ROMAN REPUBLICAN LEGIONARY 298–105 BC

NIC FIELDS

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ARTIST'S NOTE

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INTRODUCTION

The classic vision of the Roman legionary that passes through the mind’s eye is of legion after legion of seasoned, ironclad veterans, advancing to disseminate death and panic in precise order, their standards floating high and their helmets glinting in the sun. This glamorized picture of the Roman legionary in his primary fighting role is perhaps extreme, but there is enough accuracy in it to justify its retention. Still, as will become clear, it was not always so.

Shortly after the Caudine Forks fiasco, when Roman citizens had suffered the utter humiliation of being forced to pass under the yoke, an act symbolizing their loss of warrior status, the tactical formation adopted by the Roman army underwent a radical change. The Roman legion had originally operated as a Greek-style phalanx, a densely packed block of citizens wealthy enough to outfit themselves with the full panoply of an armoured spearman, or hoplite. A position as a hoplite had been the privilege only of those who owned a certain amount of property, poorer citizens serving either as auxiliaries or as servants. After the Servian reforms, however, the Romans adopted the manipular system, whereby the legion was split into
distinct battle lines, each consisting of tactical subunits, the maniples. In contrast to the single solid block of the phalanx, the legion was now divided into several small blocks, with spaces between them. The Romans, in other words, gave the phalanx ‘joints’ in order to secure flexibility, and what is more, each citizen soldier, or legionary, had twice as much elbow room for individual action, which now involved swordplay instead of spear work.

The legionary, like his hoplite counterpart, excelled at brutal close-quarter combat, but the manipular legion had a greater freedom of movement and flexibility than the original hoplite phalanx. Consequently, with this adoption of a new tactical formation, the Romans started to practise a tactical doctrine that placed emphasis on a one-foot-on-the-ground approach. Behind a screen of lightly armed legionaries (velites), the first line contained maniples of hastati (misleadingly called ‘spearmen’), the second line was made up of maniples of principales (‘chief men’), and the third line, made of the oldest and more mature men, consisted of maniples of triarii (‘third-rank men’). In battle, the velites having done their bit and then dispersed rearwards through the ranks of their heavier comrades, the hastati, which contained the...
youngest men, actively engaged the opposition, while the more experienced *principes* and *triarii* formed a mobile reserve. This formation in three lines, the *triplex acies*, allowed the possibility of reinforcement and mutual support. If the *hastati* were driven back the battle was not necessarily over, for an effective resistance might still be offered by the second or third line. Conversely, if the *hastati* were brought to a standstill, reinforcements either could be despatched to the flanks or fed directly into the fighting line.

Even though it was still a citizen militia recruited from property owners supplying their own weapons and equipment, it was the manipular legion that faced Pyrrhus and his elephants, the Gauls and their long swords, Hannibal and his tactical genius, and the Macedonians and their pikes, to name but a few of its formidable opponents. This book, therefore, will look at the recruitment (now based on age and experience as well as on wealth and status), training (now the responsibility of the state as opposed to the individual), weapons (new types being introduced, both native and foreign), and equipment and experiences (which included submission to a draconian regime of military discipline) of the Roman legionary at the epoch of the middle Republic, which opens with the last great war with the Samnites (the Third Samnite War, 298–290 BC) and closes with the Republic at the height of its imperial glory after its victory in north Africa (the Iugurthine War, 112–106 BC). The provisional legion in which the legionary served now exhibited many of the institutions and customs of the later professional legions, perhaps best reflected in one of its most notable practices, the construction of a temporary camp at the end of each day’s march. Let us not forget, however, that our legionary’s military service was not necessarily a career but an obligation he owed to the state.

