

The Reform of the Roman Army during the Hannibalic War and its
Application in the Second and Third Macedonian Wars

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For my mother, for persevering when all hope seemed lost

And for my partner, for following me on this adventure

Abstract

Despite a reasonably sustained focus upon the career, exploits and tactical brilliance of Scipio Africanus during the Hannibalic War, modern scholarship has neglected the apparent abandonment of his tactical reforms by the Roman army during the following half century. This project focuses upon the development of tactical doctrine within the Roman army throughout the Hannibalic and Macedonian Wars. The project's aims are to establish with certainty the nature and scope of Scipio Africanus' tactical reforms, that they constituted a widely applicable alteration to tactical doctrine, and, finally, whether this reform program was abandoned in the Second and Third Macedonian Wars. These aims are addressed by a comparison of six set piece engagements, each critically re-examined by the investigator and based upon ancient source material, in order to determine the ideal conception by which Roman commanders employed their armies. This comparison found that Scipio's reforms constituted manifestly superior tactical doctrine, based upon the doctrinal principle of envelopment, which was abandoned by Roman command during operations in Macedonia. The project concluded that the abandonment of said reform program constitutes an informational failure at the organizational level, which may represent a base driver for the relative decline of the Roman military in the second century BCE and thus a partial origin of the Marian reforms.

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Declaration

I, Timothy J. Blizzard, certify that:

- i. This work is original and written by myself
- ii. It has not been submitted for a higher degree to any other university or institution
- iii. All relevant works and material utilised have been given due acknowledgement according to university guidelines

Signed

.....

Timothy J. Blizzard

Chapter 1

Methodology, Sources and Definitions

1.1 Introduction

The army of the Roman Republic was undoubtedly one of history's most adaptive and successful military organisations, effectively integrating developments in tactics, technology and operational doctrine during an extended period of stagnation and regression amongst most of its Hellenistic peers. However this very success can often blind us to the wasted opportunities and pitfalls in the Roman system of politico-military command. Indeed what emerges from the scholarship is a general focus on understanding Rome's eastern victories in the wake of the Second Punic War. What has been lost in examining this blinding strategic success are the revolutionary tactical reforms implemented by Scipio Africanus during his campaigns in Spain and Africa and their apparent abandonment by the Roman military of the second century. This thesis will utilise critical re-examinations of six set piece engagements, derived from ancient source material, in order to determine the nature of the tactical doctrine used by the Roman military in each period. This foundation will allow two basic questions to be addressed: what was the nature of the tactics utilised by Scipio Africanus and did they constitute a widely applicable tactical reform? Were these reforms abandoned in the Second and Third Macedonian Wars? This project is part of an undernourished but growing body of literature aiming to add to our understanding of the relative decline of the Roman military in the second century, and thus the Marian reforms which ensued.

1.2 The State of Current Scholarship

The Second Punic War has indeed been a focus of scholarly activity throughout the 20th century and into the 21st, however all too often the line between scholar and armchair historian has been blurred by the rush to justify one of military history's 'great men', of whom there were several in this conflict. This has manifested itself in a number of biographies of both Scipio and Hannibal. Liddell-Hart¹ is undoubtedly the earliest of these still in popular circulation, and although he applied a serious military mind to Scipio's engagements, the rush to justify his hero's actions leaves much to be desired in terms of critical reasoning.² Several near-contemporary biographical works, Acimovic³

¹ Liddell-Hart (1926)

² Rogers (1929) p. 104

³ Acimovic (2007)

and Gabriel,⁴ stumble at similar hurdles.⁵ By far the best treatise on the military career of Scipio is Scullard:⁶ these works are not only commendable for their balance, detachment and scholarly quality, but the conceptual engagement with Roman tactics is excellent as is the treatment of source material. Additionally Scullard provides original fieldwork, including his best approximation of the site of the Battle of Baecula with local topography and picture references. These works undoubtedly mark the high watermark of Scipio Africanus scholarship to date and provide a firm foundation for achieving much of this project's aims. None of the works in this group, however, address the research questions outlined above beyond describing Scipio's tactical reforms.

Another major line of scholarship is general accounts of the Punic Wars as a whole. Lazenby,⁷ Goldsworthy⁸ and Bagnall⁹ all provide valuable additions to the body of scholarship, although Goldsworthy's work is perhaps the most innovative. His description of Hannibal's formation at Cannae,¹⁰ more aptly described in a more developed work, is as persuasive as it is original, successfully challenging a well-established conception of the battle, though this is not wholeheartedly endorsed by O'Connell.¹¹ Additionally Goldsworthy's work on Roman command¹² and its chapter devoted to Scipio Africanus provide a high quality addition to the scholarship. While several deal with the transition to a post Hannibalic war politico-military environment, none addresses the abandonment of Scipio's tactical reforms in any real depth.

There is also a more technical line of scholarship designed for scholarly reader which has focused primarily on the mechanics of the manipular army or combat in the period. Sabin's three relevant works¹³ all shed significant light upon technical aspects of battle mechanics and relevant formations. As a more general aide to the scholar Hoyos has produced two 'companion' style works¹⁴ of high quality which touch on several relevant aspects of the army and how it performed during the war. Head,¹⁵ Hammond,¹⁶ Scullard¹⁷ and Frank¹⁸ all provide useful clarifications to problems with battlefield location and textual analysis.

⁴ Gabriel (2008)

⁵ See Jacobs (2008) & Tritle (2009), for commentary on these works.

⁶ Scullard (1926), Scullard (1970)

⁷ Lazenby (1999)

⁸ Goldsworthy (2000)

⁹ Bagnal (2002)

¹⁰ Goldsworthy (2007)

¹¹ O'Connell (2010)

¹² Goldsworthy (2003)

¹³ Sabin (2000), (2007), (2011)

¹⁴ Hoyos (2011), (2013)

¹⁵ Head (1982)

¹⁶ Hammond (1966), (1984), (1988)

However, what emerges from a wider view of the scholarship is a general neglect of the central questions of this project. When addressed at all, the transition between the Hannibalic War and the conflict with the Hellenistic powers is framed in terms of explaining the deficiencies of the Macedonian phalanx when facing the legion, specifically in terms of small-unit quality and flexibility.¹⁹ Hoyos is one of the few who addresses the problem of the abandonment of Scipio's tactics specifically;

“Yet this was a sophistication difficult for other Roman generals, however capable, to match - not to mention their armies. Leaders and armies of the first half of the following century did remain skilful and successful, partly because they had to confront sophisticated opposing military systems. Even so they did not need to reproduce Scipio's tactical finesses”²⁰

This conception, however, is unsubstantiated. Thus, this investigation has not found any Anglophone scholarship²¹ which approaches the apparent abandonment of Scipio's tactical reforms with any real depth or sophistication. This is likely because, as exemplified above, most scholars believe the answer to lie in the self-evidently inferior leadership which followed Scipio. The objections to this line of argument are detailed in later chapters.

1.3 Structure, Definitions and Methodological Framework

The body of this project is divided into five chapters, the middle three of which will examine the development of Roman tactical doctrine throughout the period discussed. Chapter 2 describes a *status quo* state, illustrating typical Roman tactics during the opening campaigns of the Second Punic War. Chapter 3 examines the command of Scipio Africanus and the tactical reforms introduced during the Spanish and African campaigns. Chapter 4 explores Roman tactics of the Second and Third Macedonian wars. These three periods will be examined in contrast in order to illustrate developments in tactical doctrine. Chapter 5 will briefly examine some of the implications for scholarly understanding of the methods by which the Roman army maintained tactical

¹⁷ Scullard (1936)

¹⁸ Frank (1919)

¹⁹ Goldsworthy (2000) p. 318

²⁰ Hoyos (2007) Section 9

²¹ Due to limitations of size and scope only Anglophone scholarship has been engaged with in this project.

developments at the army command level. It will also identify potentially fruitful areas for future research.

The basis for these chapters will be critical re-examinations of six set piece engagements: Trebia, Cannae, Ilipa, Campi Magni, Cynoscephalae and Pydna. These engagements have been selected as they best illustrate the general principles behind Roman tactical formations and manoeuvres. There are, however, two notable exceptions: Baecula and Magnesia. Baecula has not been included in this project, not because of any lack of utility, but simply the constraints of project size and time: it was felt that Ilipa demonstrated a significant refinement of the tactics utilised at Baecula. Magnesia, and the Syrian War generally, has been excluded because of the personal influence of Africanus²² and the possibility of contamination, so to speak.

These re-examinations will be based primarily upon ancient literary sources, though these will be supplemented by modern fieldwork and reconstructions where applicable. By far the two sources that form the foundation of this project are Polybius and Livy, and each is addressed in greater detail in the following sections. In all cases, the objective of these re-examinations is the extraction of the ideal conception by which the Romans employed their armies: the doctrinal principles which guided their tactical employment. Thus the deployment, formation and tactics of the opposing army will only be included where it sheds some greater light upon Roman dispositions. This forms the project's data and a foundation for all following conclusions.

A primary aim of this project is to determine whether Scipio's tactics represent at least a potential development to Roman tactical doctrine which could be widely applied by other commanders. In order to contend with this question with confidence, the term *doctrine* needs to be defined with care. In a modern military context doctrine, be it military, operational or tactical, refers to a discrete, codified and often published collection of fundamental principles by which operations are conducted. The US Army / USMC Counter-Insurgency Field Manual published in 2006 describes the publication as:

"This field manual/Marine Corps warfighting publication establishes doctrine (fundamental principles) for military operations in a counterinsurgency (COIN) environment."²³

²² Livy XXXVII.7

²³ Petraeus (2006) vii

There is real danger of anachronism here. The use of the term *doctrine* in the context of the military of ancient Rome may indeed bring to mind codified manuals of the complexity evident in modern military doctrinal publications. Certainly such a notion would be entirely misplaced in discussing the Roman army of the mid-republic. Roth wrestles with similar anachronistic concerns in his work examining the logistical system of the Roman army, citing objections to the very use of the term *logistics* in an ancient context. Said objections revolve around the implied systemic complexity of the conception of modern logistical systems, the comparative simplicity of ancient analogues and the lack of comparable Latin terms.²⁴ However, Roth concluded that, although the term *logistics* may not equate exactly to its modern meaning when used in an ancient context, it is still by far the best term to describe the system of supply utilised by the Romans.²⁵ The same approach will be taken regarding the term *doctrine*. Thus, in the context of this project, tactical doctrine is defined as: *the general principles under which the army operates whilst engaging in battle*. This is distinct from *tactics*, which refers to the specific manifestation of doctrinal principles when applied to an individual situation, and distinct from *operational doctrine*, which is defined as the general principles by which combat operations are conducted including order of march, logistics, camp fortification, watch cycles and foraging activities, in addition to tactics.

1.4 Polybius

Born around the year 200 BCE in the city of Megalopolis in the Peloponnesian highlands of Arcadia,²⁶ Polybius was a prominent politician and soldier of the federation of Peloponnesian cities known as the Achaean League. The son of prominent local statesman Lycortas, Polybius enjoyed a fruitful political career in his twenties, reaching the post of commander of cavalry, the Hipparch, second in command of the federation's military forces. In the wake of the Roman purges following the battle of Pydna Polybius, along with a thousand other Achaeans Rome deemed a potential threat, was interned to Italy as a political hostage where he stayed for some seventeen years.²⁷ In Rome he met, and was possibly the tutor of, Scipio Aemilianus, with whom he forged a lifelong friendship, itself a source of immense pride for Polybius.²⁸ This connection gave him practically unprecedented access to Roman politico-military affairs, including personally accompanying Scipio on campaign at

²⁴ Roth (1999) p. 2

²⁵ Roth (1999) p. 3

²⁶ Walbank (1990) p. 7

²⁷ McGing (2010), p. 14

²⁸ Polybius XXXI 24, πλὴν ἀπὸ γε ταύτης τῆς ἀυθομολογήσεως οὐκέτι τὸ μεράκιον ἐχωρίσθη τοῦ Πολυβίου, πάντα δ' ἦν αὐτῷ δεύτερα τῆς ἐκείνου συμπεριφορᾶς

Carthage²⁹ and possibly Numantia. In the wake of the Achaean War he played a leading role in the reconstruction of Greece, regaining some of his lost political importance at home.³⁰ During his time both as a hostage in Rome and as a client of the Scipios Polybius travelled extensively, following in Hannibal's footsteps via a crossing of the alps, after sailing deep into the Atlantic Ocean to find the location of the Atlas Mountains.³¹

Polybius wrote several works, including *tactics* which may have been of great use to this project, yet only fragments of his larger work, *The Histories*, have survived.³² The 40-volume work covers the years 220 to 146 in great detail. Its purpose is made abundantly clear by the author himself, who states his design in Book 1:

‘who would be so indolent as to not wish to know by what means and under what system the Romans in less than 53 years succeeded in subjecting the whole inhabited world (οἰκουμένην) to their sole government?’³³

This is undoubtedly the aim of the histories: to explain and detail the rise of Rome to supreme power in, particularly, the Greek world and the systemic reasons which caused it. And it is primarily a Greek audience at whom the work is squarely aimed, though there are some small references to Roman readers.³⁴ Coming to grips with the seismic shift which had shaken the geopolitical world of Polybius' Achaëa, and its Hellenistic neighbours from Antioch to Alexandria, was the prime concern of the Hellenistic political class. Any political future meant dealing with Rome. Thus *The Histories* is tailored to meet this end. Polybius defines his work in historiographical terms as ‘pragmatic history’ (πραγματικὴ ἱστορία)³⁵ a phrase that, as Walbank insightfully notes, has provoked practically every Polybian scholar to formulate their own translation. The simplest of these is that Polybius focused his history on political and military matters, rather than the socio-religious and cultural.³⁶ The *Histories* is also intended to be universal in geographical scope.

Polybius' source material ranged from earlier historical texts for the First Punic War - such as the well liked Fabius Pictor and the loathed Sosylus - to the eye witness accounts for much of the

²⁹ Walbank (1999) p. 11

³⁰ McGing (2010) p. 14

³¹ Walbank (2002) p. 37

³² Walbank (2002) p. 17

³³ Polybius I. 1.5

³⁴ Walbank (2002) p. 4

³⁵ Polybius XXXIX. 8.6

³⁶ Walbank (2002) p. 6

Hannibalic War of individuals such as Africanus' tribune Laelius, and his own account for contemporary events. His position at Rome, his connections with Roman and Hellenistic nobility and physical proximity to significant historical episodes provided Polybius with practically unparalleled opportunities for information-gathering, reminiscent of Thucydides' time at Sparta. Polybius also included significant documentary sources of which some, like the treaty between Hannibal and Philip V, are included word for word.³⁷ His sources are, therefore, excellent.

Polybius' attitudes towards Rome are a potentially significant element to consider when approaching the text. There are several competing factors here. His close relationship with Scipio Aemilianus is, at face value, some cause for concern when examining his account of Scipio Africanus and Aemilius Paullus. Additionally, his general attitude towards Roman imperialism, as a disenfranchised Achaean politician, is also suspect. Indeed as Walbank surveys, most historians detect a significant anti Roman sentiment in books XXX to XXXIX, an attitude especially evident in the text's speeches.³⁸ Interestingly this tension between pro and anti-roman sentiments is expressed, according to Champion, in Polybius' collective representation of the Romans as either a member of Hellenistic political society or as barbarians, itself a manifestation of the wider cross-cultural evolution of contemporary events.³⁹ However, these concerns are tempered by Polybius' self-declared commitment to truthfulness and the fidelity with which he treats his material.⁴⁰ Additionally his hardnosed literary style, with its rather laborious Greek, complements said commitment to a clear portrayal of facts⁴¹ and removes any fear of literary devices distorting the military narrative. Polybius' personal experience in the military, combined with his commitment to truth and the criticality with which he treats his material make him an excellent source for the military historian, though potential biases always need to be remembered.

1.5 Livy

Titus Livius was born sometime around 59 BCE in the flourishing rural city of Patavium, situated in the province of Cisalpine Gaul. Patavium was a city of great wealth and regional importance in the mid-first century; as a centre of wool production it grew to be perhaps only second to Rome in commercial success in greater Italy. The city had a long and proud history, claiming a foundation date comparable to Rome's. This produced a nearly unique traditionalism for provincial Italy which

³⁷ Walbank (2010) p. xvii

³⁸ Walbank (2002) p. 19

³⁹ Champion (2004) p. 5

⁴⁰ Walbank (2002) p. 11

⁴¹ McGing (2010) p. 15

engendered a generally pro-senatorial conservatism,⁴² as is evidenced by the closure of the city gates to Mark Antony in 43 BCE⁴³. Walsh argues convincingly that Livy undertook his extended education at Patavium rather than Rome, and thus the pro-senatorialism of his home town obviously had some significant impact upon his work.⁴⁴ Our knowledge of Livy's life is still somewhat ambiguous, but some facts can be gained from his work: It seems clear that Livy had neither military experience nor any knowledge of the machinations of politics, which contrasts starkly with Polybius.⁴⁵ It is unlikely that, given his reasonably primitive geographical descriptions, he travelled widely beyond Italy. Livy was a professional writer and historian, not a soldier or politician. He moved to Rome around 29 and began his life's work, a colossal history of the city of Rome from its foundation to the death of Drusus in 9, a complete 142 books. He remained there for much of his life, under the patronage of Augustus, writing history and teaching members of the imperial family, notably the future emperor Claudius.⁴⁶

Of Livy's life's work, the monumental *Ab urbe condita libri*, only some 36 books have come down to us from antiquity. However this represents by far the most detailed and complete narrative history of the Second Punic War and Rome's conquest of the Hellenistic world. Livy's presence at Rome combined with his lack of politico-military experience conspired to limit his source material, at least in the work which survives, to literary sources. This would, apparently, stand to condemn him in the eyes of Polybius, who viewed personal experience of both place and politics as an essential pre-requisite for the historian of antiquity.⁴⁷ Indeed Livy lacks Polybius' technical understanding of military manoeuvres and his personal understanding of geography. There is a silver lining in this supposed deficiency, however, as several lost narrative traditions are well preserved in Livy, including much of Polybius' missing work, in addition to Fabius Pictor, Licinius Macer, Coelius Antipater and Valerius Anitas.⁴⁸ For the period covered in this project Livy relied heavily upon Polybius, practically an exclusive source for matters in the east, though for events after the Hannibalic War he relied more heavily upon Coelius Antipater for a narrative of western events. Valerius Anitas provided a strong annalistic framework, though his tendency towards invention rendered any use of the narrative problematic, a problem not lost upon Livy.⁴⁹ Indeed he often displays significant critical discretion when choosing sources and addressing source material, though

⁴² Walsh (1970) p. 2

⁴³ Note all dates which follow are "Before the Common Era (BCE)" unless noted otherwise.

