

VISUAL EVIDENCE FOR ROMAN INFANTRY TACTICS

Michael J. Taylor, Santa Clara University

This essay discusses Roman infantry tactics at the small-unit scale, specifically the arrangement of Roman soldiers within their formation, rather than the higher-echelon dispositions of maniples or cohorts within a legion or the maneuver of these elements on the battlefield.¹ Small-unit tactics shaped the nature of combat for the individual infantryman and his close companions but also structured the entirety of the engagement: a battle was, after all, nothing more than thousands of coordinated individual fights concentrated in time and space. Much ink has already been spilled on the subject of Roman infantry tactics, most of it during the late nineteenth and early twentieth centuries and primarily in German scholarly circles.² The evidence endlessly and increasingly fruitlessly debated during those years, however, was largely literary in nature and focused in particular on certain key passages of Polybius, Caesar, Livy, and Vegetius.

This essay proposes a new source of evidence for Roman infantry tactics: visual images of Roman soldiers in both combat and parade. As we shall see, this visual material both complements and helps to explicate the surviving literary evidence. In particular, I will argue that the visual evidence (a) confirms statements in Polybius that Roman soldiers fought in an open-order formation and (b) suggests that Roman soldiers in open-order formations formed a checkerboard lattice of men, with the man in the second rank covering down on the space between the two soldiers in front of him. My goal is to produce, through the aggregate of literary description and artistic depiction, a compelling model of how Roman soldiers arrayed themselves for battle within their units.

Visual representation of Roman warfare served many purposes, including propagation of imperial ideology of victory and domination, commemoration of war dead, and celebration of individual exploits. In the service of these various functions, accurate reproduction of combat formations was seldom the highest priority.³ At the same time, Roman war art was strongly influenced by the gravitational pull of reality. During the republic, when the majority of eligible citizens served a period in

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¹ On the tactical array of the legion, see Bell 1965; Wheeler 1979; 2004a; 2004b; and Taylor 2014.

² Key works of nineteenth- and twentieth-century German scholarship: Delbrück 1883; Soltau 1885; Schneider 1893; Kromayer and Veith 1907. The rigorous use of literary sources to recreate Roman tactics goes back much further, of course, in particular to the Dutch humanist Joose Lips (Justus Lipsius), whose 1596 *De Militia Romana* was intended as a practical guide for modern military men.

³ For the relationship between art and imperial ideology, see Hannestad 1988, *passim*. On the commemoration of Roman war dead, see Hope 2003. The tombstone of Tiberius Claudius Maximus, with its scene of the cavalryman riding down Decebalus, is an example of art honoring the exploits of an individual soldier; see Speidel 1970.

the legions, the intended audience for public art would have contained a high proportion of combat veterans. The depictions we shall consider that date from imperial times come predominately from the military frontiers, where the audience was largely active duty soldiers and veterans, all of whom would be keenly aware if representations of soldiers and warfare veered into unrealistic fantasy.⁴ Tonio Hölscher perhaps best encapsulates the relationship between artistic construct and realities on the ground:

The images of war in all cultures are no mere visual fictions: they refer to hard, profound, and complex experiences in real life, to a world of killing and dying. . . . [A]ll artistic images are of course mental constructs. As far as they represent the world of reality, they select specific subjects and motifs relevant for their purpose, focus on particular aspects of them, and enhance the expressive power of those chosen aspects. Images are thus reflections of cultural imagination. Secondly, reality too is a construct. The reality of war is determined and formed by particular technical conditions—arms and armor, logistical equipment, tactical and strategic concepts, patterns of behavior and social ideals. Such conditions affect fundamentally the concrete and visual conduct of fighting. Reality is in this sense an image.⁵

Some degree of doubt concerning artistic intention must be presumed for each depiction of Roman soldiers: Is the artist deliberately trying to present soldiers accurately in their tactical array? Or is the portrayal of these figures more formulaic or haphazard, as we may assume if conceived by an artist who was not necessarily knowledgeable about military affairs? Doubts of this kind can never be fully excised. Indeed, the general situation is ambiguous enough that we may state with some clarity that no one example, in itself, can serve as a foundation for this argument. Rather, like the entwined branches of a Native American wigwam, my interpretation of each example provides mutual interpretative support and reinforcement for my readings of the others, especially when interwoven with the literary evidence.⁶ In the event that I can be proved wrong about any given example, this particular “branch” may be removed from the analytic structure without the entire edifice collapsing.

The visual evidence discussed below spans the period from ca. 200 B.C. to A.D. 200. During this time, the Roman army underwent dramatic structural changes, transforming from a citizen’s militia based in Italy into a professional fighting force deployed across the far-flung frontiers.⁷ Substantial tactical reforms took place over the same period, as the manipular legion described by Polybius was replaced by the cohort-based legion prominently featured in Caesar’s commentaries.⁸ Despite these changes, there are reasons to believe that broad continuities persisted in the basic nature of Roman small-unit tactics, primarily due to the long-term continuity of Roman military equipment design. There were, of course, minor modifications: The Roman *gladius* shortened somewhat between the mid-republic and high empire, while the republican oval shield (*scutum*) changed to a rectangular

⁴ This is particularly true for the Adamklissi Monument, in modern-day Romania, and the Mainz Principia Reliefs, both constructed in a frontier context targeting a military audience.

⁵ For a discussion of the diverse functions of Roman military art, see Hölscher 2003, 2. Sabin 2000, 3, also notes the importance of visual evidence in reconstructing “the face of Roman battle.”

⁶ Hopkins 1978, 20, usefully coined the metaphor of the Algonquin “wigwam” to describe a method formulating

complex arguments based on interlocking pieces of problematic ancient evidence.

⁷ The best up-to-date chronological “companion” overview of the evolving Roman army is Erdkamp 2007, although Keppie 1984 retains its utility as a monograph survey.

