TACTICAL ORGANISATION OF THE EARLY IMPERIAL LEGION

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ABSTRACT

The Roman army of the early Empire is well-documented as a successful instrument of Roman political and military strategy. Josephus commented in the first century AD that "for them, victory is more certain than fortune" (*BJ* 3.107). The legions were moved about like chess pieces in order to satisfy the territorial aspirations of Rome's leaders and safeguard the frontiers of a vast empire; however, the legions were more than an amorphous mass safeguarding the Empire. The early Imperial legion was a well-disciplined collection of professional soldiers organised and led in a fashion that was consistent throughout the Empire. Unfortunately, much of modern literature dealing with the legions does so in a generalised fashion. Few authors deal with the mechanics of the cohorts that comprised the legion.

Several questions and controversies surround the tactical organisation of the early Imperial legions. The strength of the legion and its sub-units are far from certain in this period. In addition, the organisation of the cohorts, how they deployed and moved about the battlefield, is questionable. The officers who commanded these units formed a distinct class in Roman society, yet their functions and duties in the legion are uncertain at best.

This thesis aims to consider the evidence surrounding these questions to determine if any reasonable answers are possible. Syntheses of existing theories will be coupled with the extant evidence to produce a coherent answer for each question.

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INTRODUCTION

There have been various studies of the Roman army over the last century. Most authors have dealt with the legions in a broad sense. They treat the legions as instruments of Roman military strategy and territorial expansion. The legions themselves are rarely discussed except as pawns on the strategic chessboard.[1] Others consider the conduct of military campaigns by various generals, concentrating more on the abilities of the commanders (or lack thereof) than on the instruments of their strategy.[2] Some studies have looked more closely at individual legions and their histories: their patterns of recruitment, places of permanent garrison duty, etc.[3]

The larger scale movements of armies in defense of the empire or in search of territorial expansion inevitably led to conflicts in the form of battles and sieges. In these close encounters with the enemy the legions ceased to be pawns and became intricately detailed tactical entities. Few scholars, however, have made detailed examinations of the inner workings of the legion and its sub-units. In the early part of this century Veith attempted to dissect the legion at the tactical level, although his arguments were based more upon supposition than careful consideration of the evidence.[4] T. Rice Holmes, a contemporary of Veith, gathered the various arguments for unit strengths and tactical formations and presented a well-balanced survey. His work, unfortunately, was focused

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[1] Keppie (1984) and Le Bohec (1994) both make mention, in general terms, of the organisation and strength of the legions. Neither delve into the tactical workings of the legion in detail.

[2] Fuller (1965) is a good example of this.

[3] Le Bohec (1989) concentrates exclusively on *legio IIII Augusta*.

[4] Veith (1907).

primarily on the campaigns of Caesar in Gaul.[5] More recently Speidel and Goldsworthy have attempted to revisit many of the topics investigated by Holmes. Speidel concentrated his efforts on the Imperial legions in respect to their strength and command structure while ignoring the tactical application of the units themselves.[6] Goldsworthy has compiled the most complete picture of the Imperial legion in a discussion of the several controversies surrounding the legion and its tactical application.[7]

This thesis will attempt to pull together the evidence and synthesize the various arguments pertaining to the tactical organisation of the early imperial legions, in particular the heavy infantry component. The period investigated will be mainly the first and second centuries AD, although such a study could not be undertaken without reference to the evolution of the legion in the mid to late Republic. This period has been chosen for a number of reasons. The Augustan period saw various changes in the social and political structure of Rome. The stability of Augustus' reign affected the military no less than any other component of Roman society. The Roman army truly became a professional state force in this period. The strength and organisation of the legions were standardised as was the promotion track for the officers therein. During the first two centuries AD the legions faced a diversity of opponents, and various expedients were employed to counter each threat. The first century in particular witnessed the reintroduction of the *equites legionis* and possibly a change in the tactical drill of the

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[5] Holmes (1931).
[6] Speidel (1992).
[7] Goldsworthy (1996).

legion. Perhaps the most significant change at this time was the increase in size of the first cohort in each legion.

Throughout this thesis, but primarily in the discussions on tactics, reference will often be made to warfare in the seventeenth and eighteenth centuries. This period of horse and musket warfare holds many similarities to the early Roman empire in that the effectiveness of black powder weapons differed little from that of the *pila* and arrows of the Roman legionary. Infantry formations in both periods reacted to their opponents, whether infantry or cavalry, in a comparable manner.

The primary evidence utilized throughout this thesis includes epigraphic sources in the form of funerary inscriptions and unit rosters. Various fortresses and camps of the legions have been investigated, and this archaeological evidence adds much to the discussion of unit strength and organisation. The contemporary authors, however, provide the bulk of the information when discussing the Roman legions. Polybius provides a detailed description of the legion in the second century BC that is, for the most part, believable. Livy provides a similar account, although his work presents more difficulties, exacerbated by the separation in time between Livy's own day and the period he is describing. Caesar's commentaries contribute invaluable testimony to the legions in the late Republic, although his writings are often lacking in detail. Caesar expected his audience to be conversant with the details of legion organisation and tactics, and his works must therefore be dissected carefully.

For the early Imperial legion Vegetius' *Epitome Rei Militaris* and Hyginus' *De Munitone Castrorum* both include details of unit organisation and strength. The time

period each is describing is, however, in some dispute. Any conclusions from these authors must therefore be drawn with care. The first century AD Roman army is amply described by Josephus in his account of the Jewish revolt. His evidence, however, must also be considered carefully. The legions serving in the east that he described should not be taken as indicative of an empire-wide standardisation. Perhaps the most interesting and most controversial account of the Roman armies are two works by Flavius Arrianus written in the early second century AD while he was governor of Cappadocia, the *ἔκταξις κατὰ ἀλανῶν* and the *τέχνη τακτικά*. In the former he describes the deployment of his army in the face an invading Alan army. The text is rife with inconsistencies and contradictions but is nonetheless invaluable for determining the formations used by the legions at that time. Various other ancient authors mention the army in passing or in strategic terms affecting and affected by personalities. Tacitus is a prime example of this type of author who describes campaigns and battles but in a very cursory fashion. The main emphasis of works such as his is not to discuss the detailed workings of the Roman army but to present an entertaining story of personalities and important events. Accounts such as these do, however, prove useful.

The first chapter will begin with an examination of the strength of the early Imperial legion. In order to understand the strength and organisation of the legion in the early Empire recourse must be made its predecessors. Evidence for the mid to late Republican legion will be considered. The legion of the second century BC as described by Polybius differed significantly in size and internal organisation from its Imperial counterpart. At some point in the second century the legion's sub-structure changed from

a dependence upon the maniple as the basic tactical unit. The cohort, composed of three maniples, became the predominant sub-unit of the legion and remained so into the Imperial period. The cavalry contingent of the legion, the *equites legionis*, disappeared sometime in the late Republic, but was reconstituted in the first century AD. At some point, possibly as early as Caesar's campaigns in the first century BC, the first cohort was enlarged. The reasons for this expansion are obscure and it seems not to have been a universally applied change in organisation. The chapter will conclude with an examination of the ubiquitous *auxilia* units and their relationship to the heavy infantry of the legions.

The second chapter will examine the roles and duties of the various officers of the legion. As the heavy infantry of the legion is the focus of this study, the centurions, as commanders of these troops, will be concentrated upon. Several questions will be addressed in this regard. Were there any permanent cohort commanders? What was the order of seniority of the centurions within each cohort and within the legion as a whole? Closely associated with the order of seniority is the division of the centurions into distinct classes based upon that seniority. If there were separate classes, how many were there and who were the *primi ordines* in each legion? Last to be considered will be the order of promotion for the centurions of the legion. Was there a recognised ladder of promotion that the centurions followed? These questions bear direct relation to the formations and tactics employed by the legions in the field. Certain tactical manoeuvres relied greatly upon the type of command structure and the relative seniority of the sub-units involved.

The third chapter will examine the tactical evolutions of the legion in battle. Several important problems and the responses to them by scholars will be examined. It has often been thought that Polybius' chequerboard deployment and Caesar's *triplex acies* were tactical systems rigidly adhered to as standard Roman drill. Problems arise, however, when a battle line with intervals between units contacts the enemy. If the line were continuous with no gaps between units, however, reinforcement of the fighting line then becomes an issue. These issues have been addressed by a number of authors. Their responses to these problems will be coupled with an examination of the literary, epigraphic and archaeological evidence to create a synthesized set of solutions. The formations employed by the cohorts and a number of questions relating thereto will then be considered. How were the centuries arranged in the cohort deployment and how deep were the formations? Were there standard formations and unit depths for the cohorts and did these change from the Republic to the early Empire? Again the evidence will be taken into account along with any modern views to arrive, if possible, at a logical interpretation.

CHAPTER I: LEGION ORGANISATION AND STRENGTH

Introduction

This chapter will describe the organisation and strength of the Republican legions from the third century BC to the second century AD. The accounts of various ancient authors will be examined and critiqued to determine whether an accurate model of the Republican legion can be constructed. This examination will begin with the Polybian-type legion and its transition to the Caesarean legion of the first century BC. The shift from a manipular organisation to a legion composed of cohorts and the timing of this change will then be considered. The strength of the cohortal legion will be assessed along with a look at the smaller sub-units that made up the whole.

The Imperial legions differed somewhat from their predecessors. A discussion of the overall strength of the Imperial legions will be followed by an examination of the integral cavalry and artillery elements. The first cohort of these Imperial legions differed radically from Polybius' legion as well. The differences will be investigated and an attempt made to determine when the changes came about and how long they lasted. The chapter will conclude with a discussion of the various *auxilia* units that operated in concert with the legions. Included in this discussion will be a consideration of the similarities in strength and organisation between the *auxilia* and the legions.

The Legion: Republic to Early Empire

Sources of information for the Roman legions in the early to mid-Republic are confined mainly to literary works. Livy provides us with an overview of Roman history that includes various references to the Roman army, its organisation and command structure. Polybius, however, contributes possibly the most detailed description of the Roman legion during the Republic. Writing ca. 160 BC, he set out to describe the various components of a legion and the armament of the individual soldiers. Quite possibly, though, he was setting forth the details of a legion in the late third century BC rather than from his own time. He may in fact have been using some sort of literary source but updating it for his own time.[5] Nevertheless, Polybius could be considered the more useful of the two authors. He had extensive military experience as hipparch of the Achaean League and had enjoyed relationships with several serving Roman army officers. In fact, it has been suggested that Polybius based the bulk of Book VI, which details the Roman legion, on his own military experiences.[6]

Polybius points out in Book VI that the Roman legion was subdivided into various parts termed maniples, organised and arrayed in three separate lines.[7] The maniples of each line were differentiated by several factors. Polybius ranked the three lines in descending order of seniority and tactical application. The first line was composed of the younger men called *hastati*, armed with a *gladius* (short sword), *scutum* (oval Italic shield), and two *pila* (javelins), one light and one heavy. In the second line

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[5] Rawson (1971), 13-15 suggests that Polybius may have used some sort of *commentarii*, or 'handbook for military tribunes', as the basis for his military information.

[6] Rawson (1971), 14.

[7] See Appendix 1.0.

were men in the prime of life referred to as *principes*, armed in similar fashion to the *hastati*. In reserve, in the third line, stood the *triarii*. These were the oldest, most mature men, veterans armed with *gladius*, *scutum*, and *hasta* (thrusting spear). In addition to these heavy infantry, who were expected to be the mainstay of the battle-line, Polybius described a further contingent of lightly armed troops who would engage the enemy before the main lines of *hastati*, *principes*, and *triarii*. These *velites* were the youngest and poorest of the recruits, armed with *gladius*, light *pila*, and *parma* (a small circular shield). All save the *velites* wore bronze pectoral, helmet and greaves. This organisational ranking survives, albeit in an attenuated form, in the later imperial ranking of centurions within a cohort: *pilus*, *princeps*, and *hastatus*, in descending order of rank.

Livy supports Polybius' description, as do later writers, although Vegetius, writing in the fourth century AD and possibly describing a republican legion, transposes the ranking of the three main lines by placing the *principes* in front of the *hastati*.[8] There is no reason to allow this to confuse the otherwise clear picture set forth by Polybius. Vegetius enjoyed no personal military experience, as did Polybius, and was quite possibly basing his account on Cato's lost *de rei militari*.[9] His lack of military knowledge may have contributed to his transmitting Cato's information incorrectly, or he may have assumed that his readership was fully knowledgeable in the field and further explanation unnecessary. Vegetius' comments are further troubling when seen in light of

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[8] In support of Polybius: Livy, 30.8.5; 30.32.11; 30.34.10; Varro, LL.5.89; Ovid, *Fasti* 3.128-132; Veg., *Epit.* 2.15. Roth (1994), 349 and Milner (1996), xlii point out that Vegetius was criticising the late Roman army of his own day by comparing it to the mid to late Republican army as seen through the eyes of his sources.

[9] Rawson (1971), 17-18. Milner (1996), xix-xxi argues that Vegetius used multiple sources which ultimately relied on Cato. Vegetius, *Epit.* 1.8 admits using Cato as a source.

other facts he presents. According to him, there were 15 maniples per line for a total of 45 maniples. This is unattested elsewhere and in direct contradiction to Polybius' 30 maniple legion divided into three lines of ten maniples each, and to the later cohortal legion of ten cohorts.

Although the organisation of this Polybian legion is well-founded and accepted by the majority of scholars, the numbers that go together to make up the legion and its sub-units at this time are more confusing.[10] Polybius placed 1200 men in each line of *hastati* and *principes*, organised in ten maniples each backed up by 600 *triarii*, also in ten half-sized maniples. The *velites* numbered 1200 and, although fighting as a separate tactical body, were attached administratively to each maniple of the three main lines in equal proportion. Each maniple in this Polybian legion was made up of two centuries of 60 men each, except for the 30 strong *triarii* centuries. In addition, 300 *equites* were attached to the legion and divided into ten *turmae*. This would provide the legion with a full-strength of 4200 infantry and 300 cavalry that could be increased to 5000 in times of crisis.[11] Livy provides somewhat different numbers, although admittedly with fewer accompanying details. He describes a legion of 340 BC composed of 5000 infantry and 300 cavalry and another during the Macedonian Wars as 5200-6000 strong. With the latter he was more vague, not differentiating between cavalry and infantry.[12] Livy's evidence should be considered with caution for various reasons, not least of which is his distance in time from his subject. Writing in the Augustan age, he could be considered

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[10] Polybius' organisation is accepted by Coello (1996), 1, Keppie (1984), 34-35, Watson (1987), 78-84 and Webster (1985), 109.

[11] Polybius, 6.19.1; 6.20.

[12] For the legion in 340 BC see Livy, 8.8. For the Macedonian War legion see Livy, 26.1.

less reliable than Polybius, who was describing current events or those within living memory. Vegetius suffers from a similar problem. It is difficult to know whether his *antiqua legio* was a description of a legion in his own day, from the Republic, or a conflation of both.

Other writers who mention republican legions must also be used with caution. For example, John Lydus, writing in the mid-sixth century, described a legion of 388 BC as 6000 infantry strong.[13] Suetonius refers to the strength of the legion as 5600, and although writing during the early Empire, he was most likely referring to a republican organisation. Sextus Pompeius Festus, writing in the late second century AD, mentions a legion 6200 strong, and Servius, writing nearly 200 years later, describes a legion comprised of 6000 infantry and 300 cavalry. Both of these also seem to be republican organisations.[14]

The lack of agreement between numbers need not necessarily be a concern, however, because Polybius' expanded 5000-man legion does not differentiate between infantry and cavalry. It is uncertain whether Polybius meant to include the cavalry in this 5000 or whether it was an adjunct as it was with his lower figure of 4200. If the cavalry contingent was meant by Polybius to be in addition to the 5000, a total of 5300 would be arrived at. This fits easily into both of Livy's descriptions. In the first instance the numbers agree exactly with Livy's 5000 infantry and 300 cavalry and in the second they fit easily into the 5200-6000 range. The search for a standardised legion complement

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[13] Ioh. Lyd., *de Mag.* 1.46.

[14] Suet., *verborum differentiae* (ed. Reifferscheid), 278, *s.v. Legionem et Dilectum*; Festus, *de significatione verborum* 336; Servius, *Aen.* 7.274.1-2. Roth (1994), 347-348, is highly sceptical of all three accounts.

may be in vain, however. Each year the size of the legions was decreed by the Senate, and although this would create a customary or traditional allocation of resources, nowhere do we have evidence of any legalised standard for legionary strength during this period.[15] Thus the sources may disagree because there was no standard until the time of Augustus, and legion strengths varied according to circumstances.[16] It is important to note, however, that the numbers making up a legion's complement may have varied, but the basic organisation remained the same. Rather than change the basic structure of the legion, the sub-units that made up the whole were increased or decreased in strength of numbers.

The Change from Maniples to Cohorts

The change from Polybius' manipular legion to a cohortal organisation has been commonly attributed to Marius at the end of the second century BC.[17] It has been assumed that the adoption of cohorts was part of Marius' other reforms in recruitment practices, armour and equipment, but the lack of documentation on this point is noteworthy. It seems strange that ancient sources would not have credited Marius with this major innovation that was equally or more important than the others.[18] The acceptance of the cohort as the most important tactical body within the legion probably was a more gradual process. It took place over the course of the late third century BC and throughout the second century BC, culminating in the cohortal legion as employed by Marius.

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[15] For the Senate decrees see Livy, 40.26.8-9 and Sallust, *Iug.* 84.2; 86.4.
[16] Roth (1994), 347.
[17] Keppie (1984), 63-64; Watson (1987), 86; Holmes (1931), 42; Parker (1928), 28.
[18] Bell (1965), 404.

In order to determine when the cohort supplanted the maniple, the literary sources must be examined and an attempt made to determine when cohorts were first employed and when maniples were last employed. The last reference to maniples occurs in Sallust's account of Metellus' campaign against Jugurtha. This, however, does not assume that the disappearance of the maniple immediately brought about the appearance of the cohort.[19] In the same account Sallust also mentions cohorts, and other sources refer to cohorts during and after the Second Punic War. As many as 16 references to cohorts can be detected in Livy's account of the fighting in Spain between 210 BC and 195 BC, while in the same body of writing there are no certain references to maniples.[20] The sheer quantity and detail of these descriptions suggest Livy's accuracy. It has been thought that Livy was mistranslating Polybius' use of σπεῖρα as *cohors* rather than *manipulus*, thus leading to the multiple references to cohorts.[21] The use of the word in the Augustan age and later to refer to *cohors* and Livy's contemporary allusions to maniples in Greece makes this theory quite unbelievable.[22] Other literary evidence for second century BC cohorts is provided by Frontinus, who mentions *cohortes* in the late third century to the mid-second century BC on at least five occasions.[23] Frontinus, however, is often guilty of anachronisms and a fundamental lack of understanding of the manipular system, and so his work must be treated as suspect.[24]

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[19] Sallust, *Iug.* 49.6; Parker (1928), 28; Keppie (1984), 63.

[20] Livy, 25.39.1; 27.18.10; 28.13.8; 28.14.17; 28.23.8; 28.25.19; 28.33.12; 34.12.6; 34.14.1; 34.14.7; 34.14.10; 34.15.1; 34.19.9; 34.19.10; 34.20.3; 34.20.5.

[21] Marquardt (1884), 435.

[22] Bell (1965), 405-406 provides a thorough discussion of Livy's translation of his source material and the problems therein.

[23] Frontinus, *Strat.* 2.6.2; 3.10.7; 4.1.23; 4.1.26; 4.7.27.

[24] Bell (1965), 407.

Perhaps a more helpful approach would be to determine the date of introduction of the cohort rather than that of abandonment of the maniple. The earliest known reference to the cohort is that of a *cohors Romana* under the command of Lucius Marcius in 210 BC.[25] M.J.V. Bell has proposed that the cohort was originally a tactical expedient adopted for use against heavy infantry or cavalry and that it eventually became a regular tactical sub-unit.[26] The need for this tactical expedient came about in Spain because of the difference between warfare in the west and the east and the different types of enemies encountered. The Roman use of maniples involved a dispersed formation with sizeable intervals between units, while cohorts on the other hand presented a concentration of power in a continuous line or front. Maniples could easily face the eastern Macedonian-style phalanx because of the maniples' flexibility and ability to retreat or advance in good order inherent in the dispersed order with intervals between units. Against the undisciplined hoards of tribesmen common to Rome's western opponents, the cohortal legion, with its continuous front, was far better able to withstand contact.[27]

But what of Metellus' use of both cohorts and maniples in Africa, as described by Sallust?[28] The legions by this time were undoubtedly trained in both systems as expedients for differing circumstances (cohortal vs. cavalry or undisciplined mobs and manipular vs. disciplined opponents); however, Metellus' use of maniples against the

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[25] Livy, 25.39; Frontinus, *Strat.* 2.6.2.

