as a garrison, he still had with him a body of 4000 at Miletus (Arrian 1.18.5), giving him rather more than the 5000 he had at the start of the expedition.
45. Arrian 2.20.5.
46. Curtius 4.5.18; cf. Arrian 2.13.5; although there is no notice (in Arrian) of them joining Alexander before Gaugamela, and Arrian probably conceals them amongst a larger batch received after that battle.
47. Arrian *Indica* 19.5; Curtius 8.5.4. It should be stated that not all of these troops were mercenaries.
48. The table is an adaptation of that in Griffith (1935), 20-1.

49. More on this last batch of mercenary reinforcements and the demobilization decree later.
50. One thinks of the 20,000 mercenaries recruited by Peucestas, the satrap of Sardis within 1 year of the demobilization decree of Alexander in 324. These troops were never part of the field army and thus are never counted towards troop totals but they were potentially available for use by Alexander as required.
51. Berve (1926), 1.144 *ff.*
52. Diodorus 17.17.3.
53. Arrian 2.5.1.
54. Griffith (1935), 29.
55. Curtius 4.8.4.
56. Arrian 1.18.1; This column rejoined Alexander at Halicarnassus, Arrian 1.24.3.
57. Arrian 1.18.1.
58. Bosworth (1980), 134.
59. Arrian 1.18.2.
60. It would seem reasonable for Alexander to have assumed that the Ionian cities would come over to him without a fight, and so sending the elite troops of his army on these expeditions would seem unnecessary.
61. That commanded by Alcimachus, Arrian 1.18.2.
62. Arrian 1.18.3.
63. Bosworth (1980), 136.
64. This can be assumed as both commanders (Erigyus and Andronicus) were mercenaries themselves.

65. Arrian 4.3.7; Curtius 7.6.24 on the other hand noted 800 cavalry and 3000 infantry.
66. Parke (1933), 193.
67. For example, in 331-0, Parmenio was given command the main body of the army with orders to proceed along the main road towards Pasargadae, whilst Alexander campaigned against the Uxii with his Macedonians and Agrianians. See also Alexander's final pursuit of Darius.
68. The siege of Halicarnassus was certainly not Alexander's finest hour. It is my belief, however, that he abandoned it so quickly, before its capture was complete, because his newly formulated naval policy made it essential that he capture all the major Persian ports with as little delay as possible.
69. Arrian 3.5.3, Doloaspis and Petisis: each was to have control over half of the country but Petisis refused the appointment (the reason is not known) and so Doloaspis was given the whole.
70. Arrian 3.5.3, Pantaleon was given the command at Memphis whilst Polemon commanded at Pelusium.
71. Arrian 3.5.3, Eugnostus, a companion, was appointed secretary and Aeschylus and Ehippus were commissioners of the mercenary troops.
72. Bosworth (1980), 276.
73. Curtius 4.8.4.
74. Griffith (1935), 25, uses this term.
75. Bosworth (1980), 276.
76. Arrian 3.22.1; 3.28.4.

77. Arrian 1.14.1 *ff.*

78. Droysen (1877), 24-7, quoted in Parke (1933), 187, suggested that during the set piece battles the mercenaries and allied troops were brigaded with the Macedonian front line troops under the relevant *taxis* commanders, resulting in *taxeis* of considerably more than the 1500 men that we know each *taxis* contained. This seems, at best, highly improbable, as the Macedonians were trained and equipped in entirely different ways, and had an entirely separate tactical role, as will be discussed later. It is also likely that Alexander would want, as far as possible, the glory to go to his native Macedonian troops. This theory also clashes with Arrian's account of the battle of Gaugamela, also discussed later.

79. Arrian 2.9.1.

80. Arrian 2.9.1; the 1958 Penguin translation, by A. de Selincourt, mentions "the Peloponnesian troops and other allied divisions", although the Greek text says "The Peloponnesians and the rest of the allied cavalry".

81. Arrian 2.9.3.

82. Griffith (1935), 31. They simply did not fit with the tactical role that Alexander required from his front line troops: this will be discussed in more detail later.

83. Bosworth (1980), 210.

84. Bosworth (1980), 210.

85. Burn (1952) 86.

86. Tarn (1948) 2.48: believed Sitalces' Thracian troops to have been mounted, but it would seem that they were javelin men in a similar fashion to the Agrianians.

87. Bosworth (1988), 81.
88. Fraser (1996), 240-43 gives all of the possible foundations; they were probably rather fewer in number than was believed a few decades ago.
89. Bosworth (1988), 247: This was something of a standard pattern, a blend of Greeks and natives.
90. Diodorus 17.49.5; Curtius 9.7.1.
91. Parke (1933), 196.
92. Diodorus 17.49.5.
93. Curtius 10.2.8.
94. Persuaded by Persia, if the situation arose, or by the states of central Greece who were also not happy with being subject to Macedonian rule.
95. One instance where allied troops are left behind is in 330, when the troops left at Ecbatana with Parmenio consisted of Greek mercenaries, Thracians and non-Macedonian cavalry. The only instance recorded of League troops on garrison duty is the contingent from Argos assigned to garrison Sardis, Arrian 1.17.8.
96. Bosworth (1988), 264.
97. I am of course assuming here that the allied troops did take some part in these two battles, most likely as part of a reserve line.
98. Arrian 1.17.8; 1.24.3; 2.5.1; 3.18.1.
99. Judeich (1908), 392, note 2.
100. Curtius 4.10.16.
101. Curtius 4.10.16.

102. With the obvious exception of those “volunteers” who had been settled in the north east of the empire and rebelled in order to get home. This only occurred firstly when they believed Alexander to be dead, and secondly when Alexander had actually died.

103. Whilst he was in Carmania.

104. Diodorus 17.106.3.

105. Diodorus 17.106.2.

106. Diodorus 17.106.3.

107. Bosworth (1988), 148.

108. Although we should note that Badian (1961) believes that large numbers of mercenaries *did* flood back to Greece after this decree and that the exiles decree was intended to return these men to their home cities.

109. Arrian 7.23.1; 7.24.3-4.

Chapter 6.

Alexander's Mediterranean Fleets.

It may at first sight appear strange to use the word fleet in the plural rather than the singular in the title of this chapter, but I do so deliberately. There is no doubt that Alexander possessed more than one fleet during the early years of the invasion: he did in fact possess four, each of which will be examined separately.

The Fleet of the League of Corinth.

One of the burdens placed on the members of the League of Corinth after the allied Greek defeat at Chaeronea and subsequent recognition of Alexander's supremacy, was to supply ships to aid the war effort. This fleet was established in 336 or shortly before, and its main purpose was to act as support to land operations being conducted by the field army. This support largely involved them acting as transports and maintaining the lines of supply and communication with Macedonia and Greece. The fleet must have been remarkably heterogeneous and was of moderate size, consisting of 160 ships of which a mere twenty were supplied by the strongest naval power in Greece, Athens.¹ Many of the smaller city-states would have supplied the merest handful. Arrian tells us that the fleet was untrained,² each member state evidently only sending the worst ships and sailors simply to fulfil a commitment. The resulting fleet was effectively useless as a fighting force, it was

poorly trained and consisting of large numbers of contingents who had presumably never fought as a cohesive unit before. Realistically it would have been impossible for Alexander to have operated with anything but the most basic tactics. This is strongly suggested at Arrian 1.18.8 where Alexander, in debate with Parmenio as to whether to engage the Persian fleet at sea says that he would “.... not risk making a present to the Persians of all the skill and courage of his men”. This can only be a reference to the potential loss of Macedonian troops,³ not Greek sailors, and suggests that Alexander’s naval tactics would rely on boarding Persian ships and fighting hand to hand,⁴ effectively to fight a land battle at sea. These tactics are not wholly surprising in a commander who had no experience at all of naval warfare.

Despite the evidently poor quality of vessels supplied by his allies, Alexander’s Greek fleet had proved itself of greater use than simply for logistics and transport alone. Whilst Alexander was besieging the city of Miletus by land, the Persian fleet of some 400 vessels was heading north to relieve it. If the Persians had arrived the city could presumably have held out for some time, as reinforcements and supplies could easily be transported by sea. Nicanor, commander of Alexander’s Greek fleet, arrived three days before the Persians, however, and anchored his vessels off the Milesian coast on the island of Lade.⁵ The Persian fleet, unable to find any port suitable to meet its supply needs, and seemingly unable or unwilling to engage the Greeks in these narrow waters, set sail south again. Thus Alexander’s fleet had proved, quite convincingly, that, despite his unwillingness to offer a naval battle,

his fleet could still be of considerable use militarily, making his subsequent decision even more baffling.

Soon after the capture of Miletus and before the commencement of operations at Halicarnassus Alexander made one of the most debated decisions of his career: he disbanded his fleet. Arrian⁶ gives us five reasons: -⁷

1. Lack of money.
2. The Persian navy was far superior to his own.
3. Alexander was unwilling to risk any losses, in ships or men, in a naval engagement.
4. Alexander believed that he no longer needed a fleet as he was now "... master of the continent"⁸
5. He intended to defeat the Persian navy on land by depriving it of its ports.

Lack of money is the reason most commonly accepted by modern historians as the major factor in Alexander's decision; it is also the only reason cited by Diodorus.⁹ This conclusion is flawed for two reasons, though. Firstly the fleet was supplied by the member states of the League of Corinth; it is therefore reasonable to assume that the cost of their upkeep would also fall on these states and not on Alexander. The fleet would, effectively, have cost him almost nothing to maintain. Secondly, Alexander should not have been short of funds at this point. Just a few months later at Gordium, during the winter of 334/3, Alexander invested 500 talents on raising a

new fleet and 600 talents were allotted to pay for the upkeep of garrisons on the Greek mainland.¹⁰ There seems no reason why Alexander's financial position should have improved so drastically in just a few short months.

Arrian is correct to say that the Persian fleet was superior to Alexander's, both in numbers and quality. This is not a reason to demobilize the fleet, however, as this would leave the islands and the mainland defenceless. Miletus had also shown Alexander that a fleet was tactically useful even if he did not offer a naval battle to the Persians. This lack of quality and numbers would be more of an argument for increasing investment in the fleet, rather than ridding himself of it.