**CHRONOLOGY**

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<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tr>
<td>298–290 BC</td>
<td>Third Samnite War.</td>
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<tr>
<td>295 BC</td>
<td>Romans defeat coalition of Samnites and Senonian Gauls at Sentinum.</td>
</tr>
<tr>
<td>281 BC</td>
<td>Rome declares war on Taras.</td>
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<tr>
<td>280–275 BC</td>
<td>Pyrrhic War.</td>
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<tr>
<td>280 BC</td>
<td>Romans defeated at Herakleia.</td>
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<td>279 BC</td>
<td>Romans defeated at Asculum.</td>
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<tr>
<td>278 BC</td>
<td>Pyrrhos sails to Sicily.</td>
</tr>
<tr>
<td>275 BC</td>
<td>Pyrrhos defeated at Malventum (renamed Beneventum).</td>
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<tr>
<td>273 BC</td>
<td>Latin colonies planted at Cosa and Paestum.</td>
</tr>
<tr>
<td>272 BC</td>
<td>Taras falls to Romans (end of pre-Roman Italy).</td>
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<tr>
<td>264–241 BC</td>
<td>First Punic War.</td>
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</tbody>
</table>
264 BC Roman alliance with Mamertini (consular army lands in Sicily).
263 BC Hiero II of Syracuse becomes ally of Rome.
262 BC Romans lay siege to Akragas (falls following year).
260 BC Roman naval victory off Mylae.
258 BC Roman naval victory off Sulci.
257 BC Roman naval victory off Tyndaris.
256 BC Roman naval victory off Ecnomus
Regulus lands in Africa (captures Tunis).
255 BC Xanthippos defeats Regulus near Tunis (Regulus captured).
254 BC Romans capture Panormus.
250 BC Romans lay siege to Lilybaeum.
249 BC Roman naval defeat off Drepana.
247 BC Hamilcar Barca lands in Sicily (seaborne raid on Bruttium).
246 BC Hamilcar occupies Heirkte.
244 BC Hamilcar shifts to Eryx.
241 BC Roman naval victory off Aegates Islands.
240–237 BC Libyan War; Carthage at war with its mercenaries.
238 BC Rome annexes Sardinia (threatens Carthage with war).
237 BC Hamilcar sent to Iberia.
236 BC Gauls attack the Latin colony at Ariminum
Romans defeat the Boii (annexation of part of their territory in Po valley).
231 BC Roman embassy to Hamilcar.
229 BC Death of Hamilcar (succeeded by Hasdrubal the Splendid).
229–228 BC First Illyrian War.
227 BC Praetors raised to four (Sicily and Sardinia–Corsica made Roman provinces).
226 BC Roman embassy to Hasdrubal (signing of Iber Treaty).
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<td>225 BC</td>
<td>Romans defeat Gaulish (Boii, Insubres, Taurisci) invaders at Telamon.</td>
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<tr>
<td>223 BC</td>
<td>Flaminius defeats Insubres.</td>
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<tr>
<td>222 BC</td>
<td>Marcellus defeats Insubres near Clastidium.</td>
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<tr>
<td>221 BC</td>
<td>Hasdrubal assassinated (Hannibal Barca acclaimed generalissimo).</td>
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<tr>
<td>219 BC</td>
<td>Second Illyrian War: Demetrios of Pharos knocked down Hannibal storms Saguntum.</td>
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<tr>
<td>218–201 BC</td>
<td>Second Punic War.</td>
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<td>218 BC</td>
<td>Romans defeated at Ticinus and Trebbia.</td>
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<tr>
<td>217 BC</td>
<td>Romans defeated at Lake Trasimene.</td>
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<td>216 BC</td>
<td>Romans defeated at Cannae Capua revolts.</td>
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<td>215 BC</td>
<td>Alliance of Carthage with Philip V of Macedon.</td>
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<td>214–205 BC</td>
<td>First Macedonian War.</td>
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<td>214 BC</td>
<td>Defection of Syracuse Romans expel Carthaginians from Saguntum.</td>
</tr>
<tr>
<td>213 BC</td>
<td>Hannibal enters Tarentum Romans besiege Syracuse.</td>
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<tr>
<td>212 BC</td>
<td>Romans besiege Capua.</td>
</tr>
<tr>
<td>211 BC</td>
<td>Hannibal marches on Rome (fails to prevent fall of Capua) Fall of Syracuse (Rome recovers Sicily) Cornelii Scipiones defeated and killed in Iberia.</td>
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<tr>
<td>210 BC</td>
<td>Scipio appointed to Iberian command Hannibal levels Herdonea.</td>
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<tr>
<td>209 BC</td>
<td>Tarentum recovered 12 Latin colonies refuse to supply troops Scipio takes New Carthage.</td>
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<tr>
<td>208 BC</td>
<td>Scipio defeats Hasdrubal Barca at Baecula (Hasdrubal leaves Iberia).</td>
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<tr>
<td>207 BC</td>
<td>Hasdrubal crosses the Alps (defeated and killed at Metaurus).</td>
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<tr>
<td>206 BC</td>
<td>Scipio's victory at Ilipa (end of Carthaginian resistance in Iberia) Masinissa defects to Rome.</td>
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</tbody>
</table>
205 BC Mago Barca lands in northern Italy.

204 BC Pact between Syphax and Carthage (marries Sophonisba)
Scipio lands in Africa (begins siege of Utica)
Masinissa joins Scipio.

203 BC Burning of winter camps near Utica
Scipio's victory at Great Plains (Hannibal and Mago recalled)
Capture of Syphax (bittersweet death of Sophonisba)
Defeat of Mago (dies en route to Africa)
Hannibal lands at Hadrumentum.

202 BC Hannibal marches to Zama (Scipio and Hannibal meet)
Scipio's victory at Zama.

201 BC Carthage reduced to client status
Triumph of Scipio (takes cognomen 'Africanus').

200–197 BC Second Macedonian War: Rome 'punishes' Philip V of Macedon.