⁸ The transition from the manipular legion to cohort remains an unresolved problem. For various viewpoints, see Bell 1965; Wheeler 1979; Lendon 2005, 225–232; and Dobson 2008, 58–64.

form of the early and high empire (although ovular versions persisted).⁹ Essentially, however, from the third century B.C. to the second century A.D. Roman soldiers fought with the same combination of throwing javelins, a two-foot long infantry sword, and a roughly two-foot by four-foot shield. While not discounting substantial flexibility, variation, and even innovation, Roman heavy infantry tactics were conservative in the sense that there were only so many ways to fight with the same basic set of arms and armor. Furthermore, despite the organizational changes at the legionary level, namely the transition from a legion of thirty maniples of the mid-republic to the late republican/early imperial legion of ten cohorts, almost no change occurred at the small-unit level, where the primary unit remained the *centuria* of 60 to 80 men, subdivided into ten *contubernia* of 6 to 8 men, an organizational continuity that presumes relative tactical conservatism at the level of the century and below.¹⁰

1. The Literary Evidence

The Greek historian Polybius, writing in the mid-second century B.C., was keenly interested in Roman infantry tactics and saw in the superiority of the Roman tactical system part of the answer to his broader question concerning the rapid rise of Roman imperial power.¹¹ Polybius was also an expert on Greek tactics, devoting a treatise (now lost) to the subject.¹² One aspect of Roman infantry fighting technique that struck him as unique was the fact that Roman soldiers required far more tactical space on the battlefield than their Greek or Macedonian counterparts:

τῆς μάχης δ' αὐτοῖς κατ' ἄνδρα τὴν κίνησιν λαμβανούσης διὰ τὸ τῷ μὲν θυρεῷ σιέπειν τὸ σῶμα, συμμετατιθεμένους αἰεὶ πρὸς τὸν τῆς πληγῆς καιρὸν, τῇ μαχαίρᾳ δ' ἐκ καταφορᾶς καὶ διαιρέσεως ποιεῖσθαι τὴν μάχην. προφανὲς ὅτι χάλασμα καὶ διάστασιν ἀλλήλων ἔχειν δεήσει τοὺς ἄνδρας ἐλάχιστον τρεῖς πόδας κατὰ ἐπιστάτην καὶ κατὰ παραστάτην, εἰ μέλλουσιν εὐχρηστεῖν πρὸς τὸ δέον.

In their manner of fighting, however, each man undertakes movement on his own, protecting his body with his long shield, parrying a blow, and fighting hand to hand with the cut and thrust of his sword. They therefore clearly require a space and flexibility between each other, so that each soldier must have three feet from the men to their flank and rear, if they are to be effective. (18.30.7–9)¹³

⁹ Bishop and Coulston 2006 remains a time-proven bible for Roman military equipment.

¹⁰ Here I am arguing for a conservatism in open-order fighting techniques, although I readily admit that by the high empire there is evidence that the legion was becoming more “phalangeal,” epitomized by Arrian’s battle-line against the Alans (*Ektaxis*), which Wheeler 1979 and 2004a discusses at length.

¹¹ See especially the “legion v. phalanx” excursus in Polyb. 18.29–32, although he discusses the general Roman military system in detail in 6.19–42 and provides detailed tactical description of a number of major engagements. Eckstein 1995, 172, notes that for Polybius much of the key to Roman triumph lies not in the actual skill of her soldiers but in the military system that sets them up for success (in opposition to later Roman writers, who will stress the *virtus* of the soldiers and commanders over the logic of the tactical system, on which see Lendon 1999). Certainly Polybius, as in all his discussions of the Roman state system, is often schematic

in his analysis; his agenda is to differentiate what he sees as superior Roman methods from those practices current in Greece. See, for example, Champion 2004, 92–94, 154, who notes that Polybius endows the Romans with a sort of “hyper-*logismos*” when it comes to organizational genius; also Erskine 2013, 239–240. While a great deal of energy has been devoted over the last generation to deconstructing ancient historians, I will assume that Polybius and the other historians discussed, despite their biases and agendas, were also earnest and for the most part able chroniclers of historical fact; this notion has found full-throated defense in Lendon 2009. For additional discussion of Polybius and other sources of the mid-republican army, see Rawson 1971.

¹² The surviving fragments of Polybius’s lost tactical writings mentioned in passing at 9.20.4 can be found in Aelian, *Tactica* 3.4.2–5, 19.

¹³ For commentary on the passage, see Walbank 1967, 588–591.

It is unclear what exactly Polybius means by *τρεις πόδας . . . κατὰ παραστάτην*. If the three feet on either side is in addition to the three feet occupied by the Roman soldier with his equipment, then each Roman soldier must control a total frontage of nine feet between the soldiers on his left and right.¹⁴ This is perhaps too generous. A more likely interpretation is that the three feet to the flank includes the physical space that the soldier himself occupies, so that he controlled six feet of tactical space between the men to his left and right, with a little over two feet (60 cm) of open space (*χάλασμα και διάστασιν*) between soldiers in the same rank.¹⁵ In either case, Polybius asserts that the Roman soldier fought in a far more open and flexible formation than many of his counterparts, particularly with respect to the densely packed Macedonian-style phalangites, who were allowed only three feet of space per man, making the Hellenistic phalanx a jostle of shields, spears, and elbows (see fig. 3, left-hand side).¹⁶

Some scholars have doubted Polybius's claim that Roman soldiers operated in an open-order formation, however, in part due to the conflicting information preserved by the late imperial military writer Vegetius, who assigns each Roman soldier only three feet of frontage (3.19), which would have produced a close-order formation with the same density as a Macedonian phalanx.¹⁷ The modern historians who favor Vegetius's spacing demonstrate substantial disdain for Polybius's considerable abilities as a contemporary observer of military affairs (and equally excessive confidence in the far-removed Vegetius!), but the tactical disposition suggested by Vegetius would have posed several practical problems.¹⁸ Roman close combat techniques were based on a throwing javelin (*pilum*) and a vicious cutting and thrusting sword (*gladius*), the employment of which required additional tactical space, if only to avoid injuries to fellow soldiers.¹⁹ Roman units risked defeat if they became too compact. Polybius reports that Roman soldiers at Cannae were annihilated after being compressed into a dense mass, while Caesar's soldiers, under heavy pressure from onrushing Germans, were crowded to the point where "the compacted soldiers were an impediment to themselves in battle" (*confertos milites sibi ipsos ad pugnam esse impedimento*).²⁰

2. The Visual Evidence I: Elbow Room

One feature of Roman military art supports the notion of an open infantry formation along the lines of Polybius 18.30: depictions of Roman soldiers striking wide slashing blows that require significant space for the motion of arm and sword. It is notable that Vegetius, who advocates a three-foot formation, believed that historically Roman soldiers had only utilized short, underhanded stabbing

¹⁴ Spacing of Roman soldiers: Polyb. 18.30.5–6.

