Throughout the period of the late Republic and Principate Rome was the dominant military force in the Mediterranean. With the exception of a few noted and quite spectacular disasters it was not until the latter part of the period that Roman military superiority came to be challenged regularly. There is a wealth of archaeological and epigraphic evidence relating to the Roman imperial army, its arms and equipment, its organization and rank structure, its fortifications, its religious beliefs and practices and so on. The majority of studies of the Roman army, whether for reasons of evidence or because of the prevailing social and political atmosphere, have tended to concentrate on these issues rather than on the army as a fighting force. It is only in the last decade or so that this imbalance has begun to be redressed.

When it comes to actual fighting the evidence (except for Caesar’s campaigns) is far less extensive. Narratives of campaigns by historians of the imperial period often lack the detail of earlier writers such as Polybius and Livy, and though Tacitus, the ‘most unmilitary of historians’, might have complained about the lack of wars of conquest and battles to describe in his histories, when he has the opportunity with the Parthian campaigns under Nero, he deals with them in an almost cursory fashion (Ann. 4.33). Events in Rome were much more interesting. The virtus of the battlefield surrenders to the vice of the imperial bedchamber.

The descriptions of engagements that survive are of course shaped by the different expectations of ancient literature. Caesar’s commentaries on his Gallic and civil war campaigns provide some of the best accounts of warfare that survive from antiquity. They are packed full of military details, and their value is enhanced because they are eye-witness accounts, or compiled from the reports of subordinates. Some of Caesar’s descriptions may lack the heightened drama of more conventional historical narratives, but despite the propaganda element in his works, much of their value to the military historian lies in his avoidance of literary formulas common in

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1 Parker (1928); Robinson (1975); Webster (1985); Keppie (1984), (1997); Le Bohec (1993); Marchant (1990); Bishop and Coulston (1993).

histories. The latter were often more concerned with the moral education and entertainment of their audience than in accurate reporting of events, and warfare offered plenty of opportunity for entertaining drama.

Whereas sieges gave greater scope for literary variation because the actions of attacker and defender could be very unpredictable, the pitched battle narrative can be rather formulaic in structure. The reported speeches of the opposing generals, an opportunity for rhetorical flourish rather than accurate description, might be given significantly greater emphasis than the more ‘military’ aspects of battle – the deployments and fighting, flight and slaughter. Accounts of civil war battles might include the literary theme or *topos* of close relatives meeting on opposing sides in battle and killing one another in tragic ignorance of their identity, not because such a misfortune actually happened, but to highlight the awfulness of civil war. Appian likes the idea of opposing sides in civil war going into battle in unnatural silence, omitting the war-cry because it is a waste of energy against fellow (disciplined) Romans. In fact they did raise a war-cry. Meanwhile Cassius Dio’s description (75.12) of the late second-century siege of Byzantium by Severan forces includes such ‘old favourites’ as using women’s hair as rope (a variation on it being used to power torsion catapults), the eating of soaked leather to stave off starvation, and accusations of cannibalism. Historical accounts of battles and sieges can be so stuffed full of such *topoi* that some would compare them to a post-match football analysis, though, like the football analysis this does not necessarily diminish their accuracy. The battle narrative can appear formulaic precisely because pitched battles frequently developed as a predictable series of events.

Depictions of warfare and combat abound in Roman culture of the imperial period. A graphic pitched battle narrative or detailed description of a siege (complete with gruesome embellishments) was a must for any decent history, as even Tacitus recognized. Despite the comparative rarity of such events in this era the growing use of iconographic evidence, especially for propaganda purposes, ensured that an increasingly demilitarized population was none the less exposed to images of fighting and military success. The sculptural evidence, whether propaganda monuments in the capital such as Trajan’s column or private tombstones in the frontier zones, can, like the literary, be subject to quite a high degree of stylization. Sculpture does not necessarily attempt to provide an accurate account of an event or campaign and some sculptors, primarily those working in the capital, may never have seen Roman soldiers properly equipped for war, let alone actually fighting. The sculpture from the frontier zones, whether private funerary

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monuments or public sculpture such as the Tropaeum Traiani at Adamklissi, is frequently regarded as providing a more accurate representation of the equipment and actions of soldiers, because the artists were a part of the military society they were depicting. The inhabitants of Rome saw soldiers of the urban units and those seconded from the frontier provinces; they even witnessed re-enactments of successful operations from campaigns as part of the victory celebrations (Suet. Claud. 21), but this would not have provided anything like a realistic impression of pitched battle or siege warfare.

I. TACTICAL MANUALS

Contemporary Roman handbooks are valuable texts that describe or prescribe a range of military formations and procedures, or provide the blueprints for military machines such as catapults. The latter tend to be highly technical and aimed squarely at army engineers and surveyors. Although they provide such detailed instructions on the construction and maintenance of engines of war that modern scholars have used them to build working reconstructions of catapults, they lack advice on the practical application of the weapons in the field. In addition, writers of such didactic literature often reproduced material from earlier works despite it being obsolete, such as Heron’s description of a centuries-old catapult.

More general manuals on warfare are much more accessible to the ordinary reader, whether ancient or modern. Such was the genre of didactic literature that even philosophers with no military experience claimed that their manuals on warfare were of practical value. Some are clearly not, such as those produced in the early imperial period that describe the organization and manoeuvres of the Macedonian phalanx, though Arrian’s version of this in his Tactica included (11.1–2) an anomalous but extremely useful description of the hippica gymnasia, an elaborate series of exercises carried out by auxiliary cavalry units at the Roman equivalent of a military tattoo exhibiting the skill and manoeuvrability of the cavalry. Despite their authors’ lack of experience some of these manuals can provide valuable evidence for military practices, because they are based on earlier works and because much of what they say is timeless and often basic but sound military sense. The advice of the early imperial Greek philosopher Onasander, for example, is frequently very well illustrated by the Strategemata, examples of military stratagems collected by Frontinus, a writer of handbooks and one of Rome’s leading generals in the late first century AD. These textbooks describe contemporary, or past, practices rather than recommend new theories, and for

7 Cf. Vitr. De arch. 10.14.7; Ael. Tact. 27.1; Marsden (1971).
8 Campbell (1987); Spaulding (1933).
this reason can provide valuable insights into military procedures, tactical thinking and Roman understanding of success in war.

II. LAND BATTLE

While the set-piece battle with its formulaic structure was a requirement of ancient literature, it was also perceived in Roman military thinking as providing the most likely means of achieving victory against an enemy. In pitched battle the Romans knew that they were unlikely to experience a reverse (Tac. Ann. 1.68); when it came, defeat by a foreign enemy was rarely in pitched battle, but was usually as a result of an attack or ambush on an army on the march. For a commander seeking an impressive victory during either the late Republic or the imperial period, pitched battle could bring speedy success and political advancement, for in the Roman view it gave the greatest and most honourable results. In civil war it could be even more important as the security of a future emperor might depend on having proved himself in battle, and a swift result enabled a successful candidate to return to Rome for acclamation by the Senate (see pp. 120–1 above). Historical accounts comment on the eagerness of even the rank and file to commit to battle. Historians are keen to emphasize the bloodiness of civil war and lack of control among lower-class soldiers, so almost certainly place undue stress on this: soldiers might be keen to enter battle against foreign enemies too if their morale was high. The eagerness of the two lines of infantry to get into action at Pharsalus, as reported by Caesar, is likely to have been encouraged by a combination of factors, including morale, the quality of leadership and perhaps a desire on the part of veteran troops to ‘get it over and done with’ once the two generals had finally committed to pitched battle.

1. Deployment

The perceived importance of pitched battle meant that commanders were often very willing to accept battle, and sometimes precipitated it regardless of difficulties such as adverse terrain. Comments on terrain are a regular feature of the pitched battle narrative, especially if it was difficult, usually meaning hilly, boggy or badly cut up by natural obstacles. At the second battle of Cremona in AD 69 the opposing armies established their centres on the narrow via Postumia, perhaps the only clearly recognizable topographical feature. The fields themselves were criss-crossed by irrigation ditches and in many of them vines were being cultivated, along with the trees which

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12 Tac. Agr. 35; Hist. 5.14.  
13 Caes. B Gall. 2.22; Tac. Hist. 2.41; Cic. Fam. 10.30.
were grown to serve as supports for the vines and which severely hampered the proper deployment of units because they simply could not see what was going on. The attempt to deploy in darkness added to the confusion, with the result that on the Flavian side, although the standards had some kind of order to them, the various units and centuries were not necessarily in contact with their standards (Tac. Hist. 3.21).

Such circumstances were hardly ideal though, and when possible commanders chose flatter, more open ground on which to deploy, perhaps on a slight rise so that missiles could be thrown with greater effect and ranks charge with greater impetus. This also gave a psychological advantage of appearance of strength, the enemy being able to see the whole army.\textsuperscript{14} The variety of forces Roman armies had available ensured that when battle was accepted under less than favourable topographical circumstances (that is, not on open, reasonably level ground), they could none the less still operate with considerable success.\textsuperscript{15} Armies on the defensive made careful use of terrain in making their deployments to ensure that they were not outflanked, and might aim to engage under very specific topographic circumstances, while battlefields with unsuitable terrain or which left armies vulnerable to flank attacks might be further adapted before engagement.\textsuperscript{16}

Field engineering played a major role in Rome’s military success, as Corbulo was aware when he pronounced the virtues of the \textit{dolabra} (Frontin. Str. 4.7.2). Battlefields could be prepared through the digging of trenches to limit the area of operations and protect infantry from outflanking attacks, through the fortifying of small redoubts for the siting of bolt-firing catapults, through the filling in of ditches to improve communications or through the setting of obstacles in the battlefield to hamper the advance of one side and lay it open to missile attack once its ranks had become disordered.\textsuperscript{17} Peacetime training at entrenching, the use of the army in civilian construction projects and the practice of entrenching camp nightly when on campaign ensured that soldiers were used to this kind of physical labour, and such operations could be carried out without significant risk. The preparation of battlefields in this way is comparatively rare, however, unlike the ubiquitous marching camp (see pp. 66–7 above), which was usually fortified before a Roman army accepted pitched battle and served as ‘a shelter for the conqueror, a refuge for the vanquished’ (Livy 44.39).