200 BC Philip lays siege to Athens.

198 BC Philip retains Corinth.

197 BC Philip defeated at Kynoskephalai
Praetors raised to six (Hispania Citerior and Ulterior made Roman provinces).

196 BC Hannibal elected sufete (political and economic reforms in Carthage)
Rome proclaims Greek freedom.

195 BC Hannibal's flight and exile
Masinissa opens his raids on Carthaginian territory.

194 BC Romans evacuate Greece
Hannibal in court of Antiochos III of Syria.


191 BC Antiochos defeated at Thermopylai.

190 BC Seleukid fleet under Hannibal defeated by Rhodians
Antiochos defeated at Magnesia by Sipylos.

189 BC Romans plunder Galatia.

188 BC Peace of Apamea (Asia Minor and Aegean divided between Pergamon and Rhodes).

186–183 BC Pergamon–Bithynia War.
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<th>Event</th>
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<td>Exile of Scipio Africanus.</td>
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<td>185 BC</td>
<td>Death of Scipio Africanus.</td>
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<td>183 BC</td>
<td>Suicide of Hannibal.</td>
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<td>181–179 BC</td>
<td>First Celtiberian War.</td>
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<td>181 BC</td>
<td>Revolts in Sardinia and Corsica.</td>
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<tr>
<td>176 BC</td>
<td>Final reduction of Sardinia.</td>
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<tr>
<td>173 BC</td>
<td>Envoys sent to arbitrate between Carthage and Masinissa.</td>
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<td>172–168 BC</td>
<td>Third Macedonian War: Rome versus Perseus of Macedon.</td>
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<tr>
<td>168 BC</td>
<td>Perseus defeated at Pydna (end of Macedonian monarchy).</td>
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<tr>
<td>167 BC</td>
<td>Macedonia divided into four republics</td>
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<td></td>
<td>Romans plunder Epeiros (150,000 people enslaved)</td>
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<td></td>
<td>Polybios taken to Rome.</td>
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<tr>
<td>163 BC</td>
<td>Final reduction of Corsica.</td>
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<td>157 BC</td>
<td>Birth of Marius.</td>
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<td>154–138 BC</td>
<td>Lusitanian War.</td>
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<td>153–151 BC</td>
<td>Second Celtiberian War.</td>
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<tr>
<td>151 BC</td>
<td>Carthage declares war on Masinissa.</td>
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<tr>
<td>149–148 BC</td>
<td>Fourth Macedonian War.</td>
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<td>149–146 BC</td>
<td>Third Punic War.</td>
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<td>147–146 BC</td>
<td>Achaean War: the end of Greek independence.</td>
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<tr>
<td>147 BC</td>
<td>Scipio Aemilianus takes command in Africa</td>
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<td></td>
<td>(tightens siege of Carthage)</td>
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<tr>
<td></td>
<td>Macedonia made Roman province.</td>
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<tr>
<td>146 BC</td>
<td>Destruction of Carthage (Africa made Roman province)</td>
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<td></td>
<td>Sack of Corinth</td>
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<td></td>
<td>Triumph of Scipio Aemilianus (awarded cognomen ‘Africanus’).</td>
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<tr>
<td>143–133 BC</td>
<td>Third Celtiberian War: the fall of Numantia.</td>
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<tr>
<td>137 BC</td>
<td>Roman force entrapped and surrenders to Numantines.</td>
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<tr>
<td>133 BC</td>
<td>Numantia falls to Scipio Aemilianus</td>
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<td>Asia Minor made Roman province.</td>
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</table>
Second triumph of Scipio Aemilianus (takes cognomen ‘Numantinus’).

- **129 BC**: Death of Scipio Aemilianus.
- **121 BC**: Gallia Transalpina made Roman province.
- **112–106 BC**: Iugurthine War.
- **112 BC**: Fall of Cirta (murder of Adherbal).
- **111 BC**: Campaign of Bestia (settlement with Iugurtha).
- **110 BC**: Campaign of Spurius Albinus
  - Campaign and capitulation of Aulus Albinus.
- **109 BC**: Metellus takes command in Africa
  - Battle at the Muthul
  - Siege of Zama Regia.
- **108 BC**: Romans capture Thala
  - Romans occupy Cirta.
- **107 BC**: Marius takes command in Africa
  - Romans capture Capsa.
- **106 BC**: Battle at the Muluccha
  - Sulla arrives in Africa.
- **105 BC**: Bocchus’ betrayal of Iugurtha.
- **104 BC**: First triumph of Marius
  - Marian army reforms.

**ORIGINS OF THE MANIPULAR LEGION**

The stage in the development of the Roman army that concerns us here is associated traditionally with the name of Marcus Furius Camillus, a national hero credited with saving Rome from the Gauls and commemorated as a second founder of Rome. These so-called Camillan army reforms fall under three headings: first, the introduction of a daily cash allowance, the *stipendium*, for the citizen soldiers; second, the adoption of the *scutum* instead of the *clipeus* as the standard shield, while the *pilum* was substituted for the *hasta*; and third, the abolition of the hoplite phalanx which was replaced by the manipular legion, two in number, each of 3,000 legionaries, and each commanded by a consul (Livy 1.43.1, 5.7.5, 8.8.3, Plutarch Camillus 40.4).

That all these major changes were effected at the same time and under the guidance of one, quasi-legendary man is in itself improbable. Though the long siege of Veii (Isola Farnese) may well have necessitated the provision of remuneration to allow the citizen soldiers to meet their basic living expenses
while away from home for an increasingly lengthy period, the adoption of new equipment and a new tactical formation is much more likely the result of experience gained from a series of campaigns. The Italic oval shield, the *scutum*, was already being carried by some of the soldiers at this date, while some of them continued to be armed with the *hasta* for another 200 years or more. Further, it has been suggested that the *pilum* was copied by the Romans from their Samnite enemies (e.g. Sallust *Bellum Catilinae* 51.38), or alternatively they may have developed it from a more rudimentary weapon of their own. Then again, like the *gladius*, it was probably based on Iberian models. When all is said and done, it is likely that many piecemeal reforms was later lumped together and attributed to the wisdom of Camillus, who, after all, was the period’s most celebrated commander.