¹⁵ Sage 2013, 228, suggests an actual gap of around two feet in between soldiers; see also Taylor 2014, 304–307.

¹⁶ Spacing of Macedonian heavy infantry: Polyb. 18.29.6, Asclepiodotus 6.2, also Diod. Sic. 16.3.2. See also graphic in Connolly 1998, 78. Macedonian soldiers did on occasion transition into an open order, but this was primarily used as a marching formation, especially when progressing over rough terrain (e.g., Asclepiodotus 4.3; Polyb. 12.9.6).

¹⁷ Doubts of Polybius's spacing: Delbrück 1975[1920], 406–410; Daly 2002, 160; Goldsworthy 1996, 179.

¹⁸ Polybius observed Roman operations in the Third Mace-

donian War while still a free Achaean official (28.13). He was also an eyewitness to Roman operations in the Third Punic War (38.19) and may have even taken part in the action beneath the walls of Carthage (Amm. Marc. 24.2.16).

¹⁹ On the *gladius* (in particular the republican *gladius hispani-ensis*, and the imperial Mainz, Fulham, and Pompeii types), see Quesada-Sanz 1997 (*hispani-ensis*); Bishop and Coulston 2006, 54–55 (*hispani-ensis*), 78–81 (Mainz-Fulham-Pompeii). For *pila*, Bishop and Coulston 2006, 51, 74–75; for two views on the tactical importance of *pila* in Roman battle, see Zhmodikov 2000, who emphasizes the importance of missile combat, and Wheeler 2001, who downplays it.

²⁰ Polyb. 3.116.10–11; Caes. *B Gall.* 2.25.1; Potter 2010, 315.



Fig. 1. A Roman soldier, identified despite heavy damage by his oval scutum with a vertical spine, makes a broad slashing motion on the Pydna Monument of Aemilius Paullus. Delphi Archaeological Museum (photo courtesy of Alexander Seufert).



Fig. 2. Coin by the moneyer Minucius Thermus (RRC 319) honoring the martial exploit of an ancestor. Note the broad slashing blows, which might produce the sort of wounds described by Livy 31.34.4–5 (photo courtesy of the Virginia Museum of Fine Arts).

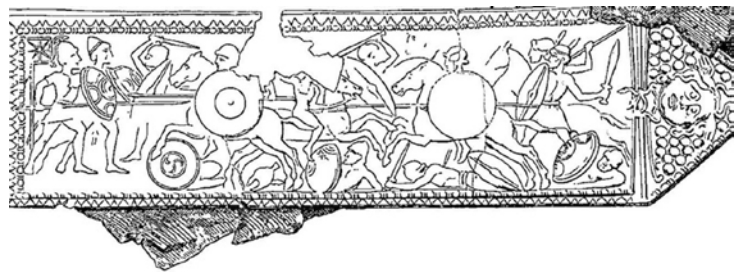


Fig. 3. Combat scene depicted on a bronze relief from Pergamon depicting the Battle of Magnesia. The two Macedonian soldiers on the left stand in for an entire heavy phalanx formation. The soldiers with the oval shields, short swords, and feathered helmets are almost certainly Roman infantrymen. Note the broad slashing blows of the Roman swordsman (Conze 1913, 251).

motions, the kind of strike that would be feasible with a mere 6 to 12 inches of space (15–30 cm) between shields.²¹ However, slashing motions would require more spacing—closer to the 2 to 3 feet (60–90 cm) implied by Polybius, who elsewhere reports that the Spanish sword used by Roman infantry of the mid-republic was good for both cutting and thrusting motions.²² Livy also emphasizes the slashing functions of the sword, which resulted in “mutilated trunks, with arms hacked off above the elbows, heads chopped clear from the neck, and exposed guts and other fetid wounds.”²³ While short, disciplined, underhand stabs were certainly used by Roman infantry (see fig. 9), the visual evidence suggests that Roman soldiers also utilized bold, slashing motions, which appear on both the mid-republican Pydna Monument (fig. 1), as well as a late republican coin (ca. 103 B.C.) issued by Minucius Thermus (fig. 2).²⁴ On the assumption that a bronze plate from Pergamon represents the Battle of Magnesia of 190 B.C. (fig. 3), then we have

²¹ Veg. *Mil.* 1.12: *Praeterea non caesim sed punctim ferire discebant.*

²² Polyb. 6.23.7: ἔχει δ' αὕτη κέντημα διάφορον καὶ καταφορὰν ἐξ ἄμφοιν τοῖν μεροῖν βίαιον διὰ τὸν ὀβελίσκον αὐτῆς ἰσχυρὸν καὶ μόνιμον εἶναι.

²³ Livy 31.34.4–5: *detruncata corpora brachiis cum humero abscisis aut tota ceruice desecta diuisa a corpore capita patentiaque uiscera et foeditatem aliam uolnerum.* The skirmish was admittedly a cavalry action, but Livy explicitly links the wounds to the *gladius hispaniensis*, which was utilized by both Roman infantry and cavalry.

²⁴ Minucius Thermus's denarius: Crawford 2001, 324 (RRC 319/1).