It was unusual for an army to march a long distance and then fight a battle without first resting. It was very unusual for a Roman army to face battle without a marching camp nearby; if necessary one would be built during combat by troops not engaged in the fighting or withdrawn from

\textsuperscript{14} Tac. Agr. 35. \textsuperscript{15} Tac. Ann. 2.14; Hist. 2.25–45, 3.16–25; Cic. Fam. 10.30; App. B Civ. 3.66–72. \textsuperscript{16} Tac. Ann. 14.34; Arr. Expeditio contra Alanos 19. \textsuperscript{17} Frontin. Str. 2.3.17; Caes. B Gall. 2.8; Tac. Hist. 2.25; Dio Cass. 76.6.
the rear ranks for that purpose. At Forum Gallorum in 43 BC, on learning that his side had been ambushed, the quaestor Torquatus automatically directed troops not involved in the fighting to entrench a camp to the rear of the action. Torquatus’ camp served as a rallying point for retreating and newly arriving forces, which were able to overturn Antony’s initial success. The camp allowed the army to spend a secure night before battle, even though sleep might be impossible because of tension or the attentions of the enemy (Tac. Ann. 2.13). Marching camps were usually garrisoned by newly recruited legions, veteran troops and army servants, but were an obvious target for the enemy force. This was particularly the case in civil war, since both sides usually built camps before battle and capturing the enemy’s camp was a part of achieving victory, ensuring that the defeated side could not easily regroup. The capture of an enemy’s marching camp in civil war also provided a welcome opportunity for plunder (Caes. B Civ. 3.96), since captured prisoners were mostly fellow citizens and could not be sold for profit. It was usually from the marching camp that an army deployed for battle directly on to the battlefield or after a short march.

There were few significant alterations in the basics of troop deployment in the period under study, and the battle tactics in the civil wars of the late second century AD were not dissimilar from those of the first century BC. The move from manipular to cohortal legions necessitated some shift, principally because of the phasing out of the velites (see vol. I, pp. 356–7), but even in the imperial period the cohortal legion could include differently equipped soldiers. As discussed in chapter 2 (pp. 58–63), the image of homogeneity in Roman equipment is decreasingly credible. It is highly likely, and indeed only to be expected given the extent of the Roman world, that throughout the empire there was a significant degree of regional variation in military equipment along with differences in deployments and fighting styles to respond to different threats. Caesar’s legionaries discovered this in Spain where they were put off by the ‘barbarian’ fighting style of fellow legionaries, and with units permanently stationed in provinces in the empire it is likely that these differences became accentuated.

The screen of light infantry, seen as so integral a part of the manipular legion, had all but disappeared in the late Republic, and by Caesar’s time it was the ‘heavy infantry’ rather than lightly armed skirmishers who began battles, whether fighting against ‘barbarian’ Gauls and Germans or fellow Romans. In general, though, the deployment of infantry and cavalry in the Roman battle line was not greatly different from that of the armies of the

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18 Cic. Fam. 10.30; Tac. Ann. 2.21.
19 Caes. B Gall. 1.24, 1.24; B Civ. 3.96–7; App. B Civ. 1.82, 2.81; Dio Cass. 76.6.
21 Bishop and Coulston (1993); Rossi (1971); Settis et al. (1988).
22 Caes. B Civ. 1.44; B Afr. 71.
middle Republic described by Polybius: the heavy infantry of the legions held the centre, flanked by other infantry and cavalry, the latter sometimes interspersed with light infantry or archers (see vol. 1, pp. 404–6). During the imperial period, two basic battle-line organizations were employed. The more traditional one had the legions in the centre, flanked by auxiliaries and with auxiliary cavalry on the wings.²⁴ An alternative to this deployment was for the auxiliaries to take the role usually associated with the legionsaries, and for the latter to be deployed only if needed (Tac. Agr. 35–6). Though both Tacitus and some modern historians have suggested that this was to preserve the lives of the citizen legionsaries, it was contemporary with the arrangement described above in which the legionsaries bore the brunt of battle. Auxiliaries tended to be deployed in the front ranks for fighting on ‘difficult’ terrain, probably because their equipment and fighting skills were better suited to it than those of the legionsaries.²⁵

Missile troops, usually archers and occasionally slingers, might be stationed on the wings or at the rear of the battle line.²⁶ The positioning of archers at the rear of the battle line was criticized by some military theorists because they had to fire above the heads of the infantry in front of them and so fired with less force and accuracy (Onasander 17), but it allowed them to continue firing even after the opposing battle lines had moved to close combat, which could be particularly effective if the army had deployed on rising ground, providing greater range. This may be a development of the imperial period (the arrangement is illustrated on Trajan’s column scene 70 as well as in written narratives) when there appears to be greater emphasis on the use of missile troops throughout battle. Catapults added to the army’s fire-power and would have had a psychological impact as well as a physical one (fig. 4.1). Bolt-shooting scorpiones were quite mobile and could be carried into position or mounted on carts, as illustrated on Trajan’s column. The much larger stone-throwing ballista was primarily a siege engine, but they were occasionally deployed in pitched battle, to considerable effect (Tac. Hist. 3.23).

The organization and arrangement of legions and cohorts within the battle line is a topic on which there is scarce and contradictory information, and considerable modern bibliography.²⁷ The ‘classic’ organization of the cohortal legion for battle is the triplex acies in which each legion’s cohorts were deployed in a 4–3–3 formation, echoing the three lines of the manipular legion. This is the battle line Caesar regularly used throughout the Gallic and civil wars. As with the manipular legion the rear lines of cohorts automatically served as reserves which could turn to fight a new

²⁵ Gilliver (1996a); Rainbird (1969).
²⁶ Caes. B Civ. 3.88; Arr. Acies contra Alanos 18; Dio Cass. 75.7.
²⁷ See Goldsworthy (1996) 171–3; Bell (1965); Speidel (1992b).
threat from the rear, as happened against the Helvetii in 58 BC, or could be used to strengthen the battle line, execute outflanking manoeuvres or be sent to ambush the enemy. At Chaeronea in 86 BC Sulla kept five cohorts to the rear of his battle line as a reserve force, which at the moment of greatest pressure he divided, sending the majority to prevent the Roman left being outflanked and taking a smaller force himself to the right wing where he helped to rout the Pontic left (Plut. *Vit. Sull.* 17–19).

While the rear line of cohorts acted as the reserve, the role of the second line in the *triplex acies* is less clear. Caesar’s account of Pharsalus (*B Civ.* 3.89–94) appears to indicate that the first two lines of cohorts acted together, though most battle narratives unfortunately lack the detail to confirm whether this was the norm. Caesar himself fails to make clear whether the cohorts from the first two lines united to form one single front or if the second supported the front line of cohorts in the way that the *principes* did the *hastati* in the manipular legion. There is certainly no clear evidence to suggest that cohorts deployed on the battlefield in a *quincunx* or chequerboard formation with the second line covering the gaps between the first. This may have been possible with the much smaller maniples (see vol. 1, pp. 428–9), but while moderate gaps between units were necessary to allow ranks to advance and manoeuvre without bumping into each other, it is unlikely that legions in the late Republic went into battle with gaps the

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28 Caes. *B Gall.* 1.26; *B Civ.* 3.89. 29 Schenk (1930).
width of a cohort in the front line. It is clear from the literary evidence that rear lines were still able to replace the front-rank fighters once the latter had become weary, as had happened in the manipular legion. Caesar’s third line did this at Pharsalus, and the fresh troops maintained the impetus.

When we have details for battle lines of the imperial period (which are admittedly scarce), there is no sign of the *triplex acies*. Instead, legions appear to be deployed in a single line with a depth of up to eight men.\(^30\) At most, that is two cohorts, each four deep (and it may indeed have been a single line of cohorts, each eight deep), but all the cohorts were an integral part of the battle line and not held back as a reserve, a development that may have been possible because Rome was facing fewer enemies in pitched battle whose infantry could pose a serious threat. Such shallow formations are indicative of high morale, good training and discipline, and they allowed a higher proportion of the infantry to engage in combat simultaneously, a desirable situation for any army reliant on swordsmen.\(^31\) Equally problematic is the positioning of individual infantrymen within the battle line, for there is no information on this in either histories or manuals. We may speculate and suggest that within their centuries infantrymen may have been able to place themselves where they wished, so that the bravest, those seeking recognition and promotion, may have fought in the front ranks.\(^32\)

2. Combat mechanics

Battles frequently began with a cavalry skirmish as each side attempted to neutralize the opposing cavalry; the superior cavalry force provided the option of flank attacks which could prove devastating against light infantry, particularly missile troops who wore virtually no armour and could be cut to pieces.\(^33\) As the lines of battle moved in to engage each other they might be accompanied by missile troops, and here we can see the effectiveness of positioning the archers at the rear of the battle line. The purpose of these missiles, and indeed of the *pila* of the legionaries, was to break up the opposing battle line so that it lacked physical integrity and was therefore more vulnerable when hand-to-hand combat began. The large *scuta* of the legionaries (fig. 4.2) could provide an effective defence against missiles, and soldiers could hold their *scuta* in front of them and above their heads when advancing into battle against a missile barrage. Dio reports that the Severan soldiers did this at the civil war battle of Issus in AD 194, and he describes it as a *testudo*, though clearly it was not the same compact formation used in siege warfare or when facing highly mobile mounted


\(^{32}\) On the role of the *antesignani* or ‘front-rank fighters’, see Caes. *B Civ.* 1.57, 3.75, 84.