⁴⁴ Walsh (1970) p. 3

⁴⁵ Walsh (1970) p. 4

⁴⁶ Ogilvie (2002) p. 1

⁴⁷ Walsh (1970) p. 139

⁴⁸ Smith (1993) p. 3

⁴⁹ Scullard (1970) p. 26

perhaps less than would be expected of modern colleagues.⁵⁰ Thus most of Livy's source material is essentially secondary, and hence may be at times less reliable than Polybius, but its sheer volume provides rich pickings for the modern historian if approached with sufficient care.

When engaging with the text several factors need to be kept firmly in view. The first is his tendency to rely upon a single source at a time for extended periods of the narrative, and then only after an episode's completion are opposing views quoted.⁵¹ The second is Livy's propensity to impose his moral views directly onto the narrative itself, weaving them throughout the foundation of the work itself, in contrast to the Polybian style of keeping such judgements subjective.⁵² The third is the indirect influence of Augustus. Livy's literary career is almost perfectly aligned with the political career of Augustus, effectively beginning at the battle of Actium and ending four years after Augustus' death.⁵³ The providential imperial mission to impose the *pax Romana* upon the inhabited world, and its final completion upon Augustus' assumption of the purple, is the base narrative which underpins *Ab urbe condita libri*. As Walsh notes, Livy is an Augustan historian. That is not to say, however, that Livy blindly 'prostituted his historical talents to the regime', as his pro-Pompeian stance illustrates,⁵⁴ nonetheless this desire to justify Augustan ideals is never truly far from the narrative. The fourth issue to consider is Livy's literary style: he employs several literary devices in the military narrative which, although make him far more readable than Polybius, distort the account. This is exemplified by Livy's habitual use of what is, apparently, his favourite anecdote: individual officers saving a deadlocked or desperate situation by grabbing a nearby standard and hurling it into the enemy line.⁵⁵ This is in addition to his tendency to inflate skirmishes into major engagements where it suits him.⁵⁶ Nonetheless, the almost minute detail with which Livy documents the Hannibalic War make him a truly invaluable source for this project, as long as he is approached with his limitations in mind: he is no military man after all.

⁵⁰ Smith (1993) p. 4

⁵¹ Walsh (1970) p. 141

⁵² Scullard (1970) p. 26

⁵³ Ogilvie (2002) p. 1

⁵⁴ Walsh (1970) p. 11

⁵⁵ Livy XXVII.14, XXVI.5, XXV.14

⁵⁶ Livy XXVII.12

Chapter 2

Sustained Frontal Pressure: the *triplex acies* and the Failure of Roman Tactical Doctrine 218 - 216 BCE

2.1 Ground Rules: the Nature of Ancient Battle

Before grand tactics and large unit manoeuvres are considered the fundamental mechanics of battle at the small unit level needs to be addressed in order to set a firm foundation for later discussions. The subject itself is worthy of a project this size or greater, thus only a very limited treatise is realistically possible if this project is to maintain its focus. This discussion relies upon Polybius' clear and invaluable organisational description of the Roman army. The primary large unit of the Roman army was the legion, a combat and administrative organisation generally analogous to a division or brigade combat team in a modern military. This combined arms formation possessed a paper strength of some 4,500 men, though in exceptional circumstances this size swelled to 5,000.¹ This was typically divided into 1,200 light infantry, 3,000 heavy infantry and 300 cavalry,² though allied 'legions' called *alae* or wings, whilst apparently organised in a comparable structure,³ usually possessed some 900 cavalry.⁴ Legions were typically arranged in a 'theatre' deployment of two citizen legions and two allied *alae*, numbering around 20,000 men with around 2,000 cavalry, placed under the command of a consul.⁵ These balanced formations were called consular armies. It must be remembered that the total strength outlined in this section is an ideal or 'paper' strength; actual unit size could vary dramatically on campaign.

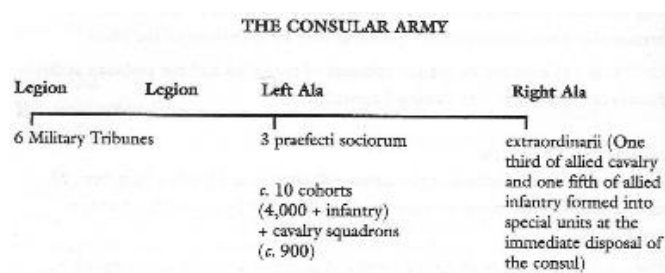


Figure 2.1: The Consular Army (Goldsworthy (2000) Appendix II)

¹ Polybius VI. 20

² Polybius VI. 21

³ For a good breakdown of the role of allied troops in the legionary structure, see; Bagnal, (2002) p. 29

⁴ Polybius VI. 26

⁵ Goldsworthy (2000) p. 55

The legion was divided into five unit types, each reflecting the socio-economic class of the soldier. The poorest men were assigned to the *velites*. These highly mobile units served as light infantry intended to primarily engage in ranged combat, and were cheaply equipped with a light shield, sword, brass helmet and several light javelins.⁶ The men of sufficient wealth to procure heavy arms were formed into three divisions of heavy infantry which constituted the heart of the legion's combat capability. The youngest and thus poorest of these, men usually in their twenties, formed the *hastati* which numbered some 1,200. The men in their prime, usually in their thirties, formed the *principes*, which again numbered 1,200. Finally the most experienced and wealthy men formed the *triarii*, and their strength was half that of the *principes*. These three lines were typically arranged in a checkerboard formation of companies known as the *triplex acies*.

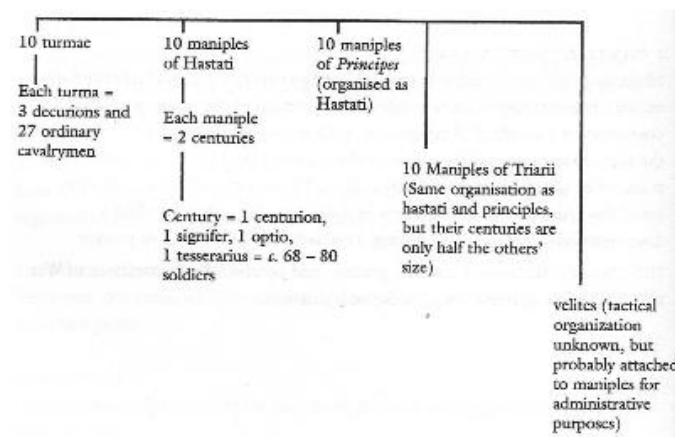


Figure 2.2: Breakdown of the legion into unit types (Goldsworthy (2000) Appendix II)

Polybius clearly describes the complete Roman panoply adopted by these three sections of heavy infantry. Each man carried a large convex shield called the *scutum*, which measured two and a half feet wide by four feet in height. Made of thick wood and canvas with an iron boss and bronze edge, this heavy shield provided the legionary with excellent frontal protection from a wide range of threats across an arc of over 90 degrees. Each man wore greaves to protect his legs and a brass helmet. For torso protection the *hastati* generally wore a brass breastplate in the shape of a square called a heart protector or *pectorale*, while the *principes* and *triarii* wore a chainmail tunic called a *lorica* which, though more expensive, afforded greater protection.⁷ The primary close contact weapon of the legionary was the 'Spanish Sword' or *Gladius Hispaniensis*: a mid-sized, double edged sword with a blade length of around 20 – 24 inches (50 - 60cm) and a triangular point.⁸ Though primarily designed to thrust and pierce armour, the *Gladius Hispaniensis* was also clearly a

⁶ Polybius VI. 22

⁷ Polybius VI. 23

⁸ Goldsworthy (2000) p. 47

devastating cutting weapon, as Livy's graphic description of the shock caused by the severed limbs of Macedonian soldiers in 200 illustrates.⁹ Each man was also equipped with two javelins or *pila*, one heavy and one light, fitted with a fine iron point, designed to bend on impact, and of about four cubits (roughly 160cm) in length.¹⁰ The *triarii*, however, retained long thrusting, hoplite-like spears named *hasta*. The wealthiest citizens, from the equestrian class, formed the cavalry, and were equipped with a light shield and lance.¹¹

The primary unit of manoeuvre within the legions was the maniple. Formed from the combination of two smaller subunits of roughly sixty men each called a century - a unit which gave its name to the rank of its commanders, the famous centurion - the maniple formed the foundation of the legionary unit structure.¹² Thus, some discussion on warfare at the level of the maniple is necessary if larger grand tactical effects are to be fully understood. However, this is not an area of scholarly consensus and, again, simply due to the restraints of time and space the following discussion is perhaps undesirably terse and unavoidably general. Light units were designed to skirmish in front of the main battle line of heavy infantry, primarily engaging in ranged combat with comparable enemy units and, where possible, disrupting the enemy battle line with javelin and shot. These fleeting engagements of dash and retreat are relatively well understood. There is, however, still scholarly debate¹³ as to the actual nature of battle between heavy units of a main battle line, where men engaged each other face-to-face with sword, spear and shield. As Sabin notes, the casualty numbers we have suggest the vast majority of injuries were inflicted once one army broke ranks and fled, leading to an incredible disparity of losses between victor and vanquished, even in engagements which lasted hours.¹⁴ This raises some interesting questions on what shape actual heavy infantry combat took.

At one end of the spectrum we have the contemporary idea of the mad, impetuous charge, quickly devolving into a morass of dashing infantry duels popularised by many Hollywood epics from *Braveheart* to *Gladiator*. However, given the strong emphasis the Romans placed on discipline and unit cohesion,¹⁵ and the likelihood of wholesale carnage on both sides, this notion can only be described as pure fantasy in the vast majority of cases. At the other extreme is the idea of *othismon*¹⁶ (ὠθισμὸν) as described by Herodotus, contemporarily conceptualised as a literal shoving

⁹ Livy XXXI. 34

¹⁰ Polybius VI. 23

¹¹ Polybius VI. 25

¹² Polybius VI. 24

¹³ See Sabin (2000) and Luginbill (1994)

¹⁴ Sabin (2000) p. 5

¹⁵ Polybius VI. 24

¹⁶ Herodotus IX. 62

match, shield upon shield, designed to physically push the enemy back. There is some solid evidence for this in the ancient sources, not only in Herodotus but in Polybius¹⁷ and Thucydides,¹⁸ and the idea has been reservedly championed by modern scholars such as Luginbill, albeit in a hoplite context.¹⁹ Sabin outlines many objections to this form of combat being the norm in Roman battles, from the physical exertion required, to the demonstrable inappropriateness of the Roman panoply for such situations and the sheer combat lethality of these engagements, cheek by jowl as they were.²⁰ An additional objection is the lethality of crush effects observed in the modern context of crowd deaths. Several contemporary studies have found that five individuals in a 'panicked' state can generate a lateral force of 3430N (766lbs or 347kg), far more than required to cause death by asphyxia.²¹ This effect has not been accounted for in the aforementioned modern sources and its impact alone, given the force generated by a crowd of fighting men at least 16 deep, pushing as though their lives depended upon it, renders the *othismon* model applicable only in rare circumstances at best.

The idea which is perhaps most likely to describe historical reality is Goldsworthy's 'battle pulse' model, which lies somewhere between the aforementioned extremes. Goldsworthy's model, which closely approximates Sabin's conception,²² envisages the opposing lines steadily advancing to within five or ten metres, and then maintaining that distance for extended periods whilst exchanging missile fire, perhaps after an initial, indecisive, charge. Then individual maniples, once they had gathered sufficient bravery, burst forward to engage in short, sharp combat with the sword before pulling back to the 10m 'safety' distance. These battle pulses would ripple up and down the line as centurion and maniple initiated small unit combat all over the field.²³ This distance allowed wounded men to be moved to the rear and fresh reinforcements to be inserted from reserve units. Appian vividly describes this very process taking place during a civil war battle in 43.²⁴ This model avoids several significant challenges which face constant engagement models like *othismon*, for it provides space and time for both sides to husband their physical and mental strength and it explains the relatively low numbers of casualties inflicted over hours of comparatively even battle. It also avoids reliably killing the front ranks by crush-induced asphyxiation in the majority of engagements. Thus, it is the model of small unit combat which will be applied throughout this project, which needs to be remembered as the discussion moves to large unit mechanics and grand tactics.

¹⁷ Polybius XXXV. 1

¹⁸ Thucydides IV. 44

¹⁹ Luginbill (1994) p. 57

²⁰ Sabin (2000), p. 8

²¹ Still (2014); see also; Fattal, Cattaneo, (1976) p. 114 and *Horizontal Loading on Handrails*

²² Sabin (2000) p. 14

²³ Goldsworthy (2000) p. 59

²⁴ Appian *Civ*, III. 68 - 81

2.2 The Battle of the Trebia - 218 BCE

In 218, after an epic march from Carthago Nova, Hannibal descended into Cisalpine Gaul from a northern alpine pass. Encamped there, holding the line of the river Trebia, were the two Roman consuls, Scipio – the father of Africanus who was badly wounded at the Ticinus²⁵ - and Sempronius, with what amounted to nearly two consular armies. The ground between the two camps on the south bank of the river Po was somewhat marshy with the small, fordable river Trebia running directly between the camps, the Carthaginians holding a relatively strong position up a hill on, probably, the western side of the field.²⁶ In a small gully to the south Hannibal hid a thousand picked infantry and as many cavalry, intending to ambush the Romans. The weather was cold and the Romans had not eaten prior to battle.²⁷

The ancients disagree on the strength of the Roman units deployed at the Trebia: Polybius claiming 16,000 citizens and 20,000 allies;²⁸ however Livy states some 18,000 citizens.²⁹ Both of these totals are likely simply extrapolations from average unit compositions and can thus only be viewed as a rough guide.³⁰ Additionally Livy notes the presence of some Gallic auxiliaries, the Cenomani, which may account for the additional numbers of allies over basic calculations of *alae* size. It seems likely that the total strength of the Carthaginian army was comparable to the Romans; however both Livy and Polybius cite 10,000 cavalry as opposed to 4,000 Italian horse. Polybius states explicitly that Sempronius ‘drew up his legions in the usual Roman order’ (τοὺς δέ πεζοὺς παρενέβαλε κατὰ τὰς εἰθισμένους παρ’ αὐτοῖς τάξει),³¹ which undoubtedly implies the *triplex acies* formation. This is of importance as it demonstrates that the tactics employed by Sempronius were in accordance with typical Roman tactical doctrine. Polybius states that the Romans took the offensive, ‘marching in imposing style at the slow step (ἐν τάξει καὶ βάδην ποιούμενος τὴν ἔφοδον)’.³² Livy and Polybius agree on the general course of the battle; however there are some significant differences in emphasis. Both refer to the superior Punic light infantry, the ‘Baliares’ as Livy calls them;³³ though only Polybius mentions the *velites*. Additionally Polybius states that the Roman light infantry retreated through ‘gaps’ (τῶν διαστημάτων) in the heavy infantry line:

²⁵ Polybius III. 65.

²⁶ Frank JRS (1919) p. 207

²⁷ Livy XXI. 51.1

²⁸ Polybius III. 72

²⁹ Livy XXI. 55

³⁰ Goldsworthy, (2000) p. 179

³¹ Polybius III. 72

³² Polybius III. 72

³³ Livy XXI. 55: Slingers from the Balearic Isles equipped with a light leather sling and dagger. These men were able to hurl stones and lead shot over significant distances. See Vegetus *De Re Militari* I. 15 for a description.

‘The skirmishers were received through the gaps in their line (διόπερ ἄμα τῷ δέξασθαι διὰ τῶν διαστημάτων τοὺς προκινδυνεύοντας) and the heavy infantry met (καὶ συμπεσεῖν τὰ βαρέα τῶν ὀπλων ἀλλήλοις).’³⁴

This is not only an unambiguous reference to the *triplex acies* formation in action, but an indication that significant gaps remained between the maniples of *hastati* as the armies were in close contact.

Livy states that the Punic light infantry were withdrawn in the face of the oncoming legionaries where Hannibal redeployed them to the wings. This concentration on the flanks accentuated the Roman weakness in cavalry which, in addition to the elephants, precipitated a withdrawal. This allowed the Punic light infantry to envelop the Roman line on both flanks and pour stone and shot into the unprotected sides of the allied heavy infantry.³⁵ In the centre, however, the combat was apparently fairly even for some time.³⁶ At this critical juncture, with Sempronius’ flanks hard pressed and his cavalry routed, Mago triggered the ambush and attacked the Roman line in the rear,³⁷ which effectively triggered the rout of both wings.³⁸ Nonetheless, in the centre the legions applied so much pressure that they cleaved the Punic line in twain, routing the Gallic and African heavy infantry to their front:

‘Hemmed in as they now were (*Itaque cum iam in orbem pugnarent,*) about ten thousand men who were unable to escape elsewhere (*decum milia ferme hominum, cum alibi evader nequissent,*) broke the Carthaginian line which was formed of Gallic auxiliaries (*medie Afrorum acie, qua Gallicis auxiliis fermata erat*).’³⁹

Polybius confirms this.⁴⁰ A truly remarkable achievement given the disadvantages the Roman heavy infantry had been labouring under: hunger, cold, terrain and failure on the wings. If nothing else, this is as clear an example as any of legion’s ability to grind down an opposing battle line.