Fig. 4. *Metope XX from the Adamklissi Monument (ca. A.D. 110). A Roman legionary winds up his arm to make a wide slashing motion with his gladius. Adamklissi Archaeological Museum (open source via Wikimedia.org).*



Fig. 5. *Macedonian phalangite from the Alexander Sarcophagus (ca. 300 B.C.) with his arm drawn across his face to deliver a so-called Harmodius blow. This type of slashing motion was likely developed within the space constraints of a close-order formation; contrast the wide cutting blows in Roman art. Archaeological Museum of Istanbul (photo courtesy of Elizabeth Wueste).*

yet another depiction of republican-era soldiers, distinguished by their ovular shields, short swords, and plumed helmets, engaged in melee combat with broad sweeping blows rather than underhanded stabs. Despite the modest shortening of the imperial Mainz and Pompeii styles of *gladius* relative to their republican predecessors, broad slashing blows also appear on the Trajanic Adamklissi Monument (ca. A.D. 110), especially on metope XX (fig. 4).²⁵ The depictions of bold blows in these four combat scenes suggest Vegetius is incorrect; Roman soldiers did indeed use slashing motions, which would in turn suggest the need for open-order formations in order to avoid injuring adjacent comrades-in-arms. The tactical space of Roman soldiers was therefore not “empty” but filled with the deadly glint of steel in motion.

It is worth comparing the broad slashing motion of Roman soldiers with its Greco-Macedonian counterpart: the so-called “Harmodius blow,” in which the Greek or Macedonian warrior raises his blade for the blow by winding his sword tightly behind his shoulders, either cocking the sword-arm closely behind the head or even bringing his sword-arm across his face.²⁶ The “Harmodius blow”

²⁵ The slashing blow on the Pydna Monument comes from a set of reconstructed fragments discussed and illustrated by Jacquemin and Laroche 1982, 213. For swordsmanship at Adamklissi, Goldsworthy 1996, 217.

²⁶ Shefton 1960, 175, coined the phrase “Harmodius blow” in an article on depictions of the Athenian tyrannicides.

Cook 1989 elaborates on the depiction of the blow in other Greek battle scenes but does not connect it to fighting in a close-order formation. Shefton notes that the original statue base was perhaps 1.6 m wide, giving the statues of Harmodius and Aristogeiton approximately the same amount of space as Athenian hoplites in battle formation. Thuc. 5.71.1 remains the *locus classicus* for the notion that Greek hoplites fought in

first appears in sixth-century B.C. vase painting and is featured prominently on the statue of the Athenian tyrannicides, from which B. B. Shefton coined the phrase. It continued to be featured in Greek military art, including the Macedonian phalangite on the Alexander Sarcophagus (fig. 5).²⁷ The “Harmodius blow” is surely associated with close-order fighting in a Greek or Macedonian phalanx. Occupying only 3 feet of tactical space (or less), the Greek or Macedonian infantryman in such a press did not have room to make wide swinging motions with his sword. Instead, Greek and Macedonian hoplites were trained to make short, disciplined, downward chops, keeping the sword and sword-arm constrained within their narrow tactical space, an idealized technique that appears again and again in Greek military art. The Roman soldier, provided with more tactical space, was able to kick out his elbow to engage in broader slashing motions, a fact reflected in the visual representation of Roman fencing styles.

3. *The Transition from Close Order to Open Order*

While Roman soldiers required an open-order formation for swordplay, they frequently needed to form close-order defensive formations with locked shields, either to ward off a barrage of missiles or to resist an onrushing charge.²⁸ For example, when fighting the Celtiberians in Spain during the Second Punic War, Roman troops faced a hail of missiles, which “closing together according to custom, they received with their shield wall” (*conferti, ut solent, densatis excepissent scutis*).²⁹ During the civil warfare between Vitellius and Vespasian (A.D. 69), Tacitus notes that Vespasianic forces “dressed themselves into close-ordered ranks” (*firmati inter se densis ordinibus*) in order to defeat a disorganized charge by Vitellian forces.³⁰ The most extreme form of the defensive close order was the *testudo*, in which soldiers in the front ranks locked shields, while soldiers in the rear ranks held their shields over their heads.³¹ However, in the heat of combat we can envision Roman soldiers quickly coming together under a barrage of missiles or the sudden onrush of the enemy, and then flexing forward again into the attack. The commander of a Roman foraging detachment under attack in the Third Macedonian War “formed the soldiers into a sphere, so that they might protect themselves with locked shields from the blows of arrows and darts” (*in orbem milites coegisset, ut densatis scutis ab ictu sagittarum et iaculorum sese tuerentur*), but the soldiers then “opened ranks by charging forward” to counterattack (*ordines procurando soluissent*).³²

It was necessary to open ranks mainly to obtain the offensive space necessary for effective swordplay: Julius Caesar, with his troops on the defensive against a horde of Germans, ordered his

close order, at least by the late fifth century B.C. See Prichett 1971, 144–154. Krenz 1985, 54, argues that Greek hoplites routinely fought in an open order not dissimilar to Roman legionaries, but is not convincing (at least for the classical period), although there is a growing scholarly consensus as to the fluidity of the archaic phalanx.

²⁷ The “Harmodius blow” is also featured on the scene of an Athenian hoplite dispatching a fallen Persian on a well-known kylix, ca. 460 B.C., attributed to the Triptolemos Painter, with versions on display at the National Museum of Scotland and the Athenian Archaeological Museum. Ober 2003 surveys the iconography of the “Harmodius blow” in fifth- and fourth-century Athenian art.

²⁸ Locked shields for missile defense: see Zhmodikov 2000, 74.

²⁹ Livy 28.2.6.

³⁰ Tac. 3.17.10–11.

³¹ For the Roman *testudo*: Livy 34.39.6–7, 44.9.5–7; Polyb. 28.11.1–2; Plut. *Vit. Ant.* 45.2.