Points two and three are certainly linked, Alexander was unwilling to offer a naval battle because of the potential ramifications. His strategy would involve a heavy reliance on marines, most likely the hypaspists, and he needed every one of these troops for the land campaign. Any defeat could also have caused political problems back in Greece too.

The suggestion by Arrian that Alexander did not need a fleet as he already controlled the whole continent is extraordinary and very obviously not true. Even if we take Arrian to be referring to Asia Minor rather than the whole of Asia then it still was nowhere near true. Besides, as Bosworth points out¹¹ there was now nothing stopping the Persians from attacking Alexander's forces in the rear, which

they in fact did at Tenedos.¹² This was a tactic that should have been employed far more effectively than it ever was by the Persians.

This strategy of defeating the Persian navy on land is famous and on the surface fairly sound. In the ancient world warships could not carry any great quantity of supplies and so had to dock at a friendly port every night to re-supply themselves with food and fresh water. It is also true that this strategy ultimately worked; the Persian fleet did collapse as Alexander captured key cities on the Phoenician coast, but the strategy had at least two serious flaws. The first was that a competent commander, as Memnon surely was, had a free hand to act as he wished in the Aegean, to overrun all of the islands and carry the fight to the mainland, where several states would more than likely have revolted given the opportunity.

Secondly it does not take any account of the fact that a significant portion of the Persian fleet was from Cyprus, which would theoretically have been unaffected by this strategy; although these ships would still have needed mainland ports in order to operate they would still be loyal to the Persians and able to harass Alexander's rear. Alexander essentially relied upon luck to overcome these two problems, which was uncharacteristic. His planning was usually far more meticulous than this and his strategies were well thought out; which leads me to conclude that his decision here was not a purely tactical or strategic one, but something else.

If the decision to disband the fleet was not taken on military grounds, nor was it forced upon him by lack of funds or any of the other reasons Arrian gives, why did

he make this decision? I suspect that the truth lies in something that Arrian comes close to mentioning. He points out that any loss in battle could lead to disaffection and potential rebellion at home, bringing up the question of loyalty. I argued in a separate chapter that the allied troops with the army were loyal to Alexander, although this could have been because of a fear of reprisals at home if they were not. It could also have been because of the presence of thousands of heavily armed, battle hardened Macedonians. The fleet of course, would very quickly have been far away from the location of the king or the army, Alexander's personality and influence would have had far less of an impact on them and the opportunity for disloyalty would have been exponentially greater and far easier to act upon. The fact that he retained the twenty Athenian vessels¹³ is an indication that he wanted to try to retain some specifically Athenian hostages,¹⁴ but 160 total vessels was too great a risk.

The Fleet of Proteas.

We know very little about this fleet, or indeed its commander Proteas. We do know that whilst Alexander was at Gordium in the winter of 334/3 Antipater gave orders for the reconstruction of a Greek fleet.¹⁵ The fleet was raised principally on the island of Euboea and in the Peloponnese, and its primary purpose was to act as a defensive force against the possibility of Persian naval action against the islands or even the mainland. We know very little about the size of this fleet; Arrian simply says "...a number of warships",¹⁶ and the only evidence we have of it in action

involved fifteen ships attacking a force of ten Persians off the island of Siphnos.

The fleet seems to have been in commission only until 332.¹⁷

The Fleet of Hegelochus and Amphoterus.

There is only one reference in Arrian to the construction of a Macedonian national fleet,¹⁸ but we know from Curtius¹⁹ that whilst Alexander was marching between Gordium and Ancyra in the summer of 333 he invested 500 talents in the construction of a Macedonian fleet. This fleet was led by Hegelochus and Amphoterus, but it is evident from Arrian²⁰ that Hegelochus was in supreme command. Curtius tells us specifically that the former was in charge of the troops and the latter was responsible for the ships and therefore presumably their crews.²¹ Berve²² believed that there was a contradiction here in the commander of the naval element of a fleet being subordinate to the commander of the marines, but really none exists. It was not uncommon in the ancient world for this to be the arrangement²³ and it is even less surprising when we consider the wider situation with Alexander in which the army was totally dominant. We also know, however, that Amphoterus was capable of acting independently when assignments arose: he was sent to Lesbos, Chios and Cos at the head of a detachment of the fleet in 332.²⁴ When the Macedonian fleet joined Alexander in Egypt during the winter of 332/1²⁵ Hegelochus was reassigned, we do not know where. At this time Amphoterus assumed command of both the ships and the marines.²⁶ The fleet then seems to

have been operating off Crete²⁷ and the Peloponnese.²⁸ The fleet seems to have been in commission until 331.²⁹

The Cypro-Phoenician Fleet.

During the siege of Tyre in 333, soon after the mole was partially destroyed by the Tyrian fire-ship, Alexander along with his hypaspists and Agrianians set off for Sidon.³⁰ Arrian tells us that this mission was "... in order to assemble there all the warships he possessed".³¹ It is unclear what this line actually means; it could be that Alexander intended to summon his Greek and Macedonian fleets to him: if this were the case, however, there was no need to travel to Sidon, and secondly there is no evidence that any such summons was issued or acted upon by the fleets. It is perhaps more likely that Alexander believed quite simply that as he now possessed the ports of Sidon and Byblos, along with many others, he also owned their fleets and was awaiting their arrival home at the end of the campaigning season. Bosworth³² believes that news of the Persian defeat at Issus in November 333 would not have reached the fleet until after the end of the sailing season; and so the Phoenician and Cypriot contingents were simply in no position to defect to Alexander until early April.³³ By the time the Phoenician fleet arrived home the siege of Tyre had been under way for two months.

Arrian gives us a quite detailed account of the numbers of ships Alexander acquired: the contingents of Aradus, Byblos and Sidon accounted for a total of

about 80 Phoenician vessels. At around the same time he was joined by a detachment "... from Rhodes and nine other vessels, three from Soli and Mallus, ten from Lycia and a fifty-oared galley from Macedon."³⁴ Soon after this news of the Persian defeat at Issus reached Cyprus, inducing the Cypriot kings to also join Alexander at Sidon: their fleet alone totalled some 120 ships. Arrian's total of 224 ships at Sidon generally agrees with Plutarch's³⁵ figure of 200 and Curtius³⁶ claim that 190 ships took part in the surprise attack on Tyre.

The acquisition of the Cypro-Phoenician fleet was undoubtedly the turning point in the siege of Tyre: before this Alexander had no effective fleet and therefore no real means of countering Tyrian naval action against him. This fleet assured that he could probe the outer defences of the city from all directions; the ultimate breakthrough came when a group of hypaspists operating from ships penetrated the walls at the southern tip of the fortress, not as a direct result of the construction of the mole.³⁷

Alexander's Mediterranean Fleets: Footnotes.

1. Diodorus 17.22.5. Green (1991), 157 points out that at this time the Athenians had around 300 ships in commission: the supply of only twenty is perhaps suggestive of their level of enthusiasm for Alexander's expedition.
2. Arrian 1.18.7.
3. Bosworth (1980), 138 takes this line also.
4. This kind of land battle at sea is interestingly exactly how the Vikings fought: see P. Griffith (1995), 79.
5. Arrian 1.18.7.
6. Arrian 1.20.1.
7. The following section relies heavily on Bosworth (1980), 141 *ff.*
8. Arrian 1.20.1.
9. Diodorus 17.22.5.
10. Curtius 3.1.19-20.
11. Bosworth (1980), 142.
12. Arrian 2.2.3.
13. Diodorus 17.22.5.
14. Green (1991), 157 notes that all Alexander ever got from Athens were these 20 vessels along with 200 cavalry; these 20 vessels and their crew, then, were important hostages against the good behaviour of Athens.
15. Arrian 2.2.3-4.
16. Arrian 2.2.4.

17. Hauben (1972), 56.
18. Arrian 2.2.3.
19. Curtius 3.1.19-20.
20. Arrian 3.2.3-7. Hauben (1972), 56, points out that Curtius always mentions Amphoterus before Hegelochus, but believes that no conclusions can be drawn from this as Pnytagoras is always mentioned before Craterus (4.3.11) and know the latter to have been the superior.
21. Curtius 3.1.19.
22. Berve (1926), 32; 161; 164.
23. Diodorus 19.77.2 has Antigonus' commander Polemaios of the marines occupying a superior position to the commander of the naval element, Medeios.
24. Arrian 3.2.6.
25. Arrian 3.2.3-7.
26. Hauben (1972), 57.
27. Curtius 4.8.15.
28. Arrian 3.6.3.
29. Hauben (1972), 56.
30. Arrian 2.19.6.
31. Arrian 2.20.1.
32. Bosworth (1980), 241.
33. Casson (1971), 270-2.
34. Arrian 2.20.1.
35. Plutarch *Alex.* 24.5.

36. Curtius 4.3.11.

37. Diodorus 17.45.7 *ff.*

Chapter 7.

Siege Engines.

Historical Developments

Catapults were probably first invented in the Greek world in 399, at Syracuse under the patronage of Dionysius I. Diodorus tells us that in that year “the entire city became one great arsenal”.¹ It seems that Dionysius gathered from all over Sicily the finest engineers of the day to construct for him vast quantities of the most modern pieces of military technology, and almost certainly to conduct research into new forms of armaments. Diodorus goes on to say that “Catapults were discovered at that time... a natural consequence of the assembly in one place of the most skilful craftsmen from all over the world”.²

A problem remains, however, as to what type of artillery Diodorus is describing, torsion or non-torsion. More on the technical differences later; for now it is sufficient to say that torsion engines were more complex and therefore probably a development from non-torsion engines. In order for Diodorus to be describing the invention of torsion catapults we must be able to demonstrate the existence, before this date, of non-torsion engines, and this is not possible. Diodorus, therefore, must be describing the invention of non-torsion engines. As Marsden remarks “It is inconceivable...that non-torsion engines would have escaped the notice of

Thucydides, if they had been in existence at the time of the Peloponnesian War".³ Thucydides presents the sieges of Plataea⁴ and Syracuse⁵ as showpieces, giving details on the most modern forms of attack and defence, including the use of a rather primitive, yet ingenious form of flamethrower.