[26] Bell (1965), 415. Plutarch, *Pyrrhus* 21.6 implies that the Romans had already learned the advantage of breaking into smaller groups or sub-units when facing Pyrrhus' elephants in the third century B.C.

[27] See Chapter III for further discussion of this point.

[28] Sallust, *Iug.* 49.6.

Numidian cavalry and infantry ultimately proved unsuccessful.[29] By Marius' time the cohort had become the dominant tactical unit after a long period of transition. By the time of Sulla's campaigns in the east the cohort was the standard. There is no direct evidence to support the theory that Marius introduced it himself.

Remnants of the manipular system survived, however, in the order of seniority and titles of centurions within the cohort of the late republic and the empire. Within each cohort stood 6 centurions with ranks and seniority corresponding closely to the older manipular ranking: *pilus prior*; *princeps prior*; *hastatus prior*; *pilus posterior*; *princeps posterior*; *hastatus posterior.*[30] In addition, writers in the early Empire commonly used *manipulus* to denote a group of soldiers and *manipularis* as an ordinary soldier, and this term appears in inscriptions as well.[31]

The cohortal legion, the standard throughout most of the first century BC and on into the Empire, comprised ten cohorts of similarly armed infantrymen. The differences in equipment between maniples or cohorts was abolished. All the soldiers in the legion were henceforward equipped in like fashion with *gladius*, *scutum*, *pila* and body armour. The *velites* disappeared as well, perhaps in the same gradual fashion as the maniple. These integral light infantry are mentioned by Livy and Polybius in a second century BC Spanish context, but Scipio Aemeilanus replaced or augmented them with *funditores* and

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[29] Bell (1965), 416.

[30] According to Polybius, 14.8; 15.9, Livy, 30.8; 32.11; 34.10, Varro, LL.5.89 and Ovid *Fasti* 3.128-132 the heavy infantry was ranked and arrayed for battle, front to rear, *hastati*, *principes*, *triarii*. Strangely, Vegetius, *Epit.* 2.2; 2.15-17; 3.14 arrays the three lines: *principes*, *hastati*, *triarii*. According to Rawson (1971), 17-18, however, it is doubtful whether Vegetius is to be taken at his word in these passages.

[31] For the literary use of *manipulus* and *manipularis* see Tac., *Ann.* 1.20, Suet., *Aug.* 24.2 and Otho, 10.1. *ILS* 2161 and 5462, from Rome, contain references to a *manipularis*, which Keppie (1984),

sagitarrii drawn from the *auxilia*. The longer-range missiles of these troops were far better suited to conditions in Spain to counteract the indigenous Spanish light troops; however, whether the *velites* disappeared completely in these campaigns is doubtful.[32] The last reference to *velites* can be found in Frontinus' description of Sulla's deployment at Orchomenos during his campaigns in the East in the early first century BC.[33] By the time of Caesar the *velites* had disappeared as an integral part of the legion. Foreign auxiliaries, which were more readily available, were recruited to fill their place.[34] The legions could operate without light infantry support if the need arose. The professionally oriented heavy infantry could more easily fulfil the duties of the *velites* as well as their more traditional role in the main battle line.[35]

Scholars agree that the standard strength of a cohort in the late Republic was six centuries of 80 men each divided into ten *contubernia* (squads or tent groups). This provides a total of 480 men with a possible average field strength of 360 men (six centuries of 60 men each).[36] All of them base these figures on the reference to cohort strength in a passage from Hyginus in which he explicitly states that centuries contained 80 men.[37] Although it has been suggested that Hyginus' 8-man *contubernium* was the

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174 translates as 'comrade'. *CIL* X 3524, from Misenum, mentions a *manipularis* of the fleet stationed there.

[32] Bell (1965), 419.

[33] Frontinus, 2.3.17.

[34] Cheesman (1914), 10 believed that the *velites* were abolished by Marius during his reforms of the army.

[35] Bell (1965), 421. The missiles carried by the heavy infantry legionaries were the *pila,* the range of which, of course, was much shorter than the bow or even the javelin.

[36] Keppie (1984), 64; Webster (1985), 109; Goldsworthy (1996), 13-15; Judson (1903), 6. These are, of course, ideal strengths. Caesar, *BC* 3.56 fielded 80 cohorts at Pharsalus. He estimated their total strength at 22,000 men. This provides an average cohort strength of 275 men.

[37] Hyg., 1. "*Nunc papilionum tensionem cohortium supra scriptarum ostendimus. Papilio unus occupat pedes X, accipit incrementum tensurae pedes II, tegit homines VIII. Plena centuria habet milites*

norm, the archaeological evidence on this point is ambiguous.[38] Excavations of some legionary forts provide examples of accommodations for eight-man *contubernia*, although few have been adequately excavated to draw any concrete conclusions. Valerie Maxfield, in a study of pre-Flavian forts, points out that "the concept of a strict 8-man *contubernium* was not rigorously adhered to."[39] Maxfield confined the bulk of her study to pre-Flavian sites in Britain and Germany, and therefore her conclusions should not be taken as definite concerning the Roman legions.[40] Lacking any other specific or contrary information, however, the present study will assume the eight-man *contubernium* as the legion's basic sub-structure.

The Legion: Early Empire

If Hyginus' numbers for the late republican legion are accepted as relatively accurate, what then of the Imperial legions? There have been various estimates based on examinations of the literary evidence ranging from Le Bohec's 5000-man legion to Rossi's 6000 infantry and 120 *equites legionis.* All are less than enthusiastic about indicating specific numbers, referring instead to imperial legions comprised of "perhaps

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LXXX; erunt papiliones X, qui occurrunt in longitudine pedum CXX. Nam quod ad latitudinem hemistrigii pedum XXX attinet, papilioni dantur pedes X, armis pedes V, iumentis pedes IX; fiunt pedes XXIV. Hoc bis, XLVIII, quoniam, cum praetendunt, efficitur striga pedum LX; reliqui pedes XII, qui conversantibus spatio sufficient. Haec pedatura ad plenas legionis <centurias>. Est computata. Ex quibis in vigilis singulis <quaterni> erunt, et non plus quam octonos papiliones singulae tendunt. Ita fit, ut centurio eorum in eadem pedatura eorum papilionum tensionem accipiat; alioquin plus dari oportuisset. Judson (9103), 16 interprets this passage in the following manner: "Hyginus estimates 8 men in a tent. Yet he allows one to every 10 men, as one-fifth of each *contubernium* should always be on guard duty; and hence of the 10 belonging to any one tent, only 8 would occupy it at the same time. It seems safe to consider that the *contubernium*, a group of soldiers messing together in a tent, was 10 also in Caesar's army." There is no definite reason to believe, however, that Hyginus meant anything other than that there were eight men per *contubernium*.

[38] Petrokovits (1975), 38; Davison (1989), 164-165.

[39] Maxfield (1986), 61-62.

[40] Maxfield (1986) does occasionally broaden her scope to include sites in Gaul and the Danubian provinces.

some 5500 men" or "some 6000 men."[41] Care must also be taken to differentiate between those ancient authors who were writing clearly of republican legions, such as Polybius or Livy, and those who were referring to imperial times. Unfortunately, compounding the problem are those imperial writers who seem by implication and context, if not clear indication, to have referred to republican rather than contemporary legions, in particular Suetonius and Servius.

As with the republican legions, it is difficult to assess the standard strength of a legion and its sub-units when the sources disagree. Nevertheless there is some evidence to support the idea of a standardised size in the early imperial period. Augustus, among his many reforms, brought about substantial changes in the military. These included regulations concerning the duties and responsibilities of the officers, uniform clothing patterns and, it is thought by some, the regularisation of the *auxilia* units.[42] Thus it is not outside the realm of possibility that he also standardised the size of the legions, though there is no direct evidence for this.[43]

The ancient sources for the imperial legions tend to be generally inconsistent and unreliable. They include Cassius Dio, who mentions a unit, perhaps a cohort, with a strength of 550, which would translate into a legion of 5500 men (ten cohorts x 550).[44]

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[41] Kromayer & Veith (1928), 542 calculated 5280 men per legion; Watson (1974), 13, "perhaps some 5500 men"; Rossi (1971), 70, approximately 6000 infantry and 120 *equites*; Wilkes (1972), 5, approximately 5300 men; Luttwak (1976), 14 fig. 10, approximately 6000 men; Webster (1985), 110, 4920 men plus headquarters staff and other non-combatants; Le Bohec (1994), 24, approximately 5000 men; Speidel (1992), 7, "some 6000 men".

[42] For regulations concerning officers see *Dig.* 49.16.12.2. For uniforms see *BGU* VII 1564 which mentions a regulation tunic for a unit in Cappadocia ca. AD 138. For the regularisation of *auxilia* units see Webster (1985), 142 and Cheesman (1914), 17.

[43] Roth (1994), 348.

[44] Cass. Dio76.12.5:

"*οὕτως γοῦν ὁ Σεουῆρος ἐπὶ τούτοις διηπορήθη ὥστε τινὸς τῶν ἀμφ' αὐτον ὑποσχομένου αὐτῷ ἐάν γε αὐτῷ δῶσή π*

Unfortunately, he may be referring to a *vexillatio* or *numerus* in this passage and not to a cohort or legion.[45] The *Historia Augusta*, although often an unreliable historical source, speaks of Alexander Severus (AD 222-235) combining six legions to form a phalanx 30000 strong or an average legion strength of 5000 each.[46] Average strengths are unhelpful, though, for the present study and the value of this information must remain questionable.[47]

Isidore of Seville is another author who attempted to outline the strength of the Roman legion. Writing in the seventh century AD he mentions a legion of 6000 men in the context of Rome's republican and early imperial enemies, the Macedonians and Celtiberians.[48] This legion was made up of 60 centuries and 30 maniples, not in itself surprising. However, Isidore also subdivided the legion into larger sub-units, stating that the 6000 total was divided into 12 cohorts. Isidore is clearly confused with his numbers when he explicitly states that a *cohors* was 500 strong and then tries to fit this into his 6000 man total.[49] This unusual arrangement of a plausible cohort strength and the unattested 12 cohorts per legion seems to have been a conflation of an imperial cohort and a republican legion.[50]

Flavius Vegetius Renatus, writing in the late fourth to early fifth centuries AD, mentions unit strengths in various passages. The most compelling of these is his

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εντακοσίους καὶ πεντήκοντα μόνους τῶν Εὐπωπαίων στρατιωτῶν, ἄνευ τοῦ τῶν ἄλλων κινδύνου τὴν πόλιν ἐξαιρήσειν."

[45] Roth (1994), 348.

[46] For the unreliability of the *SHA* see Syme (1971), 9. For the Severan phalanx see *SHA., Alex. Sev.* 50.5.

[47] Wheeler (1979), 314.

[48] Isid., *Etym.* 19.33.2; 9.3.46.

[49] Isid., *Etym.* 9.3.51.

[50] Roth (1994), 351.

description of an *antiqua legio*.[51] Though quite possibly describing a republican legion, Vegetius offers an interesting view of the legion organisation.[52] The second to the tenth cohorts of Vegetius' *antiqua legio* are each made up of 555 *pedites* and five *centuriones* organised into five centuries plus 66 *equites* and two *decuriones*.[53] The first cohort is described as made up of 1105 *pedites* and five *centuriones* in ten centuries with an additional 132 *equites* and four *decuriones*. It is evident that Vegetius is mistaking his numbers when he speaks of a ten-century first cohort staffed by only five *centuriones*. Strangely enough, he does acknowledge the necessary extra five *centuriones* when he mentions 6100 *pedites*, 730 *equites* and 55 *centuriones* in his legionary totals. He probably assumed from his sources that, because the first cohort was double-strength, it contained double the number of centuries as well and later added the extra five *centuriones* to his total.[54] This 55-century legion is unattested elsewhere, and although the individual elements retain some semblance of authenticity they seem to be combined somewhat haphazardly. The information he has gathered and pieced together seems to describe a legion that existed from roughly the second to fourth centuries AD, if indeed it ever existed at all.[55] Vegetius was a senior civil servant merely advocating reforms and proposals in the form of older organisations and customs. He combined these to form his

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[51] Veg., *Epit.* 2.6. For a discussion of the date of Vegetius' composition see Goffart (1989), 49-68.

[52] See note 3 for the value of Vegetius' description.

[53] Milner (1996), xviii argues that the Vegetian cohort of five centuries may have been influenced by decimal subdivisions of late Roman army units.

[54] Parker (1932), 147-148.

[55] Parker (1932), 146-147, Sander (1940), 387-390, Petrokovits (1975), 50-51 and Speidel (1992), 26-30 are all unconvinced that Vegetius' legion ever existed in the form he describes.

ideal legion but his inexperience in military matters makes his organisation largely unreliable.[56]

Perhaps the most reliable source for the early imperial legion is Hyginus' *de munitione castrorum* written sometime in the first or second centuries AD.[57] Hyginus was describing the methods and manner in which the Roman legions constructed their camps and necessarily describes the makeup of the legion itself. Unfortunately, as with the aforementioned writers, Hyginus' evidence is not foolproof. He clearly states that the cohort was made up of six centuries, each of 80 men giving us, by inference, a cohort total of 480. In a later passage, however, he mentions that the cohort was 600 men strong.[58] Added to these is a first cohort of five double-strength centuries of 160 men each.[59] The earlier reference provides a legion 5120 strong and the latter a total of 6200 men.[60] Hyginus seems to be contradicting himself when it is considered that the difference in his numbers is a rather substantial 1080 per legion.

Scholars have often tried to explain away this apparent discrepancy by adding 1080 *immunes*, or non-combatants, to Hyginus' base of 5120. Each century of *cohortes II-IX* would, according to this explanation, be composed of 80 *milites* and 20 *immunes*.[61] Jonathan Roth convincingly disproves this theory on the basis of a lack of space

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[56] Milner (1996), xxxv and Phillips (1965), 2 see Vegetius as nothing more than a civil servant. Roth (1994), 350, however, is "persuasively" convinced by earlier scholars that Vegetius "was not a confused civilian describing the army for antiquarian purposes, but rather an experienced military man proposing a reform in the late Roman army."

[57] Roth (1994), 351; Birley (1982), 280-281.

[58] Hyg., 1.4.

[59] Hyg., 80.5.2-3. Veg., 2.12, also speaks of a first cohort that was *milliaria*.

[60] 9 cohorts x 480 + a first cohort of 800 (5 x 160) = 5120; 9 cohorts x 600 + a first cohort of 800 (5 x 160) = 6200.

[61] Kromayer and Veith (1928), 494; Watson (1969), 2; Petrokovits (1975), 123.

allotment for the *immunes* in camp and fortress layouts.[62] It has also been assumed that the *immunes* were excused from combat duty as well as fatigue duties, but there is no reason to believe this.[63] In fact, the *immunes* were an integral part of the century and should be considered to have been included in the regular book strengths of the units.[64]

Cavalry and Artillery

Two other options easily present themselves to provide for the missing 1080 men in Hyginus' legion, the legionary cavalry and artillerymen. The legionary cavalry had been during the Republic a rather substantial sub-unit attached to the legion. Polybius tells us that in his day there were 300 *equites* attached to the legion, organised into ten *turmae* of 30 men. Each *turma* had three *decuriones*, the senior of whom commanded the unit as a whole.[65] By the late second century BC, Roman cavalry began to "fade from sight,"[66] and the last reference to Roman cavalry in the ancient sources occurs in Sallust's account of the Jugurthine War ca. 111-105 BC.[67] The reason for this disappearance of native-born Roman cavalry lay chiefly with experience gained in the wars with Hannibal.[68] Hannibal had made use of masses of Numidian, Spanish and Celtic cavalry that were able consistently to overwhelm the Roman horse. Thus was recognised a need for a more efficient cavalry arm. Publius Scipio was perhaps the first to realise the importance of this fact when he employed Numidian cavalry to defeat Hannibal in Africa.

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[62] Roth (1994), 352.
[63] Petrokovits (1975), 123.
[64] Roth (1994), 353.
[65] Polybius, 6.20.
[66] Keppie (1984), 79.
[67] Sallust, *Iug.* 95.

In the first century BC non-Italian allies increasingly supplied cavalry to support the Roman legions while on campaign. During Caesar's campaigns in Gaul we hear of no reference to Roman cavalry at all.[69]

In the imperial period, Josephus, in his account of the Jewish Wars of the first century AD, points out quite reliably that each legion was assigned 120 *equites* but he fails to indicate how they were organised.[70] This reference has often been used to support the belief that all legions had 120 *equites* attached, but care must be taken in generalising on the basis of Josephus' isolated notice[71] In this case, extrapolation from Josephus' single reference to imply that all legions throughout the empire had the same cavalry attachments offers a circumstantial argument at best.[72] Vegetius, as already mentioned, says that there were 132 *equites* in the first cohort and 66 in each of the other cohorts organised into *turmae* of 32 men, each led by a *decurio.*[73] He may be indicating that the *equites*, although attached administratively to each cohort, were organised into distinctly independent units. There is little evidence to support this organisation except an

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[68] Cheesman (1914), 7-8. Dixon and Southern (1992), 21-22, and Cheesman (1914),10, believe that Marius' reforms included the abolishment of the legionary cavalry, though there is no evidence to support this.

[69] See Caesar, *BG* 1.15 for 4000 native horse raised in Gaul. Appian, *BC* 4.88, notes that Brutus was provided with 4000 horse from Gaul, Lusitania, Thrace, Illyricum, Parthia and Thessaly while Cassius received 2000 from Spain and Gaul and 4000 mounted archers from Arabia, Medea and Parthia. Caesar, *BG* 1.42 mentions an incident when he mounted soldiers from *legio X* to act as his bodyguard. This implies that there was no cavalry contingent attached to the legion to fulfil this role.

[70] Josephus, *BJ* 3.120-121.

[71] Pitts and St. Joseph (1985), 169; Parker (1928), 210; Webster (1985), 111; Dobson (1981), 217; Holder (1982), 24.

[72] Dixon and Southern (1992), 27 support this view.

[73] For the number of *equites* in each cohort see Veg., 2.6. For the organisation of these *equites* see Veg., 2.14. These numbers of *equites* are unattested elsewhere but Speidel (1992), 29 explains them by theorising that Vegetius saw the 120 *equites* spoken of by Josephus as attached to the first cohort only (the difference between Josephus' 120 and Vegetius' 132 explained by the addition of various officers, *decuriones, vexillarii*, etc.). Each of the other cohorts had 66 *equites* attached, an inference drawn by

engraved ring found at Baden from the period AD 43-69 that reads *eq. leg. XXI Sexti t.*[74] At first glance this gives evidence for an independent unit of *equites* attached to *legio XXI Rapax* but the interpretation of the engraving is in some doubt. The abbreviated form and suggested expansion of *t.* into *turmae* is unattested elsewhere at this position in an inscription. Breeze and Pitts and St. Joseph, on the basis of comparative analysis have concluded that the *t.* usually appeared before the name of the officer referred to.[75]

There is, however, more convincing evidence that the *equites* were distributed administratively among the centuries of the legion rather than having been a distinct and separate adjunct to the main body of the legion. Inscriptions from Deva (modern Chester), Carnuntum in Pannonia and Lambaesis record instances of *equites* listed in connection with the centuries of the legion from the mid-first century to the late second or early third century AD.[76] Corroborating these inscriptions is the tombstone, of ca. AD 47-71 discovered at Lindum (modern Lincoln), of Quintus Cornelius of *legio IX Hispana*, an *eques* who served in the century of Cassius Martialis.[77] Other evidence comes in the form of a *laterculus* from Lambaesis, dated ca. AD 220, listing an *optio equitum* of *legio III Augusta* in the fourth or fifth century of the eighth cohort.[78] All this evidence would seem to indicate that the *equites* were carried on the books of the individual centuries for

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Vegetius from his belief that the first cohort was double strength and so should be the relationship between cohortal cavalry attachments.

[74] *CIL* VIII 10024, 31.

[75] Breeze (1969), 53; Pitts and St. Joseph (1985), 169.