\(^{33}\) Caes. *B Civ.* 3.93; Dio Cass. 75.7.
archers such as the Parthians. The Severan legionaries gained protection from the missile barrage, but this technique may have caused difficulties in an orderly approach.

The *pila* themselves were thrown on the charge, just before contact with the enemy, and this may have been at fairly close range, for in some battles the legionaries did not have time to throw their *pila* before the enemy were

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34 Dio Cass. 40.22, 49.29, 75.7; Frontin. *Str.* 2.3.15; Onasander 20.
upon them.35 Legionaries then drew their swords and charged into close combat (fig. 4.3), yelling a battle cry intended both to dismay the enemy and encourage themselves (Caes. B Civ. 3.92). The shock of the *pilum* volley and din of the charge may have encouraged some enemies to think of flight very quickly, since ‘close quarters fighting and the battle cry fill the enemy with the greatest terror’ (Caes. B Hisp. 31). And the legionary was equipped with a sword designed for fighting at very close quarters. Though trained to stab with their swords Roman legionaries also slashed at their opponents, as illustrated in reliefs from Adamklissi in Romania, and probably targeted

35 Caes. B Civ. 3.93, B Gall. 1.52; Tac. Hist. 2.42.
the enemy’s torso, and sometimes his face. During this phase of combat, missiles and *pila* might continue to fall on both sides, causing casualties to those standing behind the front lines as well as the front-rank fighters. At Chaeronea in 86 BC the infantry at the rear of the Roman battle line who could not engage in hand-to-hand fighting hurled *pila* and slingshot at the densely packed Pontic phalanx. The hail of missiles helped to break the Pontic lines.

Roman infantry formations were often loose enough to allow for new troops to join the front ranks and for casualties to make their way to the rear. However, there is no sign of the system of whole ranks of men withdrawing and being replaced by a fresh line as Livy (8.8) seems to imply happened with the manipular legion, if indeed that ever happened with anything like the degree of organization that he suggested. Though Vegetius (*Mil.* 3.15) recommends three feet of frontage per infantryman, the density of the formation seems to have varied according to the tactical situation, and possibly the morale of the troops. Roman infantry formations that were deploying on the defensive seem to have used a tighter formation, as did those expecting to face a heavy cavalry charge like Arrian’s legionaries in Cappadocia in AD 135, because cavalry will rarely charge a dense formation prickling with spears.

Some scholars have suggested that this is indicative of a ‘phalangic tendency’ on the part of Roman legions, and that during the imperial period legions may have regularly deployed as a kind of phalanx. There is no evidence for this, however, and there is no indication that even the most compact legionary formation fought in a way at all similar to a Greek or Macedonian phalanx. A tight defensive formation, which legions did use, was simply one variation of legionary organization on the battlefield. A formation in which the infantry were spaced closer to each other was less likely to be broken up and reach the vulnerable point at which it turned to flight, especially if facing heavy cavalry as Arrian was doing. Units coming under pressure may have been forced together if an attack was coming from the flank, or may have naturally bunched together for greater security. Confident infantry on the offensive may have adopted a looser formation but one that was more risky if the battle turned against them. Tacitus contrasts the more open formation of the attacking Vitellian legionaries with the closed ranks and solid front presented by the Othonians; the Vitellians were repulsed (*Hist.* 3.18; cf. 2.42). On the other hand Caesar ordered his legionaries, who were in a very defensive formation, to open out their ranks

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38 *Tac.* *Hist.* 3.23; Dio Cass. 75.6; Plut. *Vit.* Sull. 18.
in order to launch a counterattack against the Nervii (B Gall. 2.25). This looser formation was also used to allow infantry in the front ranks of the battle line to retreat through the ranks, and perhaps this is the kind of system to which Livy (8.8) was referring.

What is clear is that if the integrity of the front ranks was broken the line was vulnerable to attack by enemy infantry and particularly by cavalry. It was the Numidian cavalry tactics that destroyed the Caesarian army under Curio’s command in Africa in 49 BC: the Numidians broke up the Roman infantry by pretended retreats, and the scattered groups of legionaries were cut down by the swiftly moving cavalry. Curio’s own cavalry were too few and too tired after a forced march to have any effect (Caes. B Civ. 2.41). It was when the ranks had been broken up that retreat and flight were most likely. Enemy battle lines were broken up through feint attacks, missiles and battlefield obstacles, attacks in the flank and rear, and through face-to-face combat and fear. Ordered retreat was possible for disciplined troops, and they might be pushed into renewing the fight, even successfully, by strong leadership. But retreat could swiftly turn into flight, and panic and wholesale flight rather than withdrawal in formation were more likely for both Roman and non-Roman troops. Enemies were encouraged to flee in great panic, since then they were less likely to want to regroup and more casualties could be inflicted. Cavalry (especially mounted archers) and light infantry therefore played a central role in pursuit.

The hippica gymnasia that Arrian describes give a good impression of the role of light cavalry in engagements, including pitched battle, for although these elaborate exercises were put on for display, they were based on the manoeuvres of the battlefield. The cavalry practised using javelins and spears, hurled stones, fired arrows, shot slings and even hand-held catapults from horseback. All were weapons designed to disrupt a body of enemy troops, whether infantry or cavalry. The use of these weapons was practised in formation manoeuvres involving shooting or throwing the missiles, then wheeling away from the enemy lines, the formations intended to reduce the likelihood of the attacking cavalry being put to flight themselves. Feint attacks were also practised, designed to draw the enemy out from their own formation and break it up, making infantry particularly vulnerable to renewed charges by the cavalry. They also practised forming a cavalry version of the infantry’s testudo formation of locked shields to protect themselves against missile attacks. Towards the end of the display they simulated charging after a fleeing enemy with spears, then ‘drawing swords, they hack with them all around, as if lunging after an enemy in flight or cutting down one who has fallen’ (Arr. Tact. 42).

41 Tac. Hist. 3.18; Caes. B. Civ. 1.44. 42 Caes. B Alex. 40; Tac. Hist. 3.16–17; Dio Cass. 75.6.
43 Caes. B Civ. 5.94; Tac. Ann. 2.17; Agr. 37; Dio Cass. 75.7. 44 Dixon and Southern (1992).
The great mobility of cavalry made them extremely valuable in all forms of combat, as long as they were reliable. Cavalry of low morale were a liability, mainly because of the very speed with which they could move. Flight was comparatively easy for horsemen and their mobility meant that they were unlikely to be completely destroyed as infantry could be; it was, however, correspondingly easier for them to regroup and re-enter combat if they had the moral strength. Pompey’s cavalry at Pharsalus, which was not highly skilled, was by its numerical superiority able to dislodge Caesar’s cavalry from their position, leaving the way open to outflank and attack the right wing, but they were themselves comprehensively routed by Caesar’s infantry. The mostly Gallic cavalry in Caesar’s army that was attacked by the Nervii were driven off twice, but returned to the battle towards the end to join in the slaughter (B Gall. 2.19–27). As indicated above one of the principal roles of cavalry in pitched battle was to outflank the enemy and disrupt the ranks on one wing, or to attack in the rear where troops could more easily turn to flee. Here their role as highly mobile missile troops was a great advantage, but most Roman cavalry, perhaps excluding horse archers, could also act as shock cavalry if necessary, charging infantry and other formations of cavalry. As with infantry tactics there was often a preference for close-quarters fighting, which could have had a devastating impact on enemy morale (see vol. 1, pp. 422–5).

Roman infantry could sometimes experience difficulties facing cavalry, especially the light, highly mobile cavalry encountered in north Africa and the east. After the destruction of Curio’s army by Numidian cavalry, Caesar’s campaign in the same province was dogged by the same enemy (Caes. B Afr. 15). Various expeditions to Parthia in the late Republic found it impossible to cope with the harrying tactics of the large numbers of mounted archers – Antony was humiliated and Crassus had his seven-legion army wiped out without the need for the close infantry combat in which the Romans would undoubtedly have had the upper hand. As with other tactical problems they faced, though, with good leadership and proper training Roman infantry could defend themselves properly against such attacks, though the mobility of these cavalry units meant that they were extremely resilient.

Against infantry the speed and terrifying noise of a cavalry charge could in itself be all that was necessary to make them turn and flee rather than form a dense formation with spears or pilae extended to break the charge, a manoeuvre which could then be turned to the offensive once the cavalry had come to a stop (Dio Cass. 72.12). The heavily armed cataphracts or clibanarii that were introduced into Roman armies during the period were

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46 Caes. B Civ. 3.93; Frontin. Str. 4.7.32.  
48 Dio Cass. 40.22, 49.29.
excluding shock cavalry, but their effectiveness could be dependent on the weather. If it was hot both horses and riders could fade quickly, while if it was wet or icy underfoot they could have difficulty keeping their footing. If a battle line did break in the face of cavalry the speed and height of the cavalryman gave him an ideal platform from which to cut down fleeing infantry in the way that Arrian describes. The only defence was for a group of infantry to make a stand together and form the dense group that could repel cavalry (Caes. B Gall. 6.40), but few soldiers were likely to have been able to control their natural desire to flee in such a situation.