In 414 in an interesting line in the *Birds*, Aristophanes has Euelpides say to Peisthetairos "You are already out-shooting Nicias with your machines".⁶ Marsden believes, however, that the word out-shooting can equally easily mean out-doing and probably therefore refers to the construction of higher towers to allow slingers and archers to fire their projectiles over greater distances.⁷ Dunbar says this is little more than a military metaphor,⁸ and in the absence of more evidence we cannot use this line of Aristophanes as evidence of the existence of catapults at this time.

Diodorus also gives no indication that the Carthaginians possessed catapults in his descriptions of the sieges of Selinus and Himera in 409⁹ and Acragas in 406.¹⁰ We can probably infer, then, that catapults were not invented in the Greek world until 399, and that these catapults were of the non-torsion variety; but what of developments outside the Greek world?

There are two possible references in the Bible to the existence of catapults in the east. The first is in the second book of Chronicles; it states "Uzziah made in Jerusalem accurately designed machines to be on the towers and breastworks, to hurl missiles and large stones".¹¹ Marsden notes, however, that this section of the

Bible was written around 250, when siege technique was at a relative high, and that the writer could easily have committed an anachronism.¹² The biblical figure of Uzziah also lived around the eighth century, making it even more unlikely that this passage represents a historical fact. These same objections cannot be used to disprove the second reference in Ezekiel,¹³ as the section was written around 580. In this instance the Hebrew text uses the term battering ram, which was mistranslated into Greek as catapult,¹⁴ and so again there is no definitive evidence of the existence of catapults before 399.

In Pliny's *Natural History* "They say that Pisaesus invented hunting-spears and, among pieces of artillery, the scorpion; the Cretans invented the catapult, the Syro-Phoenicians the ballista and sling".¹⁵ Marsden again dismisses this as evidence, believing that this was a misunderstanding on the part of either Pliny or of his Hellenistic source resulting from the use of "vague and anachronistic references...".¹⁶

There is one very interesting possible reference to the existence of catapults outside the Greek world long before 399, and from much farther east than Phoenicia. Sun Tzu¹⁷ makes several references to "machines"; He advises that a general should "keep your machines in good repair",¹⁸ a little later advising that you should "take three months to prepare your machines and three months to complete your siege engineering"¹⁹ before undertaking a siege; he then goes on to say that he "means that it is necessary to take time to really prepare machines and

constructions thoroughly”.²⁰ Sun Tzu then strongly advises the general not to lose patience, but to “wait for the siege machines”²¹ to arrive before beginning to assault a fortified position.²² Stone’s translation of the same sections of text simply states “Attack cities only when there is no alternative, because to prepare big shields and wagons and make ready the necessary arms and equipment requires at least three months, and to pile up earthen ramps against the walls requires an additional three months. The general, unable to control his impatience, will order his troops to swarm up the wall like ants, with the result that one-third of them will be killed without taking the city”.²³ We can probably conclude therefore that Sun Tzu was not describing catapults but some other, unspecified, less advanced pieces of technology, something like rams, ladders and screens for instance. Diodorus is, therefore, in all probability describing the first appearance in the world of artillery, created in Syracuse in 399 under the auspices of Dionysius I.

It is unclear how quickly non-torsion catapults spread to mainland Greece, but a significant turning point occurred in 354: when Philip was beginning to become involved in the affairs of Thessaly, he met, and was defeated by, Onomarchus of Phocis in a brilliant piece of strategy where Onomarchus lured the Macedonians into a horse-shoe shaped canyon where they could use catapults stationed out of reach on the cliff-tops of the canyon walls (See later). It seems unlikely that the Macedonians possessed artillery before this point because this incident had a significant impact on Philip, prompting him to instruct his engineers to construct siege engines, and no doubt to attempt to improve on the current design.

Developments in Macedon were apparently slow, as the Macedonian siege train had had little impact until the siege of Perinthus in 340,²⁴ and even by this time Diodorus only records arrow-shooting catapults²⁵. “Macedonian stone-throwers do not appear until Alexander’s attack on Halicarnassus some years later” (334).²⁶

Early non-torsion engines were, in all honesty, of limited value; they were not powerful enough to destroy walls by themselves and they of course had limited range. Marsden estimates 200-250 yards for the earliest models:²⁷ improvements in design, therefore, were imperative and “...although definite information simply does not exist, a good deal of circumstantial evidence suggests that the principle of torsion was first discovered in Macedon under the auspices of Philip II”.²⁸ The discovery of the principle of torsion was a watershed in siege warfare as it allowed projectiles to be fired with greater propulsive force over a greater distance.²⁹ Torsion engines are first mentioned during the siege of Perinthus, see above, although these were arrow-throwers and were only used to assault troops on the walls, rather than the walls themselves. This breakthrough was turned into a significant advantage for the attacking side when Alexander’s engineers applied this principle to stone-throwing machines. With the creation of the stone-throwing catapult, Alexander had the ability to assault city walls from a distance for the first time in history.

Siege equipment had existed in both Greece and the Near East for a considerable length of time before the career of Alexander, but it was, by the standards of the

fourth century, rather primitive. The attackers could not assault the walls from a distance, and were forced to use rams³⁰ and scaling ladders,³¹ both of which would have resulted in large numbers of casualties among the attackers. A circumvallation of earth could also be used, as at Plataea in 429,³² as a means of elevating the troops to somewhere close to the top of the city's walls. Towers were also used to achieve the same result. Before the invention of the catapult, however, there were only two real ways of capturing a fortified position: starvation or betrayal. If a city could be completely cut off it could be starved into submission, but this was often time consuming and did not guarantee success, and in a world where there were very distinct campaigning seasons, commanders often could not afford the time. The best hope for an attacking general was to have the city betrayed to him from within, either by a faction of his supporters, or by the promise of gold as a reward. Before the widespread use of catapults, and particularly torsion stone-throwers, the advantage in siege warfare always lay with the defenders.

Knowledge of catapults seems to have taken some time to spread to other parts of the Greek world after its invention in Sicily. The first city-states on the mainland to obtain the new weapon were probably Sparta and Athens. Plutarch preserves Archidamus' reaction to witnessing a demonstration of a catapult around 370: "Heracles, man's martial valour is of no avail any more",³³ an interesting passage as it illustrates that the effect on morale was far greater than its actual military impact at this time. A fragmentary inscription from Athens³⁴ that details stockpiled items on the acropolis in 371/0 lists "two boxes of catapult bolts", and since it is

unlikely that the Athenians would have stockpiled catapult bolts without the necessary catapult we can assume that the Athenians possessed them by at least this date.

The spread of catapults to the rest of Greece probably came from direct contact with one or both of the two great city-states. The Phocians, for instance, were on friendly terms with both at the outbreak of the Sacred War, and the weapons that Onomarchus used to defeat Philip probably originated in either Athens or Sparta. Their spread was not complete within the Greek world; when Philip besieged Perinthus, a relatively important state, there is no indication that the defenders possessed artillery of any kind.³⁵

Technical details

It is usual to divide ancient artillery pieces into two broad categories according to the means by which the propulsive force is applied to the projectile, these being torsion and non-torsion. In a non-torsion engine, surely the first of the two classes to be invented, the propulsive force is supplied by a compound bow, similar to but stronger than the standard bow of the day, whereas in a torsion engine the force is supplied by a spring of sinew, hair or some other resilient material. Of the five surviving ancient sources only Heron gives details on the earliest form of both torsion and non-torsion engines. The so-called "*gastraphetes*" (belly-bow)³⁶ was the first non-torsion engine. The engine owed its name to the fact that the operator

had to rest the end of the machine on his stomach while physically pulling the bowstring into place, although later models were fitted with a winch allowing the bowstring to be drawn back further, adding to the effective range of this weapon.

The *gastraphetes* was constructed and transported in three sections, the bow and the base, which itself was in two pieces:³⁷ this added to the difficulty in deploying the weapon in the field (see later). The construction materials used in the actual bow are the subject of some debate, but if it was a compound bow then it would consist of a central core of wood with a layer of horn glued to the inside of the bow, and a layer of sinew attached to the outer side. The horn was there to resist compression and provide propulsive force by trying to return to its original position, and the sinew would resist expansion, thus again supplying force to the projectile.

The bolts that were fired from the *gastraphetes* were essentially large arrows, although it appears to have taken a process of experiment in order to determine the optimum size and weight distribution for these bolts. Diodorus tells us that “catapult bolts of all kinds were prepared”:³⁸ this could of course imply different types of catapults being constructed but I think it more likely that this was simply a trial and error process to determine the bolt for the *gastraphetes*.

The *gastraphetes* was a significant invention but the compound bow was limited as to the force that it could apply to a projectile, meaning that it could not be used

to attack walls directly. It was with this in mind that Heron reports that the Syracusans "...wished to increase both the size of the missile and the force of projection. They sought to make the arms of the bow more powerful, but they could not realize their intention by the use of composite bows".³⁹ Marsden believes that in order to increase the propulsive force of the machine the Macedonians first investigated the properties of the three resilient materials used in the composite bow, namely sinew, wood and horn, and that the principle of torsion was probably developed "...because they wished to isolate the sinew which, they believed, contributed the major force in composite bows."⁴⁰

The realization that sinew on its own gave greater propulsive force led to a redesigning of the engine itself. The first torsion engines were similar in design to the non-torsion engines of the day, except that the compound bow was replaced by two separate wooden struts, "...around each of which they wrapped strand after strand and layer after layer of sinew cord. The two resulting bundles of sinew, each with its own frame, formed the new springs".⁴¹ This new design also incorporated a certain amount of extra wood in the framework of the device to cope with the extra stress that the device would be subject to, especially at the front end where the two struts were attached to the frame.

Another innovation, seemingly datable to the reign of Alexander, is the use of ship-mounted artillery. This strategy allowed the besieger of a maritime city, Tyre being a good example, not only to block off the harbour but, more importantly, to

force the defenders to divide their troops along the city's defensive perimeter, not allowing them to concentrate on any given sector. This essentially allowed Alexander to conduct an outflanking attack, which was in many ways his trademark.