[76] *RIB* 481, from Deva: ....]*inus, eque*[*s leg.*] *II Ad. P. f. 7 Petroni Fidi, stipendiorum* <I> *XI annorum XXV hic sepul. s est*; *ILS* 2325 (= *CIL* III 11239), from Carnuntum: *C. Valerius C. f. Gal. Proculus Calagurri, eq. leg. XI C . f. 7 Vindicis, an. XXX stip. IX, h.s.e., t.f.i., h.f.c.*; *ILS* 2326 (= *CIL* VIII 2593), from Lambaesis: *Ael. Severus, eq. leg. III Aug. 7 Iul. Candidi.*

[77] *RIB* 254.

[78] *CIL* VIII 2568, 18.

at least the first two centuries of the empire.[79] This clashes with Vegetius' implication that these may have been separate sub-units within the legion. It is, however, most likely that Vegetius was describing a later third century reform when the *equites* were taken administratively from the centuries and organised into distinctly separate *turmae.* He may even have confused the organisation of the legionary cavalry with that of the *alae* contingents of the *auxilia.*[80]

Although the evidence does not support the notion of legionary cavalry as administratively separate bodies, there are indications that they trained and marched together apart from the infantry of the legion. Two inscriptions mention cavalry instructors as a distinct rank or position within the legion's hierarchy, one a *magister kampi*[81] and the other a *magister equitum.*[82] In Hadrian's *Adlocutio*, arguably the most famous reference to the training of the Roman cavalry, the emperor congratulates the legionary cavalry at Lambaesis for its display of drill and horsemanship.[83] The degree of training and level of skill necessary to garner such praise could only have come as a result of the *equites legionis* training as a separate body.[84] Josephus mentions the cavalry of the legions marching as independent bodies as does Arrian in his description of his army's order of march while preparing to face the Alani in the early second century AD.[85] The *equites legionis* may have had some degree of unit identity that allowed them

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[79] Breeze (1969), 53; Parker (1932), 140; Le Bohec (1994), 196; Roth (1994), 353.

[80] For Vegetius describing a third century reform see Breeze (1969), 54. For the confusion of legionary cavalry with *auxilia*, see Pitts and St. Joseph (1985), 169 and Breeze (1969), 54.

[81] *CIL* VIII 2562, 6.

[82] *CIL* V 8278.

[83] *CIL* VIII 2532 (=*ILS* 2487); *CIL* VIII 18042 (=*ILS* 9133-35).

[84] Dixon and Southern (1992), 29.

[85] Josephus, *BJ* 5.2.1.47-50; Arrian, ἔκταξις κατὰ ἀλανῶν 4.

to train and march together, but most scholars agree that they were not normally deployed as a tactical body on the battlefield.[86] Instead they are believed to have been used as scouts, messengers and escorts and there is little documentary evidence illustrating any use of these horsemen as a unit in battle. [87]

One fact that would be expected to support the notion of *equites legionis* as an autonomous sub-unit within the legion would be the presence of a senior officer of cavalry. Unfortunately no such officers are attested, but this should not seem surprising in light of the cohortal command structure.[88] The cohorts had no permanent commanding officers above the rank of centurion. It is often thought that the senior centurion of each cohort would be its *de facto* commander in the field.[89] There is, however, other evidence for the separate unit identity of the *equites legionis*. Several inscriptions list the presence of cavalry officers in the early to mid-third century AD.[90] Interestingly, though, they are listed not as commanders of individual sub-units, such as *turmae*, but rather as officers attached to the legion as a whole. Another example of this sort from Lambaesis, dated AD 180-192, records a *tabularium equitum*.[91] This indicates some degree of administrative independence for the *equites* in a legion, if not for the individual troopers. From the contradictory evidence, then, it can be surmised that for at least the first two

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[86] Pitts and St. Joseph (1985), 170; Breeze (1969), 55; Webster (1985), 111; Dobson (1981), 217; Bishop (1988), 112.

[87] For *equites legionis* acting as scouts etc. see Livy, 37.7. Tacitus mentions two incidents involving legionary cavalry in a tactical context: *Ann.* 4.73.2; *His.* 1.57 (operating in concert with *auxilia* cavalry).

[88] Parker (1932), 141 sees the legionary cavalry acting, in part, as a bodyguard to the legion commander and therefore under his direct control.

[89] See Chapter II for a more detailed discussion of this point.

[90] *CIL* VIII 2562, 3-4 (AD 222-235), from Lambaesis; *CIL* VIII 16549 (unknown date), from Tebessa; *AE* 1957, 341 (AD 238-244), from Thrace.

[91] *AE* 1957, 85.

centuries AD the individual *equites* attached to a legion were carried administratively on the books of the centuries. The *equites legionis*, however, were able to enjoy some degree of unit identity, particularly when training and marching. Sometime in the third century, perhaps under Gallienus, AD 253-268, the *equites legionis* were reorganized and increased in number. This is the organisation Vegetius hands down to us.[92]

The artillerymen, as with the *equites*, were also counted on the books of the individual centuries. It was likely that all of the legion's soldiers were trained in the use of the artillery pieces even though it could be reasonably expected that the artillery would fight as a separate body.[93] Vegetius' description of his *antiqua legio* included 65 artillery pieces manned by 715 artillerists, although again he does not state whether these are an adjunct to his legion strength or an integral part of it.[94] In any case, the number of soldiers in a legion who actually fought as artillerists was probably closer to 150 to 200.[95] Therefore, even if the artillerists, or *ballistarii,* could be considered a separate tactical entity just as the *equites*, they were more than likely counted among the 80 men in each century.[96]

If it is accepted that the *equites* and *ballistarii* were considered an integral part of the centurial organisation, then Hyginus' 5120 man legion could be considered the standard. Jonathan Roth explains the apparent discrepancy between Hyginus' 5120 man legion and his 6200 man legion at length by asserting that these missing 1080 men are

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[92] Dixon and Southern (1992), 30; Parker (1932), 145; Holder (1982), 97.

[93] See Tac., *His*. 4.23 and Cass. Dio, 44.14.2. See Marsden (1969), 190-191 for training infantrymen as artillerists. Roth (1994), 353 notes that they would fight as a distinctly separate tactical entity but this is merely a supposition.

[94] Veg., 2.25.4-5.

[95] Marsden (1969), 179; Webster (1985), 244.

non-combatant slaves assigned by the state to each legion to "police and defend the baggage train and…the camp itself."[97] Indeed he does find some support for his theory in the ancient sources. He points out that Hyginus did not include the slaves as enrolled on the books of the centuries because they were not regular combatant soldiers.[98] Hyginus, according to Roth, included them instead in the numbers for the cohort because provision for them would have been necessary "in order to plan logistics and to avoid having too many or too few for military purposes."[99] Thus, their numbers were regularised and added to the legion's roll. Though Roth's numbers add up in a statistically coherent fashion, his theory seems to go against what a contemporary Roman would consider the natural order. In order for Roth's non-combatant slaves to 'defend' and 'police' it would be necessary to arm them in some fashion, as he duly admits; this is despite strong contemporary opinions regarding slaves as enemies of every Roman.[100]

The First Cohort

Compounding these numerical problems is the controversy surrounding the organisation and strength of the first cohort of the imperial legion. At some time in the first century AD the organisation of the first cohort became significantly different than that of the other nine cohorts in the legion. Hyginus' statement that the first cohort was made up of five double-strength centuries of 160 men is generally accepted by most

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[96] Roth (1994), 353.

[97] Roth (1994), 354-357. Unfortunately, Roth fails to take into account Hyginus' notices of the increase of cohortal strengths in subsequent passages without a corresponding increase in the first cohort strength.

[98] Tac., *His.* 3.20; Cass. Dio, 75.7.3; 78.26.5.

[99] Roth (1994), 356.

[100] As Seneca, *ad Lucilium epistulae* 47.5, notes: *non habemus illos hostes sed facimus*; Macrobius, *Saturnalia* 1.11.3, mentions: *totidem hostes nobis esse quot servos*. K. Hopkins (1993), 5

scholars, but how long this remained in effect or when it came about or why is unknown.[101] Vegetius also points to this larger sized first cohort, although the majority of evidence to support Hyginus' organisation comes from epigraphical and archaeological sources. A number of inscriptions that provide discharge lists indicate twice as many men discharged from the first cohort of the subject legion than from any of the other nine. One example from Troesmis and dated to AD 134 includes the discharge numbers from five different cohorts of *legio V Macedonia*. The first cohort lists at least 40 names compared to an average of approximately 16 from the other four cohorts.[102] Another, dated to AD 195, from Moesia Superior shows 47 names discharged from the first cohort of *legio VII Claudia* compared to 22 from *cohors II* and 18 from *cohors III*.[103] Although these examples provide a rather small sample of discharge lists from what was an immense military organisation, they nevertheless support Hyginus' double-strength first cohort.

The epigraphical sources at least support the five-century framework if not their double-strength. An inscription from Lambaesis dealing with *legio III Augusta* from the second century AD lists only five *optiones*, or 'junior' centurions, of *cohors I* and significantly lacks any reference to a *pilus posterior*.[104] No inscription discovered to date attests a *pilus posterior* of a first cohort. The previous example has often been used to

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points out that "the hostility of Roman slave-owners to their slaves, and of the slaves to their owners, lay just below the surface of Roman civilisation like an unexploded volcano."

[101] The first cohort numbers noted by Hyg., 3.1 are accepted by Parker (1928), 9, Davies (1971), 111, Birley (1966), 50, Le Bohec (1994), 24 and Speidel (1992), 9. Watson (1987), 13, n.7, however, favours five centuries of 192 men for a first cohort strength of 960 men. For discussion of the duration of this reform and the reasons for it see Birley (1966), 55, Breeze (1969), 59 and Kennedy (1983), 285.

[102] *CIL* III 6178: *coh II* = 17 names, *coh III* = at least 14 names, *coh IV* = at least 10 names, *coh IX* = at least 12 names.

support the sweeping statement that all first cohorts of this period contained only five centuries each. Generalisations based on a single source are always problematical.[105] Another inscription of ca. AD 162 from Lambaesis lists the centurions of *legio III Augusta* by cohort. Seven centurions are listed for the first cohort, eight centurions in *cohors VI* and as few as five in *cohors IX*, while the majority contained the expected six.[106] Again a single inscription provides for generalisations. Any number of reasons ranging from unfilled vacancies to supernumerary officers could account for variations from the standard complement of centurions in a sub-unit.[107]

The archaeology of certain sites supports the five-century first cohort.[108] The legionary fortress at Inchtuthil, Scotland contains first century remains of barracks for nine cohorts, each with six blocks fronted by a centurion's quarters. The first cohort, by contrast, has five pairs of centurial barracks fronted by an equal number of centurions' houses. The remains at Caerleon, one of few adequately excavated fortresses, date to the second century AD and show a similar ground plan to Inchtuthil. Other excavated sites, however, show a six century organisation of the first cohort barracks.[109] Frere suggests that some of these latter fortresses were designed to accommodate only a portion of the first cohort. The remaining portion was accommodated elsewhere. The Neronian fortress at Gloucester and the examples from Neuss and Nijmegen, dated to the late first

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[103] *CIL* III 14507.
[104] *CIL* VIII 18072.
[105] Roth (1994), 360.
[106] *CIL* VIII 18065.
[107] Parker (1932), 140.
[108] Frere (1980), 52 notes that the scant archaeological evidence from the second century shows a *quingenaria* first cohort as the norm.

century AD, may have housed only a portion of the first cohort and the rest of the legion. Nijmegen especially is thought to have been a vexillation-fortress, with a large portion of the legion permanently posted elsewhere.[110]

The two main examples of legionary fortresses that exhibit five-century first cohorts, Inchtuthil and Caerleon, also show marked differences in the plans of centurions' quarters. The quarters for the centurions of *cohortes II* to *X* are simple one room block-houses. The first cohort centurions' houses are peristyle, like those in the *scamnum tribunorum*, the quarters of each legion's five equestrian tribunes. Unexpectedly, both of these fortresses show remains of, or room for, not five but six houses.[111] Possibly the *primus pilus* was housed with the tribunes, just as he was certainly included among the tribunes in the general's war council when planning for battle.[112] This would, of course, leave only four centurions quartered with the first cohort, in direct variance with what we know of the plans of Inchtuthil and Caerleon. This, indeed, throws suspicion upon the organisation of the first cohort at these two fortresses.[113]

Interestingly, Inchtuthil, and Caerleon in a similar fashion, were found to have 20 extra barracks and four *tabernae* attached to the blocks of the first cohort where a sixth cohort could reasonably be expected to be found. These extra rooms have been identified as accommodation for *immunes*, veterans and administrative staff and technicians but the

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[109] Frere (1980), 58. Davison (1989), 52-54 points out that a fortress at Nijmegen also indicates a double strength first cohort, in the Flavian period at least. This view is endorsed by Speidel (1992), 7.

[110] Frere (1980), 58-59.

[111] Petrokvits (1975), 62-64; Pitts and St. Joseph (1985), 6-7.

[112] For the *primus pilus* housed with the tribunes see Roth (1994), 360. For *primi pili* and tribunes at the general's war council see Caesar, *BG* 5.28; 5.30; 6.7.

[113] For the possibility of more than five centurions with the first cohort, despite only five centuries, see Chapter II.

evidence points away from these possibilities.[114] This formation was considered the elite unit of the legion, specially recruited and quite prestigious. It is hard to imagine the first cohort filled with technicians and non-combatants.[115] Various *laterculi* make it clear that the *immunes* and administrative technicians were divided among the cohorts of the legion rather than concentrated only in the first cohort.[116]

The veterans seem also not to have been included in the first cohort. No unit strength reports list veterans as integral members of the first cohort and no *veterani* are listed as serving in the legions after the end of the first century AD.[117] It has been suggested that few *veterani* would have served with the legions at any given time, certainly not enough to double the strength of the first cohort.[118] Frere, however, supports Tacitus' view that, in the first century at least, the veterans were attached to the legion *sub vexillo* after discharge and amalgamated with the first cohort.[119] He suggests that they may have been attached to their parent centuries, in a similar fashion to the *equites*, and used as a reserve force for the legion until the time of Vespasian when they were amalgamated into the first cohort, making it double-strength. A second

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[114] For *immunes* see Roth (1994), 359, n. 113-115 and Petrokovits (1975), 121-122. For veterans see Frere (1980), 59-60. For administrative staff and technicians see Webster (1973), 11.

[115] Veg., 1.5; 2.6; 2.12 comments on the special nature of the first cohort. Roth (1994), 359 notes that if the administrative staff etc. were attached to this unit it would become no more than a "dumping ground" for non-combatants.

[116] Breeze (1969), 51-52 provides a tabulated collection of *laterculi* that show a variety of technicians and *immunes* spread throughout the cohorts of a legion with no particular preference for one over another.

[117] Parker (1928), 149.

[118] Roth (1994), 358-359.

[119] Tac., *Ann.* 1.36; 1.39.

reorganisation may have taken place after AD 90, bringing the size of the first cohort back in line with the other nine in the legion.[120]

The archaeological evidence supports the view that the use of double-strength first cohorts was a short-lived innovation and survived only into the early years of the second century AD; however, precisely when this subsequent reorganisation came about is unknown. A legionary camp at Vetera from the Julio-Claudian period was found to contain a hospital with 60 wards, possibly one for each century in the legion.[121] This may superficially indicate that the reorganisation took place sometime in the first century AD but the literary evidence remains ambiguous on the subject. Hyginus' notice of the 55-century legion, although questionable and possibly corrupt, is supported by other evidence and may have been a description of the legions only during the first and early second centuries AD.[122]

It is possible that double-strength first cohorts existed before this first century AD reorganisation. Caesar relates an incident when a *primus pilus* led a force of 120 volunteers from his own *centuria* into battle.[123] The centurion in question may have commanded, at the very least, a double-strength century in the first century BC. Tacitus hints at a 60-century legion during the AD 14 mutiny in Germany. The mutineers at one point give 60 lashes to a *primus pilus*, one for each century in the legion.[124]

The contradictory evidence indicates that this was probably not a universal reorganisation, though why some legions retained the standard-sized first cohort and

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[120] Frere (1980), 60.
[121] Pitts and St. Joseph (1985), 167.
[122] Roth (1994), 360.
[123] Caesar, *BC* 3.91.

others increased in size is a mystery. The evidence seems to point to a short-lived reorganisation with a history of gradual experimentation probably enacted formally sometime in the first century AD. Nevertheless, it was by no means universally enforced throughout the army, and was quickly phased out for unknown reasons in the second century.

The *Auxilia*

Although not strictly necessary, a discussion of legionary strengths and organisation would benefit from an examination of the ubiquitous *auxilia* units that accompanied the legions. The *auxilia* units of the early empire were not a new phenomenon nor were they a creation of Augustus.[125] There had been a tradition in the late Republic of forming *auxilia* units to supplement the heavy infantry of the legions. These were probably regularised in size and organisation during the early years of the Principate.[126] The *auxilia* of this period fall roughly into three distinct types, *cohortes peditatae*, *cohortes equitatae*, and *alae*. Each of these could be found in two sizes, *milliaria* and *quingenaria*.

Hyginus provides the basic information for all of the *auxilia* and their organisations. According to him, a *cohors peditata quingenaria* was made up of six centuries of 80 men each for a cohort total of 480.[127] These formations were numerous

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[124] Tac., *Ann.* 1.23.3.

[125] Cheesman (1914), 23.

[126] See above for replacement of *velites* and legionary *equites* by *auxilia units.*

[127] Hyg., 1 mentions the strength of the centuries, although only in a later passage (28) does he note the number of centuries in a cohort. Breeze (1977), 453 sees this as a blanket statement covering both legionary and *auxilia* cohorts. It also accords well with a Coptos inscription, *CIL* III 6627, from the late Augustan period that lists 778 men under 10 centurions for a century strength of 78.

and may have been modelled by Augustus on the standard legionary cohort.[128] The *cohortes equitatae quingenariae* were of similar organisation with a contingent of 120 *equites* added on.[129] Among the larger units, the *cohors peditata milliaria* is the least documented by ancient literary and epigraphical sources, but again Hyginus provides a basic breakdown of ten centuries. He does not, however, explicitly mention the size of these centuries. Extrapolation from his prior statement of 80 men per century would provide a cohort strength of 800. Again, the same unit was enlarged by the addition of a contingent of cavalry 240 strong, commanded by eight *decuriones* to form a *cohors equitata milliaria*. Hyginus' total of 1000 men for this type of unit corresponds well with his estimation of a cohort's strength at 80 men when the 240 *equites* are subtracted to produce 760 infantry in ten centuries.[130] The cavalry numbers are also correct when compared to the epigraphical evidence that is available, showing a *turma* strength of approximately 30 men.[131]

Among the *alae* the smaller of the two was the more common type. *Alae quingenariae*, according to Arrian, bore a complement of 512 men though he fails to provide any internal organisation for the unit.[132] When combined with Hyginus' arrangement of 16 *decuriones* in command of the *turmae* in the unit, each *turma* would

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[128] Holder (1980), 7; Davies (1967), 110.

[129] Hyg., 27.

[130] Hyg., 24, seems to have manipulated his infantry numbers in order to accurately reflect the *milliaria* title of the unit.

[131] *CIL* III 6760, from Ancyra, lists 4 *decuriones* in a *cohors quingenaria* in the first century AD. If Hyginus' numbers are accepted (120 *equites*/*cohors equitata quingenaria*) this inscription provides evidence for *turmae* of 30 men each. *CIL* III 6627, from Coptos and of probable Trajanic date, shows a similar *turma* strength in its list of 61 *equites cohortales* in 2 *turmae*.

[132] Arrian, *τέχνη τακτικά* 18. Cheesman (1914), 26 ignores Arrian's reference to an *ala* of 512 men and gives only a passing nod to Vegetius' note (2.14) that a *turma* of *equites legionis* was 32 men

contain 32 men.[133] This is confirmed by an inscription from Alexandria, dated AD 199, which lists 16 *decuriones* with *ala veterana Gallica* and the same number of officers with *ala I Thracum Mauretana*.[134] The sizes of the *turmae*, in particular, show remarkable similarity to a papyrus record of expenditure for a *turma* of *ala veterana Gallica* in AD 130 on which are attested 30 men.[135] The larger cavalry units, the *alae milliariae*, are not as well documented. Hyginus provides the only literary description, although it is somewhat suspect. He mentions 24 *turmae* as the internal organisation of this type of unit but includes 1000 horses in the total. Simple arithmetic would provide a *turma* strength of almost 42 men but it is difficult to understand why *turma* strengths would vary between units. It is probable that Hyginus was again rounding his numbers up to coincide with the *milliaria* designation of the unit and thus his numbers here are unreliable.[136] There is little evidence available, literary or archaeological, to shed light on this problem and any that does exist is ambiguous.[137]

The evidence is convincing for 80 man centuries in these various *auxilia* units and it is difficult to accept that Augustus, in his many reforms, would have failed to regularise these numbers in line with the standard legionary complements. Thus, Hyginus' 480-man *cohors peditata quingenaria* and 800-man *cohors peditata milliaria* were standardised, ideal formations whose titles bore little relation to their book strengths. In

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strong. He argues that Arrian's *ala* is inserted into a description of a Hellenistic army unit that may have borne only a superficial resemblance to a Roman *ala quingenaria*.