³² Livy 42.65.7–8. See Taylor 2014 for additional references. Jonathan Roth in Dillon and Welch 2006, 49–67, argues in favor of Livy’s basic competence as a military historian, despite the occasional anachronism. Roth’s case study focuses specifically on siege warfare, but his conclusions provide confidence to the use of Livy as a source for military details.

men to “open the maniples, so that they might more easily wield the sword” (*manipulos laxare iussit, quo facilius gladiis uti possent*).³³ Dio Cassius reports that Mark Antony’s legionaries formed up with locked shields (*συνασπίσαντες*) in response to Parthian archers but then “opened the battle-line” (*τὴν φάλαγγα ἄμα ἀνέπτυσαν*) in order to facilitate hand-to-hand combat, very likely a direct Greek translation for *laxare manipulos* or *soluere ordines*.³⁴

The exact mechanism for how the Romans “opened the maniples” is unclear, although several scholars have suggested that the easiest way would have been for the men in every other file to take one step forward.³⁵ This maneuver would produce a checkerboard open-order formation, where the man in the second rank covered down on the open space between the soldiers in the first rank (fig. 6). This model of Roman small unit mechanics is elegant, in line with the literary sources, and tactically plausible.³⁶ Arrayed in this fashion, men in the second rank could quickly reestablish a close-order formation with locked shields (*densata scuta/testudo*) by stepping forward into the front rank. If the need arose, a man in the second rank could aid his comrades dueling in the front rank by throwing a javelin, punching forward with the bottom of the long *scutum* (see fig. 9 below), or stepping forward to intervene with his sword. An indication of such a mechanism in the visual evidence would involve a soldier positioned in the foreground, with a second soldier standing in the rank behind him, offset laterally to the left or right. In the next two sections, I will discuss six works of art that show soldiers positioned in exactly this manner.

4. The Visual Evidence II: Open-Ordered Combat

Large-scale formations are inherently difficult to portray in three dimensions using the media available in antiquity, and particularly *bas-relief* sculpture. Such formations may also have been regarded as visually uninteresting, as Roman artists followed Hellenistic models that favored physically dynamic but tactically isolated figures in melee combat. Most of the examples of combat formations, therefore, will involve only two soldiers, following the hypothesis that an orderly arrangement of two soldiers is suggestive of the broader formation. There is precedent for the depiction of an entire formation with only two individuals: when the artist of the bronze relief from Pergamon wished to portray a Macedonian-style phalanx (see fig. 3 above), it was sufficient to show two Seleucid soldiers standing side by side, their shields almost touching and their pikes extended, so that the pair in close order (*pyknosis*) might stand in for the entire phalanx.³⁷

³³ Caes. *BGall.* 2.22.2–3. In this instance, Caesar faced an additional problem in that “the standards were gathered together in one location” (*signisque in unum locum collatis*), probably because the assault had driven back the cohorts in the front line so that they collapsed into the cohorts of the second and third *acies*. Caesar therefore ordered the standards to advance (*signa inferre*) in addition to giving the order to “open the maniples.”

³⁴ Dio Cass. 49.29.24.

³⁵ Sabin 2001, 10; Daly 2002, 61; Judson 1888, 43; Taylor 2014.

³⁶ Soltau 1885, 265–267, and Quesada-Sanz 2005, 7–8, advocate a tactical model in which maniples expanded lat-

erally, filling the gaps in between maniples while doubling the spacing of the soldiers in the formation. This maneuver might be feasible during a lull in combat but still seems clumsy and time-consuming in the heat of battle. Taylor 2014 suggests that the gaps between Roman maniples were indeed maintained in combat.

³⁷ The bronze is now lost; only the archaeological illustration survives. See Callaghan 1981, 117, for the identification of the bronze with the Battle of Magnesia, although Callaghan curiously identifies the Roman infantrymen as Mysians. Markle 1999, 249, seconds the identification as the Battle of Magnesia. Taylor 2016 provides a detailed reading of the iconography of the scene and discussion of its political and cultural context.

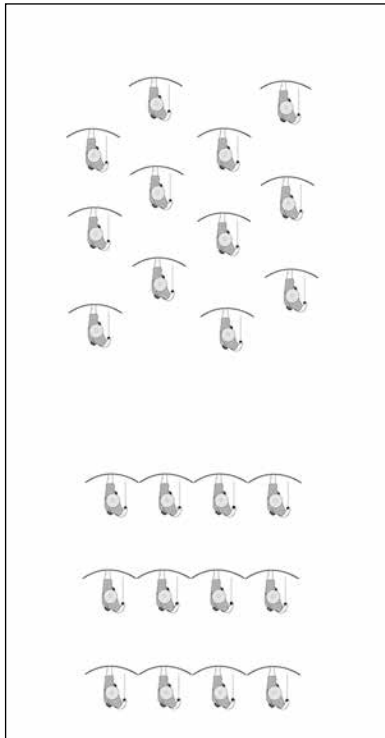


Fig. 7. A pair of Roman legionaries in formation attack a prostrate Macedonian soldier on the Pydna Monument of Aemilius Paullus. Delphi Archaeological Museum (photo courtesy of Noreen Sit).

Fig. 6. Author's reconstruction of how Roman soldiers in a close-order formation with locked shields (*densatis scutis*) might transition to an open order formation (*laxare manipulos/soluere ordines*) simply by having every other file move forward a pace. Note that a soldier in the rear ranks covers down on the space between the two soldiers in the rank in front of him.