Arrian does not give us precise details as to what these ship-mounted machines actually were, but one particular passage does seem to imply an answer.⁴² The engines themselves, which were mounted on transport vessels, could not approach within effective range because there were a large number of rocks in the water close to Tyre. The crews of the ships decided to drag these rocks onboard; two possible explanations for what happened next are possible. The rocks were either transported out to sea and dropped into deeper water, or they were fired from the artillery pieces on the ships out to sea. Arrian's use of the word *aphiesan* seems to provide the answer; it implies a throwing motion rather than simply dropping, and therefore we can assume that the artillery pieces Alexander had mounted upon his ships were indeed stone throwing engines. This is certainly the interpretation Bosworth prefers.⁴³

As mentioned above siege towers were not a new invention but those used by Alexander do seem to have been of exceptional size. A description of a giant siege tower, designed for Alexander by his engineer Posidonius, can be found in Biton.⁴⁴ Alexander's towers were constructed and transported in sections for easy assembly on site; they were also wheeled for freedom of movement (the wheels sank into the

sand at Gaza, causing considerable damage to the flooring of the towers and injuries to the troops inside).⁴⁵ They were also equipped with drawbridges⁴⁶ in order for the attackers to reach the walls: towers must always be greater than the height of the walls they are attacking or they are useless.

Artillery in Field Campaigns

When considering the uses of ancient artillery in field campaigns we should resist any temptation to draw parallels with modern artillery pieces. Modern artillery is often located several kilometres behind the front and can cause considerable damage to the enemies' positions by concentrating fire.⁴⁷ Ancient artillery was very different: it had limited range, probably not much more than 400 yards, and before around 100 A.D.⁴⁸ no artillery pieces were mounted permanently on mobile carriages. This meant that individual pieces had to be transported to the area in which they would be used, unloaded, assembled and then fired. This serious lack of mobility also meant that the siting of artillery pieces in field operations was of prime importance: they had to be located where the enemy was unlikely or unable to overrun them.

By Alexander's day, artillery had the ability to perform two roles, destruction and suppression. The discovery of the principle of torsion allowed a besieger to assault the walls directly from a distance, an ability that had not existed before. Artillery also performed the vital role of suppression, both during sieges when it was used to

clear the walls of defenders, and during field operations when it could prevent the enemy from attacking until you were ready, such as at the Jaxartes (see later).

The first recorded incident of artillery being used in a field campaign occurs towards the beginning of the reign of Philip, when he was first becoming interested in the affairs of Thessaly.⁴⁹ Onomarchus the Phocian general had taken up a position in a semi-circular range of hills, his artillery being positioned on the ridge. When Philip attacked, Onomarchus feigned flight and the Macedonians gave chase. At the key moment the Phocians reformed and at the same time the catapults rained down a devastating hail upon the disorganized Macedonian infantry, forcing them to withdraw. It was probably the surprise and the panic it caused, rather than the actual effectiveness of fire, that was so devastating to the Macedonians at this time. If there is one incident that caused Philip to invest so much energy in developing a siege train, it was probably this one.

Despite all of the many battles and campaigns fought by Alexander, there are only two instances where he deployed artillery pieces in a field operation, both of which were in rather special circumstances. The first was when he had been compelled to abandon the siege of Pelium and was withdrawing his troops to a safer area; he was forced to ford the river Eordaicus. Most of his troops managed to cross safely, but his rearguard, consisting of the Agrianians and some archers, had considerable difficulty in disengaging from the enemy. Arrian reports "He deployed his artillery on the bank of the river and ordered his men to shoot, at maximum range, all the

types of missile that are hurled from machines. He also ordered the archers, who had already plunged in, to shoot from mid-stream. Glaucias' men did not dare to advance within range. Meanwhile the Macedonians crossed the river safely, so that not one casualty was suffered in the withdrawal".⁵⁰ Fuller claims this to be "the first recorded use of catapults as field artillery",⁵¹ although he is mistaken, since the Onomarchus incident occurred some years before.

The second incident of Alexander's employment of catapults occurred during his crossing of the Jaxartes River in 329. A group of Scythians was occupying the far bank, making any attempt at crossing extremely hazardous. Arrian records the events that followed. "When all the skin floats were ready and the army in full equipment drawn up on the river bank, the catapults, at the word of command, opened up on the Scythians who were riding along the edge of the water on the further side. Some of them were hit; one was pierced through both shield and breastplate and fell dead from his horse. The Scythians were taken completely aback by the long range of the catapults, and that, together with the loss of a good man, induced them to withdraw a short distance from the river, whereupon Alexander, seeing their consternation, ordered the trumpets to sound and himself led the way over the water, followed by his men."⁵² Curtius records that Alexander's catapults were mounted on boats in midstream.⁵³ Tarn agrees with this,⁵⁴ although there is a good chance that Curtius is confusing "modern" Roman imperial practice in the crossing of wide rivers under opposition.

All three of these examples of the use of artillery in the field illustrate very well the limited theatre in which they could be employed. They had to be close enough to the enemy in order for their projectiles to reach, and they had to be on ground that was easily defensible or did not need defending. These three examples, and particularly the last two, show very clearly that the psychological effect of these weapons was out of all proportion to their physical effectiveness. On the two occasions when Alexander employed catapults, one man is recorded as being killed, and yet they helped in ensuring a successful outcome to both operations. Their true value in field operations lay in their shock value, and in the confusion that they caused. Many of Alexander's opponents, particularly the Scythians, may never have seen such a weapon, and, although they may well have been prepared to die in combat, they may not have been so prepared to risk their lives with no possibility of striking back at the enemy.

Siege Engines: Footnotes.

1. Diodorus 14.41.6.
2. Diodorus 14.41.4-42.1.
3. Marsden (1969), 49.
4. Thucydides 2.75-8.
5. Thucydides 3.20-3.
6. Aristophanes, *Birds* 363.
7. Marsden (1969), 50.
8. Dunbar (1995), 276.
9. Diodorus 13.54.7 *ff.*
10. Diodorus 13.59.8 *ff.*
11. Chronicles 2.26.15.
12. Marsden (1969), 52-53.
13. Ezekiel 4.2; 21.22.
14. Marsden (1969), 53.
15. Pliny; *Natural History* 7.201
16. Marsden (1969), 54.
17. Sun Tzu, Chinese military philosopher, wrote his famous work 'The Art of War'
c.500 B.C.
18. Sun Tzu (Tr. Cleary) 68.
19. Sun Tzu (Tr. Cleary) 71.
20. Sun Tzu (Tr. Cleary) 71.
21. Sun Tzu (Tr. Cleary) 72.

22. Sun Tzu strongly advocated the bloodless victory, repeatedly saying that the most skilled commanders were those who could defeat their enemies without fighting.
23. Sun Tzu (Tr. Stone) 105.
24. Diodorus 16.74.
25. Diodorus 16.74.4; 75.3.
26. Arrian 1.22.2.
27. Marsden (1969), 12.
28. Marsden (1969), 58.
29. Arrian 4.30: the bridge constructed over the ravine during the assault on Aornus took three days to complete, with Alexander's stone-throwers attacking the enemy after the first day's work. In the first day the bridge was extended 200 yards; we can therefore assume that the ravine was 600 yards wide and that Alexander's torsion engines could fire around 400 yards.
30. Thucydides 2.76.
31. Thucydides 3.22.
32. Thucydides 2.77.
33. Plutarch. *Mor.* 191E.
34. IG² ii. 1422, II.8f.
35. Marsden (1969), 100.
36. Heron was writing in Alexandria in the first century AD, but used Ctesibius, the third century BC writer as his main source, and so his work is effectively third century.

37. Marsden (1971), 21.
38. Diodorus 14.43.3.
39. Marsden (1971), 23.
40. Marsden (1969), 17.
41. Marsden (1969), 17.
42. Arrian 2.27.
43. Bosworth (1980), 248. Bosworth also points out that the maximum weight of a catapult shot is 3 talents and that the ship mounted catapults were larger than Alexander's regular artillery pieces, being specially designed by Archidemus. Even taking this into account, however, the stones that made up the outer (seaward facing) defences of Tyre were surprisingly small. The rocks in the sea had been part of the defensive walls and the Tyrians had thrown them into the sea to prevent the close approach of Alexander's fleet.
44. Marsden (1971), 71.
45. Curtius 4.6.9.
46. Marsden (1971), 73.
47. A brief artillery bombardment, before an assault, is one of the fundamental principles of *Blitzkrieg*. See Guderian, (1992), 190 *ff*.
48. Marsden (1969), 164.
49. Polyaeus 2.38.
50. Arrian 1.6.
51. Fuller (1958), 226.
52. Arrian 4.4.

53. Curtius 7.6.8.

54. Tarn (1948), 2.68.

Chapter 8.

Command Structure.

The command structure of the Macedonian army was extremely complex, consisting of many separate layers of authority. At the highest levels it is quite well known; the same cannot be said of lesser ranks, but there are hints that suggest that, even at its lowest levels, it was as complex as the more powerful positions. As with many areas of Alexander's empire, and particularly within the army, the command structure was continually evolving as new positions were created and others became obsolete. The most significant changes, however, were probably politically motivated, as Alexander gradually changed the army from being that of Philip, through the influence of Parmenio and his family, to being his own, particularly after 331/0, when Parmenio's influence had been removed.

Macedonian heavy infantry

At its lowest levels the command structure of the heavy infantry can be deduced from its gradations of pay. The smallest tactical unit of the heavy infantry was the *dekas* or file.¹ As the name implies the *dekas* had once consisted of ten men, but at some point long before the reign of Alexander had been expanded to 16.² Of these 16 men, 12 were rank and file with the other four being of superior status. Of these four, one was the *dekadarch* or file leader, one was a *dimoirites* or half-file leader

and the other two were *dekastateroi* or half-file closers.³ Arrian tells us that the *dekastateroi* (ten-stater men) were paid the equivalent of one and a half the pay of a rank and file soldier, around 45 drachmae a month. The *dimoirites* received double pay, 60 drachmae a month.⁴ Bosworth seems to have made a slight error in interpreting this passage of Arrian, claiming that there were two *dimoiritai* and only one *dekastateros*,⁵ but Arrian's text seems quite clear on this point.