[133] Hyg., 16.

[134] *CIL* III 6581.

[135] Fink (1971), 80.

[136] Cheesman (1914), 30; Holder (1980), 9.

similar fashion, the *cohortes equitatae* reflected little similarity between their book strengths and nominal titles. Hyginus, in fact, attempted to reconcile these differences by manipulating the numbers to more accurately mirror the unit titulature. The organisation of the cavalry *alae* fall prey to Hyginus' manipulations as well, though the problems appear mainly with the *alae milliaria*, for which little evidence exists. There is no reason to believe that *turmae* strengths were any different than those in the *cohortes equitatae* or the *equites legionis* and 30-32 men per *turma* seems to have been the standard.

Conclusions

Polybius' account can, with confidence, be taken as an accurate depiction of a Republican legion in the third and second centuries BC. The legion of this time was composed of 5000 heavy infantry, 1200 *velites* and a small 300-man cavalry attachment. It was divided into 30 maniples of heavy infantry and ten *turmae* of *equites legionis*. The *velites* were attached administratively to the heavy infantry maniples. Various other strengths were ascribed to the legions at this time by ancient and modern authors. These can be attributed to the lack of any standardised or legal format for legion complements until the Augustan period.

The maniple was supplanted by the cohort as the major sub-unit of the legion sometime in the second century BC. This change was gradual as Rome began to face enemies with diverse organisations and tactics. The cohortal system developed as the need for a more flexible tactical organisation arose. During the same period the *equites*

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[137] Holder (1980), 9. Cheesman (1914), 26 concludes, from an examination of the Coptos inscription, *CIL* III 6627, that the strength of a *turma* in an *ala milliaria* was 42 men commanded by a *decurio, duplicarius* or a *sesquiplicarius*.

legionis and the *velites* ceased to be an integral part of the legion. The roles of the cavalry and light infantry were increasingly filled by the *auxilia* units.

The legion of the early Empire differed in a number of ways from its Republican predecessor. The nominal strength of the legion was standardised sometime in the first century AD at 5120 men. Making up this number were ten cohorts of 480 heavy infantrymen each. The *equites legionis* were returned to the legion, albeit in a comparatively smaller contingent of 120 men. The organisation of the various *auxilia* units into cohorts of 480 men and *turmae* of 32 men supports these numbers.

Perhaps the most significant change was the organisation and size of the first cohort. Sometime in the first century AD the first cohorts of at least some legions were increased in strength. They now contained five double-strength centuries of 160 men. Precisely when the change occurred, and how widespread was the reorganisation is difficult to determine. There is some evidence that some of Caesar's legions also enjoyed a double-strength first cohort. A subsequent reorganisation seems to have taken place in the early second century AD that brought the first cohort organisation and strength back in line with the other nine in the legion.

CHAPTER II: COMMAND AND RANK STRUCTURE

Introduction

The confused political atmosphere that coloured the last century of the Republic overshadowed a growing sophistication in the hierarchy of command in the legions that was recognized and implemented tacitly, if not officially, under Augustus. Many questions have arisen regarding the relative seniority of these officers in the cohortal context as well as in the legion as a whole. Closely related to the question of seniority is the apparent controversy surrounding the path of promotion for centurions within the legion. These two questions bear direct relation to the formations and tactics employed by the legions in the field. Certain tactical manoeuvres relied greatly upon the type of command structure and, as is often the case in ancient warfare, the relative seniority of the sub-units involved.

Thus, several questions must be addressed before any such discussion of tactics and sub-unit formations can be attempted: first, whether any seniority existed among the centuries of each cohort and in the legion as a whole and whether the same held true among the officers in command of these units; second, whether there were any permanent commanders of the cohorts or, in lieu of this, any unofficial yet recognizable cohort commanders; third, which centurions made up the *primi ordines*, or first class of centurions, and what their respective command responsibilities were in relation to each other and to the other centurions of the legion. Added to this query must be the matter of

the number of classes of centurion in a legion, if any at all. Last, was there a definite order of promotion for the centurions within the legion that would help to clarify the preceding questions?

The Senior Officers in the Legion

In overall command of the legion was the *legatus legionis,* a man of senatorial rank who, in most cases, had previously held the office of *praetor*. The early years of the Principate saw this position as a desirable one which men of good birth aspired to as a stepping stone to the highest political offices. Caesar had implemented this post as a means to oversee the tribunes of the legion, mere political appointments with little or no military experience.[138] The *legatus* soon became the *de facto* commander of the legion in the field, and this arrangement continued into the empire. Below this most senior post in the legion stood the tribunes. One tribunate in each legion was reserved for a senatorial candidate, the *tribunus laticlavius*, and five for equestrians, the *tribuni angusticlavii*. The military duties that these men were responsible for carrying out is far from clear, although the importance of the post is underscored by the placement of the *tribunus militum* within the order of appointments in the army. By Claudius' reign, in order to reach the post of *tribunus militum* one had first to command a body of auxiliary infantry as *praefectus cohortis* and a unit of auxiliary cavalry as *praefectus equitum*. Only then could a man hold the post of *tribunus militum*, the senior post of the three, holding command over Roman citizens.[139]

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[138] For examples of Caesar appointing legates see *BG* 1.52; 2.20; 5.1; 5.25; 5.47.
[139] Suet., *Claudius* 25.1

Sandwiched between the *tribunus laticlavius* and the *tribuni angusticlavii* was a post of major significance in the legion, the *praefectus castrorum*. This man was, in many cases, an ex-chief centurion of a legion who had reached the pinnacle of his profession. It was not unknown, however, for ex-tribunes to hold the post as well. The *praefectus castrorum* was responsible for the general health of the legion's soldiers and the maintenance of the camp. In many respects he resembled the modern day sergeant-major, a man of great experience enjoying immense prestige as a result of his long years of service and ability to command. If the *legatus legionis* and the *tribunus laticlavius* were unavailable the *praefectus castrorum* would command the legion. In fact, the two legions stationed in Egypt were always commanded by the *praefectus castrorum* in lieu of anyone of senatorial rank whose presence was prohibited in the province without imperial approval.[140]

The Centurions: Evidence for Rank Structure and Promotion

By far the most numerous officers in the legion were the centurions. Chief among them stood the centurion commanding the first century of the first cohort of the legion, the *primus pilus*. Although there is no evidence to suggest that this position was strictly part of the hierarchy of command of the legion itself, it was undoubtedly a position of great prestige and power towards which every centurion aspired.[141] Each centurion

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[140] For a general discussion of the senior offices in the legion see Keppie (1984), 176-177. Dobson (1974), 395-399 discusses the *praefectus castrorum* in more detail.

[141] Livy,7.41, notes *primus centurio erat, quemnunc primipili appellant*; Veg., 2.8, refers to the *primus pilus* as *caput totius legionis*.

commanded one of the six centuries in each cohort, except the first, which, for part of the early empire at least, contained only five centuries.[142]

At first glance, the organization and relative seniority of the legion's sub-units is straightforward. Each cohort was numbered I-X; thus it is easy to assume that *cohors I* was senior to *cohors II* and so on. From this it is as easy to surmise that the centurions in *cohors I* were superior in prestige, if not in actual rank, to those in *cohors II*. Within the cohorts themselves each centurion was titled in what seems an order of seniority. It resembled the old republican hierarchical order of battle with the *hastati* junior to the *principes* who were, in turn, junior to the *triarii* or *pili*. There were centurions in each cohort named *pilus prior, pilus posterior, princeps prior, princeps posterior, hastatus prior* and *hastatus posterior*.[143] Merely by virtue of the comparative nature of the titles *prior* and *posterior*, there was an obvious delineation between centurial posts. The available evidence, however, makes it far from clear whether these seemingly obvious characteristics of the legion provide a true picture of its substructure.

The extant evidence falls into two broad categories, literary and epigraphic. Extracts from several authors provide particular references that are commonly used to examine the problem and must be taken into account when formulating any theory. Caesar, in his accounts of the civil wars, mentions an incident in which he promoted one of his centurions, Scaeva, *ab octavis ordinibus ad primum pilum*.[144] Tacitus' *Histories* provide an account of Galba's *legio VII* in which, during a single battle, *occisi sex*

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[142] For discussion of the first cohort containing five centuries see Chapter I.
[143] There is no evidence of there ever having been a *hastatus posterior* of the first cohort.
[144] Caesar, *BC* 3.53.

primorum ordinum centuriones.[145] Similarly, Caesar mentions the death in battle against the Nervii of all the centurions of a single cohort of the *legio XII* and, during the civil wars, the death of five centurions of one cohort of *legio IX*.[146] Again from Caesar is the mention of centurions of the first class invited to councils of war with the tribunes and the commanding general.[147] This relationship to the commanding general and the tribunes is further illuminated when Caesar describes the flight of his legions before Ariovistus. The tribunes and centurions of the first class of the guilty legions, prompted by the soldiery, deliver apologies to Caesar.[148] Also important are several passages in which Caesar uses the superlative to differentiate between the centurions of the first class and those of the rest of the legion.[149]

Vegetius' *Epitoma Rei Militaris* provides two more important passages. The first mentions the last step of promotion for a centurion within the legion from *primus princeps* to the senior post of *primus pilus*.[150] The second, in a somewhat confused fashion, describes the order of promotion for centurions within the legion. A centurion would move *in orbem* from the tenth to the first cohort through all the intervening cohorts then back to the tenth again to repeat the process in a higher rank. This cyclical process would repeat until the centurion had reached the position of *primus pilus*.[151]

These literary references are the core evidence for most assumptions regarding the promotion and hierarchy of centurions in the legion. Various theories have been

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[145] Tac., *His*. 3.22.
[146] Caesar, *BG* 2.25; *BC* 3.64.
[147] Caesar, *BG* 5.28; 5.30; 6.7.
[148] Caesar, *BG* 1.41.
[149] Caesar, *BG* 5.44; 6.40; *BC* 2.55; 3.53.
[150] Veg., 2.8.

formulated and combined with epigraphic and archaeological evidence. Each in turn will be examined and critiqued. The object of this exercise is not to prove or disprove any of these theories but to determine what the evidence can or can not tell us. Perhaps a coherent picture based on the extant evidence and logical guesswork may be formulated.

Theories Explaining Promotion and Seniority in the Legion

The most obvious possibility, as has already been mentioned and advocated by Rüstow and von Domaszewski, would assume that *cohors I* be senior to *cohors II* and so on. Thus, a centurion would move along the promotional ladder from cohort to cohort. This suggests ten classes of centurion based upon the relative seniority of the cohorts. In addition, by virtue of the hierarchical nature of the titles, within each cohort a centurion would be promoted from *hastatus posterior* five steps to *pilus prior*. Thus, a centurion beginning his career as *hastatus posterior* of the *cohors X* would need to pass through 59 positions before reaching the lofty rank of *primus pilus*.[152] Von Domaszewski further refined the theory to say that there were two distinct types of centurion with two very different methods of promotion. Those centurions promoted from the ranks, as *immunes* or *principales*, would follow the aforementioned process of promotion within the cohort and then to the next senior cohort. Those centurions appointed *ex equite Romano* or from the *evocati* would be promoted from cohort to cohort in the same rank, often changing legion with each promotion. This would ensure that equestrian centurions and

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[151] Veg., 2.21.

[152] Parker (1926), 45-46 supports the idea of 10 classes of centurion, although Judson (1903), 11 states that it would be impractical to have the most experienced officers in the senior cohorts while leaving the other cohorts with less-experienced commanders.

experienced veterans would enjoy a faster advance to the premier positions in the centurionate.[153]

Among von Domaszewski's ex-rankers, even supposing a stay of six months on average in each position, the centurion's promotional rise would take almost 30 years to complete. This is not a completely unreasonable amount of time since it would ensure men of experience filling the senior posts of the centurionate in the legion. If, however, the man in question was a ranker to begin with it must be assumed that a number of years would pass before he would be promoted to centurion in the first place; but this is mere supposition. Caesar's mention of the centurion Scaeva, promoted from the eighth class to the post of *primus pilus*, clearly indicates a significant jump over a number of intervening ranks. This would help to explain the otherwise necessary time interval in this one case.

At least eight classes, and therefore logically ten, are indicated by Caesar's reference to *ab octavis* which can only mean the centurions of the eighth cohort. This also implies that the centurions of the first cohort were the *primi ordines*, or first class. By implication, then, the *primi ordines* were those centurions commanding the five centuries of the first cohort as outlined in Chapter I. Tacitus, however, provides us with a troubling passage in this context. In his *Histories* he mentions an incident when six members of the *primi ordines* of one legion were killed in a single battle.[154] This would seem to be at odds with the idea that the first class of centurions were those of the first cohort which in the early empire contained only five centuries commanded by five

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[153] Domaszewski & Dobson (1967), 90-97 and Rüstow (1855), 8-11 are the major proponents of this theory, the basics of which are accepted reservedly by Spiedel (1992), 11 and Parker (1926), 45-46. Parker, however, adds that all centurions of a cohort or class were of equal rank and promotions were only from cohort to cohort.

centurions. In an equally problematic passage Tacitus describes the revolt of the legions in Germany in 14 AD. The troops seized the centurions and "*prostratos verberibus mulcant, sexagenis singulos, ut numerum centurioum adaequarent*".[155] Given that there were ten cohorts in the legion, this would imply that every cohort had six centurions, including the first.

The epigraphic evidence supports the six-centurion first cohort, although in an unexpected manner. *CIL* VIII 18065, an inscription from Lambaesis dated AD 162, mentions two *primipili* on a muster roll of *legio III Augusta*. *CIL* XVI app 13, a letter also from Lambaesis dated AD 150, though fragmentary, lists two *primipili* in command of centuries. Another from AD 157, however, lists no second *primus pilus* among the century commanders and this must make the others, close in date, somewhat suspect.[156] The archaeological evidence, although admittedly scarce, also casts doubt on a double *primus pilus* first cohort. The fort at Inchtuthil, Scotland has yielded evidence for the residence of only one *primus pilus* ca. 80 AD though this does not conclusively disprove the possible existence of two *primipili*.[157]

If the existence of ten separate classes of centurion synonymous with the cohortal ranking system is accepted, then it would follow that the *primi ordines* comprised at least five, if not six, centurions. Why then did Tacitus not mention that all the members of the *primi ordines* of Galba's seventh legion had been killed? Surely *omnes* would have been a more appropriate manner to describe the loss of such a high number of senior

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[154] Tac., *His* 3.22.

[155] Tac., *Ann* 1.32.

[156] *AE* 1969/70, 633, from Nicopolis. Parker (1926), 47 and Dobson (1974), 420-421 suppose these second *primi pili* to be staff officers and not in command of centuries.

centurions. Yet, Tacitus chooses to say *occisi sex primorum ordinum centuriones*. It was not unheard of for all or nearly all of the centurions of one cohort to be killed in a single battle. Caesar mentions an incident when, in battle against the Nervii, all the centurions of the fourth cohort of *legio XII* were killed. In another engagement five centurions of the first cohort of *legio IX* were killed.[158] Even if circumstances could allow all the centurions of a single cohort to be killed in the same battle, why would Tacitus not have said *omnes* when describing the deaths of all the most prestigious centurions in the legion? Perhaps he was ignorant of the true numbers involved or simply made a mistake. Or, conceivably, there were more than six members of the *primi ordines* in any given legion.

T. Rice Holmes believed it possible that any centurion who had been *primus pilus* or any centurion of the first cohort would always remain ranked among the *primi ordines*. This would apply despite any subsequent appointment to a lower ranked cohort. Thus, Livy tells us of Spurius Ligustinus and other former *primi pili* in 171 BC who were proud of their standing and concerned about serving under officers of a lower class than themselves. They eventually conceded and agreed to serve again, some in lower posts than those they had previously attained.[159] The idea of centurions of the *primi ordines* serving again after retirement was not unheard of. For instance, Caesar tells us of T. Balventius and P. Sextius Baculus, two former *primi pili*, serving again in Caesar's army.[160] Holmes advocated that it would not have been impossible that a cohort,

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[157] Richmond (1958), 132; Taylor & Wilson (1961), 158-160.
[158] For *legio XII* see Caesar, *BG* 2.25; for *legio IX*, *BC* 3.64.
[159] Livy, 42.32-35.
[160] For Balventius see Caesar, *BG* 5.35; for Baculus, *BG* 6.38.

composed mainly of recruits or untrained troops, would have been placed under the command of an experienced officer. Therefore, there might have been more than six centurions of the first class in a legion and Tacitus' reference to *sex primorum ordinum centuriones* rather than *omnes* may be justified.[161]

Returning to this system of promotion, it can be seen that a centurion would advance up the six ranks of his own cohort to the position of *pilus prior* who, according to Rüstow, would be the *de facto* commander of the cohort. His next promotion would take him from a place of command to the lowest rank in the next highest ranked cohort, assuming a jump of only one step per promotion. This centurion would see a rise in rank to the senior position in one cohort only to be promoted to the lowest position in the next cohort. Initially, this looks to be impossible to a military way of thinking.[162] It was perhaps not so impossible in the Roman military mindset, however. It had been common in the Republic, for instance, for centurions to serve in grades lower than they had previously held. The case of Spurius Ligustinus in 171 BC saw him as one of 23 former *primipili* ordered to serve in positions lower than those to which they had become accustomed, although they were eventually persuaded to do so. This could not, by any means, be considered a standardized format for promotion, but it does make the Roman perception of serving in a lower grade than previously attained easier to understand.[163] The promotion into a higher class of centurion when moving from *pilus prior* of one

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[161] Holmes (1931), 577-578.

[162] Marquardt (1957), 371 notes this and Judson (1903), 11 refers to the possibility as "impractical".

[163] Holmes (1931), 576.

cohort to *hastatus posterior* of another may have offset any feelings of dismay at the lowering of one's command responsibilities and prestige within a single cohort.

A second obvious interpretation of the cohortal command structure would see only six classes of centurion based upon the six different grades within each cohort. The *primi ordines* would have been the ten *pili priores* of the ten cohorts followed by a second class made up of the ten *principes priores*, the third class of ten *hastati priores*, the fourth class of ten *pili posteriores* and so on.[164] According to Joachim Marquardt, each cohort must have been by necessity commanded by someone, and who better than the centurion of the senior century? Thus, the ten cohort commanders must have made up the *primi ordines*.[165] What is conveniently ignored by this theory is the absence of any ancient literary or epigraphic evidence to indicate that there were any commanders of the individual cohorts at all.[166] It is also inconsistent with Caesar's testimony that there were at least eight classes of centurion.[167]

Marquardt's scheme, accepted by Keppie, also holds that the pattern of promotion involved a move from one cohort to the next senior one while remaining in the same rank.[168] For example, a centurion beginning his career as *hastatus posterior* of *cohors X* would be promoted through all the cohorts in the same rank and then back to

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[164] Von Göler (1880), 222-228 posited that there were another 6 classes made up of the *optiones* of each centurion. Thus, there would have been a seventh class composed of the *optiones* of the *pili priores*, an eighth class of the *optiones* of the *principes priores*, etc. Von Göler assumed that Caesar spoke of centurions loosely to include *optiones* as today colonels and lieutenant-colonels are often combined, but there is no foundation for this. His theory is easily dismissed by Breeze (1974), 441-445 who points out that the post of *optio* was not necessarily the last before elevation to *centurio*. Breeze also discounts von Göler's theory with a discussion of the post of *optio ad spem ordinis*.

[165] Marquardt (1884), 368-372.

[166] Holmes (1931), 576.

[167] Caesar, *BC* 3.53.

[168] Keppie (1984), 178-179.

cohors X as *hastatus prior*. The promotional ladder would continue in this way, through each successive rank or class, until the centurion had become *pilus prior* of *cohors II*. From here, according to the theory, he would be promoted to *primus pilus*.