THE PYDNA MONUMENT OF AEMILIUS PAULLUS

The Pydna Monument of Aemilius Paullus, sculpted in the aftermath of the Roman victory in 168 B.C. and now on display in the Delphi Archaeological Museum, depicts the great clash between legion and phalanx.³⁸ While most of its scenes depict melee combat, with individual legionaries confronting Macedonian phalangites and cavalrymen, it also features an orderly pair of Roman soldiers attacking a fallen Macedonian (fig. 7). Both legionaries are badly damaged, although they can be securely identified as Romans by a well-preserved *scutum* held by the figure on the viewer's left.³⁹ Nonetheless, it is the Roman soldier on the viewer's right who is in the foremost rank, actively striking the prostrate Macedonian before him. The torso leans forward into the killing blow, and a marble nub is present above the figure that would have supported the now-lost arm wielding the weapon in a slashing *coup de grâce* high over the head. The second figure in the pair, however, stands offset to right flank of the first Roman, yet behind him, to the viewer's left. The surviving portion

³⁸ Paullus appropriated a monument under construction to honor Perseus to celebrate his victory (Polyb. 30.10.1; Livy 45.27.7; Plut. *Vit. Aem.* 28; *ILLRP* 323; for a recent overview with up-to-date bibliography, see Russell 2012, 158–160). For an overview and hypothetical reconstruction of the monument, see Jacquemin and Laroche 1982, 208–214; Pollitt 1986, 155–158; and Holliday 2002, 91–96. Kähler 1965 provides a monograph length treatment of the monument and emphasizes that accurate historical details are essential to its aesthetic. In my opinion, however, Kähler 1965 is wrong about many of the identifications; Boschung

2001, 62, achieves an improved solution. See Taylor 2016 for a discussion of the battle scene and the identities of the combatants. The monument was certainly constructed by Greek artists, just as Aemilius Paullus obtained the services of an Athenian painter to illustrate his triumph (Plin. *HN* 35.135). The piece nonetheless marks Roman soldiers through their distinct arms and armor; portrayal of distinctively Roman tactics associated with the battle is therefore quite plausible.

³⁹ Kähler 1965, 27 (pl. 6).



Fig. 9. One of the Mainz Principia Reliefs, Mainz Landesmuseum (photo by Martin Bahmann open-source via Wikimedia.org).

Fig. 8. Two Roman soldiers in a combat stance, the “Guerreros de Estepa,” first century B.C. (photo courtesy of Art Resource).

of the torso stands erect and does not seem poised to strike at the Macedonian. Indeed, the hole in the belt may be for the attachment of a miniature metal *gladius*, which is either still in its scabbard or held at the ready at waist level. His shield is also held in a casual manner, neither turned aside to strike a blow nor facing forward in a defensive posture. Both the spatial positioning of the figure (behind the active figure to his front) and the hints of posture (not striking the enemy) suggest that the second figure is not in the front rank. Rather, he stands in the second rank; by the position of his shield and his feet, he is deployed to the right and rear of the man in the front rank.

THE GUERREROS DE ESTEPA

A similar, if better-preserved, pairing in a combat scene is apparent in the “Guerreros de Estepa,” now in the Archaeological Museum of Seville (fig. 8). The precise dating of this piece is uncertain, with proposals ranging from the second to the first centuries B.C., corresponding to a lengthy period of ongoing Roman operations in the Iberian Peninsula.⁴⁰ The *guerrero* on the viewer’s right is quite clearly in front of the soldier on the left, as demonstrated by the overlap of their legs. Also, while the soldier on the right has his sword drawn and at the ready, suggesting that he is in the front rank

⁴⁰ On the Guerreros de Estepa, see Leon 1998, 103–104; Bishop and Coulston 2006, 65; and Norguera Celdrán 2001, 174–176. Norguera notes that the figures could be Spanish

troops drafted into the armies of Sertorius, although these would have used Roman equipment and been drilled in Roman tactics.

about to confront the enemy, the left-hand soldier's sword is nowhere to be seen, implying that he is not yet closely engaged with the invisible opponent. Between the placement of the feet and the posture of the swords, there is strong reason to believe that the two men are in fact in two different ranks, with the man in the rear rank covering down on the space created by the open order of the first rank.⁴¹

THE MAINZ PRINCIPIA RELIEF

A pedestal from Mainz dating to the early empire (ca. A.D. 50) depicts two soldiers in low relief (fig. 9).⁴² Despite its somewhat crude quality (which only accentuates the brute dynamism of the figures), this relief is marked by its careful portrayal of military equipment. The details of the imperial Gallic helmet and the shape of the Mainz-style *gladius* all correspond closely to archaeological finds. The artist's quest for accuracy extends to the unit insignia: Eagles are inscribed on the *scuta*, and fish/dolphins (possibly representing the astral symbol *pisces*) adorn the helmets.⁴³ Given this attention to the military details, similar attention to tactical disposition is also quite plausible.

The soldier in the foreground of the piece engages an unseen enemy with his drawn *gladius* and therefore is in the front rank. The soldier to the left and rear has not drawn his sword and still clutches his unthrown *pilum*, suggesting his position in the second rank.⁴⁴ Notably, however, he is attempting to punch forward with the lower rim of his shield, suggesting that the gap between the soldier in the front rank and his unseen fellow ranker to the left is at least a shield-width wide (ca. 65–75 cm).⁴⁵

THE COLUMN OF MARCUS AURELIUS

A rare image of a full formation appears high on the Column of Marcus Aurelius, depicting a unit of Roman legionaries (identified by their *lorica segmentata*) advancing in battle order, their shields raised against an invisible enemy.⁴⁶ While they advance into another distinct scene on the column, so that no enemies are shown, the frequency of combat scenes on the monument suggests that what is represented is a pitched battle. The center of the formation is disrupted by the presence of the emperor, who commands the battle from the back of a wagon. Nonetheless, the formation is depicted with serried ranks in open order, with noticeable gaps between the legionaries. The three soldiers in the foreground strongly suggest that it is likewise arranged in a checkerboard matrix, as the soldier in the front left corner clearly stands between the two soldiers to his rear, evidenced by the fact that his elbow is positioned in the open space between their shields (fig. 10).

⁴¹ The sculptor has oddly carved the left-hand soldier as holding his shield in his right rather than left hand. This must be an error, or perhaps a necessary tweak to fit both figures onto the stone, rather than a reflection of tactical practice.

⁴² On the Mainz Principia Relief: Frenz 1992, pl. 5–6; Bishop and Coulston 2006, 14–15.

⁴³ On the use of zodiac signs as military insignia, see Latura 2011, 26–29.

⁴⁴ Cowan 2003, 46, who derives from this single example the argument of this essay.