³⁴ Polybius III. 73

³⁵ Livy XXI. 55

³⁶ Polybius III. 73

³⁷ Polybius III. 74

³⁸ Livy XXI. 55

³⁹ Livy XXI. 56

⁴⁰ Polybius III. 74

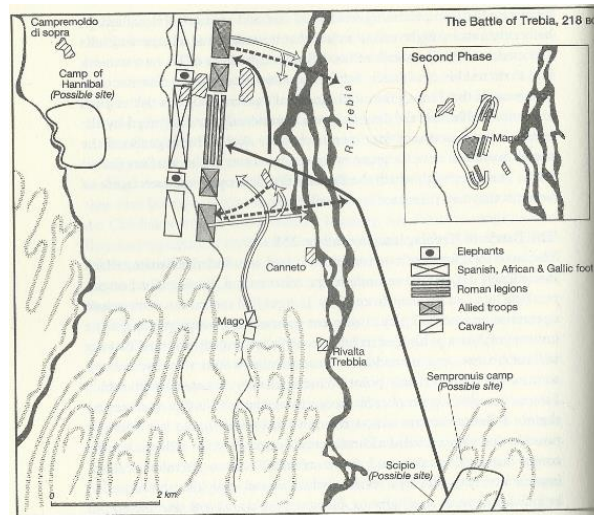


Figure 2.3: The Battle of the Trebia (Goldsworthy (2000) p. 174)

Both sources give us a glimpse into a typical grand tactical Roman deployment at the level of the consular army: the citizen legions in the centre of the line with *alae* massed on either flank – heavy infantry drawn up in the *triplex acies* formation – *velites* deployed in front of the line and cavalry guarding the wings.⁴¹ It also shows the emphasis the Romans placed upon heavy infantry superiority: Sempronius adopted an extremely aggressive tactical posture in spite of a more than two to one quantitative inferiority in cavalry, in addition to an undeniable qualitative inferiority in this arm as well. A similar state of affairs is clearly evident in the state of the light infantry. Yet in spite of these inferiorities Sempronius attacked the Carthaginians on ground of Hannibal's choosing, crossing a river in the cold month of December to do so. And despite all the above, the legionaries in the centre could have given him victory had the flanks not utterly collapsed. Undoubtedly some of this unwarranted tactical aggression can simply be attributed to Sempronius' personality and the temperament of Roman military command generally.⁴² However, he must have considered his inferiority in cavalry and light infantry to have been of little consequence in comparison to Roman superiority in heavy arms. Numerical inferiority of this magnitude must have been obvious. This gives us a window into the fundamentals of Roman tactical thinking before encountering Hannibal. Cavalry was clearly not viewed as a decisive arm in the Roman tactical doctrine of 218: its role was essentially to guard the flanks of the heavy infantry. The role of light infantry was similarly limited. We must also remember that there is nothing in the sources which indicates that Sempronius' deployment and tactical posture were anything other than typical; Polybius states explicitly that his deployment was entirely so.⁴³ Thus we must assume that he simply applied standard tactical

⁴¹ Polybius III. 72

⁴² Goldsworthy (2003) p. 23

⁴³ Polybius III. 72

doctrine: close with the enemy heavy infantry line, assault it frontally and grind it down. The effectiveness of said tactics is exemplified by the performance of the Roman centre at the Trebia, despite the army's defeat. However, Hannibal was like no enemy Rome had yet faced and some twenty months later he would provide the ultimate demonstration of the manifest inferiority of established Roman tactical doctrine.

2.3 The Battle of Cannae – 216 BCE

In the wake of the disastrous ambush at Lake Trasimene⁴⁴ and the inability of the sustained disengagement strategy adopted by Quintus Fabius Maximus 'Cunctator'⁴⁵ to protect allied land in central and southern Italy from widespread depopulation and destruction, the senate decided upon decisive action. Under the consuls of 216 - Lucius Aemilius Paulus and Gaius Terentius Varro - some 8 legions were mobilised, and both were ordered to concentrate and coordinate operations against Hannibal, who had just taken the regional stronghold of Cannae in Apulia.⁴⁶ The ancients both underline significant problems within the Roman command structure prior to the battle, though perhaps this interpersonal drama suits Livy's rhetorical flush better. The two consuls had an acrimonious relationship, and their differences ranged from the personal to the tactical. Polybius describes the impact of the two consul's relationship as most pernicious:

'difficulties and disputes arose between the two generals, one of the most pernicious things possible (ἦν ἀμφισβήτησις καὶ δυσχρηστία περὶ τοὺς ἡγεμόνας, ὃ πάντων ἐστὶ σφαλερώτατον)'⁴⁷

Livy claims they spent most of their time squabbling as opposed to discussing tactics:

'While they wasted time, rather quarrelling than consulting (*dum altercationibus magis quam consiliis tempus teritur*).'⁴⁸

Obviously much has been made of this clash of personalities, and Livy especially uses it to partially explain the outcome of the battle. In general terms Aemilius Paullus advised caution and did not

⁴⁴ Livy XXII. 6

⁴⁵ Goldsworthy (2003) p. 37

⁴⁶ Polybius III. 106

⁴⁷ Polybius III. 110

⁴⁸ Livy XXII. 45

approve of the terrain whilst Terentius Varro remained eager for battle.⁴⁹ Compounding this problem was the disunity of command within the Roman command apparatus at this level: no one consul outranked the other and this created serious issues when both consular armies were united. The Roman's imperfect remedy was the practice of alternating the command day by day.⁵⁰ When both consuls were of a similar mind this was a workable arrangement, but when one advocated battle at the earliest opportunity and the other disengagement at all costs the problem became acute. Determined to force the issue, Varro, when his day of command fell on the 2nd of August 216, broke camp and deployed for battle on the plain of Cannae.⁵¹

The field of Cannae is a flat, treeless piece of ground constrained to the north by the river Aufidus (Ofanto) and to the south by the steep hills upon which the township of Cannae sits. It runs along a North East to South West line. The space between the Aufidus and the ridge is roughly 2km wide, making Cannae a very constricted battlefield.⁵² In order to fit the massive numbers of Roman heavy infantry within such a relatively small space Polybius tells us that the frontage of each maniples was drastically reduced, giving each greater depth than width.⁵³ Otherwise Varro deployed conventionally, with the massed Roman cavalry on the right wing near the river, the legions arrayed across the field, the allied cavalry squeezed in on the left near the hills and the light infantry deployed in front.⁵⁴ Approximately 80,000 Roman infantry and 6,000 cavalry advanced to meet the Carthaginians that day.⁵⁵ To oppose them Hannibal commanded some 40,000 foot and 10,000 horse.⁵⁶ The exact deployment of the Carthaginian army is still a matter of scholarly conjecture as two traditions have been preserved - one Polybian, the other Livian - both of which have their modern proponents. Each of these will be addressed in turn.

The tradition presented by Livy is perhaps the most widely understood and accepted. In it, Hannibal deploys his army in a crescent formation of small, maniples-to-company sized units arrayed in echelon with the centre projecting out sharply towards the Roman line. Livy describes it as a 'wedge'-like formation or projection: *a cetera prominentem acie*.⁵⁷ The centre or point of the wedge is held by alternating companies of Gallic and Spanish heavy infantry. At the base of the wedge on

⁴⁹ Polybius III. 112

⁵⁰ Polybius III. 110

⁵¹ Polybius III. 113

⁵² Goldsworthy (2007) p. 93

⁵³ Polybius III. 113

⁵⁴ Livy XXII. 45

⁵⁵ Polybius III. 113

⁵⁶ Polybius III. 114

⁵⁷ Livy XXII. 45

either flank furthest from the Roman line Hannibal deployed his best heavy units, the African infantry, in strength.⁵⁸ The battle begins with protracted and barbaric cavalry engagement on the south of the field.⁵⁹ In this tradition the heavy infantry battle ignited as the centres made contact, and given the weight of the Roman advance, the Spaniards and Gauls soon gave ground.

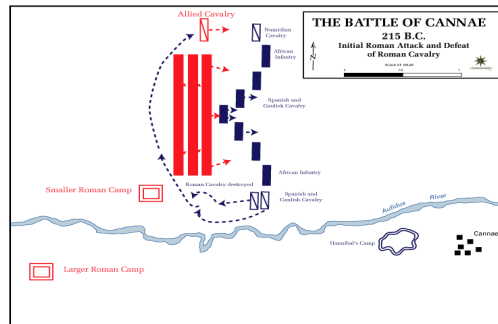
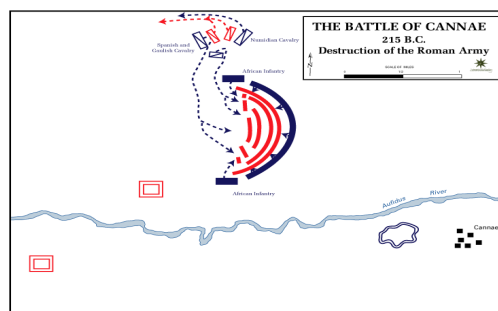


Figure 2.4: Livy's version of Cannae: opening deployment (www.en.wikipedia.org/wiki/Battle_of_Cannae)⁶⁰

Following the success in the centre the Romans concentrated towards the apparent point of weakness, first driving in the wedge till the line straightened, then pushing so hard it formed a concavity. At this point the Africans on the wings both began an outflanking movement, extending the flanks, enveloping the Roman line, until eventually it reached the rear ranks. This, combined with the defeat of the Roman and allied horse and Hasdrubal's cavalry attacks on the rear, led to the utter collapse of the Roman position.⁶¹ Trapped and completely enveloped, 45,000 Roman and allied infantry died where they stood.⁶² Modern proponents of this model include Garland,⁶³ Lamb,⁶⁴ Cottrell,⁶⁵ Bosworth⁶⁶ and Healey.⁶⁷



⁵⁸ Livy XXII. 45

⁵⁹ Livy XXII. 47

⁶⁰ Note that the above illustration shows the modern course of the river Aufidus, its ancient course was likely north of the battle lines, see Goldsworthy (2007) p. 89

⁶¹ Livy XXII. 47

⁶² Livy XXII. 48

⁶³ Garland (2010) p. 86

⁶⁴ Lamb (1959) p. 100

⁶⁵ Cottrell (1965) p. 99

⁶⁶ Smith (1889) p. 158

⁶⁷ Healy (1994)

Figure 2.5: Livy's version of Cannae: the envelopment (www.en.wikipedia.org/wiki/Battle_of_Cannae).

The competing model of the battle is based upon the narrative of Polybius. The major point of difference with the Livian narrative is the arrangement of the African foot on the flanks of the Punic formation. He describes the entire formation as a crescent shaped convexity or bulge; μηνοειδὲς κύρτωμα.⁶⁸ However, as opposed to the Livian tradition, the Africans were deployed in column making the crescent into the shape of a 'U'.⁶⁹

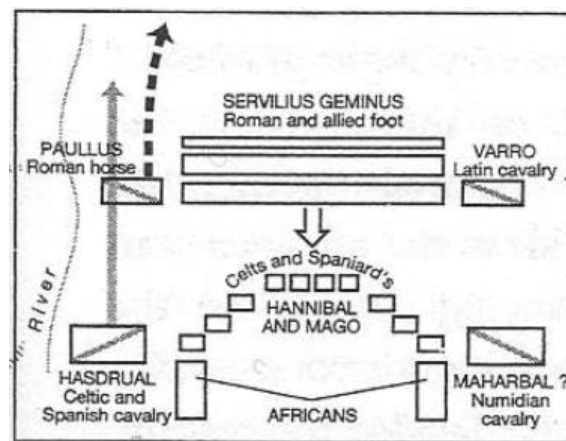


Figure 2.6: Polybius' version of Cannae: opening deployment (Goldsworthy (2000) p. 201)

According to Polybius once battle was joined in the centre the Gauls and Spaniards were not simply pushed back, but put to rout; 'but soon, borne down by the weight of the legions, they gave way and fell back, breaking up the crescent (μετὰ δὲ ταῦτα τῷ βάρει θλιβόμενοι κλινόντες ὑπεχώρουν εἰς τοῦπίσω, λύσαντες τὸν μηνίσκον)'.⁷⁰ The Romans, sensing victory, poured through the collapsing centre. The cleaving of the Punic centre and its exploitation placed the bulk of the Roman infantry, now disordered, squarely between the two divisions of Hannibal's best units, his fresh Africans. Polybius states that the Africans simply turned and charged, trapping the Romans between two divisions of the enemy;

'as Hannibal had designed the Romans, straying too far in pursuit of the Celts, were caught between two divisions of the enemy (ἐξ οὗ συνέβη κατὰ τὴν Ἀννιβὸν πρόνοιαν μέσους ἀποληφθῆναι τοὺς Ῥωμαίους ὑπὸ τῶν Λιβύων κατὰ τὴν ἐπὶ τοὺς Κελτοὺς παράπτωσιν)'.⁷¹

⁶⁸ Polybius III. 113

⁶⁹ Polybius III. 114

⁷⁰ Polybius III. 115

⁷¹ Polybius III. 115

At this point the Roman heavy infantry had no choice but to give up the pursuit of the Spaniards and Gauls - who then rallied – and face the new threat on the flanks. The Romans were thus ambushed and completely enveloped. Polybius gives their losses as 70,000.⁷² Modern proponents of this model include Goldsworthy⁷³ and de Beer.⁷⁴

The Polybian model is preferable on several levels. The first being Polybius' clear superiority in military understanding: he had far more personal experience of ancient warfare than either Livy or any modern historian. This is something which needs to be respected. Secondly, given the experience at the Trebia,⁷⁵ it is very likely that the Punic centre at Cannae also broke into rout. The force ratio applied at Cannae had doubled from the Trebia and the ground was far less favourable to the defender, yet for the Livian model to work we must assume that the Punic centre was simply driven back whilst maintaining general cohesion.⁷⁶ This stands in contradiction to Livy's actual depiction of the battle in the centre, where he describes the Gauls and Spaniards as a crowd of 'fleeing, panic stricken foes' (*institere ac tenore uno per praeceps pavore fugientium*).⁷⁷ Had the centre routed with the Africans simply maintaining pressure on the flanks and extending their lines to achieve the envelopment as Livy suggests, there would have been little to stop the bulk of the Roman heavy infantry pursuing the Gauls and escaping the envelopment, as occurred at the Trebia. The Polybian model addresses this problem via the pressure applied by charge of the Africans. Additionally it would have been difficult for the Africans to have gradually enveloped the Roman line whilst they were engaged with heavy units to their front. The Polybian model avoids this problem as well.

The reaction of the senate generally and Varro specifically demonstrate that the defeat at the Trebia had not led to any fundamental alteration to Roman tactical doctrine. The senate made no real effort to address Roman inferiority in cavalry, at least numerically, yet they doubled the numbers of heavy and light infantry at the consul's command, even raising legion strength to 5,000.⁷⁸ Fields', admittedly simplistic, analysis agrees with this assessment:

⁷² Polybius III. 115

⁷³ Goldsworthy (2007) p. 125

⁷⁴ De Beer (1969) p. 215

⁷⁵ Polybius III. 74

⁷⁶ Livy XXII. 47

⁷⁷ Livy XXII. 47

⁷⁸ Polybius III. 107

‘as a race they tended to rely on instinctively on brute force (*bula*) when making war. Nothing illustrates this criticism better than at Cannae, when Roman tactics subordinated the other arms very much to the heavy infantry’⁷⁹

Varro deployed with entire similarity to Sempronius, the only significant alterations being the concentration of the heavy infantry maniples in the centre and their depth. The operational plan was just as comparable: advance on the enemy heavy infantry line, bear it down and overwhelm it. And in both instances it appears as though the Roman army achieved these aims: the Punic centre did indeed break. It is this fact that underlines Hannibal’s tactical genius all the more as he transformed the Roman’s greatest tactical virtues into the vehicles of their own defeat via brilliant use of formation and ambush. Indeed it seems as though the response to defeat at the Trebia was simply to apply established doctrine with more vigour, more heavy infantry and greater concentration. If nothing else, Cannae demonstrated that this doctrine, even when successfully applied with more than sufficient force, was not capable bringing victory over Hannibal, but only bloody disaster.

2.4 The Conventional use of the *triplex acies* Formation: Aggression and Frontal Pressure

As we have seen in the two engagements covered thus far the Roman tactical doctrine of 218 – 216 can be primarily characterised by aggression, the dominance of heavy infantry and the application of sustained and debilitating force upon the enemy battle line. We have also seen how effectively the legion could apply pressure to a line of heavy infantry, as in both defeats the formed legionary array was able to effectively rout the Punic centre. The primary mechanism which underpinned this ability is the *triplex acies* formation. The legion of the mid-republic typically deployed the three lines of heavy infantry in a chequerboard formation, called a *quincunx* as it resembled the number five on a gaming die. The maniples of *hastati* would deploy along a front of about 20 meters, allowing a meter per man and a depth of six ranks, with intervals between them of roughly the same frontage. The *principes* would deploy likewise behind the *hastati*, though facing the gaps in the first line. The *triarii*, finally would deploy facing the gaps in the *principes*. This produced a formation with the appearance of a chequerboard.⁸⁰

⁷⁹ Fields (2007) p. 42

⁸⁰ Goldsworthy (2000) p. 53

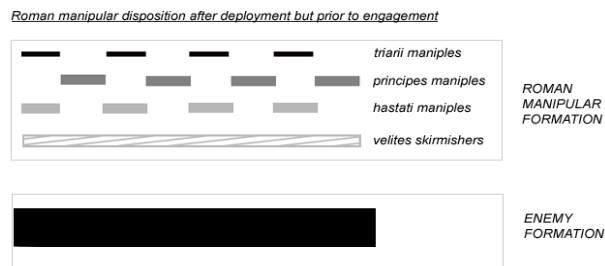


Figure 2.7: Typical Legionary array (www.en.wikipedia.org/wiki/Roman_infantry_tactics).

A key feature of this formation, which gave it great utility, was the ability to feed a steady stream of reinforcements from the second or third line to the battle face. This provided the legion with tremendous staying power, as physically exhausted or combat depleted units could be steadily replaced with maniples that were not only fresh but of steadily increasing quality and experience.⁸¹ However, the actual mechanics of this process raise some interesting questions as its easy application is only intelligible if significant gaps remained within the front line of *hastati*. Indeed Polybius clearly states in his description of the engagement at the Trebia that these intervals remained until, at the very least, just before the heavy infantry lines clashed.⁸² Yet, as Goldsworthy illustrates, this view has not been adopted by the majority of scholars, despite its origin within the ancient sources:

“The vast majority of scholars have refused to believe that the legion would have actually fought with gaps in the line, since surely this would have allowed a charging enemy to stream through the intervals in the Roman line, surrounding and overwhelming each separate manipule.”⁸³

Several different schemes have been proposed to remedy this perceived problem. One manoeuvre simply has the *hastati* doubling its front via the posterior century marching to the left on the manipule and reforming the line,⁸⁴ thus presenting a solid wall of infantry.⁸⁵

⁸¹ Goldsworthy (2000) p. 53

⁸² Polybius III. 73

⁸³ Goldsworthy (2000) p. 53

⁸⁴ Fields (2007) p. 44

⁸⁵ Harkness (2004) p. 35

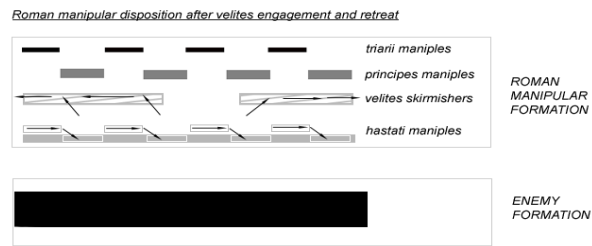


Figure 2.8: Forming a solid front (www.en.wikipedia.org/wiki/Roman_infantry_tactics).