At first glance the *pilum* and *scutum*, and manipular tactics too, for that matter, do seem to hang together nicely. Thus it could be reasoned that they are all aspects of the same military reform: manipular tactics affirm strongly the use of *pilum* and *scutum*, and vice versa; hence the wisdom of Camillus. However, let us step back a bit and consider the following explanation instead. It is a time when Rome was a young republic, finding its feet and still a little unsteady. Nonetheless, when the Italian Greeks of Neapolis (Naples) appealed to the Romans against the Samnites, who had occupied their city with a garrison, the Second Samnite War (327–304 BC) was set in train. Described by Livy (books 7–10), this conflict was particularly hard-fought, and the Roman army was to suffer a serious and humiliating reverse at the Caudine Forks (321 BC). The unfavourable treaty that followed this defeat, a disaster to rank alongside the Allia rout, was soon broken when
Rome resumed the struggle (316 BC). Despite a number of setbacks and punishing defeats, Rome at length emerged triumphant (304 BC). It now controlled nearly all Samnium and had planted a handful of colonies in southern Campania and western Apulia.

This war with the Samnites had been one of attrition, and in this sort of grinding affair the advantage lay with the men of the stony mountains, who
were much tougher and more tenacious than the men of the plains. So the abandonment of the Greek-style phalanx organization and the introduction of the manipular system may have been learned through bitter necessity and hard experience, fighting in the rough, mountainous terrain of the central Apennines during this bruising conflict. Up to this point in time the hoplite phalanx had fought generally on coastal plains, and a war waged in hinterland mountains meant that Rome's militiamen were constantly at the mercy of ambushes, supply failures, missed rendezvous, or the rash overstretched of the line of march. The Roman phalanx might defeat the mountain men of Samnium in open country, but once they had to be tackled amid the broken ground of their homeland, they presented the Romans with a stiffer problem.

So it was plausibly during the five-year interval between the humiliation at the Caudine Forks and the resumption of hostilities that Rome's militiamen underwent comprehensive training in manipular tactics, employing smaller and more flexible units like those apparently used by the Samnites, though Livy, our source in this particular context, may be using Roman terminology for the sake of clarity (e.g. 8.30.11, 10.20.15, 40.6).

RECRUITMENT AND TRAINING

In our chosen period of study, the Roman army was based on the principle of personal service by the citizens defending their state. It was not yet a professional army. The term legio, meaning 'levy', referred to the entire citizen force raised by Rome in any one year, but by at least the 4th century BC it had come to denote the most significant subdivision of the army. Then, as Rome's territory and population increased, it was found necessary to levy two consular armies, each of two legions. Yet accompanying each Roman legion were soldiers provided by Rome's Latin and Italian allies, the socii (Polybios 6.26.7). Their principal unit was known as the ala, meaning 'wing', which deployed the same type and number of infantry as the Roman legion. By the time of Hannibal, if not before, in a standard consular army the two Roman legions would form the centre with two Latin-Italian alae deployed on their flanks – they were known as the 'ala of the left' and the 'ala of the right' (Polybios 6.26.9).

Dilectus
All citizens between 17 and 46 years of age who satisfied the property criteria – namely those who owned property above the value of 11,000 asses, the minimum requirement for enrolment into Class V (Livy 1.43.8) – were required by the Senate to attend a selection process, the dilectus, at the Capitol (Aulus Gellius Noctes Atticae 10.28). Although Polybios' passage is slightly defective here, citizens were liable for 16 years' service as a legionary, called a miles, or ten as a horseman, called an eques (Polybios 6.19.2). These figures represent the maximum that a man could be called upon to serve. In the 2nd century BC, for instance, a man was normally expected to serve up to six years in a continuous posting, after which he would be released from his military oath. Thereafter he was liable for enlistment, as an evocatus, up to the maximum of 16 campaigns or years. Some men might serve for a single year at a time, and be obliged to come forward again at the next dilectus, until their full six-year period was completed.
Rating himself as third after Alexander and Pyrrhos, Hannibal was overly modest. His victories over the Roman legions were certainly more impressive than those of Pyrrhos, and his strategic focus in Italy was much clearer. Though Alexander achieved spectacular far-reaching conquests, he did so using the superb Macedonian military machine created by his father, whereas Hannibal achieved his continuous run of successes with an ad hoc collection of polyglot, multicultural mercenaries. Neoclassical marble statue of Hannibal (Paris, musee du Louvre, inv. MR 2093) by Sebastien Slodtz and Francois Girardon, dated between 1687 and 1704. (Fields-Carre Collection)

At the dilectus, height and age arranged the citizens into some semblance of soldierly order. They were then brought forward four at a time to be selected for service in one of the four consular legions being raised that year. The military tribunes (tribuni militum, ‘tribunes of the soldiers’) of each legion took it in turns to have first choice, thus ensuring an even distribution of experience and quality throughout the four units. They then ordered the soldiers to take a formal oath, which was called a sacramentum. Though the
exact text of the oath is not given by Polybios, he does say a soldier swore that ‘he would obey his officers and carry out their commands to the best of his ability’ (6.21.1). Servius, a syntactician from the 4th-century AD, adds one intriguing detail: ‘they swore that they would act on behalf of the res publica’ (ad Aeneid 8.7). To speed up the process, the oath was sworn in full by one man, and then each of the others swore that he would do the same, perhaps using the phrase ‘idem in me’, meaning ‘the same for me’. They were given a date and muster point, and then dismissed to their homes.