3. Command

The role of the general in battle has been studied in considerable detail and shown to have been far more active, influential and skilful than had previously been supposed. Roman battle tactics were not simple enough to be ‘point and shoot’. They were too complicated for a commander to line up his troops and simply expect them to get on with it without further intervention, and issues of morale within battle frequently required the general’s presence among the deployed troops. The commander addressed the personal needs of his troops before battle through taking the auspices and making a speech, sometimes visiting troops the night before to ascertain the strength of their morale and to encourage them by his presence (Tac. Ann. 2.12–13). During the battle he had to gauge the movement of troops across the battlefield and the commitment of reserves, a skill that required careful timing in the heat and confusion of combat (Caes. B Hisp. 31).

Commanders were advised to lead from the rear rather than risk death by fighting with their troops. But they did fight and command from the mêlée, throughout the period, and they tended to be particularly prominent in the fighting in civil wars, and when the rewards of military success and the possession of loyal soldiers were especially valuable for political advancement. Agricola at Mons Graupius and Arrian against the Alans exemplify the ‘textbook’ general of the Roman empire, both directing the action from the rear. Though probably visible to their men, and able to control the engagement of reserves, they did not really need to set an example of courage and leadership from the front, for neither battle was likely to be anything but a Roman success; Agricola’s gesture of sending his horse away seems rather empty in this context (Tac. Agr. 35).

Sulla’s behaviour at Orchomenus in 86 BC is typical of the ‘hands-on’, proactive Roman general, abandoning his horse, grabbing a standard and taking his place with the front-rank infantry to shame his men into making a
stand and renewing the fight. Though potentially risky such actions could have a decisive effect on morale and army loyalty. A compromise between remaining at the rear of battle and leading from the front was to command from just behind the front ranks. At the second battle of Cremona in AD 69 the commander of the Flavian forces, Antonius Primus, led his men in this fashion. While avoiding the gesture of joining the front ranks with a sword in hand, he moved along the lines, maintaining some idea of events in a large-scale and complex battle, sending in reserves when necessary, and addressing troops at different points of the battle to boost morale (Tac. Hist. 3.20–4). This could make full understanding of the tactical situation harder, something that could be compounded by poor visibility caused by dust or if the action took place at night. The dust thrown up at Philippi meant that Cassius was unable to see that Brutus’ forces had been successful, which probably contributed to his precipitous suicide.

Arrian gives us a good example of command in battle at the senior level; while he took overall control, the legate of legio xv commanded the whole of the right wing, including the cavalry, and the tribunes of legio xii (who presumably held joint command of that legion), had responsibility for the left wing. The prefect of an auxiliary cohort commanded the artillery and missile troops stationed on the hill at the right of the battle line, and he had two subordinate officers appointed to assist him. These officers would be expected to respond to developments and emergencies in their area of the battlefield and to note acts of conspicuous courage by soldiers under their command (cf. Caes. B Gall. 1.52). Commanders of auxiliary units and centurions and decurions in cavalry units completed the chain to the century or turma. Orders from the commander could be disseminated by messengers, and relayed to units by standards or musical instruments, but it was the standards that were most important in forming troops up and moving them around the battlefield (Tac. Hist. 3.16).

Infantry and cavalry looked to their standards and eagles in battle and followed them, which could cause difficulties if standards became bunched together or were captured by the enemy. Standard and eagle bearers would be expected to show bravery and initiative in battle, to lead and encourage their men, as would of course the centurions. Promoted because of bravery (or social status), centurions were expected to, and did, lead from the front, and not surprisingly they and standard bearers suffered disproportionately high casualty rates even in victory, and could take the blame when things went wrong. Units in battle benefited from effective leadership at a junior level, but individual soldiers also showed initiative and courage.

58 Caes. B Gall. 4.25; B Civ. 3.91.
59 Caes. B Gall. 2.25, 7.47–50; B Civ. 3.64, 3.74, 3.99; Tac. Hist. 3.22.
encouraged to do so by a system that valued and rewarded individual as well as communal bravery (Tac. Hist. 3.23; see pp. 39–41, 63–6 above).

4. The aftermath of battle

The purpose of the line of battle was to force the enemy to turn and flee in panic; this was when the majority of casualties occurred, as those in flight turned their backs to escape and their ranks lost their integrity, allowing pursuing infantry and cavalry to kill almost at will. For Roman troops on the defensive this should have been the point at which, if they were able, they made for their camp or a nearby defended city, or retreated to high ground in a close formation. In civil war pursuit might turn into assault on a fortification, the pursuers-turned-attackers encouraged not just by their recent victory in battle but by the possibility of plunder from the capture and sack of a city (Tac. Hist. 3.26–33). Roman armies rarely completely enveloped opposing armies, since military theory believed that a surrounded army was more likely to resist. The flight of ‘barbarian’ armies could be obstructed by their own ‘grandstands’ of wagons located, according to historical narratives, so that non-combatants could watch the anticipated victory, but there were sound military reasons for this practice (Tac. Ann. 14.34–6). It was believed that warriors would fight harder if their families were watching them, especially since the barrier of wagons would both hinder their flight and expose their families to slaughter in the event of defeat (Caes. B Gall. 1.51). If flight were not impeded, it would normally be continued for as long as possible, until natural obstacles or nightfall made further pursuit impossible.

Cavalry was vital for successful pursuit and slaughter of the enemy, and with their height and speed they added to the panic, making rallying less likely. Caesar felt the absence of cavalry most keenly during his first expedition to Britain. Although his infantry were twice able to beat the Britons in battle, he was unable to turn these advantages into proper victories because he did not have the cavalry to inflict the slaughter indicative of success in a major encounter (Caes. B Gall. 4.26, 35). Light infantry also joined the pursuit, with missile troops being particularly valuable for adding to the panic and shooting those trying to escape up trees or across rivers (Tac. Ann. 2.17–18). Pursuing troops of necessity broke formation in the chase and could become separated from each other, placing them at risk if the defeated were able to counterattack (Tac. Hist. 3.25).

60 Caes. B Afr. 85; Caes. B Hisp. 31; B Alex. 40.
61 Onasander 32; Frontin. Str. 4.7.16; Veg. Mil. 3.21.
62 Caes. B Gall. 1.53; Tac. Ann. 2.17; Agr. 37.
Concerns about over-extending forces in the pursuit after battle, or in the slaughter following the capture of a fortification, are clear; commanders were reluctant to allow their forces to enter a city in the dark, preferring instead to wait until daylight (Joseph. BJ 7.402). Caesar (B Gall. 2.33) candidly admits that he pulled his men out of the oppidum of the Aduatuci on the first night of occupation to protect the inhabitants from them, but with the town not fully secured, he was also concerned about the safety of his own men (and rightly so, since the Aduatuci took advantage of the darkness to launch a counterattack). Even if unsuccessful a counter like this could cost unnecessary lives, especially in an unfamiliar urban environment. Counterattack was clearly something Arrian was afraid of when he planned his pursuit of the Alan heavy cavalry; when the infantry had repulsed the Alans, they were to open out their ranks to allow the cavalry through. Half the cavalry would then pursue the Alans while the remainder followed in ranks to attack in case the Alans began turning to renew the battle, or to take over the pursuit if the Alans were pressed into full rout. Meanwhile the light infantry, archers and javelin men would join the pursuit, and the legions would advance, maintaining formation so that if the pursuing cavalry met stiff resistance they could retreat behind the heavy infantry, who would be ready to resist the cavalry charge again (Expeditio contra Alanos 27–9).

The size of the victory could be gauged by the comparative casualty figures of the two armies. These were usually very one-sided, whether Romans were beating foreign enemies, being beaten by them or fighting each other. The sizes of opposing armies and casualty figures in historical accounts are notoriously unreliable, and a source of controversy among ancient writers as well as modern. Suetonius Paulinus’ army supposedly killed 80,000 Britons in Boudicca’s army, with 400 Roman losses, a ratio of 200:1; at Mons Graupius it was a more believable figure of 28:1. Caesar claims a ratio of 75:1 (15,000 to 200) at Pharsalus, but if we believe Asinius Pollio’s figure of 6,000 for Pompey’s casualties, the ratio is reduced to 30:1; none the less this is still indicative of an overwhelming victory. Our sources suggest that slaughter and destruction was greater in civil war because the opportunities for enrichment (at least from the sale of prisoners) were restricted, but the casualty figures do not seem to bear this out; this may be because it was easier for defeated troops in civil war to surrender to fellow Romans. The numbers of standards captured could provide an immediate indication of the size of the victory well before any rough estimate of body count. Sulpicius Galba reports two eagles and sixty standards captured from Antony’s

63 Caes. B Civ. 3.99; App. B Civ. 2.81.
64 Caes. B Civ. 3.97–8; Tac. Hist. 2.43.
army at Forum Gallorum, in a letter written immediately after the battle when he cannot have had any idea of the casualty figures.  

During engagements medical staff were active at the rear of the lines, assessing injuries as they were brought in, and in the aftermath troops not engaged in the pursuit may have checked the battlefield for survivors, and quite possibly finished off the enemy wounded.  

A campaign frequently halted for several days after a major engagement to allow the wounded to be treated and to give the army time to rest and recover (Caes. B Gall. 1.26). Onasander recommends this as a time for the general to decorate and promote soldiers who showed outstanding valour, to punish the cowards and to allow the troops to plunder the camp and baggage train of the enemy (or the town if it had been a siege, though this might be denied if the place had surrendered).  

Our sources rarely mention the despoiling of the enemy dead, but it must have happened, carried out by soldiers, military servants and camp followers. Nor do they give much prominence to the award of decorations to the soldiers, something that was clearly of fundamental importance to the recipients themselves given their prominent display in the epigraphy and accompanying sculpture of the Roman army.  

Punishments inflicted on those who had shown cowardice or given way in battle are given greater prominence in the literature, which may hint at a contemporary view of the source of Roman military success.  