Thirty-two *dekades* formed a *lochos* consisting of 512 men and being commanded by a *lochagos*. Three *lochoi* formed a *taxis*, which was the fundamental unit of the Macedonian heavy infantry, commanded by a *taxiarch*. Each *taxis* therefore consisted of 1540 men, of whom 1152 were rank and file and in receipt of the basic 1 drachma a day. Initially Alexander crossed the Hellespont with six *taxeis*, later expanded to seven around the time of the invasion of India. Therefore the command structure for a typical *taxis* of heavy infantry was: -

Taxiarch

Lochagos (x3)

Dekadarch (x96)

Dimoirites (x96)

Dekastateros (x192)

Rank and File (x1152)

The strengths indicated are of course paper strengths, assuming that the *taxis* was at full strength. The six taxiarchs appear to have all been of the same rank with none holding superiority. Indeed there was no overall commander of the heavy infantry⁶ as there was for, say, the companion cavalry; this is because there really was no such organization as the ‘Macedonian phalanx’ (see chapter on Macedonian heavy infantry), the *taxeis* themselves usually being used as separate tactical units, or in groups of two or three. This development came largely after 331 when the army entered northeastern Iran and smaller, more mobile forces were required.

Arrian makes a seemingly strange claim at 1.28.4, stating that “On the right wing of the attacking force Alexander had the guards’ division under his personal command. In touch with them were the infantry battalions, forming the whole centre of the line and commanded by the various officers whose turn of duty happened to fall upon that day”. Bosworth suggests⁷ that this is probably a rotational system within the phalanx. It could be a reference to the order in which the *taxeis* appeared each day⁸, or it could be that the minor commands within a *taxis* were rotated to give junior commanders more experience of slightly different roles.

The Macedonian heavy infantry appear to have undergone very few serious changes in the command structure over the course of the campaign: the huge numbers of reinforcements received between the great set-piece battles of Issus and Gaugamela seem to have been incorporated into the existing *taxeis*,⁹ presumably

adding to the numbers of rank and file rather than to the officer corps. The first evidence for a seventh *taxis* does not appear until the time of the invasion of India, where Arrian names seven *taxiarchs* operating simultaneously.¹⁰

Hypaspists

At the time of the invasion of Persia, another of Parmenio's sons, Nicanor, was the commander of the hypaspists.¹¹ The hypaspists were the elite formation of the Macedonian heavy infantry; their roles were various, see chapter 2. The hypaspists were organized into three *chiliarchies* of 1000 men,¹² each commanded by *chiliarchs*. One of these *chiliarchies* was designated the *agema*, perhaps commanded by Alexander himself,¹³ or more likely by an unknown individual, as Alexander was usually with the Companion cavalry during set-piece battles. The *chiliarchs* themselves were of markedly lower status than the *taxiarchs* of the heavy infantry, being more like a *lochagos*.¹⁴ This is at first sight rather surprising, considering that the hypaspists were the elite units of the heavy infantry, receiving only the very best of the new recruits into their ranks, but we should remember that unlike the heavy infantry, the hypaspists had an overall commander, Nicanor, who was at a significant level within the command structure, ensuring that their status was considerably higher than that of an infantry *taxis*.

As with the rest of the army, the command structure of the hypaspists was significantly changed at the end of 331. The *chiliarchies* were sub-divided into two

new units, *pentakosiarchies*,¹⁵ thus adding an entirely new layer into the command structure, albeit a very lowly one. These new officers were again appointed by Alexander on the basis of merit rather than seniority, and again owed their allegiance to the king himself.

Companion Cavalry

The numbers of the Companion cavalry are not certain (see chapter 3), Diodorus gives the figure of 1800,¹⁶ but Tarn doubts this number;¹⁷ most now accept the figure of 1800 as at least being very close to the actual figure. We do know that by 333 the companion cavalry consisted of 8 *ilai* (squadrons) of 200 men, commanded by an *ilarch*. An *ile* was further sub-divided into two *hekatostyes* of 100 men.¹⁸ Sekunda believes that the smallest division of the Companion cavalry was the *tetrarchia*, believing there to have been four composing each *ile*.¹⁹ This size of unit is only recorded once in Arrian,²⁰ at the turning of the Persian Gates in January 330, not before or after. This could represent an experiment on Alexander's part that was not continued, 50 men perhaps being too small a tactical unit, or it could be an error by Arrian.

One of the *ilai* was given the title *ile basilike*, or royal squadron, and was of higher status than the rest, usually believed to have been of double strength and charged with defending the king when he fought on horseback. The overall

command of the Companion cavalry was in the hands of Philotas, until his execution in October 330.

The *ilarchs* seem to have been relatively minor in rank, probably on a par with an infantry *lochagos*.²¹ *Ilarchs* are seldom mentioned by name in any of the sources and are never given separate commands of their own; the only one that achieved any level of distinction was Cleitus the Black, the commander of the royal *ile*.

After the execution of Philotas in 330 the entire Macedonian cavalry were reorganized. The basic tactical formation was now not the *ile* but the “hipparchy”.²² These first new units are first recorded by Arrian during 329.²³ *Ilai* do still appear in the sources but they become sub-divisions of a hipparchy, each hipparchy comprising a minimum of two *ilai*²⁴ and thus a minimum of 400 men. The *ilai* were also sub-divided into two *lochoi*, the commanders of whom were given the title *lochagos*, as with the commander of an infantry unit. Alexander appointed these commanders personally on a basis of merit rather than superiority, thus breaking with tradition.²⁵ Thus a new layer of sub-commanders was added in the command structure of the army, one which owed its loyalty directly to Alexander, to some extent breaking the link between the troops and their commanders. There are two possible reasons for this change: perhaps Alexander came to the conclusion that the *ilai* were simply too small, at 200 men, to cope with the different style of fighting in an entirely different theatre that was to be their next challenge. The second possible explanation was a desire on the part of Alexander to increase the

relative superiority of the companion cavalry over the infantry, each hipparch now being of a higher status than a *lochagos*.²⁶

The term “royal *ile*” also disappeared at this time and was replaced by the term *agema*, the nomenclature becoming the same as for the hypaspists. The actual number of cavalry hipparchies is unknown, but it is assumed that there were eight through the Indian campaign.²⁷ The position left vacant by the death of Philotas was not directly filled. He was instead replaced by two men, Alexander’s life-long friend Hephaestion and Cleitus the Black,²⁸ both men being of equal status within the command structure. Arrian gives the reason for this step as that “...he did not think it advisable that one man – even a personal friend – should have control of so large a body of cavalry”.²⁹

Some time during 331, probably after Gaugamela, when the last great batch of reinforcements arrived from Macedon, Alexander introduced the concept of promotion according to merit throughout the army, rather than seniority.³⁰ This was the beginning of Alexander’s policy of reducing the army’s ties of loyalty to its individual commanders, ultimately making them loyal to him alone.

Allies and Mercenaries³¹

The Thessalian cavalry were without doubt the most important contingent of this aspect of the army. They were probably equal in number to the Companion cavalry,

and very close to them in terms of quality. Overall command of this vitally important unit was given to Alexander's second-in-command, Parmenio. The command structure of the Thessalian cavalry was very similar to that of the Companions, being divided into *ilai*. They were not, however, allowed their own national commanders, but a senior Macedonian officer was appointed to command them.³² The Thessalian cavalry also had a unit which performed the same role as the Royal Squadron of the companions, the Pharsalian contingent.³³

The other allied cavalry contingents, although considerably less important, were organized along similar lines, being divided into *ilai*³⁴ and each having a Macedonian commander. The appointment of a Macedonian commander at the head of non-Macedonian, be they cavalry or infantry, units was the general policy of Alexander throughout his reign; even the mercenary contingents were treated in this fashion, Menander being in overall command.³⁵ These Macedonian officers, however, were relatively unimportant in the overall command structure.

The fleets that accompanied the army of invasion were almost exclusively non-Macedonian, being provided by the member states of the League of Corinth. Each ship was captained by a native of the contributing city, and where a city-state provided more than one ship, they also supplied what Milns calls 'a commodore' for their particular contingent.³⁶ As with other non-Macedonian units however, overall command of the fleet was with a Macedonian officer.

Bodyguard

The term 'bodyguard' is quite a confusing one, as there appear to be two entirely separate groups within the army that carry this title. The first is an apparently quite strong detachment of heavy infantry. Arrian three times³⁷ tells us that Alexander took with him the bodyguards *and* some of the hypaspists, strongly suggesting that they were not simply a detachment of the hypaspists, who were themselves often called "the guards". Diodorus also tells us³⁸ that at the battle of Gaugamela, Hephaestion "had commanded the bodyguards". This passage again strongly suggests that we are not here talking about a detachment of the hypaspists, as at this time Nicanor was still their commander³⁹ and only died later that year.⁴⁰ The bodyguards seem to have been a relatively minor force, perhaps of the order of a couple of hundred strong. The relative position of their commander within the command structure of the army is unknown; the only commander named is Hephaestion at Gaugamela, who was relatively senior. Hephaestion's seniority probably had more to do with his closeness to Alexander than the importance of the bodyguards as a military force; his successor after Gaugamela is never mentioned, for instance. This group could well represent a carry-over from a much older organization that pre-dated Philip's reforms.

The group that most interests us here are the *somatophylakes basilikoi*, or "royal bodyguard", originally seven, this number being rigidly maintained. The number was probably connected to their historical function of guarding the king's tent;⁴¹

they were increased to eight in India, however, when Peucestas was promoted to this rank as a sign of gratitude by Alexander, for saving his life during the attack on the capital city of the Malli.⁴²

The bodyguards occupied a position within the command structure that is difficult to define. The group as a whole formed part of Alexander's immediate entourage, and seem certain to have been among his closest friends and most trusted advisors. Membership of the bodyguard was obviously incompatible with any post that involved their being away from court for any length of time: both Balacrus and Menes were replaced as soon as they were assigned to the command of provinces.⁴³ For reasons that seem less clear, inclusion within the bodyguard was also incompatible with a command within the army. Before Gaugamela, there is no recorded instance of a member of the bodyguard simultaneously holding a senior command. Bodyguards are occasionally reported briefly holding minor commands, such as Ptolemy, who commanded a joint force of hypaspists and light-infantry during the siege of Halicarnassus,⁴⁴ but this is rare. If any bodyguard were promoted to a senior command, he would immediately lose his title, and be replaced. This happened, for instance, when Ptolemy (a different individual from the one just mentioned) became a taxiarch.⁴⁵ Bosworth believes that as a group they enjoyed the same status as a taxiarch, but did not, as such, occupy any position within the command structure.⁴⁶ They were, however, still influential as they were among the king's closest advisors.