Finally, and most briefly, in the aftermath of the crushing defeats at the Trebbia, Lake Trasimene, and Cannae, the Senate made the first of a number of alterations to the Servian constitution. In the dark days following Cannae, for instance, two legions were enlisted from slave volunteers (Livy 22.57.11, 23.32.1), who obviously must have been fitted out by the state. Around the same time there was an official debasement of the property threshold for Class V from 11,000 asses to 4,000 asses, for Polybios (6.19.2) reports that in his day the minimum property qualification for military service was set at 400 drachmae (4,000 asses). What is more, Cicero (De re publica 2.40), in an academic discussion that supposedly took place in the garden of Scipio Aemilianus and whose dramatic date is 129 BC, sets the minimum at 1,500 asses, a reduction that is best ascribed to Caius Gracchus during one of the two terms he served as one of the ten tribunes of the people, either in 123 BC or in 122 BC. This last figure represents a very small amount of property indeed, almost certainly insufficient to maintain an average-sized family. These revisions were an ongoing attempt to increase the number of citizens that qualified for military service (Gabba 1976: 7–10).

Exercise
The Romans obviously attached a great deal of importance to training, and it is this that largely explains the formidable success of their militia army. ‘And what can I say about the training of legions?’ is the rhetorical question aired by Cicero. ‘Put an equally brave, but untrained soldier in the front line, and he will look like a woman’ (Tusculanae disputatones 2.16.37). The basic goal of this training was to give the legions superiority over the ‘barbarian’ in battle, and, even as late as the 4th century AD, Vegetius attributed ‘the conquest of the world by the Roman people’ (1.1) to their training methods, camp discipline, and military skills. Having said all that, the Romans took

ENLISTMENT
In this reconstruction we witness citizens being selected by the military tribunes for service in one of the four consular legions. We are on the Capitol in Rome for the selection process, called the dilectus (‘the choosing’), which selected the best candidates from among those who presented themselves. The basic article of clothing for both military and civilian use was the tunic, usually white or off-white, though other earth colours (browns, tans, greys, greens, oranges and some reds) were available. This was a sleeveless woollen garment made of two rectangular pieces of cloth sewn together and closed with seams under the arms and down the sides. The seams were left unsewn on either side of the neck and held together by a bronze pin. Unbelted, the tunic would normally reach to mid-calf, but it was usual to blouse it out over a belt worn at the waist. Civilians would thus adjust their garment to a little below the knee, but it was a mark of a soldier to wear it much higher, at mid-thigh level. The military tribunes, on the other hand, are turned out in ‘parade uniform’: Etrusco-Corinthian or Attic style helmet with fore-and-aft crest; short decorated muscled bronze cuirass with two rows of fringed pteruges of white linen with plain fringing; waist sash, cloak, both scarlet, and linen tunic, bleached white and edged purple, thereby denoting their senatorial rank; Greek-style boots and a gladius suspended from the left hip from a sword belt.
Philip V of Macedon (r. 221-179 BC) had been an ally of Hannibal and, albeit having done little to support him, there was a sour feeling in Rome towards those who aided its foes. With Rome virtually on its knees, the king had seen this alliance as a golden opportunity to remove Rome’s influence over neighbouring Illyria, which he naturally saw as a threat to his own interests. In 198 BC a consular army of two legions and two alae was sent to teach him a sharp lesson. (Ancient Art & Architecture)

great pride in their ability to learn from their enemies too, copying war gear and tactics from successive opponents and often improving upon them. This was one of their strong points and, as Polybios rightly says, ‘no people are more willing to adopt new customs and to emulate what they see is better done by others’ (6.25.10).

While the gladius was designed for use as a stabbing weapon, it could still dismember opponents with its keen, two-edged blade. Yet the Romans saw the advantages of using the point of a gladius, and in training a recruit was taught to employ the thrust and not the slash. Needless to say, a specialized weapon required specialized training and the training methods adopted by the Romans are well described by Vegetius (1.11–12), who saw correctly that the problem with the army of his day was the neglect of disciplined legionary tactics. His military treatise, though composed in the late 4th century AD and despite its shortcomings, gives us a good insight into the physical realities of recruit training during our period:

1.11. The ancients... trained recruits in this manner. They made round wickerwork shields, twice the weight that a government shield normally was. They also gave the recruits wooden swords, likewise of double weight, instead of real swords. So equipped, they were trained not only in the morning but even after noon against posts. Indeed, the use of posts is of very great benefit to gladiators as well as soldiers.... Each recruit would plant a single post in the ground so that it could not move and protruded six [Roman] feet [i.e. 1.8m]. Against the post as if against an adversary the recruit trained himself using the wickerwork shield and wooden sword, just as if he were fighting a real enemy. Sometimes he aimed as against head and face, sometimes he threatened the flanks, and sometimes he tried to cut the hamstrings and legs. He gave ground, came on, sprang, and aimed at the post with every method of attack and art of combat, as though it were an actual opponent. In this training care was taken that the recruit drew himself up to inflict wounds without exposing any part of himself to a blow.