The treatment of prisoners depended, as Onasander recommended (35, 38), on the broader strategic aims of the campaign. Large-scale wars of conquest might lead to the taking of many prisoners to be sold by the commander for profit, or in the case of the Helvetii, sent to reoccupy their homelands which Caesar did not want settled by Germans.  

In smaller wars, however, prisoners might be an encumbrance for a force that needed to move swiftly, so surrender might be refused or few prisoners taken (Tac. Ann. 4.25, 12.17).  

Roman dead were usually buried in a funeral mound on or near the battlefield, a task that would normally have been done swiftly. Unfortunately, none of these mounds has ever been identified. Victorious generals also erected trophies of enemy weapons to commemorate the victory and dedicate it to the gods, or more permanent trophy monuments might be erected to publicize permanent conquests, such as the series of trophies Pompey constructed in the Pyrenees and the Augustan trophy at La Turbie above Monaco.  

The physical relationship between funeral mound, battlefield trophy and permanent structure is unclear; at Adamklissi, an

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67 Cic. Fam. 10.10; cf. Caes. B Civ. 3.99; B Hisp. 31.  
68 Dio Cass. 68.14; Trajan’s column scene 40; App. B Civ. 3.70.  
69 Onasander 34; Caes. B Civ. 3.97; Tac. Hist. 3.33.  
70 Maxfield (1981).  
71 Caes. B Civ. 3.74; Tac. Ann. 3.20, 13.36; Frontin. Str. 4.1.21.  
72 Caes. B Gall. 1.28, 2.33, 3.16.  
73 App. B Civ. 2.82; Tac. Ann. 1.62.  
74 Tac. Ann. 2.22; Trajan’s column scene 78; Plin. HN 3.18, 136–8.
altar and cenotaph accompanied the trophy, which itself was adorned with metopes illustrating Roman soldiers in action. The complex at Adamklissi commemorated Trajan’s Dacian campaigns, but it is not known if the location has any significance. An unusual feature of the Adamklissi cenotaph is the inscription listing the Roman casualties, probably of Trajan’s first campaign rather than those lost under Domitian, dedicated ‘in memory of the bravest men who died in the service of the state’ (*ILS* 9102). There is no indication that the casualty lists of campaigns were regularly posted in Rome or elsewhere, and at least one suggestion of attempts to conceal the extent of losses in battle (App. *B Civ.* 1.43).

### III. Low-intensity Warfare

Roman historians liked to regard the legion as a unit that was armed and trained specifically for the set-piece battle, and suggested that it could have difficulties in operating as an effective fighting force outside that scenario.\(^75\) This is not entirely true; legions could and did operate very successfully outside of pitched battle, but the establishment of auxiliary units during the early Empire provided a permanent source of flexibility of arms that the legion did not possess, particularly strength in cavalry. The tactical flexibility offered by the auxiliary units was especially valuable in the smaller-scale wars of the imperial period, and for frontier and internal security.\(^76\) This applied most of all to the part-mounted *equitatae* units (see pp. 50–5 above). Though they did not fight together in pitched battle it is very likely that the foot soldiers and cavalrymen of these cohorts were used to operating as a unit in small-scale fighting and raiding.

As noted above (pp. 93–4) the revolt of Tacfarinas provides a good example of the nature of the fighting in these smaller-scale wars; having served as an auxiliary, Tacfarinas turned his knowledge of Roman military procedure against his former comrades and raised a force, part of which was armed in Roman fashion. After being defeated in pitched battle, he resorted to hit and run tactics, operating in difficult terrain and avoiding contact with large Roman forces, though setting traps for Roman units and making sudden attacks on small, isolated units. He scored a notable success early on against a legionary cohort, which resulted in one of the last recorded instances of decimation, and successfully disrupted the province for four years (*Tac. Ann.* 2.52, 3.20–1).

Roman forces experienced similar warfare in Aquitania during Caesar’s campaigns, in the treacherous bogs of northern Germany, in mountainous Thrace and in Britain where Caratacus and the Silures made excellent

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\(^75\) Livy 22.18; Plut. *Vit. Sert.* 12.

\(^76\) Cheeseman (1914); Holder (1980); Saddlington (1975), (1982).
use of the mountains of south and central Wales from which to harass the Romans.\textsuperscript{77} It is with exactly this type of hit and run fighting that Livy claims the legions in Spain had difficulty, and in responding to these threats imperial Rome did indeed make particular use of auxiliary units. When reacting to an uprising in the client state of Thrace, the commander of the nearest Roman forces sent legionaries to raise a siege and the auxiliary cavalry and infantry to deal with other groups of insurgents who were raiding the countryside and recruiting in the mountains (Tac. Ann. 3.39).

Roman military thinking appears to agree with the view of the historians that the legions were not the most appropriate troops for some operations, those requiring fast-moving forces or combat in mountainous or other difficult terrain, and that they were more appropriate to siege warfare (including capturing strongholds in mountainous terrain) and pitched battle. In this, Roman understanding was remarkably similar to the military theory of the late nineteenth-century British empire, which saw regular army units that relied on major engagements to achieve success as being at a disadvantage in guerrilla warfare.\textsuperscript{78} The campaign against Tacfarinas does, however, illustrate that some legionaries at least could operate with auxiliaries as highly mobile infantry.

Good intelligence was necessary to deal effectively with this ‘guerrilla’ warfare; enemy bases had to be identified and attacked while occupied, preferably by the enemy leader as well as his forces.\textsuperscript{79} Armies were either trained to deal with the different type of warfare, or learned through experience, and specialist knowledge of both terrain and local fighting techniques might be obtained through locally levied troops such as the Batavians and Canninefates during Roman raids into Germany.\textsuperscript{80} However, such warfare could be far riskier than pitched battle, in which properly trained and led Roman armies would normally expect to defeat a non-Roman enemy. It was poor intelligence and misinformation that contributed to the Varian disaster in AD 9 when Varus’ marching column of three legions was ambushed and caught unprepared on poor ground and wiped out (Dio Cass. 56.20).

This kind of warfare was fragmented and often fast moving since, for the enemy, success relied on the ability to strike swiftly and escape before a Roman army could react. To contend with this, armies were frequently split into smaller columns to increase their mobility and to carry out counter-raids with the advantage of surprise. Against Tacfarinas the army was divided first into three divisions and later subdivided into smaller groups commanded by experienced centurions who could be trusted with independent command.\textsuperscript{81} The use of smaller fast-moving columns also reduced

\textsuperscript{77} Caes. B Gall. 3.23–4; Tac. Ann. 1.65, 4.46–9, 12.32, 38–40.\textsuperscript{78} Callwell (1906).\textsuperscript{79} Austin and Rankov (1995) 42–54; Tac. Ann. 3.21, 4.25.\textsuperscript{80} Caes. B Afr. 71; Tac. Ann. 3.74, 4.73.\textsuperscript{81} Tac. Ann. 3.74, 4.24; cf. Ann. 1.41, 12.27–8.
the logistical problem of operating in desert or other inhospitable terrain with difficult communications, though it did open up the danger of being defeated in detail, which Agricola just managed to avoid in Scotland (Tac. Agr. 26).82

Auxiliary units offered the combination of mobility and strength necessary for success, partly because of the cavalry they provided, which could dismount and fight on foot if the terrain demanded (Frontin. Str. 2.3.23), but also because the infantry of at least some units seems to have been able to move faster than most legions. Light-armed (levis armatura) or mobile infantry units (expeditae cohortes) were regularly used for the kind of raiding operations being carried out in both Germany and Africa, and these could be accompanied by fast-moving legions.83 Precisely how these legions were ‘fast-moving’ (velocissimi) compared with ordinary legions is uncertain; they and the auxiliaries may just have been travelling without packs and with only essential kit and supplies, which is how Caesar ensured that he had fast-moving infantry to work with his cavalry against Labienus’ cavalry threat in Africa (B Afr. 75). There is no indication that they were using anything other than usual weapons or armour. A surprise attack by one of these small, highly mobile forces ended the war against Tacfarinas in (Victorian) textbook fashion. Travelling through the night, the Roman cavalry and ‘light’ infantry caught the Numidians and Tacfarinas in an old fort that had poor defences and no sentries. The Romans attacked at dawn with shouting and trumpet blasts and took the Numidians completely by surprise, wiping them out. Tacfarinas was killed rather than captured because, as Tacitus points out (Ann. 4.25), the war would only come to an end with his death.

IV. NAVAL AND AMPHIBIOUS WARFARE

It is ironic that, at the very time Rome established its naval forces on a permanent footing with fixed bases, large-scale naval warfare became obsolete, at least for the next couple of centuries.84 Actium and the destruction of the Egyptian fleet led to the reduction of the last remaining kingdom in the Mediterranean with any significant naval forces; the newly created Roman imperial fleets patrolled the seas, dealt with pirates and raiders, provided support for land operations and worked the velarium on the Colosseum. The hypothetical army of the military surveyor Ps.-Hyginus does contain marines, but for the purposes of route clearance and road building rather than any maritime role.85 None the less, the few fleet actions that occurred in our period illustrate many of the same concerns relating to deployment.

82 Hanson (1987). 83 Tac. Ann. 1.50, 2.8, 3.21, 4.25. 84 Starr (1941).
85 Ps.-Hyginus, De munitionibus castrorum 24; Lenoir (1979).
that we see in land battles. Naval battles were more likely to be influenced by the vagaries of weather and wind than those on land, so there could be some delay before conditions allowed a battle to take place, and there was also a much greater random factor than existed in land battles. At Actium Antony was greatly outnumbered by Octavian and so risked being outflanked and his ships taken from both front and rear. As with a land-based battle he made use of the terrain, deploying as close inshore as he could, with his wings protected by the shallow waters that Octavian’s ships could not enter.