⁴⁵ Polyb. 6.23.2 describes the Roman shield as 2 ½ feet

wide (.75 m), although he may refer to the plywood before it was warped into a concave shape (Treloar 1971, 15). A late republican *scutum* from the Fayum had a width of .635 m (Kaming 1940). For the use of a shield as an offensive weapon: Tac. Agr. 36.2 (*ferire umbonibus, ora fodere*) and Ann. 2.14.36 (*post umbonibus et gladiis stragem caedemque continuarent*), although both instances refer to punching with the boss rather than the lower rim. A Roman soldier on the Pydna Relief can also be seen using the lower rim of his shield to unseat a Macedonian cavalryman (Kähler 1965, pl. 18), while an infantryman on Trajan's Column (Chicorius scene 40) practices a similar technique.

⁴⁶ Coarelli 2008, 318, identifies the scene as a battle, with the soldiers in combat formation.

5. *The Visual Evidence III: Soldiers on Parade*

The examples above portray Roman soldiers in combat, as evidenced by their drawn weapons and active stances. Our final two deal with soldiers on parade in the city of Rome itself. We should recall here that parade formations often harkened to battle array, although the needs of ceremony often formalized and even complicated forms and maneuvers designed for execution in the heat of combat.⁴⁷ Modern soldiers still engage in parade routines that represent crystalized forms of combat drill preserved from the musket era of the seventeenth to nineteenth centuries. The fact that the two Roman parade dispositions discussed below resemble the combat arrays discussed above suggests that their ceremonial form deliberately mimicked battlefield function.

THE SO-CALLED ALTAR OF DOMITIUS AHENOBARBUS

Our first example of soldiers on parade is the so-called Altar of Domitius Ahenobarbus (also known as the Paris-Munich reliefs), most likely dating from 115–70 B.C.⁴⁸ The Paris slabs, now in the Louvre Museum, show the work of the censors: the registration of citizens, a pig-sheep-ox sacrifice (*suovetaurilia*) that accompanied the censorial *lustrum*, and a military review. The cavalryman on the far right, for instance, seems to be “parking” his horse for inspection, possibly related to the *transvectio equitum*, where the censors inspected the horses of cavalrymen *cum equo publico*.⁴⁹ A military parade was quite possibly part of the *lustrum*, the ceremonial purification of both the city and army, and the pair of soldiers on the right-hand side of the Paris relief are closely associated with the *suovetaurilia* on the freeze, as attendants herd the doomed pig, ox, and sheep before them.⁵⁰ For this climactic ceremonial event, the soldiers seem to be “falling in” for parade formation, likely a variant of battlefield drill. Thus, it may not be a coincidence that the pair on the right-hand side of the monument seems to be falling into a position where the *miles* on the right stands to the front, while the man to his left seems to hang back, as if in the second rank of their formation (fig. 11).⁵¹

⁴⁷ For Roman parades, see Bishop 1990, with focus on the imperial period.

⁴⁸ The date is disputed. The most widely quoted date of 115 B.C. is associated with the censorship of Domitius Ahenobarbus; see, for example, Torelli 1992, 15–16 (although he himself is skeptical of some of the arguments for this date). Keppie 1984, 223, notes that the presence of a cavalryman on the relief likely suggests a date before 100 B.C., given that Roman citizen cavalry seem to have been largely phased out by this time. Coarelli 1968 argues that the monument relates to the naval victories of Marcus Antonius (cos. 97 B.C.), although he subsequently (1997, 342) changed his mind to argue for a date of 115 B.C. for the census scenes, which would correspond to the censorship of Domitius Ahenobarbus. Kuttner 1993 adamantly argues for the identification with Marcus Antonius in 97 B.C. Stilp 2001 provides a broad range of 150–70 B.C., into which most other proposed dating schemes fall. He is certainly correct that 70 B.C. must be the *terminus ante quem*, as this is the last republican census; Gruen 1992, 149–150, argues for a date of 70 B.C., celebrating the first census in over fifteen years after the disruptions of the civil wars of Marius and Sulla. Wiseman 1974, 161–163,

also proposes a date of 70 B.C., suggesting that the Neptune reliefs of the monument correspond to the claims of *Gellii* of divine descent from Neptune and thus pertain to L. Gellius, the censor for 70 B.C. The exact date is fortunately irrelevant for the purposes of this article: all agree it is late republican.

⁴⁹ For the inspection of public horses by censors, Val. Max. 4.1.10; Cic. *Clu.* 48.10–12. I am grateful to Katherine Schwab for pointing out the horse “parking” scene to me during a tour of the Acropolis Museum; a similar action also occurs on the Parthenon metopes.

⁵⁰ For the involvement of at least token military units in the censorial *lustrum*: Varro, *Ling.* 6.93: *quod censor exercitum centuriato constituit quinquennalem, cum lustrare et in urbem ad vexillum ducere debet*. Ogilvie 1961, 37, posits that the censor’s *lustrum* ceremony was initially explicitly designed to purify the army, citing the evidence of the “altar.”

⁵¹ The size and nature of the gaps between maniples is discussed exhaustively in Taylor 2014, who argues that gaps between the maniples were a modest 10–20 m, somewhat smaller than the actual frontage of the maniple.



Fig. 11. Roman soldiers on parade but nonetheless falling into a formation that resembles their battlefield drills. So-called Altar of Domitius Ahenobarbus, Paris, Louvre Museum (photo by Marie-Lan Nguyen, open source via Wikimedia.org).

Fig. 10. A unit of Roman troops advances on the Column of Marcus Aurelius in battle order, which is interrupted by the mules drawing the emperor's cart (photo courtesy of DAI Rome).