1.12. Further, they learned to strike not with the edge, but with the point. For the Romans not only easily beat those fighting with the edge, but also ridicule them, as a slash-cut, whatever its force, seldom kills, because both armour and bones protect the vitals. But a thrust driven two inches in is fatal; for necessarily whatever goes in penetrates the vitals. Secondly, while a slash-cut is being delivered, the right arm and flank are exposed; whereas a thrust is inflicted with the body remaining covered, and the enemy is wounded before he realizes it.... The wickerwork shield and wooden sword of double weight they gave out so that when the recruit took up real and lighter arms, he fought with more confidence and agility, as being liberated from the heavier weight.
Military training was tough even for the hardiest of citizens, and sword drill of this kind was alternated with running, jumping, swimming and the felling of trees. Additionally, three times a month, there were long route marches where the pace was varied from the normal marching rate to a rapid trot (Vegetius 2.23). Once the recruit, now bulked out with muscle and bursting with stamina, had attained a proper proficiency with the dummy weapons, he would begin training with the real thing. Formal training culminated in individual combat, with each recruit being assigned another as adversary. By the end of our period of study this more advanced stage of weapons training had a name, *armatura*, borrowed from the gladiator schools.

**The making of a legionary**

At first, service in the Roman army entailed a citizen being away from his home – invariably a small farmstead – for a few weeks or months over the summer. But the need to fight overseas and to leave troops to form permanent garrisons in newly won provinces meant that men were away from home for longer periods. This interruption from normal life could easily spell ruin for the soldier farmers who had traditionally made up the bulk of citizens eligible for military call-up. Hopkins (1978: 35) estimates that in 225 BC legionaries comprised 17 per cent of all the adult male citizens, and in 213 BC, at the height of the war with Hannibal, 29 per cent. Inevitably, what had been seen as a duty and voluntary obligation took on a somewhat different character.

That said, there existed from at least 200 BC onwards a core of near-professionals, very experienced and well-trained legionaries who liked the adventure and the risks of soldiering, or who had few, if any, domestic ties and who were more than glad to volunteer for the army over a number of years. To indicate the compass of Roman campaigning and the wide-ranging experience of legionaries from this period, we can do no better than turn to Livy (42.34.5–19).
11) and use the frequently quoted example of the citizen soldier of Sabine stock, Spurius Ligustinus, in whose mouth Livy puts the following words:

I joined the army in the consulship of Publius Sulpicius and Caius Aurelius [200 BC]; and served for two years in the ranks in the army, which was taken across to Macedonia in the campaign against King Philip [i.e. the Second Macedonian War, 200–197 BC]. In the third year Quinctius Flamininus promoted me, for my bravery, centurion of the tenth maniple of hastati. After the defeat of Philip and the Macedonians [at Kynoskephalai, 197 BC], when we had been brought back to Italy and demobilized, I immediately left for Iberia as a volunteer with the consul Marcus Porcius [i.e. Cato, cos. 195 BC]. Of all the living generals none has been a keener observer and judge of bravery than he, as is well known to those who through long military service have had experience of him and other commanders. This general judged me worthy to be appointed centurion of the first century of hastati. I enlisted for the third time, again as a volunteer, in the army sent against Aetolians and King Antiochus [i.e. Syrian War, 192–189 BC]; Marcus Acilius appointed me centurion of the first century of the principes. When Antiochus had been driven out and the Aetolians had been crushed [at Thermopylai, 191 BC], we were brought back to Italy; and twice after that I took part in campaigns in which the legions served for a year. Thereafter I saw two campaigns in Iberia [i.e. First Celtiberian War, 181–179 BC], one with Quintus Fulvius Flaccus as praetor, the other with Tiberius Sempronius Gracchus in command. Flaccus brought me back home with the others whom he brought back with him from the province for his triumph, on account of their bravery; and I returned to Iberia because I was asked to do so by Tiberius Gracchus. Four times in the course of a few years I held the rank of centurio primi pili [i.e. centurion of the first century of the triarii]; 34 times I was rewarded for bravery by the generals; I have been given six civic crowns [coronae civicae]. I have completed 22 years of service, and I am now over 50 years old.
The stout, grubby old veteran Ligustinus was making a plea to the consuls of 171 BC to ensure that he received an appointment appropriate to his experience and status. Albeit highly rhetorical, Ligustinus' speech does give us a glimpse of the nature of distant and chaotic engagements fought by the army of the 2nd century BC. After his initial six years of service in Macedonia, he had re-enlisted as a volunteer, and served in Iberia, Greece, Asia, and perhaps elsewhere for a further 16 years. We may hazard a guess and say that he not only collided against the pikes of Macedonian phalangites and stood firm against the stampeding elephants of a Seleukid monarch, but also fought dirty little wars against tribal insurgents across the Pyrenees. And herein lay the Roman genius, namely, the canny knack of finding a way to take a humble peasant farmer like Ligustinus and turn him into a more efficient killing machine than any other in the Mediterranean world.

**Organization**

We have two accounts of the manipular legion's organization. First, the Roman historian Livy, writing more than three centuries after the event, describes the legion of the mid-4th century BC. Second, the Greek historian Polybios, living and writing in Rome at the time, describes the legion of the mid-2nd century BC. The transition between the Livian and Polybian legion is somewhat obscure, but for the sake of brevity and clarity, we shall concern ourselves with the Polybian legion. Indeed, for the actual organization of the manipular legion, *terra firma* is reached only with Polybios himself, who breaks off his narrative of the Second Punic War at the nadir of Rome's fortunes, following the triple catastrophes of the Trebbia, Lake Trasimene, and Cannae, and turns to an extended excursus on the causes of Rome's greatness, namely its 'mixed constitution' (6.11-18) and the instrument of power used to carry out its policies, the army (6.19-42). His lengthy analysis remains the clearest and most concise account of those twin institutions to this day. Polybios had no doubts that the Romans of his own and earlier times wanted to grow from a puny riverine hamlet to a powerful world empire. He was still only a boy at the time of the battle of Zama (202 BC) but when his friend Scipio Aemilianus decided to destroy Carthage (146 BC) he was there with him. For Polybios the triumph of Rome was somehow decreed by destiny, the result of a savage law of nature.