This rather rigid system which applied to the bodyguard, as with almost everything else in the army, evolved considerably over time. After the death of Parmenio we hear of instances of bodyguards actually receiving senior, if temporary, commands. In 328, for instance, Alexander left four *taxeis* of heavy infantry in Bactria, along with their commanders, and divided the remaining army into five columns, three of which were commanded by known bodyguards.⁴⁷ The deaths of Parmenio and Philotas represent something of a watershed in Alexander's career, as will be discussed below.

Evolution of the command structure

One of the major changes that occurred in the command structure was that the cavalry commands became increasingly important, relative to their previously equivalent infantry commands. By the time of the execution of Philotas, Alexander was becoming increasingly disinclined to place such large numbers of men under a single commander, and so divided the command of the Companion cavalry between Hephaestion and Cleitus the Black. Individual hipparchs also became increasingly important in their own right, becoming roughly equal in status to the position of taxiarch. At the beginning of the invasion of India, the commanders of the heavy infantry who were most highly favoured by Alexander were promoted to command hipparchies of companion cavalry, namely Perdikkas, Craterus and Cleitus the White.⁴⁸

During this process the royal bodyguard evolved into a position within the command structure. Perdikkas was promoted to a hipparchy from a *taxis* of heavy infantry in 327, and by 330 he also had the title of bodyguard, a dual function which Hephaestion also enjoyed. The Peithon who was a bodyguard by 325 is very probably the same Peithon who is attested as a taxiarch in 326/5.⁴⁹ The bodyguard, however, were usually given commands within the Companion cavalry, in alignment with its increasing importance. Bosworth attributes this downgrading of the heavy infantry to the fact that Alexander saw them as a potential, and increasing, problem. It was from the ranks of the infantry that the mutinies at the Hyphasis and Opis had come and "...it would not be surprising if Alexander had deliberately aimed at increasing the prestige and importance of the cavalry".⁵⁰ It is perhaps just as likely that the heavy infantry had become less prestigious simply because they were not as heavily involved in the fighting in which the army was engaged in northeastern Iran at this time, as they had been during earlier campaigns.

From 330, when Alexander entered the northeast of the old Persian Empire, he was faced with an entirely new situation, that of guerrilla warfare. This led to a willingness on the part of Alexander to divide his force, seemingly indiscriminately, between various commanders. Before this time if a second column was required it would consist of allied and mercenary troops, the Macedonians always staying with the king. As mentioned above in 328, Alexander left four *taxeis* of Macedonian heavy infantry in Bactria and divided the rest of the

army into five groups. These new commands were given to a fairly select group of Alexander's closest friends: Craterus, Hephaestion, Coenus and Perdikkas were usually the first choices, with Ptolemy, Leonnatus and Peithon used where more columns were being used.⁵¹ When Alexander entered India, Hephaestion and Perdikkas were sent ahead to the Indus with a large force comprising around half of the Macedonians and all of the mercenary infantry.⁵²

One of the most important features of the changes in the command structure of the Macedonian army towards the end of Alexander's reign was the increasing mobility of commands. Individual generals still kept their titles, but were expected to command entirely separate units as situations presented themselves. For example in 327, three *taxiarchs*, Meleager, Attalus and Gorgias, were detached from their *taxeis* and were given the commands of a group of mercenary cavalry and infantry and employed on diversionary movements along the river banks.⁵³ Another example is that Coenus, a *taxiarch* since 334, was employed as a cavalry commander at the Hydaspes.⁵⁴

This move towards an increasing mobility of command was for two main reasons: the first being military. As Alexander entered the next phase of the campaign after 331, he increasingly met with opposition that operated on significantly different lines from early in the campaign. He was also faced with fighting in a new theatre and in different conditions, all of which required the army to be considerably more flexible than it had previously been. There is surely a second, and in my opinion

significantly more important factor at work here, politics. Alexander seems to have been becoming increasingly concerned about assigning large bodies of troops to a single commander indefinitely: there was for instance no overall commander of the heavy infantry, and the positions vacated by Parmenio and Philotas were never filled, the Companion cavalry receiving co-commanders. Alexander increasingly detached individuals from their commands and gave them different assignments; he also employed new layers in the command structure and made promotions according to merit. These changes had a two-fold effect: the commanders became loyal to him primarily, as they owed their positions directly to the king's favour. Secondly the focus of the army's loyalty was also the king, as their commanders often changed. Alexander made himself the sole focus of every individual, whatever his rank, within the army.

The Price of Parmenio's Support

Parmenio was probably the single most important political figure in Macedonia, apart from the king, during the reign of Philip. He had various family members well entrenched at court and "...seems to have had connections with both factions contending for the succession in the last years of the reign".⁵⁵ Thus when Philip was assassinated, Parmenio was in a prime position to act as king-maker. Parmenio was in a position to offer the support of most of the lowland barons;⁵⁶ this would leave Amyntas or any other potential rival with only the possibility of forming a "...coalition of the out-kingdoms and rebellious Greek cities".⁵⁷ Parmenio was a

skilled political operator and knew well the strength of his position; Alexander was forced to pay a heavy price for his support, but he was in no position to argue.

“When the Macedonian army...crossed into Asia, almost every key command was held by one of Parmenio’s sons, brothers, or other kinsmen.”⁵⁸

We have already noted that two of Parmenio’s sons were commanders of the hypaspists and the Companion cavalry, with Parmenio himself commanding the Thessalian cavalry and essentially being second in command of the whole army. Parmenio’s brother, Asander, probably commanded the light cavalry and certainly received the satrapy of Sardis as soon as it was conquered.⁵⁹ Parmenio’s supporters were also firmly entrenched in positions of power, men like the four sons of Andromenes and the brothers Coenus and Cleander.⁶⁰ Many of the commanders of the army of invasion were little younger than Parmenio himself: when Justin tells us that headquarters looked “more like the senate of some old-time republic”,⁶² he is probably not exaggerating too wildly.

The Macedonian army down to 330, therefore, was at its very core, Philip’s; they were his veterans and his commanders, and Philip’s influence was always present in the form of Parmenio. This was a situation which Alexander could not tolerate indefinitely. He allowed the command structure to remain relatively unchanged whilst his success was still in the balance, but after Gaugamela Alexander began to make serious changes to the army, changes which were made considerably easier by the assassinations of both Philotas and Parmenio.⁶³ Alexander was gambling that the army loved him more than it loved the old general, and he was right.⁶⁴

After the execution of Parmenio, Alexander would never again allow large bodies of troops to be commanded by any one individual, for any length of time; the army had at last become his.

Command Structure: Footnotes.

1. Bosworth (1988), 273.
2. Sekunda (1984), 23.
3. Sekunda (1984), 23.
4. Arrian 7.23.
5. Bosworth (1988), 273.
6. Fuller (1958), 50.
7. Bosworth (1980), 248.
8. Arrian 4.13.4 explicitly states that the actual order of each *taxis* did rotate each day.
9. Bosworth, (1988), 267.
10. Arrian 4.22 (Gorgias, Cleitus, Meleager); 4.24 (Coenus, Attalus); 4.25 (Polyperchon); 4.27 (Alceitas).
11. Green (1991), 159.
12. Tarn (1948), 2.148, this is true after 331 at least; before 331 it is uncertain: see chapter 2.
13. Sage (1996), 183.
14. Bosworth (1988), 268.
15. Curtius 5.2.3.
16. Diodorus 17.17.4.

17. Tarn (1948), 2.156, claims that the figure comes from the now lost "Mercenaries source": few now believe this, and most accept the figure of 1800 as being substantially correct.
18. Bosworth (1988), 274.
19. Sekunda (1984), 14.
20. Arrian 3.18.
21. Bosworth (1988), 274.
22. Bosworth (1988), 268.
23. Arrian 3.29.
24. Bosworth (1988), 268.
25. Tarn (1948), 2.147.
26. Arrian 3.27.
27. Brunt (1963), 29.
28. Bosworth (1988), 269.
29. Arrian 3.27.
30. Arrian 3.16; Curtius 5.2.6.
31. For a more detailed discussion of the mercenary and allied contingents of the army, see chapter 5.
32. Milns (1968), 48; Bosworth (1988), 264.
33. Milns (1968), 48; Arrian 3.12 tells us that they were "...the finest and most numerous unit of the Thessalian cavalry".
34. Tod *GHI* no.197.3.
35. Milns (1968), 49.

36. Milns (1968), 50. For a more detailed discussion on Alexander's navies, see chapter 6.
37. Arrian 3.17, 4.3, 4.30.
38. Diodorus 17.61.
39. Arrian 3.21.
40. Arrian 3.25.
41. Sekunda (1984), 9.
42. Arrian 6.9.
43. Arrian 2.12.
44. Arrian 1.22.
45. Bosworth (1988), 274.
46. Bosworth (1988), 275.
47. Arrian 4.16.
48. Bosworth (1988), 275.
49. Arrian 6.6, as taxiarch; 6.28, as bodyguard.
50. Bosworth (1988), 275.
51. Bosworth (1988), 276.
52. Bosworth (1988), 276.
53. Arrian 4.22.
54. Arrian 5.12.
55. Bosworth (1988), 277.
56. Badian (1960), 327.
57. Green (1991), 120.

58. Green (1991), 120.

59. Badian (1960), 328.

60. Badian (1960), 328.

61. Justin 11.6.4.

62. Badian (1960), 327, sees Alexander as plotting for six years to remove

Parmenio's grip on the army, and the final execution of Parmenio and Philotas as the culmination of this plotting; this seems unlikely to be true. Why would he, for example, have left Parmenio in Ecbatana with a considerable source and his treasury if he did not trust his loyalty, or if he was about to act against him?

Alexander, on the whole, seems to have been more impulsive and spontaneous than Badian gives him credit for, it is more likely that Alexander seized this opportunity without having engineered it.

63. Although the Thessalian cavalry perhaps did not take it well, they were not a significant part of the army after this, and indeed were disbanded soon after; see chapter 4.

Conclusion.