As in land engagements missiles played an important role in Roman naval warfare and the ships were frequently equipped with towers to give slingers, archers and artillery greater range and power. Incendiary missiles, particularly fearful weapons at sea, formed part of the arsenal. A missile barrage was fired before ships closed for close combat, and missiles continued to fire throughout the engagement, though not incendiary devices once the ships were at close quarters (App. B Civ. 5.119). Tactics varied depending on the size and manoeuvrability of the ships. As discussed above (pp. 55–8) in this volume, the imperial navy, which was unlikely to face a large-scale naval engagement, consisted mostly of smaller ships appropriate to their duties – triremes and two-banked liburnians. The civil wars at the end of the Republic provided the last encounters that involved the larger quadriremes and quinqueremes that had been developed in the arms race of the Hellenistic era (see vol. 1, pp. 357–61, 434–43); in the naval battles of the 40s BC size and design proved significant.

At Mylae, Sextus Pompey had smaller, more easily manoeuvrable ships manned by more experienced sailors, so he avoided ramming the enemy head on and instead concentrated on disabling Agrippa’s ships by breaking off the oars and rudders (which required considerable skill and timing), or isolating them and attacking them from all sides. With his sturdier, taller ships which were probably designed with his intended tactics in mind, Agrippa aimed to ram Sextus Pompeius’ ships anywhere and bring the battle to close quarters as soon as possible. Here he had the advantage of size, since his ships could hold more troops, and had the additional height to bring fire to bear on the Pompeian ships. His ships also used a grappling hook to haul the Pompeian ships in to the point where they could be boarded, a device that worked very well both at Mylae and Naulochus (App. B Civ. 5.106, 119). At Actium both sides were content to engage at close quarters, boarding ships and capturing them or destroying them, and this was probably not because of inexperienced or incompetent rowers (fig. 4.4). The preferred Roman tactics allowed them to play to their strengths in numbers and heavily armed infantry and were probably

86 Plut. Vit. Ant. 65; Caesar B Gall. 3.14.  
Figure 4.4 Marble relief from Praeneste depicting a war galley of the late first century BC. The crocodile emblem suggests this formed part of Antony and Cleopatra’s fleet at Actium. The troops are obviously over-scale, and the tower illustrates the importance of deck fighting and boarding tactics for these large galleys, rather than the ramming manoeuvres emphasized by the most skilful exponents of trireme tactics.

devolved (along with the sturdier ships) for that reason, rather than because the Romans made poor sailors.

As with land battles, once the integrity of the line of battle was broken one side might turn to flight, at which point ships became isolated and more vulnerable to enemy attack. Because naval battles usually took place near to land, fleeing ships might be driven on shore, but pursuing ships had to curb their enthusiasm for the chase or they might end up on shore too (App. B Civ. 5.121). The majority of casualties drowned because they could not swim or because they could not get out of swamped ships, but at Mylae Sextus Pompeius’ smaller boats rowed round picking swimmers out of the water, and it is possible that such lifeboats were deployed in other naval battles (App. B Civ. 5.107).

Command and control in naval warfare was challenging because of the difficulties in seeing what was going on in the midst of battle from the deck of a ship, and also given the problems in communicating. Generals seem to have acted in much the same way as in land battles, commanding from the rear, often on land, or from a flagship in the middle of battle, as both
Antony and Agrippa did at Actium. Agrippa had smaller auxiliary craft available at Actium to relay orders and information in the same way that cavalry did in engagements on land (Dio Cass. 50.31), and this was most probably a regular feature of naval battles. Sextus Pompeius controlled his fleet at Mylae from a hill and was able to signal them to disengage because he could see, probably more clearly than anyone commanding on the water, that they were being beaten (App. B Civ. 5.107).

In the Empire, naval operations tended to be on a much smaller scale and usually, with no other naval powers surviving, part of land-based operations such as supporting Trajan’s campaigns across the Danube and into Parthia. Even when fleets and marines were not available, soldiers still made use of the water when appropriate, and were able to operate effectively, mounting artillery on boats at Cyzicus in the civil war between Severus and Niger to fire at the flanks of the enemy armies that had deployed near the lake in an attempt to secure their wings (Dio Cass. 75.6). On Lake Gennesaret, in response to the Jewish waterborne attack, Roman soldiers ensured that their infantry skills could still be an advantage, building rafts which provided a relatively sturdy fighting platform from which soldiers fired on the Jewish boats and boarded them when they came too close (Joseph. BJ 3.505).

Caesar’s warships in the Channel played a key role in supporting the transports involved in his first landings, providing covering fire from slingers, archers and artillery, and ultimately driving the Britons back sufficiently for the infantry to start landing (B Gall. 4.25). The disadvantage with landing troops from warships was that their keels were too deep to beach properly, and the infantry were less than keen to jump into the deeper water; Caesar had transports with him that had a shallower draught, but was unable to use them under the threat from the Britons. For other waterborne operations armies usually had to construct small craft which were agile and had a shallow draught, able to transport infantry and cavalry and capable of acting as landing craft. They were used extensively in raids in northern Germany and in Suetonius Paulinus’ attack on Anglesey in ad 60 (Tac. Ann. 2.6, 14.29). These transports were less suitable for working at sea than on rivers, and nervousness on the part of soldiers in the vessels contributed to the huge losses sustained by Germanicus’ fleet when it was wrecked on the German coast in autumnal storms (Tac. Ann. 2.23–4).

Waterborne operations eased logistical difficulties and enabled troops to be moved swiftly into terrain that would have otherwise been difficult to penetrate, taking the enemy by surprise. Operating in that terrain once there, though, was a particular difficulty for legionary troops who, as we have seen, were not well equipped for operating in wetlands. Such

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[Carter (1970).] [Dio Cass. 78.28; Belfiglio (2001).]
amphibious operations regularly involved auxiliary units of Batavian infantry and cavalry. They, along with other tribes living in the Rhine delta such as the Cherusci and Canninefates, were skilled at fighting in flooded and marshy terrain, and caused major problems for successive Roman armies operating in northern Germany by meeting them on ground that they had chosen. As usual Rome recruited from the areas in which it was fighting and raised units of both Batavians and Canninefates, though it is the former who get all the glory. Batavians carried the river crossing in Kent that caught the Britons by surprise in AD 43, and were very probably the auxiliaries who crossed the Menai straits to capture Anglesey for Agricola. They could cross fast-flowing rivers under arms, providing a valuable element of surprise and fear. They provided both cavalry and infantry (who could also fight highly successfully in the front line of pitched battle) and were inordinately proud of their abilities. Their boastful behaviour and eagerness to show off their skills might be suggestive of the behaviour of élite troops, but Rome had no ‘special forces’ and generals probably made the best use of the particular skills their units possessed.

V. SIEGE WARFARE

The ability to besiege fortifications and capture them either through blockade or by violent assault was essential to a state that desired to create and maintain an empire, but not every ancient state possessed the advantages that enabled it to conduct successful siege warfare. It was an expensive way to wage war and could be immensely time consuming. Rome had traditionally been a successful besieger and was able to maintain an army over the winter if necessary, even during the relative inactivity of a passive siege when blockade and starvation were the aim. The trained and specialist troops needed particularly for offensive sieges were available, and the logistical support system could provide for an army that was essentially static even after it had consumed all raw materials in the vicinity, including the vast quantities of timber necessary for circumvallation and assault machines.

All this was aided by the professionalization of the army in the late Republic and the presence in the army of engineers, artillery specialists and soldiers whose training included entrenching and field engineering. Rome could also deploy complex siege machines and artillery, something its enemies outside Parthia rarely saw, and their very arrival on the scene could provoke terror in the hearts of ‘barbarian’ enemies (Caes. B Gall. 2.12). As siege warfare involved all members of a community, terror tactics

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90 Dio Cass. 40.20; Hassall (1970); Tac. Agr. 18. 91 CIL iii 3676; Dio Cass. 69.9. 92 Tac. Ann. 2.8, Hist. 2.66. 93 Roth (1999).
could be especially effective. The need for an imperial power to set an example to foreign enemies, and particularly to rebels and potential rebels within its empire, meant that, once begun, a siege was virtually never abandoned until the objective was captured or surrendered. Masada was assaulted and captured after the ‘official’ end of the Jewish revolt when Vespasian and Titus had held their triumph in Rome. There was little prospect of booty or prisoners from the capture of the stronghold, but its capture served as a symbol not just of Rome’s authority but also that of the newly established emperor. Nevertheless, despite Rome’s superiority in siege warfare, reputations in war were made by speed, and success in a siege might be tempered if it had been dragged out, so commanders may have been encouraged to attempt risky assaults (Joseph. BJ 5.502–7).

Surprise was a valuable asset in siege warfare, as a stronghold or city that had not expected an enemy army was more vulnerable to blockade if it had not stockpiled supplies, or to assault if the walls could not be properly manned. The speed at which Roman armies were able to move could prove significant, especially if they travelled through inhospitable terrain, in a type of warfare in which gaining a psychological advantage over the enemy could be of great significance (Sall. Iug. 76). The cities of Thessaly were intimidated into surrender partly by Caesar’s treatment of the town of Gomphi, which was comprehensively sacked, but also by the speed with which he then moved on to the neighbouring town of Metropolis, outstripping news of Gomphi’s fate (B Civ. 3.80–1). Speed in the construction of siege engines and fieldworks could have a similar effect, the defenders at Jerusalem very probably being intimidated (though not sufficiently to surrender) by the rapid construction of 7 kilometres of siege-works in only three days (Joseph. BJ 5.491–511).