**Legio**

The standard complement of the Polybian legion was 4,200 infantry and 300 cavalry, in theory if not in practice (6.20.8–9). Elsewhere, Polybios refers to the standard complement of 4,000 infantry and 300 cavalry...
The eight legions (and an equal number of alae) mobilized for the Cannae campaign were not expected to lose, much less to be annihilated. Yet on the plain of Cannae the Romans were poorly deployed, as it made no sense for the legions to mass like old-fashioned phalanxes. Crammed like sardines, individual legionaries lost open space and the crucial ability to use their pilum and gladius with advantage. Panoramic view of the battleground, seen here with the 19th-century monument commemorating that tragic day. (Jörg Schulz)

(1.16.2) and of 4,000 infantry and 200 cavalry (3.107.10), and does suggest that there were sometimes fewer than 4,000 infantry per legion (6.21.10). The legion, whatever its strength with regard to ‘boots on the ground’, consisted of five elements: the heavy infantry comprising the hastati, principes, and triarii; the light infantry, velites (grosphomachoi in Polybios’ Greek); and the cavalry, equites – each equipped differently and having specific places in the legion’s tactical formation. Its principal strength was the 30 maniples (manipuli) of its heavy infantry, the velites and equites acting in support of these, the velites being normally flung out in front of the main battle line at the outset of battle, and the equites detached to operate on its wings. Its organization allowed it only one standard formation, the tripexus acies with three successive, relatively shallow lines of ten maniples each, these fighting units supporting each other to apply maximum pressure on an enemy to the front.

The legion was therefore divided horizontally into three lines, and vertically into maniples. The first line contained 1,200 hastati in ten maniples of 120, the second line 1,200 principes organized in the same way, and the third line of 600 triarii also in ten maniples. The hastati were men in the flower of youth, the principes in the prime of manhood, and the triarii the oldest and more mature men (Polybios 6.21.7). The same order for the three lines appears elsewhere in Polybios’ narrative (14.8.5, 15.9.7) and in Livy’s also (30.8.5, 32.11, 34.10), as well as in other antiquarian sources (e.g. Varro de lingua Latina 5.89). Of the 4,200 legionaries in a full-strength Polybian legion, while 3,000 served as heavy infantry, the remaining 1,200 men, the youngest and poorest, served as light infantry. Known as velites or ‘cloak-wearers’, as they lacked any form of body armour, they were divided for
administrative purposes among the heavy infantry of the maniples, each maniple being allocated the same number of velites (Polybios 6.21.7, 24.4). Finally, six military tribunes were attached to each legion, there being no legionary officer with a regular rank in overall command.

**Manipulus**

Whereas both hastati and principes normally had 120 legionaries to a manipulus, the triarii mustered only 60. The term manipulus, 'a handful', derived from the handful of straw suspended from a pole as a military standard and, hence, soldiers belonging to the same unit. With the adoption of the manipular legion it became the basic fighting unit of the Roman army. Organized into two centuries, each century carried its own standard (signum) and was led by a centurion (centurio). Each centurio was supported by four subordinates, a second-in-command (optio), a standard-bearer (signifer), a trumpeter (tubicen), and a guard commander (tesserarius). Though Polybios does not mention the last two junior officers in his analysis of the legion, he does mention them when he discusses Roman camp security (6.34.7-12, 35.5). The optio stood at the rear of the centuria, to keep the men steady and in place, while the tesserarius supervised the posting of the nightly sentries and was responsible for distributing the daily watchword, which he received inscribed on a token (tessera).

Polybios says the centurions ‘choose from the ranks two of their bravest and most soldierly men to be the standard-bearers for each maniple’ (6.24.5). As there was only one signum per maniple, however, one of the signiferi was evidently a substitute should anything befall the other. He also says each maniple had two centurions so that the unit ‘should never be without a leader and commander’ (6.24.6). As the maniple rather than the century was the tactical unit, the centurio prior, the first of the two to be appointed, was responsible for commanding the maniple as a whole in battle, the centurio posterior only taking over if he was incapacitated.

Centurions were either appointed by the military tribunes, or elected from amongst the ordinary soldiers, the milites. They were usually chosen from experienced and proven soldiers, steady rather than especially bold men, and they had to be literate. Though of the same social background as the men they led, the senior centurion of the legion, commander of the first maniple of the triarii and ranked centurio primi pili, was included ex officio along with the tribunes in the consul’s war council. Such men could be very experienced indeed.