Alexander's army was an extremely complex organization, consisting of numerous contingents each trained to perform different roles. The backbone of the army was certainly the *pezhetairoi*. Although the Macedonian infantry were, in all likelihood, organised and trained well before Alexander's reign it seems probably that he was the king who extended the term *pezhetairoi*, foot companions, to incorporate the whole of the heavy infantry. This was essentially an act of propaganda; to increase the loyalty the troops felt for him and decrease their reliance upon their individual taxiarchs, who were frequently changed.

The *pezhetairoi*, strictly speaking, should not be called a phalanx, although both ancient and modern authors often do use the term. A phalanx was a densely packed body of heavily armoured infantrymen who fought as a mass; Alexander's *pezhetairoi* were far more flexible, consisting of 6, later 7 *taxeis*, each of whom could operate independently or in connection with other troops. They are usually portrayed as the anvil to the Companion Cavalry's hammer, but this is to misunderstand their role. Their lack of defensive armour, small shield and the sarissa meant that they were a shock weapon every bit as much as the Companions. The Macedonian *pezhetairoi* were essentially an evolved version of the standard Greek phalanx.

There is little doubt that there were at least two different kinds of sarissa, that used by the cavalry and that by the infantry: the literary, visual and archaeological evidence all point to this, although the Alexander Mosaic (Plate 1) is confusing in this matter as it depicts Alexander actually wielding an infantry sarissa, while there is a broken cavalry sarissa (Plate 5) on the floor in the foreground.

One of the biggest problems with the heavy infantry is that of the *asthetairoi*. A number of suggestions have been made as to what they were, but I believe the most likely is that proposed by Griffith¹ when he argues that the term was an honorary one, essentially a recognition for bravery in some previous battle, likened to the term “King’s Own” in the British army of today.

The hypaspists were the elite units of the Macedonian heavy infantry. They were more than likely 3000 in number, and organized into 3 units of 1000 men each, at least after 331, before 331 they may well have been organized into units of 500 men. They were equipped in the same manner as the *pezhetairoi* but trained to such a degree that they were capable of using more than one type of weapon. Where speed was of the essence they were quite capable of using a javelin or hoplite spear instead of the sarissa; their versatility made them extremely important to Alexander.

The Companion cavalry units are usually thought to be the main shock troops of the army: these were the troops that Alexander personally commanded during the

set piece battles and were charged with breaking through the enemy's left flank. They were highly trained and recruited from the nobility of Macedonia. The Thessalian cavalry were equipped and organized in a virtually identical manner and were of almost equal quality. If the hammer and anvil analogy is to work then it should be the Thessalians who were the anvil, not the *pezhetairoi*, as it was the Thessalians who fought the defensive action on the right wing whilst Alexander delivered the decisive blow on the right in conjunction with the *pezhetairoi* and hypaspists in the centre.

The mercenaries and allied troops formed a numerically very large part of the army, although the sources provide us with very little information regarding their roles. Although the sources downplay their importance they did perform a key role during the set piece battles, they formed a second line. Tactically very significant, although it did nothing to aid in the victories at Issus and Gaugamela, their role was to ensure that if the army was outflanked by the Persians, defeat would not inevitably follow. They were essentially there to ensure Alexander would not be defeated, rather than to gain victory themselves. The allies also played a vital role as hostages for the good behaviour of the city-states. The mercenaries also acted as garrisons in every major town and city that Alexander captured. The controversial decree to disband the mercenaries was, in my opinion, nothing of the sort. I believe it was an attempt on the part of Alexander to reconstitute his army quickly after the losses in India and Gedrosia. He did not have time, or more likely the patience, to send out commanders to recruit new troops from Greece and Persia and he

probably saw it as being most expedient to simply use troops that were already on his payroll. There is no evidence at all that this decree was intended to strip the satraps of armies; many recruited thousands of mercenaries to reconstitute their own armies within months of the decree.²

The decree to disband his fleet should also be considered in a new light; Alexander in fact possessed at least 4 fleets in the Mediterranean during the first few years of his reign. He did not, in fact, disband his fleet at all, just a small part of it. This was essentially an acceptance on the part of Alexander that he knew nothing about naval warfare and would not risk a defeat that would have tremendous political repercussions in Greece.

The command structure of the army was extremely complex, probably more so than any army in history to that point. There were various different grades of pay for different ranks, and each rank had a different role to play. It is highly likely that almost all promotions were made by Alexander himself, or at the very least met with his approval. There seems to have been a gradual process over a period of several years of replacing Philip's men with his own. This perhaps reached its conclusion with the murder of Philotas and Parmenio.

The army that Alexander entered Asia with in 334 was a significantly different one from that which he commanded after 331. 331 was the single most significant

year with regards to the army, the *pezhetairoi* were probably expanded to 7 *taxeis*, the Companion cavalry were reorganized into hipparchies, the hypaspists were reorganized into chiliarchies of 1000 men and all of the allied troops were disbanded and sent home. In these reforms Alexander showed his organizational skills and the realisation that the battles that would be fought after 331 would be of a very different character than the set-piece battles fought in the early years. We could perhaps argue from the reforms of 331 that had Alexander not inherited such a fine army from Philip, his conquest of Persia might still have been possible; it would simply have meant that the invasion of 334 would not have been possible, since some years would have to have been spent creating the army. I believe Alexander would have been technically capable of this, but would he have had the patience?

Alexander's army, then, was multi-faceted, highly complex and supremely well trained. Each element was trained and equipped to perform different roles, be they as shock troops, skirmishers, scouts etc. Whatever situation arose Alexander had supreme confidence that he possessed an army that, combined with his own tactical genius, was capable of dealing with it. Clausewitz³ complimented Alexander's army for its "intrinsic perfection"; we can say that although it did not, in reality, achieve this ideal, it was closer to it than any other army of the day.

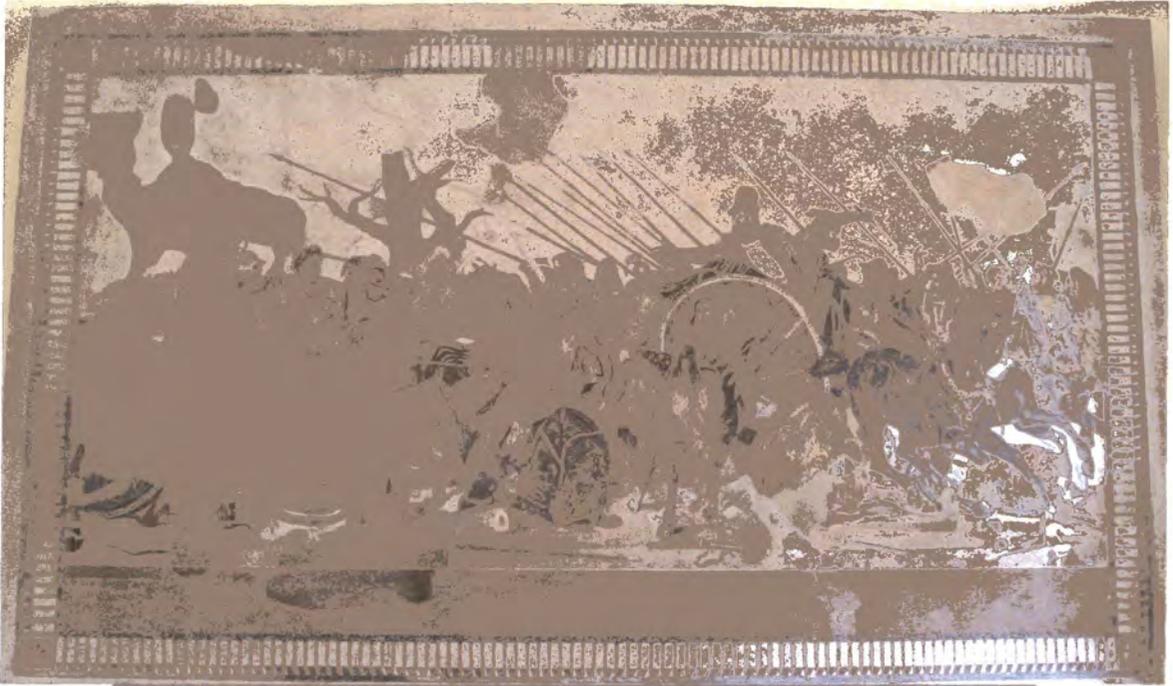


Plate 1 The Alexander Mosaic - 1st C. BC copy of a painting, perhaps by Philoxenos, of c. 300 BC; found in the House of the Faun, Pompeii.



Plate 2 Alexander wielding an infantry sarissa.



Plate 3 Alexander's armour.



Plate 4 Detail of infantry sarissa.



Plate 5 Cavalry sarissa.

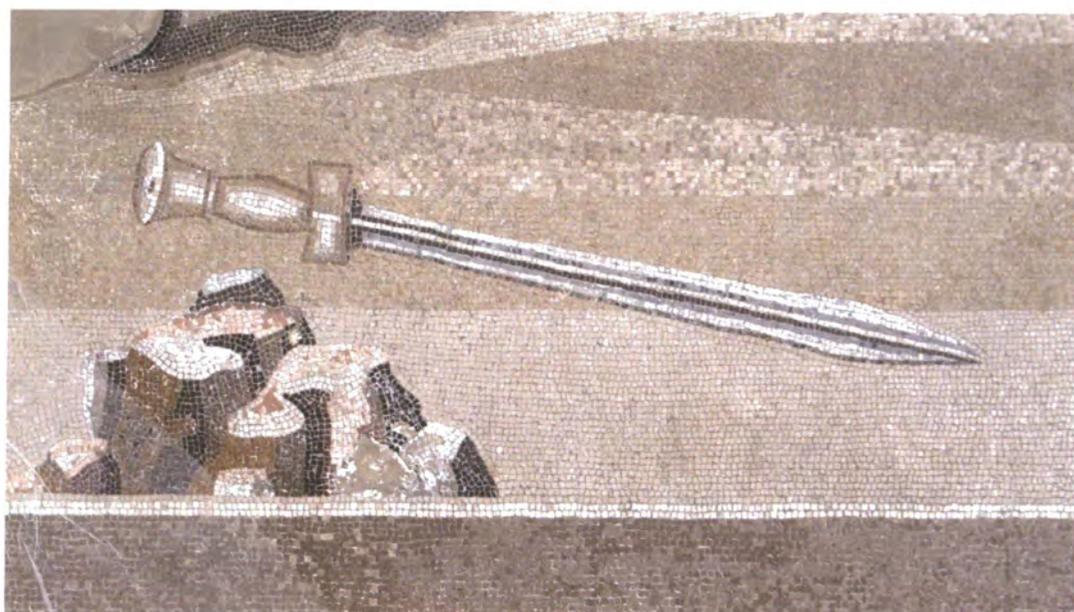


Plate 6 Macedonian sword.