This deployment makes the support of the *hastati* by the reserve lines problematic, however, as it becomes hard to fathom how whole maniples of *principes* would engage the enemy if the legion's front was entirely filled with an unbroken line of infantry. Generally the solutions to this problem are unwieldy at best, as Brady's hypothesis illustrates:

"When the first line as a whole had done its best and become weakened and exhausted by losses, it gave way to the relief of fresh men from the second line who, passing through it gradually, pressed forward one by one, or in single file, and worked their way into the fight in the same way... This does not presuppose an actual withdrawal of the first line, but rather a merging, a blending or a coalescing of both lines."⁸⁶

Ideas such as this strain credulity. When we consider the emphasis the Romans placed upon small unit cohesion - with the importance of centurions and the organisation of the maniples⁸⁷ - the implementation of tactical doctrine which envisaged the reinforcement of the battle line by individual soldiers moving through engaged maniples, apparently on their own initiative, is extremely unlikely. Fields' analysis is similarly flawed.⁸⁸ Its unavoidable result would be the dissolution of the manipular structure at the fighting line, with men from several maniples bunched together, fighting amongst strangers, and no small unit command and control whatsoever: a mob. Given the immense importance of maintaining discipline in order to prevent frightened men from fleeing battle, and thus precipitating a rout,⁸⁹ it is far more likely that the maniples fought as a unit under the supervision of their centurions. Thus, if we are to assume that the maniples fought as a unit, and the legion fought with an unbroken line of *hastati*, another mechanism for reinforcement of the battle face is required. Yet any mechanism where the battle face is reinforced by a fresh maniples requires some gap in the line, and achieving this under constant engagement

⁸⁶ Brady (1947) Appendix B

⁸⁷ Polybius VI. 24

⁸⁸ Fields (2007) p. 45

⁸⁹ Goldsworthy (2007) p. 59

models requires manoeuvres of great tactical dexterity: units varying their frontage drastically, creating space via a charge and shifting along the line, all whilst in contact with the enemy.

Yet there is a far simpler solution to these problems: that we should take Polybius at what appears to be his word and assume that indeed the legion did fight with gaps in the front line. The objections to this model, summarised by Goldsworthy,⁹⁰ are far less conclusive than they, at first, appear. Most stem from a few misconceptions of the fundamental nature of ancient warfare, outlined in section 2.1. The primary objection is the conception of a charging barbarian army, moving as a single body, en masse, and flowing between the maniples like water. This seems obvious if we look at the legionary array on a diagram where the gaps between the maniples are clear. However from the perspective of the Punic infantrymen in the line, no such gaps would have been apparent as every interval between the maniples of *hastati* was covered by a maniple of *principes* in close support.⁹¹ This formation would have appeared as an unbroken line from the front which simply varied in depth; thus it may be erroneous to even speak of the *triplex acies* as a broken line.

This objection also implicitly assumes that only the Romans fought as small units, but examples from Cannae⁹² to Marathon⁹³ to Mantinea⁹⁴ clearly demonstrate the opposite.⁹⁵ Thus any charge of a non-Roman battle line is likely to be done at the small unit level, rather than as a mass of individuals, and any small unit which intends to penetrate between the front line maniples and envelop them will find itself not only facing a maniple of *principes* to its front but *hastati* on either flank. The Roman panoply and the relatively loose fighting order within the maniple gave it some resilience to small unit envelopment, as the legionaries on the flanks of the maniple could simply turn ninety degrees to face the threat. The formation used by Suetonius Paulinus at the Battle of Watling Street utilised maniple-sized wedges protruding from the Roman line, and these performed well whilst engaged on three sides.⁹⁶ Thus, if we combine the threat of counter-envelopment with the far more timid, intermittent engagement model of combat promoted by Goldsworthy and Sabin, the likelihood of small units penetrating between the front maniples drops significantly, and with it the major objection to a discontinuous front. Goldsworthy concludes:

⁹⁰ Goldsworthy (2000) p. 53

⁹¹ Goldsworthy (2003) p.26

⁹² Livy XXII. 45

⁹³ Herodotus VI. 108

⁹⁴ Thucydides V. 82

⁹⁵ Hellenic and Hellenistic armies used several subunits within phalanx systems such as the *chiliarchiai* or *lochoi*. See Head (1982) p. 18 for a breakdown.

⁹⁶ Tacitus *Annals* XIV. 37 Though in the imperial period, the basic panoply and small unit formation/order used by Paulinus is generally analogous to the manipular structure at the small unit level during the mid-republic.

“Charging enemies, even ‘wild barbarians’, did not sweep through these gaps and swamp the maniples of the first line because the charges delivered in reality appear to have been far less concerted and rapid than those of popular imagination. Such charges were themselves not delivered by an enemy line that was solid... but one made up of distinct units or groups”⁹⁷

Under a discontinuous front model the reinforcement of the *hastati* by maniples of *principes* is a trivial matter. Additionally, if the legion always deployed for battle with an unbroken line of *hastati*, what utility could the *quincunx* formation provide? Why cover the gaps between the maniples of *hastati* with *principes* if they were always filled before battle in any case? Surely a simple alignment of the maniples, one behind the other, would have proved more efficient, allowing clear lanes between the rear and fighting line. Therefore, given the simplicity of the discontinuous front model, its support in the ancient sources and the lack of any conclusive objections, it will be the model applied in this project. That is not to say that there were no circumstances where the legion did deploy a continuous front - given the relative simplicity of this manoeuvre it seems likely that such a formation was utilised where deemed necessary - only that such a deployment was not the norm.

Thus, hopefully, we have now built a complete conception of Roman tactical doctrine in the period of 218 – 216. At the army command level the Roman general was expected to close with the enemy line and apply sustained and heavy frontal pressure via heavy infantry assault, just as Sempronius and Varro demonstrated. The mechanism utilised to achieve this sustained pressure was the *triplex acies* formation, which required a steady stream of maniples to be injected into the fighting line to grind the opposing position down. At the small unit level combat at the fighting line was intermittent, and at most times there remained a small but significant distance between the opposing units. This, combined with the wide intervals between frontline maniples, allowed Roman commanders to steadily increase pressure on enemy heavy infantry lines, making frontal assaults extremely effective. At no point was envelopment a tactical priority, clearly illustrated by the subsidiary nature of both cavalry and light infantry. Both at Cannae and the Trebia, their role was simply to cover the deployment of the heavy infantry line and guard its flanks. It is with this, hopefully, complete conception that we must now view the tactical reforms of Scipio Africanus.

⁹⁷ Goldsworthy (2000) p. 60

Chapter 3

Scipio Africanus and the Move to Envelopment 206 – 203 BCE

3.1 The Battle of Ilipa – 206 BCE

Relatively little is known about the very early career of Scipio Africanus. He was born in either 236 or 235 and thus came of age during the worst years of Hannibal's invasion of Italy. He was most likely the eldest son of the family and married the daughter of Aemilius Paullus, the consul who fell at Cannae, at an unknown time.¹ Thus, Scipio was born into one of the republic's most influential family networks as the son of a consul of 218 and the son-in-law of a consul of 216. Like most other young male *nobiles* Africanus spent his early adulthood undergoing military training, primarily via staff positions under various Roman commanders: as their tent-mate or *contubernalis*. It is in this capacity that he first emerges from Livy's military narrative where the teenage Africanus apparently saves his father's life at the Ticinus,² for which Polybius claims he was awarded the *corona civica*.³ Africanus next appears in Livy after the battle of Cannae. Named as a tribune of the Second Legion at Cannae, a position of real significance within the army, especially for a man probably still in his teens, Scipio found himself at Canusium with the roughly 10,000 survivors of the battle. Only four tribunes made it back to Canusium, and none of them are named by the sources as being present at the Trebia.⁴ Thus, Africanus was probably the Roman officer with the greatest personal experience of Hannibal's tactics.

Africanus is not mentioned again until 211 when, in the wake of the disastrous Battles of the Upper Baetis where both his father and uncle fell,⁵ he was voted proconsular *imperium* by the senate and allotted Spain as his province. After five years of successful campaigning, including the victories of Carthago Nova⁶ and Baecula,⁷ Scipio found the remaining Punic field armies concentrated at Ilipa in Baetica under Hasdrubal Gisco. The size of the armies deployed at Ilipa is not known with certainty as the ancients disagree. Both Polybius⁸ and Livy⁹ state that Scipio judged the Roman and Italian

¹ Scullard (1979) p. 28

² Livy XXI. 46

³ Polybius X. 3

⁴ Livy XXII. 53

⁵ Scullard (1970) p. 37. See Scullard (1970), Goldsworthy (2000) or Bagnol (1999) for more information on events in Spain prior to Africanus' assumption of command.

⁶ Livy XXVI. 46

⁷ Goldsworthy (2000) p. 27

⁸ Polybius XI. 20

forces in the theatre to be insufficient to risk a general engagement, and thus, despite great trepidation,¹⁰ enlisted large numbers of Spanish auxiliaries to supplement his Italian forces. These were apparently heavy infantry, though some 500 cavalry were provided by the Spanish leader Culchas.¹¹ Both Livy¹² and Polybius¹³ state the total strength of Scipio's army at about 45,000 including around 4,000 cavalry, roughly half of which were Italian. Livy and Polybius give drastically different totals for the Carthaginian army: Polybius¹⁴ states 70,000 infantry – apparently light and heavy combined – and 4,000 cavalry; Livy¹⁵ claims 50,000 infantry and 4,500 cavalry, though he cites other sources – probably Polybius – which claim 70,000. Goldsworthy takes Polybius at his word,¹⁶ while Scullard prefers Livy's total preserved in Plutarch.¹⁷ Thus we may lack a conclusive answer. But we can be sure that the Carthaginians enjoyed at least some numerical advantage in heavy infantry, perhaps a drastic advantage.

Hasdrubal was first to fortify a camp at Ilipa. He encamped in a position that was favourable for a battle: a small hill overlooking a flat valley.¹⁸ This site is likely 5km to the south west of the modern village of Villaverde del Rio.¹⁹ As the Romans were entrenching along the opposite ridgeline they were attacked in force by the Punic horse, which was ambushed by Italian cavalry units massed in dead ground in a deployment analogous to the Tower of Agathocles in 204.²⁰ This defeat effectively ended the Punic cavalry's influence on the battle.²¹ The next few days were spent with the two heavy infantry lines eyeballing each other across the valley, a period in which Hasdrubal became accustomed to the Roman formation.²² This 'posture' phase of the battle, where both armies deployed on good defensive ground but did not engage, was a typical element of ritual which Africanus successfully exploited at Ilipa. With both armies employing a fortified camp on a strong defensive position it was relatively easy for one side to deny battle to the other. Often it took both

⁹ Livy XXVIII. 13

¹⁰ Africanus' father and uncle, each commanding a separate element, were both defeated in detail during the twin battles of the Upper Baetis when large numbers of Iberian auxiliaries deserted them – engineered by Hasdrubal Barca – with Carthaginian forces in close contact. Both men died in the battle. See Scullard (1970) p. 37

¹¹ Livy XXVIII. 13

¹² Polybius XI. 20

¹³ Polybius XI. 20

¹⁴ Polybius XI. 20

¹⁵ Livy XXVIII. 12

¹⁶ Goldsworthy (2000) p. 279

¹⁷ Scullard (1970) p. 88

¹⁸ Polybius XI. 20

¹⁹ Scullard JRS (1936) p. 20

²⁰ Scullard (1970) p. 121

²¹ Polybius XI. 21, Livy XXVIII. 13

²² Livy XXVIII. 14

commanders marching their armies down into neutral ground for the engagement to begin.²³ Thus most battles were preceded by a period of skirmishing. The inability of Hannibal to bring Fabius Maximus to battle in 217 is paradigmatic in this regard,²⁴ though the days of delay before Baecula,²⁵ Campi Magni²⁶ and the campaign against the Boii in 194²⁷ all illustrate this phenomenon.

After several days Africanus ended this phase by initiating a general engagement with an aggressive pre-dawn manoeuvre which forced Hasdrubal to react.²⁸ There were two critical elements to Scipio's tactics at Ilipa. The first is the formation he utilised. During the posture/skirmish phase both commanders became accustomed to their opponent's formations. Both deployed their best and most reliable units in the centre with the Spanish auxiliaries on the wings:

“Observing that Hasdrubal always brought up his troops at the late hour (ὁψὲ ποιοῦμενον τὰς ἐξαγωγάς) and drew them up with the Libyans in the centre and the elephants in front of the two wings (καὶ μέσους Λιβυας, τὰ δε θηρία προτιθέμενον ἑκατέρων τῶν κεράτων), and having himself been in the habit delaying still later and of opposing the Romans to the Libyans in the centre and stationing the Spaniards on the wings, he acted on the day on which he had decided to deliver the decisive battle in precisely the opposite manner (ἢ προέθετο κρίνειν ἡμέρα, τάναντία).”²⁹

As the dust cleared and the Roman army came into view Hasdrubal saw the altered formation: the Roman and Italian heavy infantry now faced his weakest forces on the wings and it was far too late to change his own deployment.

The second element of Scipio's tactics to grapple with is the manoeuvre he employed. Much has been written on this episode and it still remains one of the most complex - some would argue overly complex³⁰ - grand tactical manoeuvres successfully employed in antiquity. Perhaps unsurprisingly Livy has real trouble fathoming its mechanics. He simply describes it as kind of oblique curve caused by the slow advance of the Spaniards:

²³ Goldsworthy (2000) p. 56

²⁴ Polybius III. 89

²⁵ Polybius X. 39

²⁶ Polybius XIV. 8

²⁷ Livy XXXIV. 46

²⁸ Polybius XI. 21

²⁹ Polybius XI. 22

³⁰ Meiklejohn G&R, (1938) p. 16

“the rest followed obliquely (*sequentibus in obliquum aliis*). In the centre was a curve (*Sinus in medio erat*) where the Spaniards were more slowly advancing (*qua segnius Hispanorum signa incedebant*).³¹

This is how Polybius describes it: After several hours of skirmishing Scipio withdrew the light infantry through the line and placed them on the wings in front of the cavalry. Then he gave the order for the Spanish in the centre to advance in line, at a slow pace, and both Roman wings to turn at right angles to form columns, which then turned ninety degrees and marched directly at the Punic wings, with the three lines of the *triplex acies*, the light infantry and cavalry each forming a column. The two armies were about four stades (700m) apart when the Romans began the manoeuvre. When the columns were perhaps 100m from the ends of the Punic line, the three columns of heavy infantry wheeled towards the centre while the light infantry and cavalry wheeled towards the flanks, enveloping the Punic line:

“For the cavalry on the right wing wheeling to the right (οἱ μὲν γὰρ ἐπὶ τοῦ δεξιοῦ κέρως ἵππεῖς μετὰ τῶν εὐζώνων ἐκ δόρατος ἐπιπαρεμβάλλοντες) attempted to outflank the enemy (ὑπερκερᾶν ἐπειρῶντο τοὺς πολεμίους), while the heavy infantry wheeled to the left (οἱ δὲ πεζοὶ τούναντίου ἐξ ἀσπίδος παρενέβαλλον).”³²

Both wings performed the manoeuvre simultaneously:

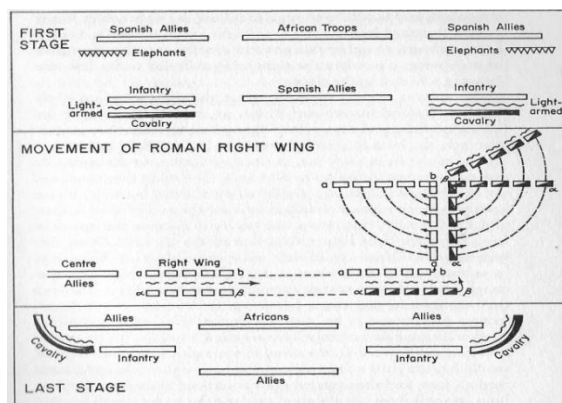


Figure 3.1: Roman manoeuvres at Ilipa (Scullard (1970) p. 91)

The Roman heavy infantry attacked both flanks of the numerically superior Carthaginian line whilst it was enveloped with cavalry and light infantry. Hasrubal's best troops, his Africans, stood impotent as

³¹ Livy XXVIII. 15

³² Polybius XI. 23

the Romans crushed both wings, pinned by the threat of the advancing Spanish heavy infantry as Livy illustrates:

“By this time the wings were already engaged, while the main strength of the enemy’s line (*cum quod roboris in hostium acie erat*), the veteran Carthaginians and Africans (*Poeni veteran Afrique*), had not yet come within range, (*nondum ad teli coniectum venissent*), and did not dare to dash towards the wings to help the combatants (*neque in cornua, ut adiuverent pugnantes*) for fear of exposing the centre of the line to the enemy directly advancing (*discurrere auderent, ne aperirent mediam aciem venienti ex adverso hosti*).”³³

Eventually the whole Punic army was put to rout.³⁴ Despite their apparent effectiveness there is some real criticism of Scipio’s tactics at Ilipa amongst modern scholarship, as Meiklejohn demonstrates:

“Scipio's victory was due in part to the superiority of his cavalry but chiefly to the feebleness of the Carthaginian commander. Had he been an Alexander he would undoubtedly have driven home a cavalry attack while the legions were beginning to deploy. Scipio's flanking movement was highly dangerous, as it left a considerable gap between his legions and the centre. When the manoeuvre was completed this gap would be to some extent closed, but there was a perilous interval before the completion... Whatever precautions he took, there was a grave risk. Fortunately the enemy failed to use their opportunity,”³⁵

This assessment rests on several misconceptions. The first of which is how much it underestimates the speed with which the Roman army manoeuvred at Ilipa. Polybius states that Scipio initiated the manoeuvre at a distance of four stades (700m) from the enemy line.³⁶ We can assume that the Romans completed the wheeling at around 100m. According to the British army drill manual, the standard double time rate of march is 200 paces to the minute, with a 0.9m pace,³⁷ which produces a speed of 180m to the minute. Thus a man marching at double time could cover the 600m in as little as four minutes. That is not to say that the army could have completed a manoeuvre this

³³ Livy XXVIII. 14

³⁴ Polybius XI. 24

³⁵ Meiklejohn G&R, (1938), p. 16

³⁶ Polybius XI. 22

³⁷ Manual of Elemental Drill (1935) section 10.1

complex in such a short time, but it gives us some idea of the speed a marching column can potentially move. Goldsworthy believes the entire process, from issuing the order to the wings making contact, took around an hour.³⁸