This accords well with Vegetius' statement that centurions were promoted *in orbem* from the tenth cohort to the first and back up the chain again to the first.[169] What it fails to comply with, however, is Vegetius' earlier statement that the *primus princeps* of a legion was regularly promoted to *primus pilus* even though Marquardt's theory holds that the *primus princeps* was not the second position in the line of promotions but the eleventh.[170] In support of Vegetius, it could be argued that it was quite rare for a centurion to be promoted over the head of the *primus princeps*. The example from Caesar of Scaeva promoted *ab octavis* to the most senior centurial post of *primus pilus* would indicate the unusual nature of the promotion since Caesar saw fit to mention it at all. Epigraphic evidence, though slight, also supports Vegetius' assertion that the *primus princeps* was the last post before promotion to *primus pilus.* Two inscriptions from Lambaesis, dated to Augustus' reign, show the promotion of the *primus princeps* of *legio III Augusta* to the post of *primus pilus*.[171]

Marquardt's theory also implies that there was no distinction either in rank or prestige among the ten cohorts. Thus, numbering the cohorts was merely a convenient method of bookkeeping and had little to do with seniority. This would seem a rather absurd assumption, considering that the first cohort was of a larger size and organization

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[169] Veg., 11.21.
[170] Veg., 2.8.
[171] *CIL* VIII 2768, 2941.

and was the home of the legion's eagle.[172] If the first cohort was superior in some way to the other nine, Marquardt's suggestion that the sixth centurion of that cohort was the fifty-first in line of upward promotion is implausible.

A third possibility, supported by Birley and Le Bohec, posits that *cohortes II-X* and the centurions who held command in them as equal in rank to one another.[173] Only the first cohort was considered to be of a superior rank and therefore the centurions of the first cohort made up the *primi ordines*. Unfortunately, this theory mentions little about the pattern of promotion within the cohorts or in the legion as a whole. The main source of support for this hypothesis lies in the passages from Caesar that describe the differences between cohorts in superlative and comparative terms. Caesar uses the superlative *fortissimi viri* to describe the *primi ordines* and the comparative *ex inferioribus ordinibus* and *infimis ordinibus* in relation to the other centurions. This would suggest that *cohortes II-X*, as a group, were somehow inferior to the first cohort. Caesar also uses the terms *superiores ordines* and *primi ordines*, implying that not only was the first cohort differentiated from the rest but those centurions and cohorts below the *primi ordines* were somehow differentiated as well.[174]

An inscription from Turin describes the promotion of an *optio* to the post of *pilus prior* of the eighth cohort.[175] If each cohort and its centurions were superior in rank to their numerical inferiors, this promotion from the ranks would have been over the heads of seventeen existing centurions and would have caused considerable discontent among

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[172] Caesar, *BC* 3.64.

[173] Birley (1988), 206; Le Bohec (1994), 45.

[174] For use of *fortissimi viri* see Caesar, *BG* 5.44; for *ex inferioribus ordinibus*, *BG* 6.40; for *infimis ordinibus*, *BC* 2.35; for *superiores ordines*, *BG* 6.40.

them. If all the cohorts and centurions below the first were of equal rank then this incident would be of no great concern. But what of the case of Scaeva promoted *ab octavis* to the lofty position of *primus pilus*? This should have caused a great stir, yet we hear of none from Caesar.[176] Why did Caesar feel it necessary to mention Scaeva's original rank or position if all below the first cohort were of equal rank and importance? Perhaps it was to show how far and extraordinary was the jump. This is illogical, though, in light of the fact that the jump would be the same from any of *cohors II-X* if all the cohorts ranked equally below the first. Clearly this theory has little to support the belief that the *primi ordines* were only the centurions from the first cohort. It also provides no illumination for the problem of cohortal commands. If all the centurions in *cohortes II-X* were of equal rank, it is hard to imagine which of these held command over the cohorts themselves, assuming there was such an intermediate post in the command chain of the legion.

Several other theories have been set forth by various scholars over the years to address these problems. They vary in content though all share similar fates when faced with the extant evidence and none have gained any widespread support or acceptance.[177]

Conclusions

What then can be culled from the extant evidence and the existing theories in order to complete as coherent a picture of the rank and command structure of the legion as is possible? Rüstow's ten classes of centurion seems initially most appealing

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[175] *CIL* V 7004.

[176] This is perhaps unsurprising. Caesar was responsible for the inclusion of freedmen in the Senate. See *Dio* 43.47.

[177] See Holmes (1931), 569-579, for a thorough discussion of these alternate theories.

according to the evidence. The implied cohortal hierarchy is supported by Caesar's report of Scaeva promoted *ab octavis ordinibus*. This would imply at least eight classes of centurion and therefore logically ten, leaving us with the six centurions of the first cohort as the *primi ordines*. Although Tacitus' description of the death of six centurions of the first class in one engagement can be troubling, a marriage of evidence and logical assumption makes this event less of a problem. As has been proven, this event was not unprecedented nor were the numbers of the *primi ordines* necessarily restricted to the six centurions of the first cohort.

The question of who commanded the individual cohorts is as easily explained by Rüstow's theory. The *pili priores*, by virtue of the hierarchical nature of their titles in relation to the other centurions of the cohort, are the logical choice for this position, although admittedly there is little evidence to support this. The major stumbling block, of course, is the promotional scheme inherent in this theory. It is difficult to believe that a centurion who had enjoyed the command of a cohort would, on his next promotion, take up the position of *hastatus posterior* of the next most senior cohort. Despite the evidence of Spurius Ligustinus and his compatriots who were willing to serve in positions lower than their former ranks, it is incomprehensible that a man who had commanded almost five hundred men of a cohort would be expected to give up that prestige. Caesar considered the *primi ordines* important enough to include in his pre-battle councils, and it is illogical to think that the commanders of his major tactical units on the battlefield would not be privy to such important deliberations.[178] When the legions facing

[178] Caesar, *BG* 5.28; 5.30; 6.7 invites the *primi ordines* to his council.

Ariovistus panicked and ran, they appealed to the *primi ordines* to represent them before Caesar.[179] Would not the common legionary have approached his immediate superior for representation and help rather than the centurions of another albeit higher ranked cohort?

H.M.D. Parker proposed the following solution that incorporates the basic tenets of Rüstow's and von Domaszewski's theories while adding others to satisfy any of their obvious failings.[180] Following von Domaszewski, Parker divided centurions into two broad categories, based upon their backgrounds and enjoying different methods of promotion within the centurionate. The first group were those who were directly commissioned *ex equite Romano* or who were *evocati.* The second was made up of ex-rankers, usually former *immunes* or *principales*. The former were promoted from cohort to cohort, usually in the same rank. Those who showed distinguished service or superior command ability might increase in rank if a vacancy was available. The promotion from cohort to cohort may also have involved a change of legion. In this case the centurion could transfer to another legion in the same rank but with a higher cohortal standing. Directly commissioned *equites* and *evocati* were often picked out directly to hold these posts as was the *evocatus* in Germany who began his centurionate career as *decimus pilus prior.*[181] These men joined the distinguished ranks of the *primi ordines* who were the centurions of the first cohort along with the other nine *pili priores*, totaling fifteen. This view of the *primi ordines* is also reconcilable with Tacitus' six centurions of the first rank

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[179] Caesar, *BG* 1.41.

[180] See Parker (1926), 45-52 for a thorough discussion of Rüstow's and Domaszewski's theories and the evidence in support of them.

[181] *CIL* XIII, 6728 (1st century AD ?), from Mogontiacum.

killed in one battle. No longer must it be wondered why he did not say *omnes* rather than *sex primorum ordinum centuriones*.

Ex-rankers, on the other hand, would advance slowly from post to post within a cohort, then repeat the process in the next most senior cohort while skipping the rank of *pilus prior*. This rank was considered part of the *primi ordines* and was reserved for *equites* and *evocati* or men of exceptional ability. Illuminating this point is an inscription that tells of a centurion who "*successit*" five times from "*decimus hastatus posterior*" to "*nonus hastatus posterior*."[182] Five promotions within the tenth cohort should have taken him to the position of *decimus pilus prior*, but it is obvious that he skipped this post because of its inclusion in the *primi ordines*. Members of this prestigious group were promoted from cohort to cohort until they reached the post of *secundus pilus prior*, at which time they would wait for a vacancy in the first cohort. They would then be promoted within the ranks of the first cohort passing through the grade of *primus princeps prior* before *primus pilus*. This satisfies Vegetius' claim that the *primus princeps* was the last step before *primus pilus*. Ex-rankers, who advanced more slowly, would expect to reach the post of *secundus pilus posterior* before hoping for a vacancy in the *primi ordines* if they had not already been chosen during their climb for exceptional service or ability. Parker also explains this definition of the *primi ordines* by maintaining that the "military tribunes, who in Caesar's army still, on occasions at any rate, commanded cohorts (*BG* 2.26), were now almost exclusively confined to administrative

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[182] *Dessau* 2653: *Ti Flavius Virilis 7 leg. II Aug....7 leg. XX, V.V.....7 leg. VI Vic....7 leg. XX. V.V....7leg. III Aug....7 leg. Parth. Severianae, in cohorte nona hastatus posterior, vixit annos LXX.* Parker assumes, as does von Domaszewski, that this ex-ranker began his career as *decimus hastatus posterior*, the supposed starting point for any ex-ranker's centurionate career.

duties." Thus, regular commanders were needed for the cohorts and who better than the leading centurions of the individual cohorts who must then have ranked among the *primi ordines*?[183]

The most believable pattern of command and rank structure in the legion, therefore, would see the *primi ordines* comprised of the centurions of the first cohort and the *pili priores* of *cohortes II-X*. They were normally *evocati* or *ex equite Romano* with a sprinkling of exceptional ex-rankers and enjoyed great prestige in the legion. The *pili priores* were *de facto* commanders of the cohorts and were recognized, at least by Caesar, as important officers privy to the general's councils. There were nine other classes of centurion based upon cohortal seniority totaling ten in all. Ex-rankers were promoted within the cohort from post to post and then to the next senior cohort to begin the process again. They could only hope to gain entry into the *primi ordines* once they had reached the position of *secundus pilus posterior*, after a long and laborious climb, or through some act of bravery or example of superior command ability. The *evocati* and those *ex equite Romano* directly commissioned into the centurionate enjoyed a quicker promotional scheme that could more easily take them to the pinnacle of their career, the post of *primus pilus*.

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[183] Parker (1926), 51.

CHAPTER III: SMALL UNIT TACTICS

Introduction

The main ingredient of the Roman legion was the legionary, the offensive punch and defensive bulwark for the Roman general. The legionaries, organised into cohorts and centuries, constituted the core of the legion and as such their actions will be examined in more detail in this chapter.

Two important questions relating to legion deployment and cohortal formations have plagued scholars for many years. It is often speculated that the late Republican and early Imperial legions maintained intervals between their sub-units while engaged with the enemy. Polybius described the maniples of the Republican legion arranged in chequerboard fashion. This has often been slavishly extrapolated to envision a standard battle deployment. The proponents of this type of theory often imply or claim in outright fashion that Polybius' deployment was Roman doctrinal procedure. They fail to understand the inherent flexibility of the Roman legion and the opportunities presented to the Roman generals for varied deployments.

Intimately connected to the question of deployment is the issue of reinforcement or relief of the fighting line. Deployment and cohortal formations had an enormous impact on the ability of the general to reinforce his front line. Continuous battle lines, with little or no intervals between units, are difficult to reinforce during contact with the

enemy. Yet the Roman legion was able to replace the individual legionaries fighting in the front rank and also replace entire units in the front line.

In order to understand the choices available to the Roman general the potential formations and configurations of the legion and its sub-units must first be examined. Initially the placement of the legionary cohorts relative to any auxiliary troops must be discussed. Any consistent deployment practices need to be identified and, in addition, whether Roman generals followed a standard procedure. Perhaps the most important sub-unit of the legion, the cohort consisted of four hundred and eighty men in the early Imperial period. Any body of men as large as this requires discipline and training to enable it to function as a unit. The formations the cohorts adopted were vital to matters of physical and moral security. Evidence relating to cohortal formations is scant, but the available information will be scrutinised and any possible conclusions drawn.

Deployment of the Legion

Most military engagements appear to have taken place on relatively open and level terrain, which allowed freedom of movement and deployment for the legions. Terrain irregularities could, however, be utilised to provide a tactical benefit. Caesar believed that deploying on a higher elevation would provide a decided advantage to those units charging downhill.[184] At Pharsalus, Caesar anchored the left flank of his army on a water obstacle, the Enipeus, to protect that flank and to counter Pompey's superiority in cavalry.[185] Man-made obstacles could also be employed, especially to protect the flanks

[184] Caesar, *BG* 1.24-25.
[185] Caesar, *BC* 3.86.

of the army, as when Sulla built entrenchments against Mithridates at Chaeronea.[186] Caesar carried out similar precautions to strengthen his position when facing the Belgici.[187] The intelligent use of terrain was not so much a doctrinal concept as a practical consideration and was not confined to any particular period in the history of the Roman army. During the early empire Arrian's deployment against the Alani included the use of two hills to anchor the flanks of his army.[188]

Whatever the characteristics of the terrain, the disposition of the troops tended to follow certain patterns that can be loosely categorised. The general pattern of deployment followed almost exclusively involved the placement of the heavy infantry of both the legions and the *auxilia* in the centre of the battle line with any attendant cavalry on the flanks. In AD 60 Suetonius Paulinus deployed his army against Boudicaa with *legio XIV* and *legio XX* in the centre of his line flanked by the *auxilia* and, on the wings, by cavalry.[189] Agricola used a similar deployment twenty-four years later at Mons Graupius when he placed his *auxilia* units, eight thousand strong, at the centre of his line flanked by three thousand cavalry and backed up by a small force of legionaries.[190]

The heavy infantry of the legions and of the *auxilia* were deployed in various ways that seem to have depended upon local circumstances and the general's personal wishes. The most common arrangement was for these troops to be situated at the centre of the line. Like Agricola at Mons Graupius, Petilius Cerialis arrayed his *auxilia* in front

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[186] Frontinus, *Strat.* 2.3.17.
[187] Caesar, *BG* 2.8.
[188] Arrian, ἔκταξις 12.
[189] Tac., *Ann* 14.34.
[190] Tac., *Agricola* 35.

of his legions in AD 71.[191] Arrian, however, followed a common first century AD practice that was similar to Suetonius Paulinus' deployment.[192] He posted his *auxilia* on two hills flanking his battle line with the heavy infantry of *legio XII Fulminata* and *legio XV Apollinaris* in the centre.[193] In contrast to this practice, but in a similar fashion to Agricola at Mons Graupius, Crassus, while in Gaul in 56 BC, arranged his force with the heavy infantry of the *auxilia* at the centre flanked by the legionary cohorts.[194] It can be seen that there were no inviolable rules for relative deployment of the legionary and auxiliary infantry. The most common arrangement involved the heavy infantry at the centre and the cavalry posted to the wings.

Deployment of an army also depended upon the nature of the enemy. As Rome expanded eastward, the cavalry armies encountered posed a serious problem. More manoeuvrable than the Roman heavy infantry, the Parthian cavalry in particular was worrisome. The standard Roman deployment of heavy infantry at the centre and cavalry on the wings left the rear of the army essentially unprotected. This was not a problem when faced with an enemy army composed mainly of infantry. Against the hoards of horse archers and cataphracts in the Parthian army, however, even the flanks of the Roman army were vulnerable. Crassus, and later Antonius, attempted to counter this threat by forming his army into an enormous hollow square. This was meant to deny the enemy horse the easy target of an unprotected flank or rear.[195]

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[191] Tac., *His.* 5.17.
[192] Tac., *Ann.* 2.16, 2.52, 13.38; *His.* 3.21.
[193] Arrian, ἔκταξις 1-24.
[194] Caesar, *BG* 3.24.
[195] Plutarch, *Crassus* 23; *Antony* 42.

Perhaps the most common feature of the legion's deployment was the use of a reserve. While not particularly unexpected or innovative, the Roman deployment and use of reserve lines were unique.[196] Caesar's campaigns provide the greatest information for the use of reserve lines by Roman commanders. In Gaul and during the civil wars, Caesar most often deployed his cohorts in three successive lines or echelons, the *triplex acies.*[197] Only in exceptional circumstances was no reserve deployed at all. When Caesar faced Labienus in 46 BC he was concerned that his flanks might be turned and accordingly placed all his cohorts side by side in one line in order to extend the frontage of his army.[198] Vegetius describes the deployment of his *antiqua legio* in two echelons, each subdivided into two lines. In the first echelon, from right to left, were *cohortes I, III* and *V*. *Cohortes II* and *IV* were deployed slightly behind the front line of cohorts and covering the intervals. A similar arrangement governed the last two lines in which *cohortes VI*, *VIII* and *X* fronted *cohortes VII* and *IX*. Vegetius' double line of cohorts is, in reality, a *quadruplex acies.*[199] Vegetius places the first cohort in the front line and this seems to reflect the common practice. At the battle of Cremona in AD 69 *Legio I*

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[196] A discussion of how this deployment aided the reinforcement of the fighting line follows this section.

[197] For examples of *triplex acies* see Appendix 2.0 and Caesar, *BG* 1.24, 1.52; *BC* 1.41, 1.83, 3.88-89; *BA* 81. Caesar did not confine himself to the *triplex acies*, however. For examples of *duplex acies* see Caesar, *BG* 1.49, 3.24.

[198] Caesar, *BA* 13.

[199] Vegetius, 2.15. See Appendix 3.0. At first glance, Vegetius seems to be describing *cohortes I-V* in a single unbroken line when he says "*acies peditum a prima cohorte incipit ordinari in cornu dextro. Huic cohors secunda coniungitur. Tertia cohors in media acie collocatur. Huic annectitur quarta. Quinta vero cohors sinistrum suscipit cornu.*" It is significant, however, that he does not simply say that the cohorts were arranged in a single unbroken line, listing the cohorts by number from right to left. Instead he has *cohors II* rather ambiguously "*coniungitur*" to the first and *cohors IV* "*annectitur*" to the third. The description of the second echelon is as ambiguous as the first: "*Sed in secunda acie dextro cornu cohors sexta ponebatur, cui iungebatur septima. Octava cohors mediam aciem tenebat nona comitante. Decima cohors in secunda acie sinistrum semper obtinet cornu.*"

Adiutrix overran the first line of *Legio XXI Rapax* and captured its eagle.[200] This supports the idea that the first cohort, the protector of the legion's eagle, was in the front line.[201]

Although the Roman general enjoyed flexibility in his choice of deployments, certain precepts were generally adhered to. The heavy infantry of the legions and of the *auxilia* formed the backbone of the line, deployed in the centre and flanked by any available cavalry. Except in unusual circumstances a reserve was retained behind the front line in the form of one or more echelons. Inevitably in a discussion of cohort deployment, the issue of intervals between units must also be considered.

Battle Line Intervals

During the eighteenth century the Prussian army of Frederick the Great stood "for the rest of Europe as a model of military perfection."[202] Yet, even this powerful military machine was presented with problems during deployment and movement. "Once the battalions are completely deployed or extended in line these advantages [of discipline and drill] come to an end. The Prussians find themselves embarrassed by the length of their formations, and they have to contend with undulations and delay."[203] Units do not move in perfectly straight lines and therefore gaps are necessary for manoeuvre. Maurice's *Strategikon* recommends that it is necessary to maintain intervals between units when changing formation and manoeuvring over irregular ground.[204] Gaps were necessary

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[200] Tac., *His.* 2.43.
[201] For the eagle in the care of the first cohort see Vegetius 2.6.
[202] Duffy (1987), 24.
[203] Silva (1778), 82.
[204] Maurice, *Strat.* 12.17 recommends gaps equivalent to thirty to sixty meters between each *meros*.

between the cohorts to allow for flexibility in changes of direction and formation and to make allowances for loss of cohesion while advancing.[205] The width of the formation determined the speed at which it could move with any semblance of order. Irregularities in the ground, dead and wounded men and horses, and the inconsistency of pace length, exacerbated the problem. Wider formations would necessitate numerous stops to dress ranks.[206] Narrower frontages equated to more speed and better unit cohesion. During the French Revolution the ill-trained French troops were formed into columns rather than line formations, the standard practice for the professional armies of the time. Their lack of training meant that a column was easier to control and therefore quicker to manoeuvre.[207]

While it is true that intervals were necessary between units while manoeuvring and changing formation, were they maintained in the Roman battle line during battle? It has long been argued whether it was common practice for Roman armies to maintain intervals between units in the battle line.[208] Livy's passage describing the deployment of

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[205] Nosworthy (1992), 81 notes that it was common in the eighteenth century to deploy an army in "checker" formation. This arrangement is similar to the Roman system of echelons. Considerable intervals were maintained between units in Nosworthy's examples, and he goes on to justify the intervals, a process which helps to illuminate the Roman deployment system. "To the modern reader, these large spaces between each of the units in a line probably appear a potential liability that would allow enemy infantry or cavalry to enter the lines and attack the flanks of each battalion or squadron. However, there were a variety of reasons why this arrangement was used. The most important perceived advantage was that it allowed the units in the second and third lines to advance through the spaces and attack the enemy or support the friendly units in the first line. Also, should the whole or parts of the front line be defeated and break, this arrangement allowed panicked men to filter to the rear without having to run through the formations in the second line, an event that would have invariably led to the disruption and breaking up of these formations."