Bibliography: Ancient Sources.

Most frequently cited Ancient sources: -

Arrian, *Anabasis*, Tr. A. De Selincourt, (Penguin 1971)

Arrian, *History of Alexander and Indica*, Tr. P. A. Brunt (Loeb) vol. I and II,
(London and Cambridge, Massachusetts 1976-1983)

Diodorus Siculus, *Histories VIII*, Tr. C. Bradford Wells (Loeb), (London and
Cambridge, Massachusetts 1963)

Herodotus, *The Histories*, Tr. A. De Selincourt, (Penguin 1972)

Justin, *Epitome of the Philippic History of Pompeius Trogus*, Tr. J. C. Yardley
(Atlanta 1994).

Plutarch, *The Age of Alexander*, Tr. I. Scott-Kilvert, (Penguin 1973)

Polybius, *The Rise of the Roman Empire*, Tr. F. W. Walbank, (Penguin 1979)

Quintus Curtius Rufus, *The History of Alexander*, Tr. J. Yardley (Penguin 1984)

Thucydides, *History of the Peloponnesian War*, Tr. R. Warner (Penguin 1951)

Xenophon, *Anabasis*, Tr. R. Warner (Penguin 1951)

Xenophon, *Hellenica*, Tr. R. Warner (Penguin 1966)

Bibliography: Modern Authors.

J. K. Anderson, *Military Theory and Practice in the Age of Xenophon*, (Berkeley 1970)

M. Andronikos, *Vergina. The Royal Tombs and the Ancient City* (Athens 1987)

M. Andronikos, Sarissa, *BCH* 94, 1970, 91-107

J. C. Atkinson, *A Commentary on Q. Curtius Rufus' Historiae Alexandri Magni Books 3 and 4* (Amsterdam 1980)

E. Badian, The Death of Parmenio, *TAPA* 91, 1960, 324-38

E. Badian, Harpalus, *JHS* 81, 1961, 16-43

E. Badian, Orientals in Alexander's Army, *JHS* 85, 1965, 160-1

H. Berve, *Das Alexanderreich auf prosopographischer Grundlage* (Munich 1926)

J. G. P. Best, *Thracian Peltasts and their influence on Greek Warfare*, (Groningen 1969)

E. Borza, *In the Shadow of Olympus. The Emergence of Macedon* (Princeton 1990)

A. B. Bosworth, *Asthetairoi*, *CQ* 23, 1973, 245-53

A. B. Bosworth, *Commentary on Arrian's History of Alexander* vol I (Oxford 1980)

A. B. Bosworth, Alexander and the Iranians, *JHS* 100, 1980, 1-21

A. B. Bosworth, Alexander the Great and the Decline of Macedon, *JHS* 106, 1986, 1-12

A. B. Bosworth, *Conquest and Empire, The Reign of Alexander the Great* (Cambridge 1988)

A. B. Bosworth, *Commentary on Arrian's History of Alexander* vol II (Oxford 1995)

A. B. Bosworth & E. J. Baynham (ed.), *Alexander the Great in Fact and Fiction* (Oxford 2000)

P. A. Brunt, Alexander's Macedonian Cavalry, *JHS* 83, 1963, 27-46

A. R. Burn, Notes on Alexander's Campaigns, 332-330, *JHS* 72, 1952, 81-91

Carl Von Clausewitz, *On War*, Tr. A. Rapoport, (Penguin 1968)

L. Casson, *Ships and Seamen in the Ancient World*, (Princeton 1971)

N. Dunbar, *Aristophanes Birds*, (O.U.P 1995)

T. N. Dupuy, *The Harper Encyclopedia of Military Biography*, (Castle Books 1992)

J. R. Ellis, Alexander's Hypaspists Again, *Historia* 24, 1975, 617-618

D. W. Engels, *Alexander the Great and the Logistics of the Macedonian Army* (Berkeley & Los Angeles 1978)

P. M. Fraser, *Cities of Alexander the Great* (Oxford 1996)

E. Fredricksmeyer, "Alexander the Great and the Kingship of Asia", A. B. Bosworth and E. J. Baynham (edd.), in *Alexander the Great in Fact and Fiction* (Oxford 2000), 136-66

J. F. C. Fuller, *The Generalship of Alexander the Great* (London 1958)

E. N. Gardiner, *Athletics of the Ancient World* (Oxford 1930)

P. Green, *Alexander of Macedon, 356-323 B.C.* (Berkeley & Los Angeles 1991)

G. T. Griffith, *The Mercenaries of the Hellenistic World* (Cambridge 1935)

G. T. Griffith, A Note on the Hipparchies of Alexander, *JHS* 83, 1963, 68-75

G. T. Griffith "Peltasts and the Origins of the Macedonian Phalanx", in H. J. Dell ed., *Ancient Macedonian Studies in Honour of Charles F. Edson*, (Thessalonika 1981)

P. Griffith, *The Viking Art of War* (Greenhill 1995)

H. Guderian, *Achtung-Panzer*, (Arms and Armour Press 1992)

J. Hackett (ed.), *Warfare in the Ancient World* (London 1989)

J. R. Hamilton, Three Passages in Arrian, *CQ* 5, 1955, 217-21

J. R. Hamilton, *Plutarch, Alexander: A Commentary* (London 1969)

J. R. Hamilton, *Alexander the Great* (London 1973)

N. G. L. Hammond and G. T. Griffith, *A History of Macedonia ii: 550-336 BC*
(Oxford 1979)

N. G. L. Hammond, Some Passages in Arrian concerning Alexander, *CQ* 30, 1980,
73-88

N. G. L. Hammond, *Alexander the Great: King, Commander and Statesman*
(Bristol 1989)

N. G. L. Hammond, *The Macedonian State. The Origins, Institutions and History*
(Oxford 1989)

N. G. L. Hammond, Cavalry Recruited in Macedonia Down to 322 B.C., *Historia*
47, 1998, 404-425

H. A. Harris, *Sport in Greece and Rome* (London and Southampton 1972)

H. Hauben, The Command Structure of Alexander's Mediterranean Fleets, *Ancient
Society* 3, 1972, 56

A. J. Holladay, Hoplites and Heresies, *JHS* 102, 1982, 94-103

- S. Hornblower, *The Greek World 479-323 BC*, (Routledge 1991)
- W. Judeich, Die Schlacht am Granikos, *Klio* 8, 1908, 372-97
- B. M. Kingsley, The Cap that Survived Alexander, *AJA* 85, 1981, 39-46
- R. Lane Fox, *Alexander the Great* (Penguin 1973)
- A. B. Lloyd (ed.), *Battle in Antiquity* (Duckworth 1996)
- H. L. Lorimer, The Hoplite Phalanx, *BSA* 42, 1947, 76-138
- J. Lucas, *Battle Group! German Kampfgruppen Action of World War II* (Cassell 1993)
- P. A. Manti, The Cavalry Sarissa, *Ancient World* 8, 1983, 73-80
- P. A. Manti, The Sarissa of the Macedonian Infantry, *Ancient World* 23.2, 1992, 31-42
- P. A. Manti, The Macedonian Sarissa, again, *Ancient World* 25.1, 1994, 77-91

- M. M. Markle, The Macedonian Sarissa, Spear, and Related Armour, *AJA* 81, 1977, 323-339
- M. M. Markle, Use of the Macedonian Sarissa by Philip and Alexander, *AJA* 82, 1978, 483-497
- M. M. Markle, Macedonian Arms and Tactics under Alexander the Great, *Studies in The History of Art*, Vol 10 (Washington 1992) 86-111
- E. W. Marsden, *Greek and Roman Artillery: Historical Developments*, (Oxford 1969)
- E. W. Marsden, *Greek and Roman Artillery: Technical Treatises*, (Oxford 1971)
- R. D. Milns, Alexander's Macedonian Cavalry and Diodorus 17.17.4, *JHS* 86, 1966, 167-168
- R. D. Milns, Philip II and the Hypaspists, *Historia* 16, 1967, 509-12
- R. D. Milns, *Alexander the Great* (London 1968)
- R. D. Milns, The Hypaspists of Alexander III – Some Problems, *Historia* 20, 1971, 186-195

R. D. Milns, in *Alexander le Grande* (Entretiens Hardt 22) (Vandoeuvres-Geneva 1976)

A. Momigliano, Re e popolo in Macedonia, *Athenaeum* 13, (1935)

J. R. Mixer, The Length of the Macedonian Sarissa During the Reigns of Philip II and Alexander the Great, *Ancient World* 23.2, 1992, 21-29

H. W. Parke, *Greek Mercenary Soldiers*, (Oxford 1933)

P. A. Rahe, The Annihilation of the Sacred Band at Chaeronea, *AJA* 85, 1981, 84-87

M. M. Sage, *Warfare in Ancient Greece* (Routledge 1996)

R. V. Schoder, Alexander's Son and Roxanne in the Boscoreale Murals, *Ancient World* 5, 1982, 27-32, plates I and II

N. Sekunda, *The Army of Alexander the Great* (London 1984)

A. M. Snodgrass, *Arms and Armour of the Greeks* (Ithaca, N.Y., 1967)

I. G. Spence, *The Cavalry of Ancient Greece; A social and Military History*
(Oxford 1993)

P. J. Stylianou, *A Historical Commentary on Diodorus Siculus Book 15* (Oxford
1998)

W. W. Tarn, *Alexander the Great* Vols. I-II (Cambridge 1948)

M. N. Tod, *A Selection of Greek Historical Inscriptions. 2 : From 403 to 323 B. C.*,
(Oxford 1948)

L. A. Tritle (ed.), *The Greek World in the Fourth Century* (London 1997)

F. W. Walbank, *Philip V of Macedon* (Cambridge 1940)

U. Wilcken, *Alexander the Great* (London 1932)