The other major misconception is limitations of command and control within an ancient military context. The ancient military commander did not enjoy the kind of command and control systems or communications technology that his modern counterpart would. Additionally it was not Punic doctrine to maintain any real tactical reserve as we would currently understand it. Thus Hasdrubal's ability to react was far more limited than Meiklejohn appreciates. Assuming Goldsworthy's time is correct, Hasdrubal had one hour to assess the situation, understand what was happening in front of him, despite the dust, formulate a plan of action, gather his subordinate commanders, issue orders, allow his subordinates to brief their subordinates - who spoke several languages - and then permit whatever action he planned to be implemented.³⁹ Hasdrubal was by no means inept or feeble: indeed he was a highly capable and experienced officer as his actions during the Battle of the Upper Baetis illustrate.⁴⁰ He simply lacked the time, the information, and perhaps the resources, to react effectively. And in reality neither would an Alexander, who was not typically one for exercising command and control throughout a battle anyway, as his personally aggressive leadership at Gaugamela - undoubtedly the counterexample at the forefront of Meiklejohn's mind - demonstrates.⁴¹ In reality during the vast majority of ancient battles grand tactical manoeuvres were planned, organised and ordered the night before battle. Radical alterations during battle are rare before the advent of the professional legionary, precisely because of the limitations outlined above. That rule certainly stands for the Trebia and Cannae, and counterexamples, such as the Metaurus⁴² or Marathon,⁴³ tend to be reactions to reasonably stable tactical environments, not fast, complex and aggressive enemy manoeuvre. The objections raised by Scullard also fail to fully appreciate this.⁴⁴

Meiklejohn also overestimates the threat a concerted cavalry attack posed as both wings were covered by Roman cavalry columns throughout the manoeuvre. Given the inferiority of the Punic

³⁸ Goldsworthy (2000) p. 283

³⁹ Note the inability of the Austro-Russian command to effectively react to the unexpected French concentration in the centre at Austerlitz, where a tactical reserve was actually available, during a period of an hour. See Freemont-Barnes, Fisher (2004) p. 49

⁴⁰ Scullard (1970) p. 37

⁴¹ Arrian III. 14

⁴² Livy XXVII. 47

⁴³ Herodotus IX. 62

⁴⁴ Scullard (1970) p. 128

horse at Ilipa and the uncertainty which undoubtedly would have clouded Punic command in the face of such an unexpected manoeuvre, it seems rather hubristic to assume one could think of a more prudent course of action Hasdrubal could realistically be expected to take, especially given his reasonably good position and order. It is, after all, always far easier from a behind desk than amongst the pressure and chaos of the commander's tent. Scullard assess Scipio's achievement at Ilipa:

"The tactics were only a further development of those employed at Baecula... Not only had he remedied the defects of his own army, but by a stroke of genius had been able to compensate for his inferior numbers by a measure which also prevented any disorder among the less trustworthy of his troops"⁴⁵

An assessment with which Liddell-Hart, perhaps unsurprisingly, agrees:

"Rarely has so complete a victory been achieved by a weaker over a stronger force, and this result was due to a perfect application of the principles of surprise and concentration,"⁴⁶

3.2 Battle of Campi Magni – 203 BCE

After the conclusion of the victorious Spanish campaign Scipio returned to Rome to be elected consul. Assigned Sicily as his province, he was given permission to cross to Africa if he deemed it in the republic's interest.⁴⁷ In Sicily Scipio had command of the local garrison which included the two surviving legions of Cannae, which had been deployed to Sicily as a punishment until the conclusion of the war. Livy claims large scale voluntary recruiting produced legions of exceptional strength – 6,200 foot and 300 horse – most of which had been in service for well over a decade.⁴⁸ Combined with the supporting *alae* this probably gave Scipio the command of an exceptionally strong consular army which may have approached 25,000 fighting men.⁴⁹ In 204 he landed the army at Cape Bon on the bay of Tunis.⁵⁰ After suffering defeats at the Tower of Agathocles⁵¹ and Utica,⁵² Hasdrubal Gisco and the Numidian King Syphax retired to the Campi Magni in the Tunisian interior.

⁴⁵ Scullard (1970) p. 128

⁴⁶ Liddell-Hart (1993) p. 62

⁴⁷ Livy XXVIII. 38

⁴⁸ Livy XXIX. 25

⁴⁹ Goldsworthy (2000) p. 287

⁵⁰ Livy XXIX. 29

The forces mustered by Syphax and Hasdrubal at the Campi Magni are claimed by Polybius to be some 30,000,⁵³ though Scullard thinks 20,000 more probable.⁵⁴ Upon hearing of this concentration Scipio divided his forces, leaving a small blockade at Utica, and marched in light order with the main body of his army to Campi Magni, perhaps 12,000 to 15,000 men, probably no more than a single reinforced legion/ala.⁵⁵ Polybius' and Livy's narratives of the battle are very similar, which obviously reflects Livy's close use of Polybius for much of the African campaign. Scipio arrived after five days march and encamped about four kilometres from the Carthaginians on an opposing hill.⁵⁶ Campi Magni is a geological lakebed which lies around Souk el Kremis on the upper reaches of the Bagradas River. It's an area of grassland about 24 kilometres long, 19 kilometres wide and surrounded by low hills.⁵⁷

Scipio deployed conventionally, with the heavy infantry in the typical legionary array of the *triplex acies*, the Italian horse on the right wing under Laelius and the Numidians on the left under Masinissa. Hasdrubal placed the 4,000 Celtiberians - by far his best unit - in the centre opposing the legionaries, the Numidians on the left facing the Italian horse and the Carthaginians facing Masinissa on their right.⁵⁸ The engagement began with the charge of the cavalry on the Roman wings, which smashed the Punic and Numidian cavalry, causing a rout of the supporting infantry as well. The Celtiberians, however, stood firm. At this moment Scipio unleashed one of his greatest tactical developments. He engaged the Spaniards frontally with the *hastati*, pinning them, split the lines of *principes* and *triarii* and had them march in two parallel columns each around the open flank to perform a double envelopment:

“But when the wings gave way they were soon surrounded by the Principes and Triarii (οὐ μὴν ἀλλ’ ἅμα τῷ κλῖναι τοὺς ἀπὸ τῶν κεράτων ταχέως κυκλωθέντες ὑπὸ τῶν πριγκίπων καὶ τριαρίων) and were all cut to pieces where they stood except a few (αὐτοῦ κατεκόπησαν πάντες πλὴν τελέως ὀλίγων).”⁵⁹

⁵¹ Scullard (1929) p. 191

⁵² Scullard (1929) p. 198

⁵³ Polybius XIV. 7

⁵⁴ Scullard (1970) p. 128

⁵⁵ Scullard (1970) p. 120

⁵⁶ Polybius XIV. 8

⁵⁷ Scullard (1929) p. 206

⁵⁸ Polybius XIV. 8

⁵⁹ Polybius XIV. 8

The four columns – two on each flank – completely enveloped the Spanish heavy infantry, flanking them with Scipio’s most effective heavy infantry units. This revolutionary manoeuvre escapes Livy;

“therefore when the enemy had encircled them (*Igitur circumfusus undique hostilibus*) they were resolute in death falling upon one another (*alii super alios cadentes obstinate moriebantur*).”⁶⁰

The method by which the Celtiberians are pinned, enveloped and annihilated is completely obscured.

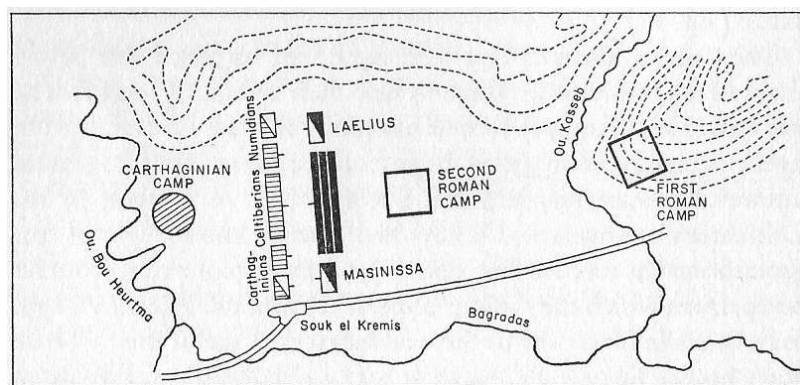


Figure 3.2: Battle of Campi Magni – Initial deployment (Scullard (1970) p. 130).

The losses are unknown but they appear to have been heavy amongst the best Carthaginian units – the Spanish auxiliaries – who seem to have been practically annihilated. Scipio had, thus, achieved the annihilation of the enemy centre by holding it with his front line whilst enveloping it with heavy infantry, a feat he was not able to achieve at Ilipa.

3.3 Tactical Revolution? Double Envelopment and the Evolution of the *triplex acies*

There is much to compare between Ilipa and Cannae, and indeed viewing them as rival achievements had been a long established point of contention for armchair and professional historians for decades. However, given the very different tactical, geo-strategic and contextual environments such discussions are generally an exercise in futility. Nevertheless, a general comparison between the tactics utilised at Ilipa and those Hannibal utilised at the Trebia and Cannae is useful if we are to fully understand the origin of Scipio’s reforms. At the tactical level, even a terse examination of the Scipio’s actions at Ilipa reveals the similarities with Hannibal’s tactics. Initiating

⁶⁰ Livy XXX. 8

battle early in the day, before the enemy army had eaten, was utilised at both Ilipa⁶¹ and the Trebia,⁶² though at Ilipa Scipio had the additional objective of forcing Hasdrubal to deploy in haste. Doctrinally one cannot help but notice the change in emphasis, the *Schwerpunkt* or focal point,⁶³ from the centre to the flanks, something entirely absent from Roman actions at the Trebia and Cannae. The whole objective of Roman operations at Ilipa was, as Polybius states, the envelopment of the enemy army:

“the general devoted his intention to the really important object, the envelopment of the enemy (τοῦ κατὰ τὴν ὑπερκέραιον), and he estimated rightly”.⁶⁴

At Cannae,⁶⁵ and to a lesser extent the Trebia,⁶⁶ the primary grand tactical manoeuvre employed by Hannibal and the guiding doctrinal principle was double envelopment. Thus it seems obvious that the effectiveness of double envelopment, so aptly demonstrated at the Trebia and Cannae, was not lost on Scipio, given his significant personal experience of these tactics. Even ambush, perhaps one of the most fundamental principles which underpinned Hannibalic tactical doctrine, is evident at Ilipa: the ambush of Mago’s cavalry by reserve units placed in dead ground is closely analogous to the ambush of Sempronius at the Trebia. Even the use of an unforeseen change in formation by Scipio at Ilipa can be viewed as a form of ambush, at least in conceptual, if not technical, terms.

It would be overly simplistic, however, to assume that Scipio’s tactics at Ilipa were just a facsimile of Hannibal’s actions at Cannae or the Trebia. In reality, from a grand tactical perspective, there were several key differences between Hannibalic and Scipionic tactical doctrine. Though both Scipio and Hannibal undoubtedly applied double envelopment as a guiding principle behind their grand tactical conception of the battle, the manner in which this doctrinal principle was applied was very different. In the opening phases of the Italian campaign Hannibal relied on more classic forms of ambush to achieve envelopment: at the Trebia,⁶⁷ Trasimene⁶⁸ and Cannae⁶⁹ Roman aggressiveness and eagerness to concentrate in the centre were key elements in completing successful envelopments. After Cannae Hannibal was unable to achieve grand tactical envelopments of comparable scale, as is

⁶¹ Polybius XI. 21

⁶² Polybius III. 72

⁶³ Frieser (2005) p. 90

⁶⁴ Polybius XI. 23

⁶⁵ Polybius III. 114

⁶⁶ Livy XXI. 55

⁶⁷ Livy XXI. 55

⁶⁸ Livy XXII. 4

⁶⁹ Polybius III. 114

evidenced by the inconclusive nature of the many engagements with Marcellus in 209-208.⁷⁰ Roman tactical aggression was a foundational element in Carthaginian success, and without it Hannibal was unable to reproduce the effectiveness of 218 – 216. Thus Hannibalic tactical doctrine can be described as *passive envelopment*, as it generally relied upon enemy manoeuvre to achieve its doctrinal principles.

The tactical doctrine utilised by Scipio at Ilipa,⁷¹ Baecula,⁷² Campi Magni⁷³ and one could argue at Carthago Nova⁷⁴ as well, can be described as *active envelopment*, as the primary mechanism utilised to achieve its doctrinal principles was aggressive manoeuvre. In each of these examples Scipio utilised speed and aggression to achieve envelopment, and in each example enemy action, as opposed to reaction, was not a key element in its success. Thus the manifestation of the doctrinal principle of double envelopment, when applied by both Scipio and Hannibal, was very different in each case: they essentially utilised opposite means to achieve it. It is this principle of *active envelopment* which represents a fundamental alteration to Roman tactical doctrine. The emphasis placed upon cavalry and light infantry superiority or at least parity, a necessary consequence of adopting envelopment as a doctrinal principle, is a stark departure from the composition of Roman theatre armies in 218 – 216, especially the army deployed at Cannae. In a set piece scenario double envelopment could only be achieved if the Roman wings were given freedom of manoeuvre, an outcome only possible if the enemy was denied cavalry and light infantry superiority.

Scipio's tactics at Campi Magni represent a greater departure from Roman tactical doctrine of 218 – 216. At Ilipa the heavy infantry still engaged opposing heavy infantry units from the front, and utilised the staying power of the conventional legionary array to apply pressure to the line, yet it was the light infantry and cavalry which actually performed the envelopment. At Campi Magni, by a radical alteration of the *triplex acies* formation, Scipio was effectively able to pin the enemy centre and envelop it with his best heavy infantry, annihilating it, something he was unable to achieve at Ilipa. This use of formation was perhaps Scipio's most original addition to the Roman tactical doctrine. Since its adoption during the Great Samnite War⁷⁵ the *triplex acies* formation and manipular legionary array had operated in a very specific manner - as outlined in Section 2.4 - designed around the doctrinal principle of frontal pressure. The coordinated and independent

⁷⁰ Livy XXVII. 13

⁷¹ Polybius XI. 23

⁷² Livy XXVII. 17

⁷³ Polybius XIV. 8

⁷⁴ Livy XXVI. 45

⁷⁵ Livy IX.2

manoeuvre of the three lines individually, as a fundamental conception of high command - as opposed to simply the movement of reserves⁷⁶ - is practically without precedent, certainly in the Punic Wars. Scullard describes its importance:

“Scipio’s tactics were a still further development of those used at Ilipa. Previously the principes had stood behind the hastati... Now the principes and triarii no longer directly supported the first line. The old triple line was still preserved, yet each line... formed a self-dependant unit, ready to prolong the line at each end... This reform by Scipio marks a real turning point in Roman military history, and prepares the way for the use of the reserve as it is now understood.”⁷⁷

The very mechanism which had underpinned the legion’s ability to apply debilitating frontal pressure upon an enemy line was now bent to achieve the new tactical priority: double envelopment. This represents an evolution of Roman tactical doctrine at the most fundamental level, even influencing combat at the small unit scale. It demonstrated an individual legion’s ability to pin and envelop an enemy infantry line organically – without the need for cavalry or light infantry – as long as the Roman flanks were clear.

There are two subsidiary developments which both originate from the shift in fundamental emphasis from frontal pressure to envelopment. The first is the focus upon more balanced theatre formations, with a greater emphasis on cavalry superiority. Scipio went to great lengths to ensure he would not have to contend with the cavalry superiority Hannibal had enjoyed in 218 – 216, including a dangerous and clandestine personal meeting with Masinissa⁷⁸ outside Gades. Indeed the initial phases of the African campaign were influenced by the desire to make early contact with Masinissa⁷⁹ and his cavalry, which is illustrative of its importance. Scipio also placed great emphasis on winning preliminary cavalry skirmishes, as the care with which he laid the cavalry ambushes at Ilipa⁸⁰ and the Tower of Agathocles⁸¹ reveals. The second is the extent to which Scipio put his units through a thorough training regime: after Carthago Nova Livy describes the legions undergoing a three day

⁷⁶The movement of the reserve lines under the command of Nero at the Metaurus is also an original use of the *triplex acies* system. However, this was simply an opportunistic deployment of units which could not engage due to terrain, led by the consul himself. Nero almost certainly intended to engage Hasdrubal’s right wing conventionally. This is hardly analogous to Scipio’s manoeuvre at Campi Magni. See Livy XXVII. 47

⁷⁷ Scullard (1929) p. 212

⁷⁸ Livy XXVIII. 35

⁷⁹ Scullard (1970) p. 120

⁸⁰ Polybius XI. 21

⁸¹ Scullard (1929) p. 191

program including a four mile manoeuvre in full equipment, an exercise in the form of a mock battle with wooden arms and a day of equipment maintenance. This program, interspersed by alternate days of rest, was apparently continual for the entire period the army was encamped at Carthago Nova.⁸² Another episode is the extended period of preparation prior to the invasion of Africa. Scipio spent the best part of his consular year putting these units through a rigorous training regime, improving their efficiency dramatically, even though his core units already had extensive combat experience. These preparations were so thorough and effective that the delegation dispatched to possibly impeach Scipio over the Locri affair were so impressed with the army that they all implored him to begin the invasion in earnest. Here Livy describes a naval exercise in the form of a mock sea battle.⁸³ Indeed the accusations of lethargy, procrastination and decadent Hellenism which emanated from the Curia Hostilia⁸⁴ also show just how unusual such a sustained period of training was for a Roman army: it was deemed plausible that such a delay in initiating operations could only stem from the Roman commander enjoying the temptations of Syracuse a little too much.

This is not to say that that Scipio invented thorough training in the Roman army, or that no other Roman commander of the Hannibalic War trained his units. However, the explicit description of extensive periods of training in Livy is rather unique within the narrative. There are certainly other episodes where the Roman commander is seen as a stern disciplinarian, such as Marcellus' strict control over his men after the storming of the Hexapylon (Syracuse) in 212.⁸⁵ Nonetheless, the thoroughness with which Scipio trained his men stands out in Livy, which probably means it stood out to him as well. Thus it is logical to deduce that Scipio placed far greater emphasis on the technical and physical training of his units, at the large unit or legion level, than typical Roman commanders of the Hannibalic war. Certainly more than Sempronius or Varro as neither Polybius nor Livy mentions any training program prior to the Trebia or Cannae. The reasons for these two subsidiary developments are clear once one keeps the new doctrinal priority – *active envelopment* – clearly in view: heavy infantry superiority alone was not enough to effectively achieve double envelopment as cavalry or light infantry on the flanks could deny the legions freedom of manoeuvre, and the tactical dexterity demanded by the technical manoeuvre inherent in *active envelopment* required large units of higher tactical quality than, arguably, any the Roman army had thus far produced.