[206] Duffy (1987), 201. At the battle of Wilhelmsthal in 1762 the army of Prince Ferdinand of Brunswick found that marching in extended order (a series of battalions in line formation) was so painfully slow that the army spent five hours completing the equivalent of one hour's march. Delbrück (1980), 293, believes that it is impossible to maintain unit intervals during an approach march "under war conditions." It would be possible on a "completely level drill field" which would allow opportunities to halt and realign the ranks. He fails to explain why one is possible and the other not.

[207] Keegan (1976), 132-133.

[208] Delbrück (1980), 293 assumes that offering battle with intervals between units "would result in the most foolish battle formation one can imagine" because each maniple would be enveloped on each side.

the Republican army indicates that the maniples of each of the three lines were separated from each other by intervals the width of a maniple. The maniples of the second line stood directly behind the intervals of the first. These gaps were maintained before and during the battle.[209] During the late Republic, Caesar believed that crowding together and eliminating the intervals was a sign of trouble.[210] When fighting the Britons, Caesar once deployed two cohorts outside his camp to face the enemy. The Britons penetrated the gap separating the cohorts and defeated them.[211] This incident would seem to indicate that the standard deployment included gaps between individual cohorts.[212] Holmes, however, correctly attacks this example and any conclusions drawn from it. The two cohorts could have issued from the camp from separate gates and may have been attacked before joining. Furthermore, he argues it is "absurd" to assume that because there was a narrow space between two cohorts operating independently that this can be extrapolated as a general rule for intervals in the battle line of an entire legion.[213]

There is little or no evidence to help support the idea that the intervals were maintained in battle, and in fact the available information points to the opposite conclusion. Livy relates one incident when the tribunes and centurions of a legion ordered the maniples to make room for the passage of cavalry and avenues were opened up.[214] This may indicate that since it was necessary to open up intervals they obviously

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[209] Livy, 8.8.

[210] Caesar, *BG* 2.25; 5.42. Holmes (1931), 590 argues that Caesar was referring to the fact that if the soldiers (and not the units) became crowded together they would not be able to strike at the enemy effectively.

[211] Caesar, *BG* 5.15.

[212] Rüstow (1855), 45 uses this example to show that intervals were standard practice.

[213] Holmes (1931), 590.

[214] Livy, 10.41.

did not exist before.[215] At the battle of Zama Scipio deployed his maniples with considerable intervals between to allow the charge of the enemy elephants to be channelled through the gaps.[216] Livy implies that the intervals adopted were an unusual tactic.[217] Vegetius, when describing the order of battle customary in the Empire, does not mention intervals and significantly chooses the verbs *coniungitur* and *adnectitur* to suggest a continuous line.[218] In an earlier passage he warns that panic might ensue if the line is broken and the enemy is allowed to attack the line in flank and rear.[219]

If intervals were maintained between maniples or cohorts in the fighting line, the enemy could easily penetrate the gaps and threaten the flanks of the units to either side. This would have been especially true against enemies that joined battle as tribal units, manoeuvring and fighting as large undisciplined masses. Enemies such as the German tribes could easily penetrate the Roman lines if intervals were allowed. In these cases it would have been a simple procedure to move the cohorts of the second echelon forward into the intervals of the first or to extend the frontages of the front line cohorts. The third echelon would continue to provide the reserve for the intermingled first and second. This subsequent continuity of front would also be necessary against a cavalry-heavy army. Arrian dispensed with any intervals between his cohorts to counter the mobility and

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[215] Holmes (1931), 591.

[216] Livy, 30.33.

[217] Polybius, 15.9 contradicts this. The arrangement of Scipio's maniples is described by Polybius in similar fashion to Livy but the former explains the deployment somewhat differently. Polybius points out that the maniples of *principes* did not cover the intervals between those of the *hastati* in the first line "as is the Roman custom."

[218] Veg., 2.15.

[219] Veg., 1.26.

shock value of the Alani. Crassus did much the same when he formed his cohorts into a hollow square with no intervals into which the Parthians could penetrate.[220]

When facing opponents who deployed in phalanx-like formations the Romans had more options. Against a Macedonian-style phalanx the Roman cohorts could be deployed without fear of penetration into the intervals. The phalanx relied upon its solidity for its shock value and if that solidity was disrupted the formation could easily be defeated. At the battle of Pydna in 168 BC L. Aemelius Paullus deployed his cohorts in the face of a Macedonian phalanx. Gaps were created in the phalanx when it moved over rough ground and the Roman cohorts split up to take effective advantage of these.[221] The cohorts were able to engage the phalanx where gaps had been created without fear of their own intervals being penetrated. It was essential for the phalanx to maintain its cohesion in order to retain any fighting value. If portions of a phalanx chose to penetrate the gaps in the Roman battle line, not only would its cohesion be sacrificed, it would also be exposed to counterattack from the second echelon of Roman cohorts.[222] The second line could easily be deployed within a short distance of the first in order to counter just such an occurrence.[223] The enemy who had penetrated the first line and sacrificed its cohesion would itself be subject to attack from a formed body of troops possibly moving at some speed.[224]

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[220] Plutarch, *Crassus* 23.

[221] Plutarch, *Aemelius* 20.

[222] Veith (1907), 314.

[223] Holmes (1931), 593 believes the second echelon would stand fifty to sixty yards behind the first and would take only a few seconds to intervene against any penetration.

[224] Delbrück (1980), 424 believes that the best the relieving second echelon unit could achieve would be to "succeed in throwing back the soldiers who have made the penetration and in filling the gap," restoring the *status quo*. He fails to realise that a unit that has penetrated the gap, although admittedly

The first echelon of cohorts, if deployed with intervals, would eventually become intermixed with the second regardless of the enemy they faced.[225] This mixing of lines could be gradual in response to penetrations of the first line by an ordered enemy like the Macedonian phalanx. Or, it could be a planned deployment against an opponent who could freely penetrate any intervals in the Roman line without fear of unit disruption. The inherent flexibility of the Roman cohortal system allowed for a variety of deployments and reactions to threats. Approach marches undoubtedly were carried out with substantial intervals between units. When battle was joined, however, the nature of the enemy forces dictated the need to maintain the intervals or not.

Reinforcement of the Fighting Line

If all or part of the battle line of the Roman legion was continuous for a substantial portion of any engagement the question of reinforcement arises. How did the Romans succeed in reinforcing the front line of cohorts that were directly involved in the close action combat? In order to examine this question two matters must be addressed. The front rank of a cohort immediately involved in a mêlée needed to be reinforced; it was necessary to replace the killed and wounded before the enemy could penetrate the line and disrupt the formation. In addition, cohorts engaged for substantial amounts of time required replacement by fresh units. How did this large-scale replacement take place without exposing the entire legion to danger from an attacking enemy?

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dangerous to the front line units that flank the interval, must itself become disordered to effect the penetration. Thus the relieving second echelon unit would be able to do more than restore the line. It would have the opportunity in some cases to force back the interlopers and forcibly penetrate the disordered enemy formation in turn.

[225] Veith (1907), 328; Holmes (1931), 592.

The killed and wounded from the front rank of a cohort could easily be replaced by the men in the next rank stepping forward into the void. The depth of a cohort's deployment dictated the length of time the unit could successfully remain in close action combat. A formation with narrow frontage and increased depth could sustain itself in combat longer than one with wide frontage and little depth. This type of reinforcement could take place while the mêlée continued. The men from the supporting ranks could step forward, albeit awkwardly, over their fallen comrades and maintain the solidity of the front rank. A cohort's ability to remain in mêlée was not infinite, however, even assuming negligible casualties. The commander of the cohort or the legion may decide for a number of reasons that replacement of the entire cohort was necessary. Substantial casualties may thin the ranks to the point that the cohort is not strong enough to carry on reinforcing its own front line. The unit morale of any cohort that sustains enough casualties to damage its internal effectiveness in this way must also be suspect. Only the most fanatical or well-trained troops will not be affected by a high casualty rate.

Exhaustion from constant mêlée also plays a part in unit effectiveness; hand to hand combat was not an easy affair.[226] It has been estimated that the fighting limit for a Roman legionary in constant melee was approximately fifteen to twenty minutes.[227] In the Napoleonic period the estimated limit was similar. Von Clausewitz calculated from personal observation that his troops became exhausted after twenty minutes of close fighting.[228]

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[226] For a discussion of Roman fighting techniques and melee weapons, see Goldsworthy (1996), 209-218.

[227] Fuller (1965), 90-91; Judson (1903), 62.

[228] Clausewitz (1976), vol. 3, 291-313.

Roman commanders in the late Republic and early Empire almost inevitably arranged their forces in a series of supporting echelons to facilitate the reinforcement of the tired cohorts from the front line. Problems arise, however, when attempts are made to discover the manner in which the Romans replaced entire cohorts in the front line. One intriguing solution has any skirmishers retreat through the intervals between cohorts of the front line. The rear centuries of these cohorts would then shuffle sideways and move forward into the intervals, thus creating a continuous line. When a cohort was to be replaced, the same centuries would step back and shuffle sideways to recreate the intervals between cohorts. Cohorts from the second echelon would then move forward into the intervals and the front line cohorts would move back. These fresh cohorts would then extend frontage in the same manner.[229]

This is an elegant although problematic method of reinforcement. Signalling this type of manoeuvre during combat is rife with difficulties. Any complex movement in the face of the enemy is difficult and especially so in a period of oral communication. Transmitting orders for complex movements and competing with the clamour and confusion of battle must have been difficult if not impossible. A well-trained body of troops could, however, carry out such a movement with minimal signals and orders. Nevertheless, the act of disengaging while in combat presents perhaps the most serious difficulty. If a cohort's front rank is involved in mêlée with the enemy, disengagement is dangerous to the point of suicidal. A retreat by individual legionaries would expose the individuals to their opponents' forward momentum and also endanger their immediate

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[229] Connolly (1981), 41. See Appendix 4.1-4.7.

neighbours.[230] In addition, any backwards movement from those engaged in the front line could easily be interpreted by the enemy as a sign of weakness, thereby increasing the intensity of their efforts. An engaged enemy would not sit idly by and allow the Roman centuries to rearrange themselves only to introduce fresh troops to the mélée. Individual cohorts could possibly be relieved in this way although even this is suspect. An entire line of cohorts performing this manoeuvre in concert, while engaged with the enemy is difficult to envision.

Lulls in the Fighting

The physical makeup of this manoeuvre is not as problematic as the disengagement from the enemy. Any method of reinforcement of the fighting line faces this same problem; some form of lull in the combat with space between the combatants is necessary. Unfortunately sources for the period often generalise when describing the combat in any battle. Battles and the individual actions therein are said to have lasted for several hours. Caesar described an action against the Helvetii when the fighting lasted from midday until evening.[231] In Spain, two lines of legionaries fought for five hours until a final charge by Caesar's men brought victory.[232] When Crassus was defeated by the Parthians in 53 BC, Plutarch ambiguously describes the two armies as having fought until nightfall.[233] Tacitus, however, provides perhaps the most typical account of combat when he reports an action of Germanicus' legions in Germany. Germanicus secured a great victory in which the enemy was slaughtered from nine in the morning until

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[230] Goldsworthy (1996), 225.
[231] Caesar, *BG* 1.25-26.
[232] Caesar, *BC* 1.45-46.
[233] Plutarch, *Crassus*, 27.

nightfall. After the battle, ten miles of ground were covered with the dead and other detritus of war.[234]

These are all, of course, generalisations. Further investigation into some of these battles provides evidence for respites in the action that are glossed over by the contemporary writers. Early in Caesar's action against the Helvetii, although the fighting lasted all the morning, the Helvetii retreated to a hilltop a mile away. The Romans did not immediately pursue and delayed their advance before attacking again. In the aforementioned battle in Spain, both sides replaced units in the front line with fresh cohorts even though the account states that the fighting lasted for five hours. This suggests some lulls in the fighting long enough to move and replace units in the front line.[235] Appian recalls a meeting of two legions at Forum Gallorum in 43 BC when neither side could gain a clear advantage. The two forces drew back from each other briefly to recover their breath and rest. They then moved forward and engaged each other again.[236] Caesar pointed out that in one battle the wounded continued to fight, taking the opportunity of lulls in the battle to rest on their shields.[237]

Time was not the only necessary ingredient in any reinforcement of fighting units; space was also important. The replaced unit needed enough space between it and the opposing enemy force to allow even simple manoeuvres to facilitate reinforcement.[238]

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[234] Tac., *Ann.* 2.18.
[235] Goldsworthy (1996), 225.
[236] Appian, *BC* 3.68.
[237] Caesar, *BG* 2.27.
[238] Marsden (1969), 187-190 records the use of artillery by the Romans in pitched battles. They were, he says, often able to hold the enemy at bay but were quite static because of an inherent lack of mobility. While Mardsen is correct in stating that the artillery could force the enemy to maintain a discreet distance, initiation of the lull in the fighting could only be brought about by the artillery if its relatively

Caesar's action in Spain mentioned above included, during the lulls in combat, some missile exchanges that suggest some substantial separation. The Helvetii retreated to a nearby hilltop before the Romans advanced. The delay in pursuit could be attributed to a number of factors. The Romans likely needed to redress their lines from the combat and replace any exhausted units. The distance of the Helvetian retreat allowed these actions to be carried out in safety.

Even though retreat from combat could easily precipitate a rout, not all mélées resulted in one side breaking precipitously. The losing side sometimes retreated slowly in the face of the enemy.[239] Alternatively, many charges resulted in no contact at all. Charges by Roman infantry commonly caused the defenders to break and flee before contact.[240] This would afford the attacker the luxury of halting and reorganising if the retreat or rout of the defenders was too fast to pursue in any order or if the pursuit might present other dangers to the attacker. Lulls in the fighting caused by mutual exhaustion and disorganisation could also produce the retreat of one force without the pursuit of the other.[241] The reinforcement of the front line could well have taken place in a manner similar to that already described. The discipline instilled in the Roman legionary would

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static position could, by chance, be utilised to bring projectiles to bear. Archers, slingers etc., because they were more flexible and mobile, could conceivably help to force the enemy back creating a lull during which friendly troops could be reinforced or replaced. For depictions of artillery in support of legionaries, see Rossi (1971), 154, pl. 36-37.

[239] Appian, *BC* 4.128; Josephus, *BJ* 5.85-97.

[240] For examples of Roman charges panicking the enemy see Caesar, *BG* 3.6, 3.19, 5.34, 5.51, 6.8, 7.62; Tac., *Ann.* 4.24, 4.47; Josephus, *BJ* 6.394-395; Sallust, *Iug.* 74; Plutarch, *Lucullus* 30; *Pompey 32*. It was also not unknown for Roman units to break before contact. For examples see Caesar, *BG* 5.37; Tac., *Ann.* 3.20; Sall., *Iug.* 38, 58; Josephus, *BJ* 2.517-519, 3.233, 3.235, 5.54; Suet., *Vesp.* 4.

[241] Goldsworthy (1996), 225.

have been sufficient to enable such a manoeuvre to be carried out.[242] If time permitted the front line cohorts could compress their frontages as described and begin their rearward movement. The reserves could then advance into the intervals and expand. If time was at a premium because of enemy activity or proximity, the cohorts involved might advance and retreat simultaneously in order to precipitate the manoeuvre.

Another method of reinforcement of the fighting line has been suggested that encounters similar problems. According to this theory cohorts moving up from behind would interpenetrate the front cohorts by having the files of the reinforcing unit move along the files of the unit in front. When the heads of each file had reached the fighting line the front unit would withdraw in the same manner along the files.[243] If the front cohort was engaged in melee, replacement of the heads of each file would be exceptionally awkward and dangerous. A more pressing problem presents itself. In order to maintain a solid battle line, little room could be allowed between front rank legionaries. The shield was carried in the left hand and partially guarded the soldier to the left creating a contiguous wall of protection. Vegetius indicates the intervals between files of *hastati*, *principes* and *triarii* as equivalent to approximately ninety centimetres and the space between ranks as two meters.[244] If these numbers are accepted, and there is no reason not to believe them, the interpenetration of a supporting unit would be almost

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[242] For discussions of Roman military discipline see Le Bohec (1994), 105-119 and Judson (1903), 38-39.

[243] Holmes (1931), 598. See Appendix 5.0.

[244] Vegetius, 3.14-15. Delbrück (1980), 293 supports Vegetius. Polybius, 18.25-30 gives measurements for file separations equivalent to 180 centimetres in Roman formations and ninety centimetres in a phalangite formation. For a discussion of the accuracy of Polybius' numbers see Goldsworthy (1996), 179.

impossible without the severe disruption of both units.[245] We are left then with the replacement of front line units in their entirety by others from the supporting echelons when the situation allowed.

Cohort Formations

Two important questions arise when examining the formations that the individual cohorts adopted on the field of battle. An understanding of the type and depth of formation of each century leads logically to determining the placement of the six centuries of each cohort in relation to one another. Whether this deployment followed a consistent pattern or was dependant upon local circumstances must also be examined.

It has been said that the strength and solidity of a given formation is intimately related to the depth of that formation.[246] A deep formation is thought to provide physical weight to the attack when the rear ranks push forward against the front ranks and maintain a continuous pressure in the attack and mêlée. This is a false interpretation of the purpose and the physical workings of a deep formation.[247] Should the rear ranks push forward, they would accomplish little more than the disorder of the front ranks that were involved in the actual mêlée.[248] The desire to form units in depth had little to do with the

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[245] Holmes (1931), 597 believes that "according to circumstances, relief or reinforcement or both were adopted when they were practicable, and effected in the way which under the circumstances seemed best."

[246] Holmes (1931), 593 believes that depth of formation equates to weight and strength. He points out that a phalanx, because of its "superior weight [ie: depth] would inevitably break the line" of the legion.

[247] Fuller (1965), 90 calls this relation of depth to power "erroneous."

[248] Goldsworthy (1996), 206-208 describes the Greek "*othismos*" or "the shoving" in the following manner. Although the Greek phalanxes may have relied on the rear ranks to push those in front against the enemy, the Romans did not necessarily follow this practice. The comparatively shallow formations adopted by the Romans could not significantly contribute to this pushing effect. In addition, the large boss on the Roman shield would have made "the shoving" a painful affair for all but the rear rank. For Greek "*othismos*" tactics, see Lazenby (1991), 96-101.

maintenance of weight and power in the close combat at the front of the formation.[249] Depth of formation provided other more important benefits. Arrian formed his legions eight ranks deep with a further two ranks of archers behind. His decision to create a phalanx-like formation could be seen as a response to the superior cavalry numbers he expected amongst the Alani. Possibly, the physical needs of his army led to a decision to address those needs in a physical manner. A more likely reason for Arrian's decision to deploy his legions in depth, however, was morale.

It is necessary, therefore, to understand the needs of the unit both in terms of its physical security and its morale. In order to understand the difference a solid defensive infantry formation and one of attacking cavalry (as Arrian expected to be confronted with) must be examined. The attacking cavalry relied upon shock and speed of charge to break the defending infantry.[250] At first glance, the weight of horse and man, more than likely armoured, combined with the speed of the animal in the charge would appear to be more than enough to shatter the cohesion of the front ranks of a defending infantry formation. However, this shock must also be seen from the point of view of the horse. A well-trained cavalryman should be able to control his mount in most battle situations; however, the survival instincts of any but the most well-trained horse would prevail when faced with an inescapable danger to the horse itself. This danger was most often a solid line of infantry presenting a hedgerow of weapon-points to the advancing cavalry. When

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[249] Ferril (1986), 28-30 recognises the morale advantages of deeper formations, specifically the ability to control weaker troops. He points out, however, that the Romans operated in "waves of thin lines" which "demanded good fighters throughout."