It was unusual for a Roman army to begin blockading an objective without first having attempted some kind of assault, which could take place swiftly on arrival in an attempt to take advantage of an unprepared enemy and to achieve an immediate and spectacular victory. Sudden assaults could prove extremely successful, with the Armenian city of Volandum being captured by Corbulo in less than a morning (Tac. Ann. 13.38), but the danger they involved required discipline and high morale on the part of the besiegers. The success at Avaricum may have encouraged Caesar and his men to over-ambition in attempting to carry Gergovia by assault; the reverse there may in turn have contributed to an entirely passive approach at Alesia with a strategy of starving out the Gauls, though the huge size of the Gallic army trapped in the hill-fort doubtless influenced the decision (B Gall. 7.69–74).

The artillery trains with Roman armies gave them a significant advantage, and the covering fire that could be laid down meant that an assault could be effective even without any other specialist siege equipment. Intelligence
was usually gathered to identify the most vulnerable parts of the defences, and several sections were likely to be attacked simultaneously, with terrific shouting and activity, to divide the enemy defenders and cause maximum confusion (fig. 4.5).\(^94\) If such an assault failed, or if a more cautious approach was demanded, a combination of blockade and assault might be employed. It was unusual for a Roman army to undertake an entirely passive siege like Numantia or Alesia, which would be very expensive in terms of time and resources, and could be considered bad for the besieging army, reflecting Roman military thinking that idleness led to poor morale and discipline (cf. Joseph. BJ 5.496).

Camps similar to those used in open campaigns, though usually with more substantial defences, were entrenched very early on in a siege to provide a refuge in case of sortie by the besieged or attack by a relieving force. Metellus did not begin his offensive against Zama in 109 BC until he had built such a camp, which Jugurtha proceeded to attack when the Romans were occupied in an all-out assault on the town, intending to capture it and deny the Romans a chance of refuge before turning on them and catching them in the open (Sall. Inug. 56). These camps were established at strategic points, often the more vulnerable areas likely to be attacked, with good lines of sight, and hence equally visible to the besieged (Caes. BGall. 7.69, 80). The camp most likely to be Silva’s headquarters at Masada has excellent views of the siege ramp, the main area of operations in the siege, though it is set back from the circumvallation wall for additional protection. Even without a circumvallation wall the presence of several Roman camps would have sent a clear message to the besieged. This was

\(^{94}\) E.g.: Sall. Inug. 57–9; Caes. BGall. 5.21; Tac. Ann. 13.38.
an added bonus when the objective was, usually, to force the enemy to surrender rather than have to capture the place by storm.

As indicated, at Alesia Caesar had the circumvallation dug at once, but the amount of work such an undertaking required meant that this was not always the case. Titus, to whom Josephus was referring when he commented that reputations were won by speed, did not circumvallate Jerusalem until various assaults had failed and he realized that the siege would be a long one. His aim was to deny the defenders communication with the outside world and to attempt to enforce a strict blockade – he seems to have been successful in this respect, if Josephus’ tales of food shortages and the inevitable accusations of cannibalism are anything to go by; morale would have been severely damaged, aggravating existing schisms between the defenders. Circumvallation lessened the chance of a successful breakout by the besieged, and provided morale-boosting additional security to the besieging force. Lines of circumvallation are not uncommon in sieges of the imperial period, especially in the eastern empire with its established cities with well-defended stone walls, a very different siege proposition from the hill-forts of the north-western provinces.

Usually circumvallations made best use of the topography to enhance their defensive capabilities, often following contours and making use of steep slopes, though where the land was especially steep at Masada, the wall was dispensed with. Despite Caesar’s claims of completeness at Alesia, fieldwork has revealed that there were gaps in his lines too, where defences were unnecessary because the terrain was so difficult. Towers were often built with the dual purpose of providing lookout posts and artillery positions. Caesar claims that at Alesia the towers were at eighty-foot intervals, so they were well within covering fire of each other in case of an attack on any one (B Gall. 7.72). At Masada, however, artillery towers were only constructed on the eastern side of the fortress where the slope was less severe, because that was where any attack was most likely to come.95 Where topography demanded, a ditch might accompany the earth rampart or stone wall of the circumvallation, but the double ditches of the works at Alesia are unique, perhaps a pointer to Caesar’s intention to sit tight within his fortifications and run a passive siege, waiting until starvation forced surrender.

An army scattered among different camps along a line of circumvallation probably experienced difficulties in communication, though this is not something that most of our sources care to mention. Appian (Hisp. 92) shows some awareness of this problem and offers a solution in his description of the siege of Numantia in 133 BC, where the raising of a flag sent out the message that a fort was under attack. Although there is no mention of a

95 Richmond (1962); Hawkes (1929).
similar system being set up at other sieges, it seems likely to have happened, and towers on circumvallations probably had basic signalling capabilities too. The need to establish communications between forts is likely to have had an impact on their positioning since it would have been necessary to locate them in line of sight of each other if there were no towers to relay signals. A general coordinating an attack must have had messengers with him to convey instructions to other areas of the assault; Caesar implies this when he says that he found a vantage point from which to direct his response to the Gallic attacks on his siege lines at Alesia and send instructions to various parts of the line (B Gall. 7.85).

Once a blockade was established attention would usually return to the assault, and it was here that the specialist engineers of the army came into their own. Even if no elaborate siege engines were employed or siege ramps built, catapults needed to be properly positioned and fired by skilled artillerymen to ensure accuracy; the most able could pick off an individual behind a loophole at considerable distance (Zos. 1.69–70). Artillery, along with slingers and archers, provided covering fire for attacks or other operations within range of whatever missiles the defenders had available. The stone-throwing *ballistae* could cause damage to walls, but both types of catapult were essentially anti-personnel devices; the bolt-shooting *scorpiones* provided rapid, accurate fire at defenders on the walls while the *ballistae* had a slower rate of fire because of their size, and were probably less accurate, but could project stone missiles over city walls, bringing terror and death to civilians as well as those under arms (Joseph. BJ 3.257). Both types could protect the besiegers from counterattacks.96

Under this covering fire and with additional protection from mobile shelters the besiegers could approach the walls and attempt to scale them with ladders, undermine them, knock holes in them with battering rams, or if the walls were particularly high or well protected, build a siege ramp to access them and a mobile siege tower with battering ram to breach them.

The use of mines in the imperial period, either to undermine and destroy walls or towers or to burrow a way into a city, seems to have been extremely rare. Caesar’s engineers attempted to enter Marseilles this way during the civil wars because they had had no success with other assault methods, but they were thwarted by the standard defence of digging a ditch within the city walls and filling it with water. When the mine was opened up it instantly flooded, killing the sappers (Vitr. De arch. 10.16.11–12). There is virtually no further evidence of Roman armies using mines in the context of siege warfare until the fourth century, a rare hint being one of the panels on the early third-century arch of Severus, which may illustrate a mine or

alternatively an attack on a wall under cover of shelters. While mining was obviously not always appropriate to a siege, its absence is perhaps indicative of the extraordinary success armies had with blockade and heavyweight assault.

The size and complexity of siege-works varied considerably. The siege tower that scared the Aduatuci into surrender was probably rather modest compared with the ninety-foot iron-clad engine that was built at Masada. With the exceptions of Avaricum and Alesia, armies encountered few hill-forts in the western provinces that proved a serious obstacle. Many were taken swiftly by direct assault, and it is highly unlikely that Vespasian encountered any major difficulties in capturing any of the twenty oppida in southern Britain (Suet. Vesp. 4). Hod Hill in Dorset may have been forced into surrender by an artillery barrage, or taken by storm under the cover of artillery, and the same may have happened at Maiden Castle. There are no indications of any siege-works or of serious resistance. As with circumvallation speed was an important factor in building siege engines and constructing the ramps from whatever materials were most easily available, usually turf and timber in the western empire, stone and timber in the east. A siege ramp rapidly approaching a city’s walls would have shown that the besieger meant business, and put added pressure on the defenders to surrender before the place was taken by storm. Given the expense of siege warfare, and the logistical difficulties of keeping a large static army supplied, the sooner the siege was over the better.

The besieged were encouraged to surrender by a variety of means – by direct plea (though this might be interpreted as a sign of weakness or lack of resolve), through shows of strength such as parading the army before the city walls, by flaunting supplies of food at those starving within, through terror tactics such as executing captured enemy leaders or simply by the knowledge that the normal conventions of siege warfare rewarded surrender with better treatment than that reserved for a town taken by storm. Commanders on the whole preferred surrender to the dangers of an assault, but for soldiers that was not necessarily the case, for assault meant sacking the city and opportunities for plunder. Entering a city through a wall-breach or narrow opening such as a gate exposed soldiers to great peril despite the protection offered by covering fire and by their armour and shields. They were open to fire from the flanks and from above, and probably having to make their way through debris, with the constant danger of being cut off from their comrades; once within the walls they lost artillery support, and until the walls and strategic points were in Roman hands there was the constant

97 Caes. B Gall. 2.31; Joseph. BJ 7.307.
98 Richmond (1968) 33; Wheeler (1943) 62; Rivet (1971).
danger of counterattack. Little wonder that incentives were offered to the first man on the walls.\textsuperscript{100}

The sack of Avaricum was managed with reduced risk because the Romans were able to gain possession of the whole interior of the walls without descending into the town proper. This was possible because the \textit{oppidum} was not particularly large and lacked complex defences. Polybius gives the impression that, after capture by assault, a city was sacked in a kind of organized mayhem, but this is an idealized view.\textsuperscript{101} Control is conspicuously absent in the vast majority of sacks conducted by Roman soldiers, as they were given free rein to destroy, murder, rape and pillage as a reward for the hardships of the siege. There is no indication of the kind of systematic clearance of buildings that we are familiar with from modern urban warfare. Nor is there any evidence that any of the instruction recruits received included training for siege warfare or fighting in urban areas, and this may have added to the confusion of the sack.