⁸² Livy XXVI. 51

⁸³ Livy XXIX. 22

⁸⁴ Livy XXIX. 21

⁸⁵ Livy XXV. 25

Thus, the reforms to Roman tactical doctrine which Scipio had shown to be so devastatingly effective at Carthago Nova, Baecula, Ilipa, the Ebro, the Tower of Agathocles, Campi Magni, and to a lesser extent Zama, can be characterised primarily as a *active envelopment* as the tactical priority, with more balanced theatre formations and a new emphasis on tactical dexterity designed to meet this end. These are the areas which contrast the most sharply with the form of Roman operations in 218-216, and it is with these reforms held firmly in view that we must now move to Roman operations in Macedonia.

Chapter 4

Tactical Regression? Quinticius Flamininus and Aemilius Paullus in Macedonia

4.1 The Battle of Cynoscephalae – 197 BCE

In 198 Titus Quinticius Flamininus was allotted command for the Macedonian War.¹ Flamininus was a young man in 198, probably less than 30, and had gained some experience during the Hannibalic War, first as a tribune under Marcellus, then as the governor of Tarentum. He apparently distinguished himself in both capacities.² After a quick engagement at the Aoi Stena valley³ and an inconclusive campaign in the Peloponnesus,⁴ Flamininus found himself marching towards the town of Scotussa in southern Thessaly, along a parallel valley to the Macedonian army under Philip V.⁵ The two forces met at a mountain pass known as “the dogs heads”, or Cynoscephalae.⁶ Polybius does not state the size of either army at Cynoscephalae: an unusual oversight and perhaps an outcome of the immediately preceding and lengthy digression on the nature of treachery.⁷ His figures are probably preserved in Livy and Plutarch.⁸ Livy provides a detailed breakdown of the Macedonian army: 16,000 phalangites, 2,000 peltasts,⁹ 5,500 light infantry and 2,000 cavalry.¹⁰ That puts the total around 25,500, with almost two thirds heavy infantry.

Macedonian heavy infantry was organised very differently to either Roman or Carthaginian units encountered thus far. Developed from the classical hoplite phalanx, the Hellenistic heavy infantry model was based around the sarissa: a 16 to 21ft, two-handed pike. Deployed in close ranked units up to 16 deep, arrayed in single line known as a phalanx, Hellenistic heavy infantry presented a wall of sarissa points to an opposing line, often with four projecting beyond the first rank. This gave it tremendous defensive resolution from the front and the ability to steadily bear down opposing units. However this small arm came with several limitations: it was inherently unwieldy and limited

¹ Livy XXXII. 8

² Plutarch *Flam.* 2

³ Hammond JRS (1966) p. 52: for a full description of the battle with detailed topography and analysis, in addition to an explanation of the opening manoeuvres in the campaign of 198 see Hammond’s 1966 JRS article

⁴ Eckstein (1976) p. 138; for a detailed analysis of Flamininus’ 198 campaign in the Peloponnesus

⁵ Polybius XVIII. 20

⁶ Polybius XVIII. 22

⁷ Polybius XVIII. 13

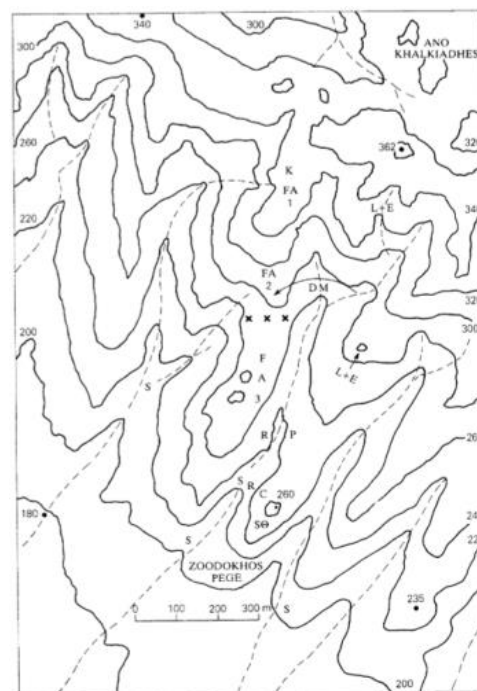
⁸ Hammond JHS (1984) p. 66

⁹ Typically heavy javelineers armed with javelins, armour, a large shield and short sword, capable of either ranged or melee combat, see Xenophon *Anabasis* I.10. Though in the Antigonid system peltasts performed as elite phalangites, see Diodorus Siculus *Bib. Hist.* XV. 44

¹⁰ Livy XXIII. 4

small unit dexterity, was virtually useless out of formation, and the lack of a free hand meant a phalangite could only use a small shield hung from the right shoulder.¹¹

Roman figures for the battle are more contentious: Livy simply states that the Roman army was the same size as Philip's. Plutarch gives a more thorough breakdown, claiming over 26,000 including 6,000 infantry and 400 cavalry from Aetolia.¹² Livy states 600 infantry and 400 cavalry though this is probably a textual corruption.¹³ That would allow a full strength consular army of two legions/ala. Hammond thinks 32,000 a most likely number,¹⁴ but the method by which he arrives at that total is not obvious if Plutarch's total includes the 6,000 Aetolians, which is apparently the case.¹⁵ Thus one is more inclined to take Plutarch at his word. The two opponents were apparently fairly evenly matched numerically; especially as Italian heavy infantry would have numbered between 12,000 – 14,000, opposing Phillip's 16,000 strong phalanx. The Romans also deployed 20 elephants.¹⁶



Key:
 DM Detachment of maniples
 FA Flat Area
 K Kremaste
 L+E One legion and elephants
 RC Complete Roman Camp
 RP Roman parade of 2 legions and elephants
 S Spring
 Θ Thetideum (Sanctuary of Thetis)
 --- Limit of the advance by the Macedonian reinforcements (Plb. xviii 22.6)
 . . . Seasonal streams

Figure 4.1: Hammond's map of Cynoscephalae (Hammond JHS (1984) p. 65).

¹¹ Goldsworthy (2000) p. 318

¹² Plutarch *Flam.* 7

¹³ Hammond JHS (1984) p. 66

¹⁴ Hammond JHS (1984) p. 66

¹⁵ Plutarch *Flam.* 7

¹⁶ Polybius XVIII. 25

Terrain was a significant factor at Cynoscephalae: the battle took place on a saddle between two peaks, the 'dog's heads' as Polybius describes them, with relatively steep slopes on either side. According to Polybius the two armies marched along parallel valleys for two days, each unaware of the other. Hammond thinks this unlikely as Flamininus had little reason to march on Scotussa given his logistical situation.¹⁷ Though a complicated view of the landscape, Hammond's map¹⁸ and description closely match the Livian and Polybian narratives, and probably represents the best view of the field we have thus far.¹⁹ Some interesting points to notice is the fact that the Macedonian camp, located at the K, sits nearly 100m higher than the Roman camp, which explains why the Macedonian heavy infantry was able to take the high ground with relative ease. Though nowhere near as accurate in terms of topography Dodge's map does make the manoeuvre and position of the rival armies far easier to understand.²⁰

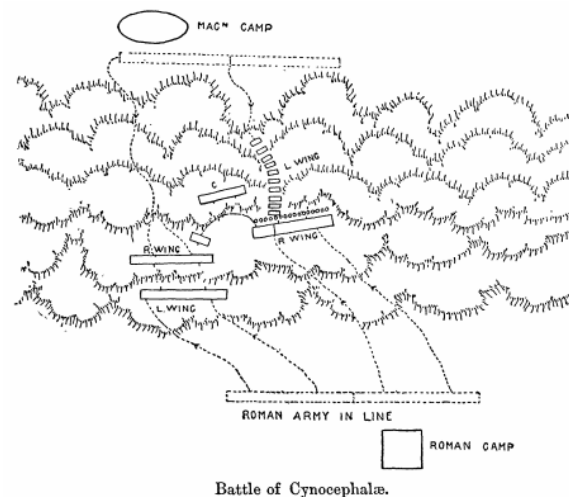


Figure 4.2: Dodge's map of Cynoscephalae (Dodge (1896) p. 657)

Cynoscephalae has been described as a meeting engagement,²¹ though in reality this is an imperfect classification as both armies were encamped nearby. Thus the escalatory nature of the initial fighting does not make this notably different from other comparable battles such as Pydna.²² Combat began when rival reconnaissance detachments engaged each other in heavy fog at the top of the pass, which both commanders then reinforced.²³ Once large scale combat began both armies deployed their heavy infantry lines reactively.

¹⁷ Hammond JHS (1984) p. 65

¹⁸ Figure 4.1

¹⁹ Hammond JHS (1984) p. 71

²⁰ Figure 4.2

²¹ Dodge (1896) p. 656

²² Polybius XVIII. 23

²³ Livy XXXIII. 6

The manoeuvre of the heavy lines is not something which clearly comes through multiple sources, as there is a significant divergence between Polybius and Livy. Goldsworthy sums up the opening moves of heavy infantry battle:

“Flaminius’ and Philip V’s marching columns unexpectedly bumped into each other as they approached the pass from opposite directions. In the usual way, the rival armies deployed into battle line by wheeling to the right. In each case the right wing of the army and thus head of the column was able to form up more quickly and charge, routing the unprepared enemy left wing.”²⁴

This conception of the battle is unsupported by the ancient sources. According to both the Polybian and Livian narratives neither heavy infantry line bumped into the other. Polybius clearly states that the Roman army was deployed, in line, likely at the base of the hill:

“Flaminius, having drawn up his army in line (Ὁ δὲ Τίτος παρεμβαλὼν τὴν αὐτοῦ στρατιὰν ἐξῆς ἄπασαν)... Upon speaking these words he ordered his right to remain where they were with the elephants in front of them (οὗτος μὲν οὖν ταῦτ’ εἰπὼν τὸ μὲν δεξιὸν μέρος ἐκέλευε μένειν κατὰ χώραν καὶ τὰ θηρία πρὸ τούτων), and taking with him the left part of his army advanced to meet them in imposing style (τῷ δ’ εὐωνύμῳ μετὰ τῶν εὐζώνων ἐπήει σοβαρῶς τοῖς πολεμίοις).”²⁵

Thus, apparently the Roman legions were completely deployed in conventional array before Flaminius advanced with the *left* to meet the oncoming phalanx. The right wing is deliberately held in reserve. Livy confirms this:

“The right wing, with elephants aligned in front of the standards, he held in reserve (*Dextrum cornu elephantis ante signa instructis in subsidiis reliquit*), with the left and the light armed troops he attacked the enemy (*laevo cum omni levi armature in hostem vadit*)”²⁶

²⁴ Goldsworthy (2000) p. 319

²⁵ Polybius XVIII. 23

²⁶ Livy XXXIII. 8

Neither source mentions the exact Roman formation, which is indirect evidence that the formation was typical. Goldsworthy's conception is closer to the ancient sources in terms of Phillip's deployment, as his lead units reached the high ground at the head of the pass first: he used these formations to form his right wing. It seems as though roughly half his heavy infantry had arrived before he was forced by Flamininus' advance to attack with the units he had available. He doubled the depth of his heavy units and placed the light infantry on the right.²⁷ On this section of the field, with the phalanx fully deployed, the Roman left was quickly pushed back down the hill. Both Polybius²⁸ and Livy²⁹ state the ground was a significant factor in Macedonian success. However, on the left of the Macedonian line, under the command of Nicanor,³⁰ the phalanx was still forming with small units cresting the ridge piecemeal.³¹ Livy claims the centre of the Macedonian line did not advance to remain in contact with the right wing, but simply stood there, idly watching the battle.³²

At this point Flamininus abandoned the command of his left and rode to the unengaged Roman right wing and advanced behind the elephants. The frontal attack of the elephants alone was enough to put the malformed and disordered Macedonian left wing to rout.³³ At this juncture an unnamed tribune, *on his own initiative*, led twenty maniples from the rear ranks of the Roman right wing, which had now advanced well beyond the Macedonian right, and fell upon the rear of the phalanx:

“but one of the tribunes with them (εἷς δὲ τῶν χιλιάρχων τῶν ἅμα τούτοις), taking not more than twenty maniples and judging on the spur of the moment what to do (σημαίας ἔχων οὐ πλείους εἴκοσι, καὶ παρ’ αὐτὸν τὸν τῆς χρείας καιρὸν συμφρονήσας ὁ δέον εἶη ποιεῖν)... he quitted those on the right, who were now clearly victorious, (ἀπολιπὼν τοὺς ἐπὶ τοῦ ἀγωνιζομένου) and wheeling his force in the direction of the scene of combat, and thus getting behind the Macedonians, fell upon their rear (καὶ κατόπιν ἐπιγενόμενος προσέβαλλε κατὰ νώτου τοῖς Μακεδόσι).”³⁴

The sarissa-armed phalanx is a formation and panoply which is particularly vulnerable to envelopment. At the large unit level pike phalanxes are generally unwieldy and incapable of tactically dexterous manoeuvre. At the small unit level, a *chiliarchiai* or *lochoi* of phalangites is

²⁷ Polybius XVIII. 24

²⁸ Polybius XVIII. 25

²⁹ Livy XXXIII. 8

³⁰ Polybius XVIII. 24

³¹ Polybius XVIII. 25

³² Livy XXXIII. 9

³³ Polybius XVIII. 25

³⁴ Polybius XVIII. 26

unable face a threat to the rear or flank, simply because the combat efficacy of the sarissa itself is fatally compromised if the unit cannot present a wall of pikes to an oncoming enemy, and given their length the unit can only achieve that in a single direction. Individually without the protection of the pike wall the individual phalangite was outmatched against a legionary fighting in loose order: the tiny shield, or *pelta*, and dagger putting him at a drastic disadvantage compared to a *scutum* and *Gladius Hispaniensis*. Thus, with the attack of the twenty maniples in the rear, the Macedonian right wing crumbled. Polybius claims 8,000 Macedonians fell in the battle, preserved in Livy,³⁵ likely primarily the prized phalangites.

4.2 The Battle of Pydna – 168 BCE

The senate deployed an unusually strong consular army for operations in Macedonia in 168, with individual legion composition increased to 6,000 infantry apiece, along with extremely large *alae* size of 8,000,³⁶ giving the army what Goldsworthy believes to be a combined strength of some 32,000 infantry and 2,000 cavalry.³⁷ The ratio of infantry to cavalry is of particular interest given the discussion heavy infantry superiority already undertaken in sections 3.3 and 2.4, although the need for garrison forces must also be remembered. Aemilius Paulus, the Roman consul and commander at Pydna, was the namesake and son of the consul who fell at Cannae and the brother in law of Scipio Africanus.³⁸ Given his age he would have begun his military training as *contubernalis* during the final years of the Hannabalic war. Paulus had extensive military experience in Spain, where he had been deployed as a praetor with proconsular authority during the Syrian war. In 182 he achieved his first consulship, where he fought a tough campaign in Liguria.³⁹ Plutarch describes Paullus as a blunt and somewhat severe man, a staunch traditionalist and a harsh disciplinarian. It was probably for these qualities, in addition to his reasonably extensive military experience, that he was elected consul for a second time, despite his advanced age.⁴⁰

Terrain was significant at Pydna and Hammond again provides an excellent and personal account of the terrain features in the area.⁴¹ The initial Roman and Macedonian positions were in the flat coastal plain to the south of Pydna; however as displayed in figure 4.3, Aemilius Paullus repositioned his camp out of the plain and up on the slopes of Mount Olympus, as Plutarch states:

³⁵ Livy XXXIII. 10

³⁶ Livy XLII. 31

³⁷ Goldsworthy (2003) p. 76

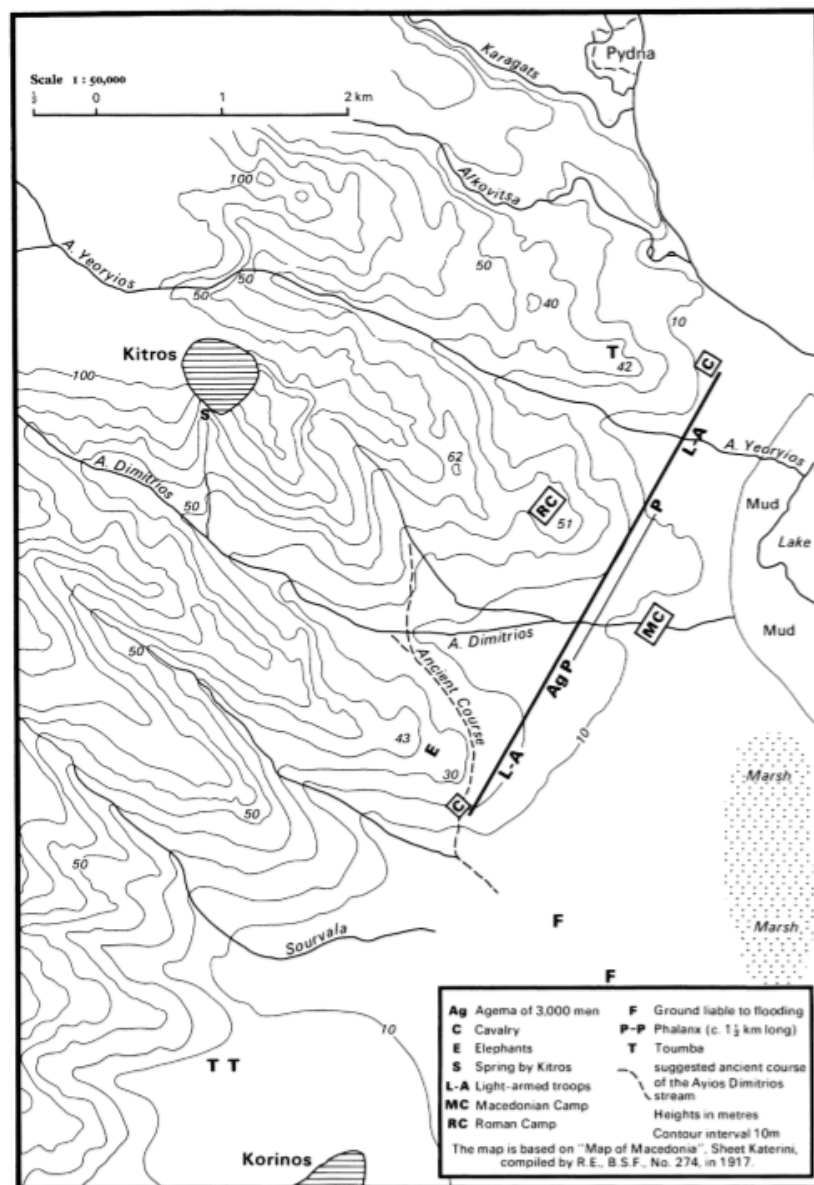
³⁸ Plutarch, *Aem.* 2

³⁹ Plutarch *Aem.* 6.