[250] This is more a consideration of morale than physical superiority. Keegan (1976), 96 describes the French cavalry attacks at Agincourt in 1415: "The 'shock' which cavalry seek to inflict is really moral, not physical in nature."

the horses refused to impale themselves, the cavalry formation had little chance of breaking a solid line of infantry resolutely standing their ground.[251] In AD 70 Roman cavalry refused to charge home against some Batavian cohorts and fled to their own lines.[252] During a confrontation between Fabius Valens and Otho in AD 68 several *turmae* of Treveran horse initiated a charge but were stopped before the orderly ranks of the Praetorians.[253] It was as often the riders as their mounts who balked at engaging a solid line of infantry standing resolutely in place.[254] When the Parthians first encountered Crassus' army in 53 BC they had originally planned to charge the Romans with their lances and force their way into the enemy formation. They saw the wall of shields and weapon-points and how firmly the Roman infantry stood and decided to draw back.[255] Procopius relates a similar incident in the sixth century AD: Persian cavalry refused to charge home against Belasarius' Roman infantry because it stood firm and did not waver.[256]

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[251] Horses are herd animals, however. The animals at the centre of the formation might opt to follow the herd rather than pull up and, in fact, may have no choice but to do so because of the weight of the mass propelling them forward. Those on the outside edges of the formation could opt to pull up or veer away from the obstacle. Hyland (1993), 14-15 and 166-167 points out, however, that "a horse's prime defence is rapid flight. He is also a herd animal who will run with the majority. The speed and herding instincts can be channelled by man." Hyland (1990), 66: "As a grazing animal [the horse] relies on speed to outstrip predators, and so will flee rather than stand up to an enemy. His attitude can change when he is kept solely with others of the same species." Keegan (1976), 96 and 158 points out that "a horse, in the normal course of events, will not gallop at an obstacle it cannot jump over or see a way through, and it cannot jump or see a way through a solid line of men." He goes on to say that at Waterloo in 1815 the numerous French cavalry attacks resulted in horses which refused to charge home against resolute infantry.

[252] Tac., *His.* 4.33.

[253] Tac., *Hits.* 2.14. It must also be added that the charge of the Treveran horse was, in this instance, also hampered by missiles showered on their flanks during the advance.

[254] This assumes a certain level of discipline among the defending infantry. Keegan (1976), 96: "A man will not stand in the path of a running horse: he will run himself, or seek shelter, and only if exceptionally strong-nerved and knowing in its [the horse's] ways, stand his ground."

[255] Plutarch, *Crassus* 24.

[256] Procopius, *History of the Wars* 1.18.44-48.

A more modern perspective of similar conditions is helpful here. During the eighteenth and nineteenth centuries cavalry faced similar problems when approaching infantry wielding muskets and bayonets. Black powder weapons inflicted casualties on the front rank before contact that would create disorder in the following ranks.[257] At the Battle of Waterloo in 1815 Napoleon's cavalry was slowed considerably by the casualties in the front ranks of the formations.[258] The Romans also had weapons with which to inflict casualties on any approaching cavalry. Of course, to maintain a solid wall of weapon points the front ranks of the formation needed to retain their *pila*. The rear ranks could, however, expend their missiles before contact. Arrian deployed two ranks of archers behind the legions to augment the *pila* of the legionaries. This combination of missiles could easily disorder the attacking cavalry and, depending upon the numbers of casualties inflicted among the approaching horses, physically slow the attack.[259] Admittedly, Napoleonic infantry formations used black powder weapons that could inflict casualties at greater ranges than the Roman *pila*. Nevertheless, the combination of short range *pila* volleys and longer range archery of the Roman infantry could conceivably be as deadly and disruptive to an attacking force. Depth of the formation when facing cavalry was necessary to ensure an adequate supply of missiles from the rear ranks but not to provide the appearance to the approaching horses of an inescapable danger. It was as much the presence of an unbroken line of weapon points as the

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[257] Duffy (1987), 215 believes that "success [was] nearly assured" when enough horses were disabled to create confusion and disorder.

[258] Howarth (1968), 132-142.

[259] c.f. Nosworthy (1992), 137 when describing cavalry charges in the eighteenth century: "The resulting disorder [from defensive missiles] was difficult to repair under fire and usually led to the failure

casualties inflicted before contact that determined the outcome. Horses would not voluntarily impale themselves upon a hedgerow of weapon points.[260] In the Spanish army of the early eighteenth century, it was shown during training exercises that a horse could be turned aside by something as inoffensive as a man wielding a stick.[261] The cohesion and solidity of the front few ranks of the formation was therefore enough to satisfy the physical security of the formation.[262]

Arrian, however, arrayed his legions eight ranks deep with a further two ranks of archers behind. Other considerations must have been at work in his decision to deploy in such depth. Reinforcement of the front rank must necessarily be from successive ranks and this will be discussed in a later section. Arrian must also have had concerns about the morale of his troops in the face of the predominantly mounted Alani army. The increased depth of a formation ensured that the front ranks remained in place and thus maintained the physical integrity of the formation. Assuming the men in the rear ranks remained in position, the front ranks could not retreat. A deep formation also provided moral security for the men in it. The sense of protection from danger and the physical pressure provided by the surrounding mass discouraged desertion from the ranks at least for the men in the middle of the formation. The Greeks tended to place their bravest men

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of the [cavalry] attack." Arrian, *ἔκταξις* 26 hoped to disrupt the Alani cavalry attacks with archery. For a comprehensive discussion of Roman archers and their equipment see Coulston (1985), 220-348.

[260] Nosworthy, (1992), 138. Duffy (1987), 215 agrees that cavalry "might be disconcerted by a hedge of bayonets."

[261] Santa Cruz (1735), vol. 3, 68.

[262] Puységur (1748), vol. 1, 152 when speaking of tactics in the eighteenth century: "if infantry understands its force, the cavalry never breaks it."

in the front and rear ranks: those in the front ranks to ensure a continued advance or solid defence and the rear ranks to prevent flight of the men in the intervening ranks.[263]

The sense of security could also have been enjoyed by the officers commanding the formation. Men are more easily controlled in a compact mass than a long shallow formation. Not only is it easier to control the movement of deserters from a formation with limited frontage (and, therefore, limited rear-facing dimensions) but the transmission of orders presents fewer difficulties. Orders in the Roman army were transmitted verbally or by musical instrument. The more ground a formation occupied laterally, the more difficulties encountered when attempting to transmit orders. A decision to deploy in depth was dependant not only upon physical considerations, but upon questions of morale and security as well.[264]

Standard Depth of Formation

The Roman legion as described in Book VI of Polybius presented three lines of heavy infantry fronted by another of *velites*. Each line or echelon was composed of ten maniples separated by a distance equal to the frontage of each maniple. The maniples of the second line covered the intervals of the first in order that they might more easily reinforce the fighting line. The third line was arrayed in similar fashion, covering the intervals of the second line.[265] This leads us to believe that the frontages of the *triarii* maniples in the third line were the same as those of the first two lines despite the fact that

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[263] Asclepiodotus, *Tactics* 14.6; Xenophon, *Mem.* 3.19.

[264] Du Picq (1914), 20: "The Romans believed in the power of the mass, but from the moral point of view. They did not multiply their ranks to add to the mass, but to endow the combatants with confidence in being supported and relieved; and the number of ranks was calculated according to the moral pressure the latter could sustain."

the *triarii* maniples were half the strength of their brethren. Polybius clearly states that the maniples of *triarii* were arrayed three ranks deep, presenting a frontage of twenty men. This would indicate that the maniples of *principes* and *hastati* also deployed on a frontage of twenty files, although the double complement would provide six ranks of depth. Although the accuracy of Polybius' description may be in doubt, the important fact to be gleaned from his account is the use by the legion of a drill based on threes and sixes. Unfortunately, there is little evidence to illustrate formation depths in the later Republic. The most famous reference comes from Frontinus' account of the battle of Pharsalus. In this engagement Pompey arrayed his cohorts in three echelons to receive the charge of Caesar's veterans. Each cohort was deployed ten ranks deep.[266] The relative paucity of other evidence from this period leads to the thought that Frontinus mentioned Pompey's deployment not as an example of standard procedure but only because it was so extraordinary.[267]

Although there is little evidence from the Republic, Josephus provides several accounts of Roman formations used during the Jewish revolt of the first century AD. In one incident, Pontius Pilate surrounded a rebellious crowd with a line of legionaries three ranks deep.[268] Subsequently, Josephus describes a deployment of the army with three ranks of legionaries supported by a single rank of archers and three of cavalry.[269] When describing the Roman army on the march he points out that the columns of the legions

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[265] The arrangement of units covering intervals is similar to Vegetius, 2.15 who describes four echelons, whereas Polybius notes only three.

[266] Frontinus, *Strat.* 2.3.22.

[267] Holmes (1931), 588 suggests this as well.

[268] Josephus, *BJ* 2.156.

[269] Josephus, *BJ* 5.135.

marched six men abreast.[270] This would seem to imply a drill based on threes and sixes reminiscent of Polybius' account. Vegetius supports this when he gives figures for the space occupied by three and six ranks of his *antiqua legio* arrayed for battle.[271] Arrian, however, describes his army's order of march as four men abreast and the battle line as eight deep, clearly a change to a drill based on fours and eights.[272] Maurice's *Strategikon*, although admittedly from a later period, also provides a drill based on the same basic numbers.[273]

Attempts have been made to date the change from the six man *contubernium* of Polybius to Arrian's eight man *contubernium* to sometime between AD 70-135.[274] This theory assumes that the legions described by Josephus in the 60s AD were following a standard procedure and organised with six man *contubernia*. The organisation of the Flavian legions as described by Josephus does not necessarily indicate an empire-wide practise, however. The legions in Judaea were on campaign and may have been under-strength, necessitating a reduced *contubernium* complement while maintaining the standard drill for tactical formations.

Regardless of when the change occurred, Arrian describes a legion organisation based on fours and eights, and from this it can be deduced that the *contubernium* strength of Arrian's legions was eight. Admittedly, Arrian was most likely describing an ideal formation and deployment. His ideal, however, could be considered the norm for the

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[270] Josephus, *BJ* 3.110.

[271] Veg., 3.15.

[272] Arrian, ἔκταξις 5, 6, 15. It is possible that Arrian's text is corrupt in some way. The passages relating to the deployment of legionaries in eight or four ranks could possibly contain a number of *lacunae*. For discussion, see Bosworth (1977), 238-239.

[273] Maurice, *Strat.* 12.9-11. Hyginus, 1, also implies a *contubernium* strength of eight (see Ch. I).

time just as Polybius' organisation was in an earlier period. Arrian's legions marched in a column four abreast and fought in a battle line eight deep. It is easy to see the correlation between the two. Marching four wide in half *contubernia*, the column of centuries could wheel and deploy without problem to achieve a four-deep line.[275] Other cohorts would wheel behind to form the rear four ranks of Arrian's phalanx. It was necessary that the rear four ranks be made up of supporting cohorts. The front four ranks of Arrian's phalanx were armed with the *kontos* and the rear four ranks with the *lancea*.[276] If the cohorts each deployed with six centuries side by side and eight ranks deep one *contubernium* would make up each file. This, however, would necessitate a variation in armament within the *contubernium* that could prove awkward if any other formation was attempted. If, on the other hand, each century deployed four ranks deep (in files of half-*contubernia*) the rear four ranks of Arrian's phalanx could be formed by a separate line of cohorts armed differently. This would confine the differentiation in armament to the cohorts rather than the century or *contubernium*.[277]

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[274] Wheeler (1979), 313.

[275] See Appendix 6.0. Josephus, *BJ* 3.110, also shows a correlation between column width and battle line depth when he describes the Flavian legions marching six abreast and fighting three or six deep. Kromayer and Veith (1928), 287 and 429, take this stand as well.

[276] Arrian, ἔκταξις 16, 21 and 26 refers to his legionaries as "κοντοφόροι" and "λογχοφόροι." Goldsworthy (1996), 17 and 229 interprets the "*kontos*" as a *pilum* and the "*lancea*" as a lighter throwing javelin. The Oxford Latin Dictionary defines the "*contus*" as a long spear, lance or pike and the "*lancea*" as a long light spear or lance,. The Greek equivalents are less clearly differentiated. Liddell and Scott define the "λογχοφόρος" as a spearman or pikeman and the "κοντοφόρος" as a pike bearer. Although the definitions of these two weapons are far from clear, Arrian felt it necessary to indicate the difference; however, knowledge of their precise characteristics is unnecessary for the present discussion. It is enough to realise that there was a difference in armament.

[277] Lucian, *Alexander* 55 refers to a similar division in the Cappadocian armies later in the second century A.D. ("λογχοφόρον καὶ κοντοφόρον"). Wheeler (1979), 312-313 sees Arrian's two legions deployed one behind the other, confining the difference in arms to the level of the legion. There is no reason to believe, however, that the second line of cohorts was not from the same legion with different armament within the legion itself. This would lend more flexibility to the legion commander. The variation in armament would allow a variety of situations and opponents to be faced. Bosworth (1977), 244 postulates

The foregoing assumes a consistent *contubernium* strength within each century and cohort. Losses from active campaigning would, however, create unequal strengths among the *contubernia*. The deployed formation would need to sacrifice frontage or depth to compensate for these losses. If a consistent frontage was maintained for the formation the *contubernium* would not be disrupted as a sub-unit but each file would not be of the same depth. If the frontage was lessened to maintain a consistent file depth, each *contubernium* would be disrupted. Unfortunately, due to lack of evidence it is impossible to determine the course of action employed or the level of disruption that a juggling of personnel within the *contubernia* might create.

It can then be surmised that the ideal formation depth for the legions was based on a consistent doctrine. In the Republic the sub-units of Polybius' legions were arrayed three or six ranks deep. By the time of Arrian's governorship of Cappadocia in the early second century AD, the drill had changed to fours and eights to correspond with the larger century size, although the exact timing of the changeover is unknown. Deeper formations were required when facing cavalry, in confined spaces, or when the morale of the unit was in question. The formation depths examined point to files of half or full *contubernium* strength. The shallow formation of three or four ranks assumes half-*contubernium* files and the cohort deployment to be six centuries side by side. The deeper formation of six or eight ranks could be a combination of full *contubernium* files and centuries side by side presenting a narrower frontage for each century and the cohort

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that the difference in armament was at the level of the legion. *Legio XV Apollinaris*, one of two legions in Arrian's army, had served in the east under Trajan and may have adopted the *kontos* as a defence against the Parthian cavalry. Arrian, ἔκταξις 6 and 15 is difficult to interpret. In the first passage he indicates that

as a whole. This deeper formation might also represent centuries arrayed in half-*contubernia* files and the cohort deployed three centuries wide and two centuries deep.[278]

Placement of Centuries in the Cohort Deployment

There is some evidence to support the idea that the standard practice was three maniples of two centuries each standing beside one another rather than in a column of centuries (six centuries deep with a frontage of one).[279] As already pointed out, the *contubernia* which made up the centuries of each cohort would not be of equal effective strength while on campaign. If the cohort was deployed in a column of centuries (one century wide and six deep), two things could occur. If the unequal *contubernia* were combined or contracted to produce consistent file depths a consistent width would be impossible for the column. Each century would then have a different number of files. Alternatively, if the *contubernia* maintained their unequal strengths, each century would be of unequal depth, at least in part. The column would therefore be made up of centuries occupying different amounts of space.[280] This could only create problems for movement and any subsequent changes of formation. Granted, a column of centuries would have certain advantages. Movement would be quicker and easier (assuming there is not too much variation in the century strength and overall size) and the column would increase the probability of command control. The issue of morale is more effectively

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the two legions were deployed one behind the other. Later he seems to describe the two legions beside one another in the battle line.

[278] For a more detailed discussion of the relationship between the *contubernium* and the cohort or maniple see Chapter I.

[279] Delbrück, (1980), 559, Holmes (1931), 588, Von Göler (1880), 2.216-218 and Wheeler (1979), 307 all support this arrangement. For double line of centuries see Appendix 7.3. For column of centuries see Appendix 7.1.

[280] Holmes (1931), 588.

addressed in a column as well. Despite the apparent advantages, a column of centuries would also pose serious problems. The fighting ability of a column is severely hampered when the frontage is reduced and fewer men can take part in any close action combat.[281] More importantly, a column has limited missile capabilities. The front few ranks are able to throw their *pila* but the deeper the formation the more the risk is run by those in the rear of not clearing the front with their missile weapons.

Again, the paucity of evidence prevents any definite conclusions supporting a three-maniple frontage as standard deployment for the cohort. One telling incident comes from Caesar's campaign in North Africa when, at Ruspina, Caesar's forces were attacked by a force of Numidian cavalry and light infantry commanded by his former lieutenant Labienus. To counteract the mobility of Labienus' cavalry Caesar stretched his front by forming in one echelon without any reserves. By this, we must assume that Caesar deployed his cohorts in one line; but in how many ranks? Labienus was successful in outflanking Caesar despite these measures. Caesar was forced to adopt an unusual tactic. He turned every other cohort around one hundred and eighty degrees and placed them behind their immediate neighbours. Each cohort then proceeded to extend its frontage in order to cover the intervals they had just created.[282] It must be assumed that Caesar had originally deployed his cohorts on as wide a frontage as was possible according to standard practice. By then extending each cohort further he must have extended each cohort to its absolute limit. If the extreme limit is accepted as one century

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[281] This problem is, of course, negated if several cohorts are deployed side by side, each in column of centuries as may take place when the terrain necessitates a narrower frontage.

[282] Caesar, *BA* 17.

deep the final deployment would have had each cohort arrayed six centuries wide and the original deployment three centuries wide and two deep.[283]

What limited evidence exists then points to a standard, or at least common, deployment of the cohort three centuries wide and two deep. Each century within the cohort could be deployed in files of a half or full *contubernium* depth depending upon the needs of the situation. The strength of the *contubernia* increased sometime between Polybius' Republican legion and the deployment of Arrian's Cappadocian legions.[284]

Conclusions

Depending upon the local conditions, a Roman commander enjoyed various options for the deployment of his forces. The army was normally deployed with the heavy infantry of the *auxilia* and the legions at the centre with any cavalry holding the flanks. A reserve of at least two echelons supporting the front line was customary. The cohorts of infantry would be arranged with or without intervals between, again depending upon local conditions. If the enemy employed units and tactics that relied upon unit cohesion such as the Macedonian phalanx, the gaps could be maintained in the Roman battle line. When the enemy was a less-disciplined foe the Romans found it necessary to close the gaps in the line. This was accomplished by extending the frontages of the front line units or advancing the second echelon units into the intervals of the first.

Reinforcing the front line of the army has always been a problem and it was no less problematic in the Roman army.[285] Lulls in the fighting were necessary to allow

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[283] See Appendix 7.4.
[284] See Chapter I.
[285] Nosworthy (1992), 154-155 summarises the theoretical responses to the same problem in the eighteenth century.

front line units, exhausted from close contact with the enemy, to be replaced by those from the reserve echelons. The exact details of the formation changes necessary to effect such a changeover are unclear, although the basic manoeuvres can be surmised.

The standard deployment of the cohort seems to have been three centuries wide and two deep, although there is little information to support this or any other formation. There is, however, more evidence for the standard depth of these formations. During the Republic the centuries were arrayed three ranks deep. When the cohortal system took hold the depth of the century remained the same until at least the first century AD. Josephus gives us evidence of legions operating with a drill system based on threes and sixes. By the second century AD Arrian employed formations based on fours and eights, although neither example should be taken at face value. Josephus' legions may have suffered depletion during a long campaign and Arrian was possibly describing an ideal deployment rather than one actually existing at the time.

CONCLUSION

What then can said with any accuracy about the tactical organisation of the early Imperial legions? The ancient sources indicate a nominal legion strength of slightly over 5000 men. The exact strength would depend upon a number of factors. Sometime during the first century AD (and quite possibly earlier) the first cohorts of some legions were increased in size. With the reintroduction of the *equites legionis* these legions were composed of approximately 5120 legionaries and 120 cavalry. A legion without this increase in strength was composed of 4800 legionaries and 120 *equites legionis.* These are, of course, ideal numbers. Campaigning would reduce the effective strength of units. Battle casualties, disease and desertion would all contribute to a lesser effective unit strength. The loss of the light infantry of the legions, probably in the second century BC, was adequately made up by the *auxilia.* The vast majority of the cavalry employed in Roman armies was from the *auxilia* as well. The organisation of these units is well documented and conveniently supports the legion structure.