The position of the other two infantrymen on the left-hand side of the Paris relief is notably different. One soldier holds his shield facing forward while cocking his head to his right, toward the census scene; the other pivots to his left with his body and shield to gaze at the *lustrum*. The soldier on the viewer's left still stands slightly in front of the other soldier, even as they gaze in different directions. As Mario Torelli notes, the primary goal of this pair of soldiers is to stitch the census scene with the *lustrum* scene; thus the two infantrymen break formation to gaze alternately at the censorial registration and the *lustrum*.⁵²

THE BASE OF THE COLUMN OF ANTONINUS PIUS

Only the base survives of the Column of Antoninus Pius, constructed ca. A.D. 161 by Marcus Aurelius and Lucius Verus to honor the death and apotheosis of their adoptive father. Its twin and nearly identical funeral parade scenes (*decursiones*) show a formation of ten praetorian guardsmen, eight soldiers (one of which appears to be an officer, wearing a cuirass) and two standard bearers,

⁵² Torelli 1992, 12–13.



Fig. 12. Roman soldiers on the *decursio* of the base for the Column of Antoninus Pius. Seven soldiers stand in a parade formation. The eighth, on the far right, has swiveled in his position to gape at the apotheosis transpiring above him. Rome, Vatican Pinacoteca (open source via Wikimedia.org).

surrounded by a procession of cavalrymen.⁵³ The event is usually considered to be the funeral of the late emperor, and as Lisa Vogel argues, the curious reduplication of the *decursio* scene on opposite panels of the base likely represents parallel celebrations held by each of the new reigning co-emperors, a representational acknowledgment of their novel dynastic arrangement.⁵⁴

The alternating placement of the infantrymen in the two ranks of parade formation on both *decursio* reliefs is readily apparent, as the men in the second rank stand in between the shoulders of the men in the first rank (fig. 12), although to achieve perspective, the artist has positioned them on two platforms, one elevated above the other.⁵⁵ Only one soldier is notably out of position, on the far right, who swivels and cranes his head upward. Presumably he is distracted by the apotheosis scene on the adjacent panel, and so breaks ranks to turn and gawk at the late emperor and his wife Faustina rising to heaven on the back of an eagle.

6. Conclusion

The overall trend in the visual evidence collected above is quite consistent, despite a time period that ranges over roughly four hundred years. It suggests that Roman soldiers fought in open order, with the second rank covered down on the space between soldiers in the front rank, and were depicted as such when artisans crafted visual representations of Roman heavy infantrymen in both combat and parade scenarios. This positioning gave a degree of tactical coherence to the overall formation, primarily by ensuring that no man- or shield-sized gaps emerged between the soldiers of the front rank that could be used by enemy fighters to infiltrate and disrupt the battle-line. The relative positioning of soldiers also suggests a possible mechanism by which Roman soldiers transitioned from close to open order, with every other man in the front rank (or all the men in every other infantry file) shifting a pace forward or back as the combat situation dictated.

⁵³ Vogel 1973, 57–81, figs. 9–10. Hannestad 1988, 217, argues that the infantryman on the far right, now heavily restored in *lorica segmentata*, was in fact initially also a cuirassed officer. This would provide a sense of symmetry to the scene.

⁵⁴ Vogel 1973, 66–67.

⁵⁵ Vogel 1973, 61.

The neat tactical setup implied by both the literary and the visual sources almost certainly represents a tactical and operational ideal. The spacing of Roman soldiers engaged in actual fighting would have necessarily varied. Some Roman units intentionally fought in a more fluid and unregulated manner. Caesar wrote disapprovingly of the Pompeian cohorts who “made little attempt to maintain their ranks (*ordines*), fighting spread out and dispersed,” although he grudgingly admitted that these tactics had evolved in response to fighting Lusitanian guerillas.⁵⁶ Well-ordered ranks were not incompatible with some degree of flexibility: The Roman military oath of 216 B.C. allowed Roman soldiers to break ranks “in order to retrieve a missile, seek out and strike an enemy or rescue a fellow citizen” (*teli sumendi aut petendi et aut hostis ferendi aut ciuis seruandi causa*).⁵⁷ Furthermore, coherent units inevitably became depleted, confused, or dispersed during combat. For example, according to Polybius, Scipio’s advancing soldiers at Zama risked disorder (*ἀλογία*) as they crossed a killing field littered with corpses and slippery with gore.⁵⁸

Nonetheless, this fluidity does not mean that maniples and cohorts were mobs of men, as some military historians have recently proposed.⁵⁹ Order and discipline were essential to success in combat. Polybius, for example, notes that prior to a battle with the Gauls in 222 B.C., the military tribunes could issue specific instructions to Roman soldiers indicating how they should fight *κοινῇ καὶ κατ’ ἰδίαν* (“both as units and as individuals”).⁶⁰ While commanding in Spain in 194 B.C., Cato the Elder personally whipped a soldier who broke ranks in his eagerness to engage the enemy (*extra ordinem avidius*).⁶¹ The literary evidence is quite consistent regarding the tactical orderliness of successful Roman combat units. Roman small-unit tactics were remarkable in their ability to provide individuals the space with which to fight as individual swordsmen while maintaining, at the same time, the overall cohesion of the larger formation.

⁵⁶ Caes. *BCiv.* 1.44.1–2: *ordines suos non magno opere seruant, rari dispersique pugnarent*. Caesar, of course, had every reason to disparage his opponents’ lack of discipline, although this does not mean the critique was baseless. See Potter 2010, 312–313, and Grillo 2012, 119, for additional discussion. That Caesar was pathologically self-serving in his accounts of the civil war need not detract from the value of the passage for our purposes, as it still reveals what both he and his readers thought a proper infantry formation should look like.

⁵⁷ Livy 22.38.4.

⁵⁸ Polyb. 15.14.2.

⁵⁹ Lendon 2005, 179–182, features an illustrated Roman maniple as a “cluster,” although he admits it is unclear if a maniple was a “mob of men” or a rectangular formation. Phang 2008, 37–38, also denies the existence of rigid combat drill, although for cogent criticism of the “mob theory” of Roman tactics, see Roth 2012, 755.

⁶⁰ Polyb. 2.33.1.

⁶¹ Livy 34.15.4–5.

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ABBREVIATION

ILLRP *Inscriptiones Latinae Liberae Rei Publicae*, ed. A. Degrassi, 2 vols. (Florence 1957–1965)

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