While blockade and assault were intended to inflict appalling suffering and destruction upon communities, siege warfare could expose the ordinary Roman soldier to unusual hardship and stress. Thirst, hunger and even starvation could threaten a blockading army, particularly if supply lines were difficult, and a blockade could become a game of who starved first. At Dyrrachium it was Caesar who had to abandon his blockade of Pompey, while the allegedly well-supplied Paetus surrendered in AD 62 to the Persians who had themselves almost run out of food.\textsuperscript{102} ‘Thirst was undoubtedly a problem for the army besieging Masada with its distant supplies of water and desert climate; soldiers attempted to overcome extremes of temperature by constructing dwarf walls around their tents.

If a siege progressed slowly, or was extremely difficult and heavy casualties were taken, morale could become a problem. A splendid parade at which the Roman legionaries besieging Jerusalem were paid, all dressed in their finest equipment, was intended to intimidate the defenders through a display of strength and discipline, but was probably also intended to restore morale after the extremely difficult and costly capture of part of the city, and with the prospect of moving on to take the fortress of Antonia (Joseph. \textit{BJ} 5.353). Morale was such a problem for Severus at Hatra that he was forced to abandon the siege, though he contributed to the problems himself.\textsuperscript{103} Morale was sapped by the hardships of the desert, the effectiveness and range of the defenders’ artillery, the burning naphtha thrown down on siege engines and soldiers and raids on foraging parties; the army may have been low in confidence because it had also failed to capture Hatra the previous year. Despite these difficulties Severus’ troops broke

\textsuperscript{100} Caes. \textit{B Gall.} 7.27; Joseph. \textit{BJ} 6.33. \textsuperscript{101} Polyb. 10.15; Ziolkowski (1993). \textsuperscript{102} Caes. \textit{B Civ.} 3.74; Tac. \textit{Ann.} 15.15. \textsuperscript{103} Campbell (1986); Kennedy (1986).
down part of the walls, only to be recalled by their emperor who hoped Hatra would surrender, an action that would have denied the soldiers the opportunity to enrich themselves through plunder and take revenge on the Atreni for their sufferings during the siege. The unaccommodating Atreni not only refused to surrender but rebuilt the wall, and the Roman troops mutinied when ordered to attack it again, ending the siege (Dio Cass. 76.11–12).

Scaling walls and storming breaches was exceptionally dangerous, and the men who undertook these tasks may have been a self-selecting group of the bravest, or generals may have called for volunteers (Sall. Iug. 57, 93). The number of men at the front of an assault on a breach was of necessity very small, and those seeking military decorations, rewards of money or promotion may have been encouraged to volunteer. Titus seems to have identified a group of the bravest legionaries and auxiliaries in the army from whom he then pressured men into volunteering for an absurdly dangerous attack on a secondary wall built to cover a breach in the outer wall at Jerusalem (Joseph. BJ 6.36). The high visibility of Titus at Jerusalem owes much to Josephus’ desire to portray a heroic leader, but the difficulties of the siege may have demanded a much closer relationship than usual between general and ordinary soldiers, and this may have been the case in other sieges too.

Speed was not the only means of surprising the enemy, and Frontinus’ Stratagems (3.1–11) are full of examples of cities captured by deception, feigned retirements, drawing out the besieged and surprising them in the open, and attacks from unexpected quarters, all stratagems which reduced the length and dangers of a siege. Surprise attacks were frequently opportunistic, and suggestive of a high degree of initiative on the part of ordinary soldiers, such as the snail-seeking Ligurian auxiliary who discovered a way up into Jugurtha’s mountain citadel near the Muluccha (Sall. Iug. 94). More surprising are the actions of legionaries and auxiliaries in capturing the fortress of Antonia at Jerusalem, not because of their initiative and the ingenuity of their plan (killing the guards, sneaking into the fortress under cover of darkness and then sounding the trumpet to alert Titus), but because they carried it out without first having consulted any officers, let alone the commander (Joseph. BJ 6.68–70).

This section, like most military handbooks of the imperial period, has concentrated on Roman armies attacking fortifications rather than defending them. Regular troops rarely found themselves besieged by large enemy forces in the period under study, partly because of a strategy of meeting the enemy in open warfare and pitched battle where they usually had a significant advantage. Forces with good morale were normally able to hold off enemy assaults, even with the defences of a winter camp rather than city walls, though weak morale and leadership might lead to ignominious
surrender to the enemy. Large-scale sieges in civil war in which Roman armies were both attacking and defending almost invariably ended in negotiated surrender of the besieged rather than assault and sack, as soldiers and their commanders seem to have made an effort to avoid slaughtering their fellow soldiers. Non-Roman forces lacked the equipment and siege techniques necessary for success, particularly against Roman defenders, and while the Parthians had the equipment, Tacitus suggests that they lacked the courage in hand-to-hand combat to prosecute a siege, a comment that would appear to confirm the particular courage required in siege warfare.

VI. THE SECRET OF ROMAN SUCCESS

Roman military thinking believed that a pitched battle fought on a fair or level battlefield would bring a certain victory. Throughout the period Rome dominated not just in the pitched battle but in other types of engagement too, or it made them obsolete. The tactical manuals provide some insight into how the Romans themselves explained their military success. "The Roman people conquered the whole world with its military drill, camp discipline, and military skill" claims Vegetius, writing at a time when, in his belief, the absence of these factors had contributed to Rome’s military decline. He goes on to say that a small well-trained army is always likely to win whereas an inexperienced and undisciplined horde will be slaughtered. The move towards a standing army in the late Republic made it more likely that troops would be better trained, and Rome could rely more on the drill and discipline Vegetius admired rather than manpower, though the comparatively small permanent armies of the Principate never had to face a Hannibal or a Mithridates (see vol. 1, pp. 429–33).

A standing army contained experienced soldiers and could afford to keep them well trained; trained veterans could withstand both the physical and moral shock of combat far better than new recruits. They could react quickly to a developing situation in combat and respond without the need for orders from their officers and they could also use their initiative. At Pharsalus Caesar’s veterans checked their charge and halted to regain their breath when they realized that Pompey’s troops were stationary, so that they would not meet the enemy breathless. Caesar (B Civ. 3.93) puts this down to their training and experience from previous battles. In Africa he trained his legionaries to cope better with the hit and run fighting they were facing,

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104 Caes. B Gall. 5.39–52; Tac. Ann. 15.5, 14; Hist. 4.60; Trajan’s column scene 78.
106 Tac. Hist. 4.23, 29–30; Ann. 15.5.
107 Veg. Mil. 1.1; cf. Onasander 6, 10.
108 App. B Civ. 3.67–9; Sall. Iug. 86.
109 Caes. B Gall. 2.20; Tac. Hist. 2.23; Joseph. BJ 6.68–70.
and acquired some elephants so the men and horses could become more familiar with them and learn how to fight and counter them (B Afr. 71–2).

Training and discipline, however, were by no means everything; effective leadership and control on the battlefield played its part too, from generals playing an active role in the direction of battles and the fighting of them when necessary, down to centurions and standard bearers. Until the early Principate, and even afterwards when social status could bring such appointments, centurions were promoted because of their leadership skills and courage, and the high casualty rates they incurred are indicative of the vital role they played in combat. With good officers morale in a professional army on campaign was likely to be high, and fellow soldiers would know each other well, increasing their effectiveness in fighting together and for each other. Commanders made the most of the specialist skills their troops possessed. Part-mounted auxiliary cohorts brought considerable tactical flexibility, as did units like the Batavians, while the continued use of allied troops recruited locally for a single campaign provided specialist knowledge of the enemy and topography. This was not a homogeneous army in which all legions and auxiliary units were armed and equipped identically, or fought in the same way. Units were trained and equipped to deal with the opponents and type of warfare that they were likely to meet in their part of the empire; if they moved to another theatre, they might have to be retrained to cope with the different style of warfare.

Manuals do not boast of Rome’s technological superiority, for it probably contributed less to its military success than other factors. Indeed the literary topos relating to equipment is of Rome being willing to adopt the weapons and successful techniques of its enemies and adapting them to its own needs.¹¹⁰ Few of the enemies Rome encountered in this period had artillery pieces, and most of those who did had plundered them from Roman armies anyway, but outside of the siege, artillery rarely played a decisive role in engagements. The equipment available for siege warfare was highly effective, but no better than that of the neighbouring Parthians. It was the existence of a standing army, training and logistical organization that allowed Rome to use this equipment so successfully.

The final ingredient of Rome’s success lay in the weaknesses of its enemies. During this period Rome rarely had to face an enemy with anything like its own military organization and strength. Most of its enemies were unable to maintain an army in the field for any length of time – they might have difficulty in mustering a force in the first place, or would be compelled either to seek a swift victory under unfavourable circumstances or to dissipate.¹¹¹ When they were able to fight to their strengths, using hit and run tactics on difficult terrain, ambushing vulnerable marching columns...

¹¹⁰ Diod. Sic. 23.2; Arr. Tact. 4.1; Suda 303.1. ¹¹¹ Caes. B Gall. 2.10; Goldsworthy (1996) 45–7.
and avoiding pitched battle, they could be devastatingly successful. But with Rome usually on the offensive this could be difficult to engineer. The Romans were confident that their armies would continue to be successful. Appian, writing in the ‘golden age’ of the mid-second century AD, saw trained veteran legionaries as almost invincible in battle against raw recruits or ‘barbarians’, the latter a concept constantly illustrated in the iconography of Rome.