Who then commanded these troops? The legion commander, the *legatus legionis*, and the five tribunes formed the upper echelons of the legion command structure. The more important officers for this study were those in command of the cohorts. The centurions formed the backbone of the officer corps in the Roman army. In each legion there were 60 centurions organised into a defined hierarchical chain. Although no ancient source clearly describes the relationships between these officers and their responsibilities and duties, logical conclusions can nonetheless be made. The pattern of

command and rank structure in the legion included ten classes of centurion. The *primi ordines* were the centurions commanding the five centuries of the first cohort and the *pili priores* of the other nine cohorts. These men were normally veterans or *equites* although a few exceptional ex-rankers found their way into this privileged class. The *pili priores* were the *de facto* tactical commanders of the cohorts as was recognised by Caesar. The nine other classes were based upon cohortal seniority. The *evocati* and *equites* were promoted up the ladder of cohortal seniority in the post of *pilus prior* in each cohort. The remainder worked their way up more slowly through the remaining posts only gaining admittance to the *primi ordines* after many years of toil or exceptional exploits.

Who these men commanded is more easily discerned than how. The disposition and deployment of the legion and its sub-units is a matter of some controversy. The evidence tells us only so much. Beyond the accounts of the ancient authors and the physical evidence some logical guesswork must be employed. Perhaps the most controversial aspect of the Roman tactical system is the deployment with unit intervals. Was the classic Polybian chequerboard formation maintained in battle? Were the intervals between units practical? The answers to these questions are not precisely dealt with by the evidence available and must therefore fall into the realm of logical conclusion.

It was possible to maintain the intervals between units depending upon the nature of the enemy. Disciplined enemy units, such as the Macedonian-style phalanx, relied upon unit cohesion for their strength and could not easily penetrate any gaps in the Roman line. Against undisciplined hoards of Germanic tribesmen it was necessary to

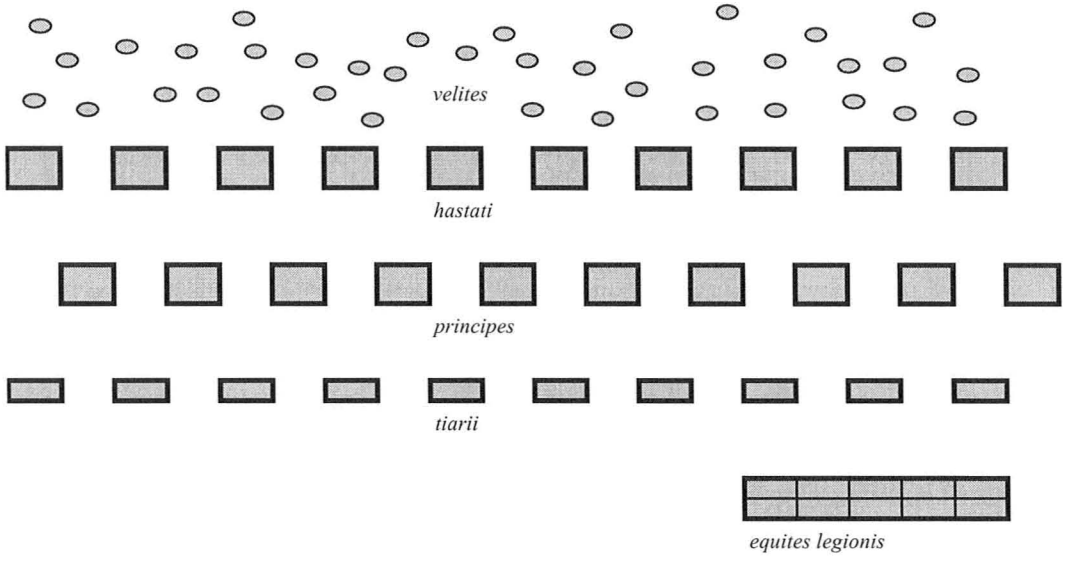
close the gaps in the line. The inherent flexibility of the Roman deployment system allowed various reactive measures to be undertaken. This brings forth the next pressing question. How were the front line units replaced or relieved in a closed line? The answers lie in the physical and mental endurance of the common soldier. Close action combat quickly exhausted units on both sides, resulting in lulls in the fighting. These lulls provided the opportunity to replace tired or depleted units.

The units in the line followed standard deployment practices. Here the evidence is more forthcoming. Granted, ancient authors reveal little about unit formations on the battlefield with the noted exception of Arrian. Arrian's formations were unusual in that he was deploying his cohorts with the expectation of facing a predominantly mounted enemy. These dispositions should not therefore be taken as the norm. Many authors, however, let slip details that are useful. From these details we can surmise that the cohorts were normally deployed three centuries wide and two deep. The centuries seem to have been deployed using a drill based upon half-*contubernia* strengths of threes in the first century AD. This was replaced by a drill based on fours in the second century AD.

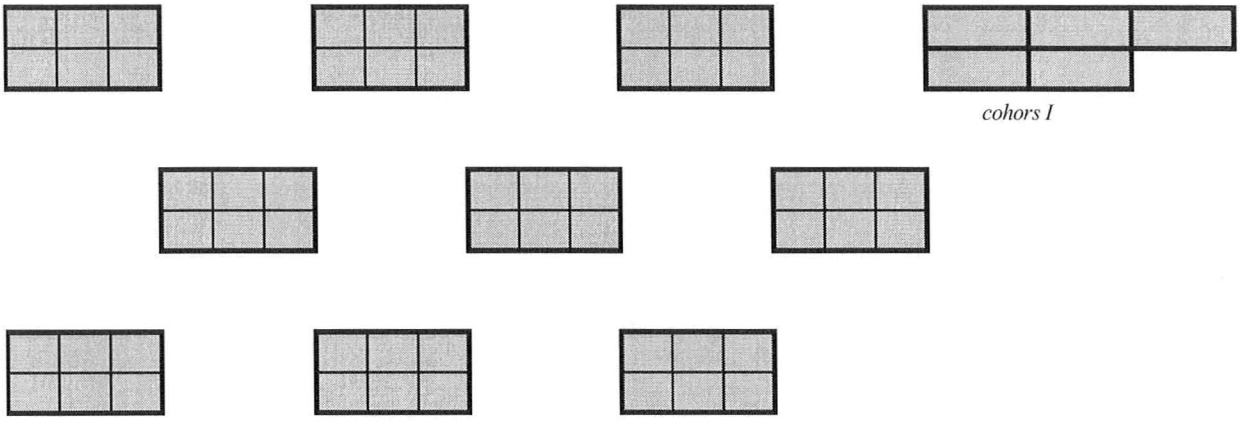
In summary, many definite conclusions can be made regarding the tactical organisation of the early Imperial legions. Where the evidence is not clear, logical supposition and comparison to other similar periods of warfare can provide a relatively clear picture of the tactical workings of the legion.

APPENDIX

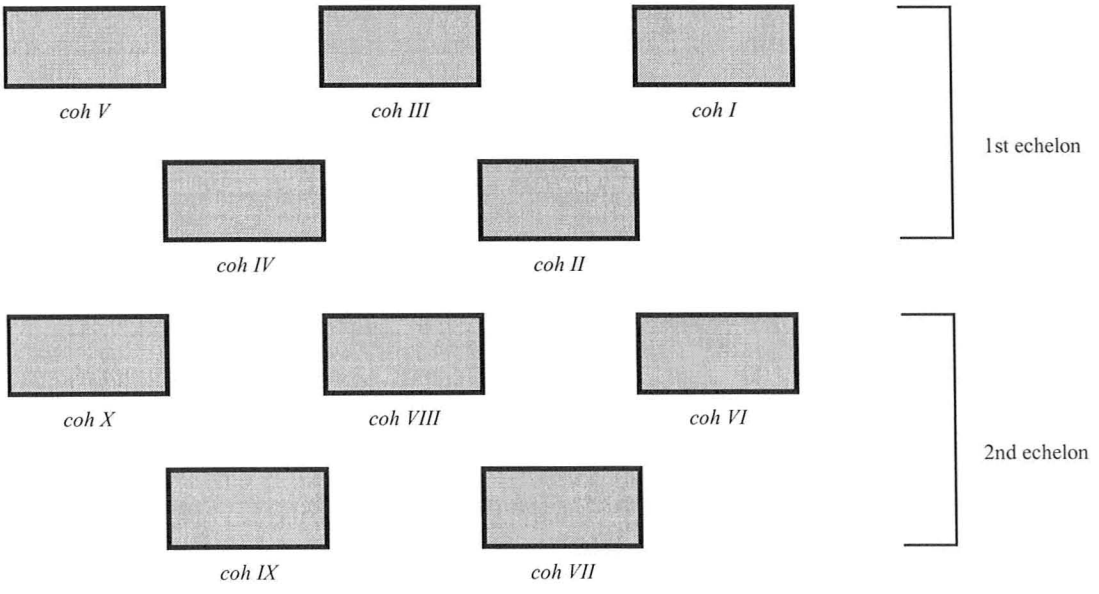
1.0 Polybius' Republican legion.



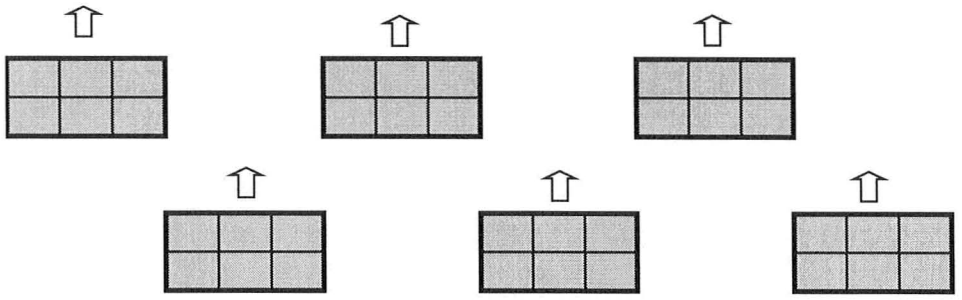
2.0 Caesar's *triplex acies* .



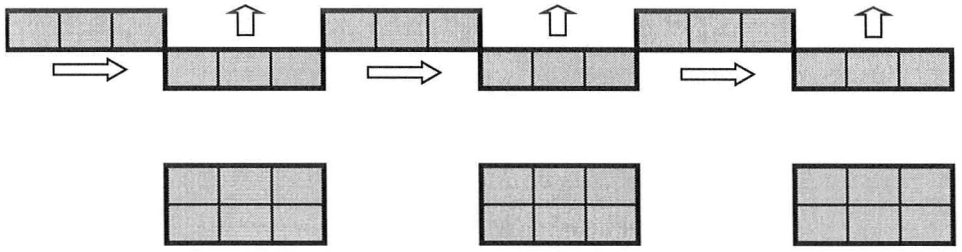
3.0 Vegetius' *antiqua legio* (*quadruplex acies*).



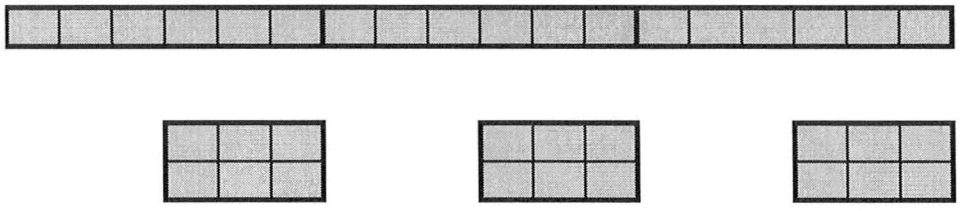
4.1 Replacement of cohorts in the first echelon: the approach march.



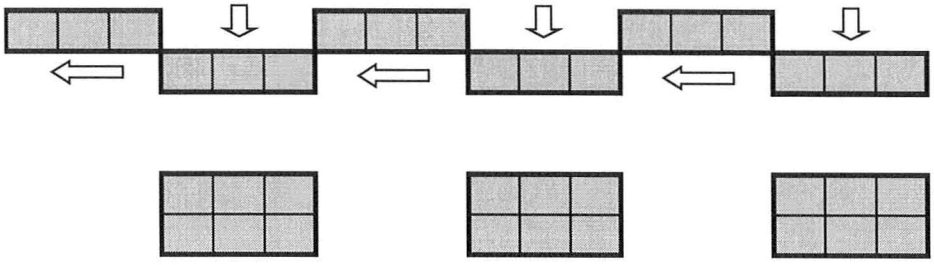
4.2 First echelon cohorts extending frontage.



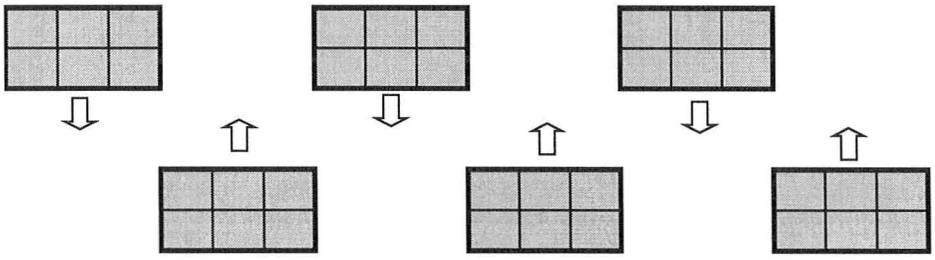
4.3 Continous battlefront.



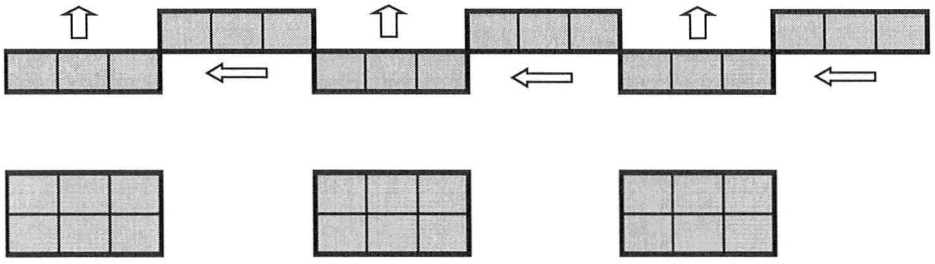
4.4 First echelon cohorts compressing frontage to allow replacement.



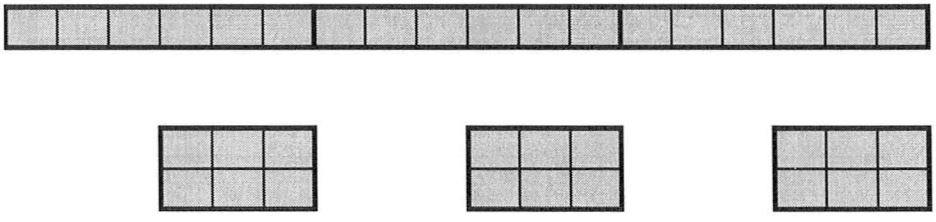
4.5 First echelon cohorts retreating and second echelon advancing.



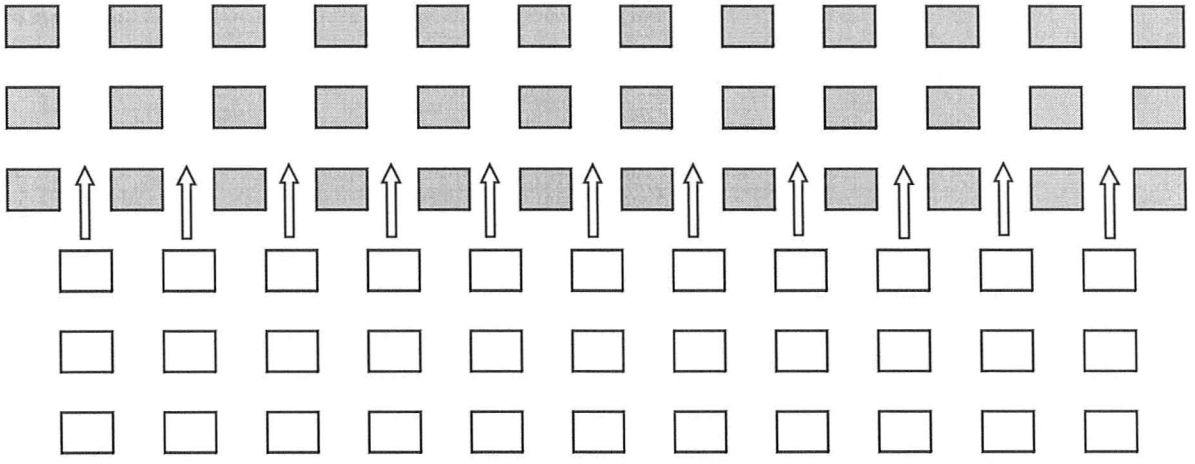
4.6 Second echelon cohorts extending frontage.



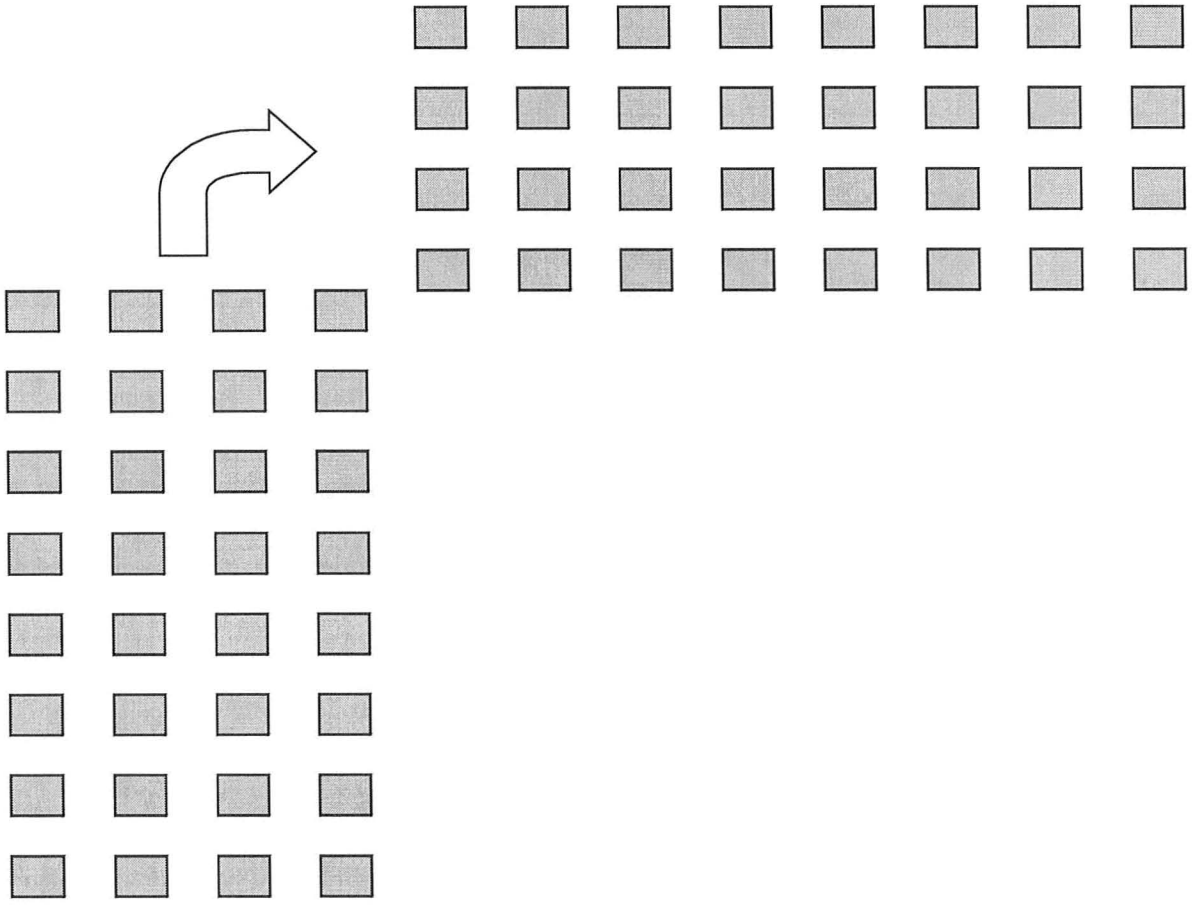
4.7 Second echelon in continous battlefront.



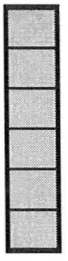
5.0 Reinforcement of the front line by advancing the supporting unit along the files.



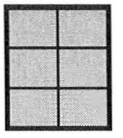
6.0 Column of four files wheeling into line of four ranks.



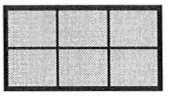
7.1 Cohort: column of centuries.



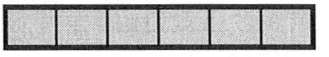
7.2 Cohort: column of maniples.



7.3 Cohort: double line of centuries.



7.4 Cohort: single line of centuries.



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