⁴⁰ Plutarch *Aem.* 3

⁴¹ Hammond JHS (1984) p. 35

“but he himself, waiting for the sun to pass to the west and decline, in order that its morning light might not shine in the faces of his men as they fought, passed the time sitting in his tent, which was open towards the plain and the enemy's encampment (πρὸς τὸ πεδῖον καὶ τὴν στρατοπεδεῖαν τῶν πολεμίων).”⁴²



MAP 3. The Macedonian line at the moment of meeting the Roman line.
 The light-armed troops not in the line held the ridges: the Macedonians that between Alkovitsa and A. Yeoryios, and the Romans those between A. Yeoryios and the stream south of A. Dimitrios.

Figure 4.3, *The Battle of Pydna* (Hammond JHS (1984) p. 40).

⁴² Plutarch *Aem.* 17

The Roman camp now stood on a protruding ridge elevated some 50m above the plain below. Running left to right along what would become the fighting line area a series of undulating ridges scored by watercourses. These would exert a significant influence on the battle. Hammond's conclusion that Plutarch's account should be generally accepted is not uncontested amongst modern scholarship. This account is based upon Nasica's testimony which does raise significant questions of objectivity. Both Kromayer⁴³ and Pritchett⁴⁴ prefer an interpretation which discards Plutarch's clear topographical description, placing the Roman line on a north-north-east facing, some two kilometres to the west of the town of Katerini. The primary weakness of this hypothesis is the extent to which it contradicts the ancient accounts, not simply in the placement of the battle lines, but in several events which are clearly described in Plutarch's narrative, such as the angle of the sun, the proximity of the Roman camp to the action and Perseus' morning sacrifice at the township of Pydna itself. Thus virtually all of Plutarch's account must be discarded if this hypothesis is to be accepted, which leaves us with precious little more than speculation as unfortunately Livy is unhelpful in describing the preliminary manoeuvres.⁴⁵

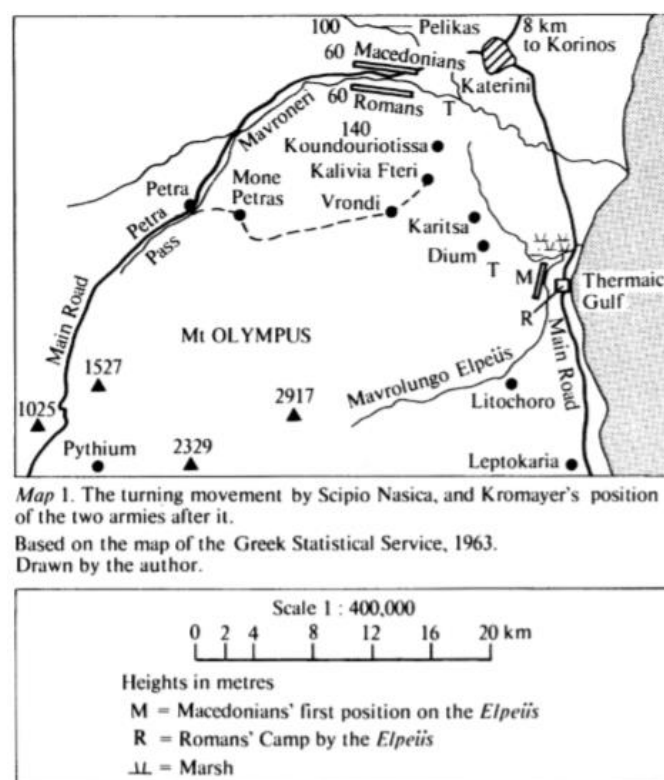


Figure 4.4 Kromayer and Pritchett's map (Hammond JHS (1984) p. 32)

⁴³ Kromayer (1907) p. 267

⁴⁴ Pritchett (1969) p. 145

⁴⁵ Livy XLIV. 37

Plutarch claims Purseus deployed some 40,000 heavy armed men and 4,000 cavalry at Pydna.⁴⁶ This may be an accurate total for the entire army but it probably combines light and heavy infantry. Hammond cites the more probable number of phalangites at 20,000.⁴⁷ Roman forces were likely considerably less. Though some 35,000 men were deployed to Macedonia, given the requirements of garrisoning supply lines and allied or captured cities, it's likely that the Roman army at Pydna resembled an over strength consular army, perhaps approaching 30,000 including 4,000 cavalry, Italian and Greek units combined.

Livy states the battle ignited between rival foraging parties on the south of the field, apparently by accident.⁴⁸ The Macedonians deployed first: coming out in echelon they deployed - from left to right - first the light armed Thracians and mercenary troops, followed by the phalanx: the *agema*, Bronze Shields and White Shields.⁴⁹ The *agema* clashed with the right *ala* containing the Paeligni and Marrucini at the far right of the Roman line. Despite trying to cut off sarissa points, shoving them into the ground or grabbing them, the Italians could not penetrate the phalanx frontally. As they started to take casualties the *ala* began to withdraw.⁵⁰ Paullus arrived with the First Legion which took up position next to the right *ala*, opposite the Bronze Shields, in the centre right of the Roman line. Plutarch states that Paullus was overcome with fear at the sight of the phalanx, and Hammond believes this is essentially an admission that he withdrew to higher ground.⁵¹ This is possible, given the need to maintain contact with the right *ala* which was clearly withdrawing. Goldsworthy, however, thinks the arrival of the First Legion essentially checked the Macedonian advance.⁵² As the Macedonian left pushed the Romans back up the slope the ground became more and more uneven, as can be seen in Figure 4.4, which caused significant gaps between the phalanx blocks - the *agema* and Bronze Shields. Plutarch states Aemilius ordered units of the First Legion to penetrate the gap.⁵³ This is probably quite likely given typical Roman tactical doctrine required the commander to control the flow of reinforcements into the battle face from the supporting lines.⁵⁴ However, this manoeuvre (the infiltration of the Macedonian line by small units) apparently occurred all along the line, and given the limitations of command and control, many of these actions may have been taken on the

⁴⁶ Plutarch *Aem.* 13

⁴⁷ Hammond JHS (1984) p. 35

⁴⁸ Livy XLIV. 40

⁴⁹ Plutarch *Aem.* 18

⁵⁰ Plutarch *Aem.* 20

⁵¹ Hammond JHS (1984) p. 46

⁵² Goldsworthy (2003) p. 90

⁵³ Plutarch *Aem.* 20

⁵⁴ Goldsworthy (2003) p. 88

initiative of individual centurions or tribunes. Livy describes combat between the Second Legion and the White Shields;

“The legion filled the space between the light infantry and the phalanxes and broke the line (*Intervallum, quod inter caetratos et pahalanges erat, implevit legio atque aciem hostium interruptit*) ... Lucius Albinus the ex-consul was ordered to lead the Second Legion against the White Shield phalanx; they formed the centre of the enemy line (*Secundum legionem L. Albinus consularis decree adversis leucaspidem phalangem iussus; ea media acies hostium fuit*)... In the centre the charge of the Second Legion scattered the phalanx (*In medio secunda legio immissa dissipavit phalangem*).”⁵⁵

The uneven ground had evidently broken up the phalanx, at least into its large units – the *agema*, Bronze Shields, White Shields – though probably into *chiliarchiai* as well, which allowed for the infiltration of the line all along its length. This was obviously Aemilius’ objective and the reason behind the redeployment to the second camp. Plutarch paints a similar picture of the action: it seems clear that small units on the scale of the maniple or cohort (an informal grouping of three maniples in this period)⁵⁶ were able to infiltrate between the blocks of pikemen. The cohesion of the Macedonian line - bereft of reserves as it was - evaporated. On the far left the Macedonian cavalry was put to rout by the advance of the elephants deployed there.⁵⁷ Most of the Macedonian line broke into rout quickly once it had been infiltrated, though the *agema* fought to the last and was annihilated.⁵⁸ The magnitude of the defeat was amplified by the quick departure of the Macedonian cavalry: Plutarch claims some 25,000 Macedonians fell, primarily the victims of a ruthless exploitation by the Roman and Italian horse. He also puts Roman losses at 100,⁵⁹ which, although may seem ludicrous at first glance, could simply be a function of the sarissa’s lack of lethality. The unwieldiness of the pike probably makes it reasonably difficult to actually kill an armoured opponent with. This also fits into the pattern of very low casualty rates for victorious armies identified by Sabin, discussed in Section 2.1.⁶⁰

⁵⁵ Livy XLIV. 41

⁵⁶ Bell (1965) p. 405

⁵⁷ Livy XLIV. 41

⁵⁸ Plutarch *Aem.* 21

⁵⁹ Plutarch *Aem.* 21

⁶⁰ Sabin *JRS* (2000) p. 5

4.3 Shock and Awe: Roman Elephants, the Return to Frontal Assault and the Abandonment of Envelopment

At its foundation this project is built upon the comparison of distinct, and in some ways dissimilar, historical episodes in order to deduce general modes of thought held by historical actors. There are some inherent difficulties in this process. In this specific application there is one large variable which has the potential to distort the comparative analysis: the nature of the opponent the Roman commander faced. Indeed the Hellenistic heavy infantry model, with its monolithic blocks of sarissa armed phalangites, is a far cry Hannibal's motley band of Africans, Libyans, Numidians, Celtiberians and Gauls. Though in general terms the Punic heavy infantry model can be conceptualised as analogous to a hoplite phalanx, at least at the 'maniple to cohort' level, with comparable panoply, when one considers the vast numbers of non-African infantry deployed by the Carthaginians, any direct comparison to a Hellenistic phalanx quickly breaks down.⁶¹ Thus how can any fair comparison between Roman operations in Spain, Africa or Italy on the one hand, and Macedonia on the other, be successfully made? This is a fair, though not an unsurmountable, criticism. There are certainly elements to the tactics utilised by the Roman army at Pydna, for example, which are clearly a response to the Hellenistic phalanx. The widespread infiltration of the Macedonian line is undoubtedly a tactic with limited application in a Punic context. The use of the hoplite or Gallo-Celtic panoply, with a much looser fighting order and greater tactical dexterity, rendered a typical Punic army far less vulnerable to the kind of small-unit envelopment which proved so disastrous for Perseus. Nonetheless that is not to say that no comparison can be made simply because the Macedonian army used a different small arm or panoply. The great diversity within the Punic heavy infantry models alone argues for the applicability of said comparisons. Indeed, given how vulnerable to even relatively small-scale envelopment Philip V's right wing proved to be at Cynoscephalae, the potential utility of *active envelopment* in this instance, as Scipio applied it, should be reasonably self-evident. Thus the question still remains: what were the doctrinal principles which guided Flamininus and Aemilius and can we see the application of any of the reforms to Roman tactical doctrine identified in Chapter 3?

The two Roman actions in Macedonia will be addressed in turn. There are a couple of potential challenges to a direct comparison between Cynoscephalae and Scipio's engagements. The first is the notion that Cynoscephalae was a confused, escalatory, 'meeting engagement'-style battle and thus it may be difficult to ascertain Flamininus' grand tactical conception. However as stated in Section 4.1

⁶¹ Koon (2011) p. 80

this is an imperfect view of the battle. Both Polybius⁶² and Livy⁶³ state clearly that the Roman army had completed deployment before Flamininus decided to lead the left up the hill. Therefore the army was fully deployed and thus capable of performing set-piece envelopments if that had been a guiding principle behind Flamininus' actions. Additionally the escalatory nature of the battle, precipitated as it was by light infantry and cavalry action, is not unique: at Ilipa⁶⁴ and the Trebia⁶⁵ a general engagement was initiated by a comparable skirmish. The second potential challenge is the terrain, a factor which played a very significant role at Cynoscephalae, certainly more so than at either Ilipa or Campi Magni which took place on relatively flat and open ground. So, is there anything in the topography of Cynoscephalae which would have prevented the application of double envelopment in this instance? Given the ease with which Hammond traversed the various ridges and valleys,⁶⁶ the ability of the unwieldy Macedonian phalanx to manoeuvre and the ease with which the envelopment of the left wing was actually accomplished, terrain does not appear to be a constraining factor. If one studies 'Hammond's map' in Figure 4.1, there are no noticeable terrain features to either the left or right of the Roman line which could have prevented, or significantly restrained, manoeuvre. Indeed, although not an engagement covered in this project, Scipio performed a complex double envelopment manoeuvre at Baecula,⁶⁷ a site with perhaps equally foreboding topography.

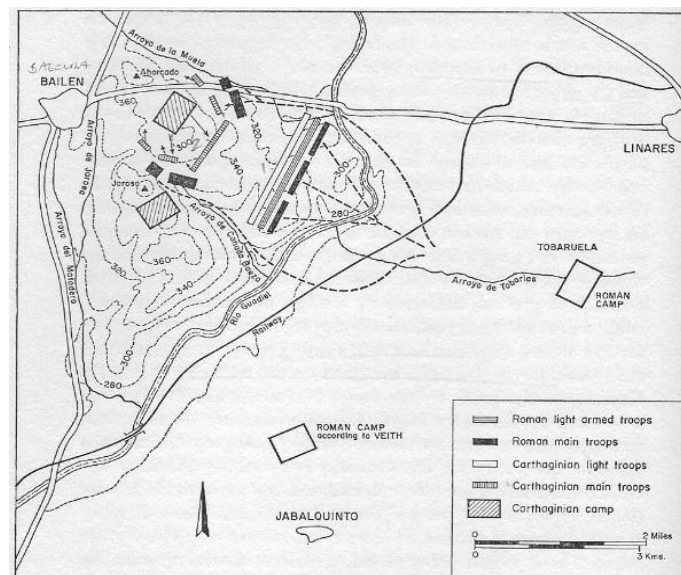


Figure 4.5: The battle of Baecula – 208 (Scullard (1979) p. 72).

⁶² Polybius XVIII. 23

⁶³ Livy XXXIII. 8

⁶⁴ Polybius XI. 21

⁶⁵ Polybius III. 72

⁶⁶ Hammond JHS (1988) p. 69

⁶⁷ For a detailed analysis of Baecula see Scullard (1970) p. 71, Goldsworthy (2000) p. 277 or Lazenby (1999) p.

Thus neither the enemy's tactical doctrine, nor the nature of the terrain, nor the unexpected initiation of the engagement present a significant challenge to the application of *active envelopment* at Cynoscephalae. Nonetheless there is no mention in either Polybian or Livian accounts of any action by Flamininus which is designed to achieve a double envelopment: he seems to have paid little attention to his flanks throughout the engagement, simply placing the light infantry on his left opposite their Macedonian counterparts.⁶⁸ This seems to be a virtual facsimile of both Sempronius' and Varro's restrictive attitude towards the extremity of the line.

Once the action at Cynoscephalae began and Flamininus found his left wing hard pressed, his reaction was not to attempt an envelopment of the phalanx, either on the extreme left of the line or the centre where a significant gap had opened up between the Macedonian right wing under Philip and the centre/left under Nicanor,⁶⁹ but attack frontally with his other wing. At Campi Magni Scipio had shown how the reserve lines of the *triplex acies* could quickly form column and envelop an opposing heavy infantry line.⁷⁰ Given the low casualty numbers reported at Pydna⁷¹ it is unlikely that the *hastati* were suffering heavy casualties, though they may well have been losing ground. Thus the opportunity for envelopment, at least in the centre, was there: a manoeuvre which could have been covered by the Roman right wing. Instead, Flamininus rode to command his right and applied the new shock weapon of frontal assault. Nonetheless the value of envelopment was clearly demonstrated by the unnamed tribune who led twenty maniples around Philip V's exposed centre and fell in his rear, the manoeuvre Flamininus neglected.⁷² This manoeuvre itself does not constitute a Scipionic or Hannibalic form of envelopment: it did not stem from a grand tactical conception of the battle held by the commander and neither was it grand tactical in scope. Thus it may be more analogous to the opportunistic envelopment of the Persian centre at Marathon⁷³ or the Punic left at the Metaurus⁷⁴ than the *active envelopment* employed at Baecula,⁷⁵ Ilipa⁷⁶ or Campi Magni.⁷⁷ Therefore, we can now safely conclude that the guiding principle behind Flamininus' employment and manoeuvre of the army at Cynoscephalae was *sustained frontal pressure*, applied via the new Roman weapon - the elephant.

⁶⁸ Livy XXXIII. 8

⁶⁹ Polybius XVIII. 24

⁷⁰ Polybius XIV. 8

⁷¹ Plutarch *Aem.* 21

⁷² Polybius XVIII. 26

⁷³ Herodotus IX. 62

⁷⁴ Livy XXVII. 47

⁷⁵ Livy XXVII. 18

⁷⁶ Polybius XI. 23

⁷⁷ Polybius XIV. 8

Aemilius' actions at Pydna are perhaps a little less clear cut. A major difference between Pydna and Cynoscephalae was the fact that the army was not fully deployed into the legionary array prior to engagement, which may have limited options for grand tactical envelopment somewhat. However, it must be remembered that it was still Aemilius' *choice* to deploy for battle that day: Scipio had refrained from allowing similar escalation to precipitate a general engagement during the first days at Ilipa.⁷⁸ Indeed the aggression with which Aemilius deployed is reminiscent of Sempronius at the Trebia. The tactics utilised at Pydna, certainly at first glance, seem to be neither directly analogous to the tactical doctrine of 218 – 216, nor to Scipio's. Indeed the infiltration of the line sits somewhere in between, as it utilised small unit envelopment to achieve victory, applied through the centre of the enemy formation.

However it is not clear that this infiltration tactic can be defined as a grand tactical manoeuvre or even attributed to Aemilius himself. Certainly Plutarch states that he ordered it,⁷⁹ though Livy only cites a direct order given to the Second Legion to 'march against the White Shields' (*adversis leucaspidem phalangem iussus*), not to penetrate the gaps. Livy simply states that the gaps between the phalanxes were penetrated by the legion (*Intervallum, quod inter caetratos et phalangas erat, implevit legio*).⁸⁰ Goldsworthy believes the infiltration of the line arose largely on the initiative of junior officers all over the field, who simply moved through the, now obvious, openings between phalanx blocks.⁸¹ Given the limitations of command and control, and fact the battle only lasted some 50 minutes,⁸² it seems unlikely Aemilius could have ordered all of these manoeuvres. Thus he may have simply been effectively acting as a *legatus*, directing the actions of the First Legion which he led in person, actions which other officers emulated. It must be noted, however, that Hammond attributes the tactic entirely to Aemilius.⁸³ Also, given the deployment of the army on the high ground, it's very probable that breaking up the Macedonian line was Aemilius' fundamental tactical objective. Nonetheless, there is nothing in the narrative which denotes grand tactical envelopment as a doctrinal principle, and even if we can attribute the infiltration of the line to the personage of Aemilius, it more closely resembles the adaptation of *sustained frontal pressure* than the *active envelopment* employed by Scipio: it is a more classic breakthrough manoeuvre as opposed to a large-scale envelopment. Although Livy notes the victory of the elephants on the Roman right wing over the Macedonian cavalry placed there, there is no mention of exploitation into the rear of the

⁷⁸ Polybius XI. 21

⁷⁹ Plutarch *Aem.* 20

⁸⁰ Livy XLIV. 41

⁸¹ Goldsworthy (2003) p. 90

⁸² Plutarch *Aem.* 21

⁸³ Hammond JHS (1984) p. 46

Macedonian position.⁸⁴ Thus we can only assume frontal pressure was the guiding principle behind Aemilius' conception of the battle, though its original and brilliant application was dictated by the unique problem presented by the phalanx.

The use of the elephant in both battles is perhaps the most paradigmatic feature of this regression to *sustained frontal pressure*. The Romano-Numidian alliance established after Zama gave the Roman military access to two new auxiliary units: light Numidian cavalry and elephants. There is no mention of Numidian cavalry in the armies mobilised in 200 and 171 for the Macedonian campaigns, despite the fact that both Hannibal and Scipio⁸⁵ wielded these highly mobile units with ruthless efficiency, effectively assuring both enjoyed cavalry superiority and achieving devastating envelopments at Cannae and Campi Magni. Instead, what we see in the Roman order of battle in both occasions are Numidian elephants - the shock weapon of the ancient world. Doctrinally elephants are designed to smash opposing infantry lines by frontal assault, and that is how the master of envelopment himself employed them at Zama.⁸⁶ It is also how Flaminius employed them at Cynoscephalae.⁸⁷ There are circumstances where elephants are deployed on the flanks, such as at Pydna⁸⁸ and the Trebia,⁸⁹ with the purpose of countering cavalry units. However in both cases elephants were not used to perform envelopments. Generally they are not mobile or dexterous enough to manoeuvre into the rear of an enemy formation. Elephants are to the ancient world what the tank was to the British Army in 1917: a breakthrough weapon. Therefore, their choice as auxiliary units, especially instead of Massinisa's Numidian cavalry, is a crystalline example of the regression of Roman tactical doctrine to the principles which underpinned the operations of 218 – 216.

This regression is also evident in the attitude of both Flaminius and Aemilius took towards training their units, as neither expended anywhere near the effort Scipio did in honing the legions into precise instruments. Aemilius infamously only spent three or four days getting his men in order,⁹⁰ and at no point in the Livian or Polybian narrative is Flaminius mentioned conducting the kind of detailed exercise and manoeuvre program that Scipio employed at Carthago Nova or Syracuse. This is probably partially a function of the negative impact the consular year had upon military efficiency, as most commanders simply did not enjoy the continuity of command Scipio had as proconsul.

⁸⁴ Livy XLIV. 41

⁸⁵ Livy XXX. 15

⁸⁶ Livy XXX. 13

⁸⁷ Polybius XVIII. 25

⁸⁸ Livy XLIV. 41

⁸⁹ Livy XXI. 55

⁹⁰ Livy XLIV. 34

However, this is less of an influence on the case of Flamininus who already had his command prolonged beyond the consular elections of 198.⁹¹ The reason for this reduced emphasis is simple: *sustained frontal pressure*, as a doctrinal principle, imposed a reduced qualitative requirement on the army in comparison to *active envelopment*. The infantry to cavalry ratios also appear to bear out this doctrinal shift: the 16:1 ratio for the army mobilised in 171⁹² is far less balanced than the 9:1 ratio of a typical consular army, though said ratio would rebalance somewhat when garrison forces and non-Italian allied contingents are considered. Scipio never matched the 4:1 ratio enjoyed by Hannibal⁹³ - though he may have come close at Campi Magni - but even at Ilipa, where his ranks were swollen with untrustworthy Celtiberian allies, it only peaked at 11:1.⁹⁴ Notably the purely Italian army he originally deployed to Spain had an infantry to cavalry ratio of 9:1.⁹⁵ Thus, in this indicator at least, the reliance on heavy infantry had not decreased, as one would expect had the lessons of Scipio's reforms been fully digested, but had *increased* by 171, which is also evident in the massive legion and ala sizes.⁹⁶

Thus, we have now addressed, with the greatest confidence possible within the confines of this research project, the second research question identified in Chapter 1: were the reforms of Scipio Africanus abandoned in the Second and Third Macedonian Wars? Given the tendency of both Flamininus and Aemilius to engage frontally, despite obvious opportunities for envelopment, the lack of constraining factors at either Pydna or Cynoscephalae, the relegation of cavalry and light infantry to reconnaissance and flank protection roles, the employment of the elephant in the stead of Numidian cavalry, and the reduced emphasis on training and exceptionally high infantry to cavalry ratios, we can confidently conclude that Scipio's reforms, as they were defined in Chapter 3, were indeed abandoned by the Roman military during the Macedonian campaigns of the early second century.

⁹¹ Livy XXXII. 28

⁹² Goldsworthy (2003) p. 76

⁹³ Goldsworthy (2000) p. 207

⁹⁴ Polybius XI. 20

⁹⁵ Goldsworthy (2000) p. 271

⁹⁶ Livy XLII. 31

Chapter 5

Conclusion

5.1. Closing Arguments

The primary research aims of this project, namely the identification and analysis of Scipio's tactical reforms and their abandonment, have, hopefully, been successfully addressed. But this leaves us with somewhat of a yawning chasm of a question: why? Given how apparently effective Scipio's tactical reforms were, why were they abandoned by Flamininus, Aemilius and the intellectual world of the Roman military establishment in the second century? Hoyos' sentence-long analysis remains the most thorough answer I have found in Anglophone scholarship:

'Leaders and armies of the first half of the following century did remain skilful and successful, partly because they had to confront sophisticated opposing military systems.

*Even so they did not need to reproduce Scipio's tactical finesse*⁹⁷

Hoyos obviously finds this explanation reasonably self-evident, which is probably the case for the majority of modern scholarship who have even considered the problem. Thus, it deserves closer examination. Could it be as simple as the Romans adapting their intellectual quality to the nature of the threat, in a regressive sense? Did they simply go back to the old ways because Scipio's reforms just weren't required to defeat the less militarily formidable Hellenistic powers? Again, this seems a reasonably obvious and simple explanation, but it rests on a fundamental misconception of how military organisations function.

In 1991 NATO had a military capability designed to meet the greatest conventional power the world had ever seen: the Soviet Union and her allies. It was with this capability that three of the alliance's major powers – the United States, the United Kingdom and France – defeated the Iraqi army in the deserts of southern Iraq and Kuwait. Yet with the dissolution of the Soviet Union the threat faced by United States dropped exponentially: from a peer superpower at the head of an alliance with conventional superiority to isolated middle powers with drastic quantitative and qualitative inferiority. Thus if Hoyos' conception that the Roman military qualitatively regressed to meet the reduced threat is correct – a phenomenon which should be evident in comparable organisations –

⁹⁷ Hoyos (2007) Section 9

the twelve years between Operation Desert Storm and Operation Iraqi Freedom should have seen a comparable doctrinal regression within the US military given the more than comparable reduction in threat. After all, the move down the threat matrix from the Soviet Union all the way down to Ba'athist Iraq is far greater than from Carthage to Antigonid Macedonia. Indeed the geostrategic environment faced by Rome in 202 and the United States in 1991 is, reasonably, analogous.

But in reality what took twelve divisions in three corps (seventeen divisions including Arab forces) 43 days, including a six-week air campaign, in 1991⁹⁸ took barely four divisions 20 days in 2003.⁹⁹ The stunning success of the conventional phase of Operation Iraqi Freedom can be partially attributed to Iraqi decline between the wars;¹⁰⁰ however the mobility and precision of US forces, their ability to dislocate and disrupt Iraqi command and control networks, in order to maintain informational superiority, and the drastic reduction the force ratio required are all illustrative of the application of new operational doctrine developed between the wars: Network Centric Warfare.¹⁰¹ Thus, if it were self-evidently true that any military organisation would discard complex doctrinal reforms due to a reduced level of threat we would not expect to see the apparently accelerated drive for technological and doctrinal development within the US military in the wake of the Soviet Union's fall. Yet that is exactly what we see. This phenomenon is underpinned by one simple fact: all militaries are, by design, *progressive* organisations. They do not regress to inferior levels of general efficiency willingly. Philip II's sarissa-armed phalanx, Cromwell's 'New Model Army', Napoleon's *corps d'armee* system, Scharnhorst's invention of the general staff, Sherman's application of industrial warfare, Hutier's infiltration doctrine, Guderian's mobile warfare: none of these structural and doctrinal developments were simply abandoned after the threat which precipitated their development abated.¹⁰²

If the danger of anachronism seems too great in the above examples then we need look no further than the Romans themselves. The same process is evident in the two centuries of doctrinal and technological development which preceded Scipio's reforms within the Roman military, and in the centuries which followed: The abandonment of hoplite panoply in the wake of the disaster of the Alia,¹⁰³ the development of the manipular legionary array during the Great Samnite War,¹⁰⁴ the

⁹⁸ Builder, Banks, Norton (1999) p. 63

⁹⁹ Dale (2009) p. 44

¹⁰⁰ Ricks (2006) p. 21

¹⁰¹ Cammons et al (2005) p. 13

¹⁰² See Smith (2005) for a good description of doctrinal development, both operational and tactical, over the last 200 years.

¹⁰³ Livy, V.30

¹⁰⁴ Livy, IX.2

adoption of the *Gladius Hispaniensis* and typical legionary panoply,¹⁰⁵ the practically whole cloth formation of the Roman Navy in 261,¹⁰⁶ the continual development of naval doctrine which brought them victory at Ecnomus in 256¹⁰⁷ and Aegates in 241,¹⁰⁸ indeed even the Marian reforms themselves.¹⁰⁹ Again, do we see the willing abandonment of said developments when the threat which precipitated their adoption abates? Could not the far simpler hoplite infantry model have been reapplied after the conclusion of the Samnite Wars? The Carthaginians certainly still used it effectively.¹¹⁰ Why maintain a significant naval force once the great maritime power of Carthage had been defeated? Why continue to develop naval doctrine between the Punic Wars given naval superiority?¹¹¹ Could not Pompey have conducted his eastern campaigns just as effectively with the pre-Marian, manipular legionary array, given the superiority of Roman arms already displayed over the Hellenistic powers in the second century? The list is practically endless. Hoyos' explanation is, thus, unsatisfying.

This leaves us with two alternatives; either the doctrine utilised by Flamininus and Aemilius was deemed superior to that developed by Scipio, or it represents an informational failure. Given the efficacy of *active envelopment* in the Spanish and African campaigns, as discussed in Chapter 3, including a demonstrable ability to continually defeat numerically superior opponents, the first option seems unlikely. Roman arms had proven capable of defeating Carthaginian armies by utilising *sustained frontal pressure* some of the time, so long as the Punic commander was not Hannibal. But none enjoyed such dramatic or sustained success as Scipio, and there is no apparent reason why other Roman commanders could not have utilised the tactics he developed. Even the only strategically significant set piece victory not won by Scipio, at the Metaurus,¹¹² *sustained frontal pressure* alone was not enough. Therefore I think it safe to assume that what we are looking at in the abandonment of Scipio's tactical reforms is not a result of concerted comparison and evaluation on the part of some element of the Roman military, nor the outcome of an organic process of 'natural selection' between rival doctrinal concepts, but a failure of the Roman military to fully digest and implement manifestly superior tactical doctrine. This failure raises several interesting lines of inquiry.

¹⁰⁵ Goldsworthy (2000) p. 47

¹⁰⁶ Goldsworthy (2000) p. 104

¹⁰⁷ Goldsworthy (2000) p. 115

¹⁰⁸ Goldsworthy (2000) p. 125

¹⁰⁹ Scullard (1959) p. 56

¹¹⁰ Koon (2011) p. 80

¹¹¹ Goldsworthy (2000) p. 104

¹¹² Livy XXVII. 47

5.2 New Leads: Promising Lines of Research

Viewing the abandonment of Scipio's reforms as an informational failure is not the concise ending one may have hoped for, neatly bringing the project to a close on a conclusive note. Happily, it raises far more questions than it answers. This fact is of real value to the field as by exploring the reasons for this failure we gain access to an indirect window into how the Roman military maintained information at an organisational level. There was, to our knowledge, no field manual issued to the consul or the military tribune upon their election and appointment which laid bare Roman tactical doctrine for the officers of the republic to employ. Nor was there an analytical body developing and codifying said doctrine. Yet the Romans developed, sustained and even improved many doctrinal concepts throughout the period, successfully maintaining informational improvements within the organisation for centuries. This is an even greater feat given the only semi-professional status of the Roman officer corps, be it the plebeian *centurions* or the tribunes, *legati*, praetors or consuls of the *nobiles*: none served in a purely military capacity as a profession. Thus the entire military apparatus was essentially impermanent. In this context the maintenance even *sustained frontal pressure* may seem nearly miraculous without codification. However, the sheer volume of conflict which characterised Roman foreign relations from the Battle of the Alia to the consulships of Marius allowed a Roman army to be deployed on campaign somewhere in nearly every campaigning season. This provided ample opportunity for the practical learning of doctrinal principles through the system of training for young noblemen as a *contubernalis* and the steady succession of potential commands throughout the *cursus honourum*. It also allowed many centurions to serve for years, often in multiple wars or campaigns, as is evidenced by the high numbers of veteran centurions enrolled in the legions deployed to Macedonia in 200.¹¹³ This allowed men to see how the army operated with their own eyes on campaign, and it was this mechanism which allowed the military to maintain information over decades or centuries. Indeed the move from the hoplite model to the manipular legionary array - a development easily more complex than Scipio's reforms at nearly every level of command - was successfully sustained by this process alone.

So, if the Roman military was capable of sustaining wholesale doctrinal and organisational reforms as large as the move to the manipular array, the *triplex acies* and *sustained frontal pressure*, why was *active envelopment* beyond the organisation's capability? It is in the answer to this question that some of the more far-reaching historical implications of this avenue of research lurk. This failure is historically significant, not only as it may be paradigmatic of wider failures within the wider politico-

¹¹³ Livy XXXI. 14

military apparatus, but as it may partially explain the significant decline in efficiency and capability which characterised the Roman army of the second century. This may, in turn, give the field some greater understanding of one of the base drivers of the Marian reforms. Caius Marius' reform program was undoubtedly a multifaceted phenomenon, with significant socio-economic and political origins. The wholesale liquidation of the small scale farmer in rural Italy and the growth of the *latifundia* had, to a large extent, reduced the pool of heavy infantry available to the Roman army of 100.¹¹⁴ Additionally, the violence and dysfunction of the Republican political system, which had reached a bloody crescendo with the careers of the Gracchi, was evidently reaching levels of geo-strategic importance, as is evidenced by the senate's refusal to allow Marius to levy additional forces for the Jugurthine War.¹¹⁵ It is these influences, in addition to the extremely poor performance of the army in the Cimbric war, including the disaster of Arausio, which drove different elements of Marius' reform program. Thus, answering 'why' the Roman army failed to digest and implement *active envelopment*, itself a further understanding of the decline of the Roman military in the second century, will only give us a partial explanation of a partial explanation of the origin of Marius' organisational and doctrinal reforms. But, given their historical significance, even such a limited addition is of substantial value.

Unfortunately, within the confines of this project we simply lack the space to even glimpse any satisfactory answer, given the level of analysis required. There are, however, some interesting leads. Probably the more obvious, given the wider historical context, is the corrosive effect of personal ambition, rivalry and political intrigue upon the Roman military at the army command level. The personal rivalry between Fabius Maximus and Africanus, displayed with such vitriol prior to the Locri affair,¹¹⁶ almost led to the removal of Rome's most able commander on the eve of the decisive campaign. The influence of Cato the Elder in this episode, who actively waged a campaign within the senate designed to prevent Scipio from embarking on a war-winning operation, reveals much of the senate's culture of petty rivalry and acrimony.¹¹⁷ Thus if these men were willing to prevent Scipio from effectively winning Rome's most dangerous war, simply out of parochial political competition, how likely is it that Scipio's personal rival, Flamininus, would be receptive to Scipio's reforms? Achieving *personal* military success was one of the foundations of a successful career for virtually any member of the senatorial class. This is perhaps best exemplified by a consul of 171 – Caius Cassius Longinus – who after losing the lot for the Macedonian command, mustered an army in

¹¹⁴ Scullard (2009) p. 17

¹¹⁵ Goldsworthy (2003) p. 121

¹¹⁶ Livy XXIX. 19

¹¹⁷ Plutarch *Cato*. 3

Illyria and marched on Macedonia without senatorial authorisation.¹¹⁸ Perhaps adopting Scipio's ideas was tantamount to publically accepting his superiority, something unacceptable for a Roman noble. Indeed the earlier reforms cited - from the manipular array to the development of Roman naval doctrine - do not originate from the personage of an individual senator in quite the same way.

However, at best this can only offer a partial explanation as doctrine is applied throughout the command apparatus and this explanation focuses too narrowly upon the highest level of command. Indeed the actions of the unnamed tribune at Cynoscephalae illustrate that envelopment as a doctrinal principle had influenced at least some elements of mid-level command.¹¹⁹ Additionally the wider social context of the Roman *nobiles*, with its innate conservatism and the *mos maiorum*, may have influenced many Roman senators to remain consistent with more traditional models of Roman warfare, which could account for some of the observed resistance to Scipio's reforms. However this process, and influence of personal rivalry outlined above, does not account for the counterexample of Marius himself, whose reform program not only stuck, but for which he publicly enjoyed the credit for its introduction and development. It is therefore unsatisfying. Thus the problem may also lie in the relatively slow process by which doctrine was transferred and maintained: perhaps there were simply not enough junior officers and future generals who were personally exposed to *active envelopment* in Spain and Africa, especially compared to the military career of Marius or the lengthy Great Samnite War? These questions essentially remain unanswered. However, their exploration may provide an interesting and valuable foundation for further research within the field.

¹¹⁸ Livy XLIII. 1

¹¹⁹ Polybius XVIII. 26

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