With 60 heavy legionaries (hastati, principes) to a centuria there were only three practical formations: three deep, six deep and 12 deep. These were each formed by doubling the previous formation. The basic six-by-ten formation is confirmed by the normal marching order of six abreast, and when the 20 velites attached to each centuria were added, we arrive at the standard of eight men to a file (cf. Greek system of using multiples of eight). Known as

The Etrusco-Corinthian helmet was another Italic pattern commonly used by legions, and it is particularly associated with the triarii and senior officers. This 4th- or 3rd-century example from southern Italy is without cheek pieces, but it still retains the characteristic crest holder. Developed from the Corinthian type much used by Greek hoplites, this pattern was worn on top of the head jockey fashion, while preserving the now redundant eyeholes and nasal guard of the original facial area for decoration. (Claire H.)
Silver tetradrachm of Graeco-Bactrian King Eukratides I (r. 171–145 BC). The obverse (left) shows the king wearing a crested Boiotian helmet, which can best be described as a bronze riding hat with a downturned brim that has been bent into elaborate folds. For cavalry use it had the advantage that the face was open and the wearer could hear commands without difficulty. The Boiotian helmet was usually hammered out from one piece of sheet bronze. (Bibi Saint-Pol)

A contubernium, ‘a tentful’, the members of a file shared a tent, and living in close proximity to each other for long periods would have promoted solidarity and encouraged comradeship – what modern commentators call small-group dynamics, the heart of which is commitment to one’s comrades in the group, rather than commitment to loftier ideals.

In battle a manipulus would thus normally deploy six (hastati, principes) or three (triarii) deep, and in order to give each man room to use his weapons he would have, if we are to believe Polybios (18.30.5–8), a frontage of 6 Roman feet (1.8m) as well as an equivalent depth, which corresponds to the late Hellenistic tactician Asklepiodotos’ ‘most open order, in which the men are spaced both in length and depth 4 cubits (1.84m) apart’ (Têchne Takitê

TRAINING

The basic aim of training is the creation of that ephemeral quality, esprit de corps, a soldier’s confidence and pride in himself and his unit. Personal bravery of a single individual does not decide the issue on the actual day of the battle, but the bravery of the unit as a whole, and the latter rests on the good opinion and the confidence that each individual places in the unit of which he is a member.

Roman swordsmanship was a fully developed art with a comprehensive system of practices and techniques, and it was in our period that the basic system of training in the use of the gladius was developed and refined. Basic swordsmanship techniques can be divided into three major groups: cuts, thrusts and parries. The training programme for legionaries was both rigorous and continuous. It was based upon repeated drills, which not only developed the outer factors of the art (viz. technique, accuracy), but the inner ones (viz. control, balance) too. The use of an exercise sword made of hardwood greatly increased the range of practice, and even hardened veterans of countless battles were supposed to submit themselves to the punishing ordeal of bouts with dummy swords. The competition through direct confrontations and continual testing of abilities must have been merciless. It is not surprising, then, to see the dummy sword itself becoming a weapon with nasty possibilities in the hands of an expert who knew how to concentrate the full force of his jabs upon the vital parts of his opponent’s anatomy.

In this reconstruction we witness legionaries undergoing weapons training under the instruction of their centurions. We are in one of the permanent camps outside of Numantia, Iberia. The legionaries are in ‘undress uniform’: bleached white belted tunic, broad and full, gathered at the waist and just above the knee, and military belt. Some of them are matched in pairs and are fighting with wooden swords, while others practise casting ‘live’ pilae at bales of straw. The centurion instructors are in ‘barrack dress’: various patterns of helmet (a matter of choice) but each adorned with a large, transverse horsehair crest dyed dull red; long, iron mail shirt; gnarled vine-stick, vitis, which served as a mark of rank and as a means of inflicting punishment upon lackadaisical soldiers.
Attic helmet (Malibu, Getty Villa, inv. 93.AC.27) from southern Italy, around 350-300 BC. Fine details added in relief and incised include a diadem over which locks of hair curl, while more curls beautify the hinged cheek pieces. The crown of the helmet carries a griffin’s head and wings, and spiralled feather holders. Because the Attic allowed its wearer to see and hear reasonably well, it seems to have been popular with those who fought in a fluid fashion, such as the equites and the velites. (Marshall Astor)

4.1). On the other hand, Vegetius (3.14, 15), who appears to be using Cato as his source here, claims that the individual legionaries occupied a frontage of 3 Roman feet (0.9m) and a depth of a Roman foot (0.3m), with a depth of 6 Roman feet (1.8m) between ranks. This close-order formation corresponds to Asklepiodotos’ ‘intermediate compact formation, in which they are distant 2 cubits (0.92m) from one another on all sides’ (Techne Taktike 4.1), and gives a manipulus a frontage of approximately 18m and a depth of 12m (hastati, principes) or 6m (triarii).

**Turma**

Attached to each legio was a small cavalry detachment, some 300 strong and divided into ten tactical subunits known as turmae. With a nominal strength of 30 troopers, each turma was organized, probably for administrative purposes only, as three smaller subunits (Polybios 6.20.8–9, 25.1, cf. 2.24.13, Livy 3.62). The military tribunes appointed three decuriones to each turma, of whom the senior commanded with the rank of praefectus. Each decurio chose an optio as his second-in-command and rear-rank officer (Polybios 6.25.1–2). This organization suggests that the turma was divided into three files of ten, each led by a decurio (‘leader of ten’) and closed by an optio. These files were obviously dependent tactical subunits, for the turma was evidently intended to operate as a single entity, as indicated by the seniority of one decurio over his two colleagues.

The cavalry or equites formed the most prestigious element of the legion, and were recruited from the wealthiest citizens able to afford and maintain a horse and its trappings (Polybios 6.20.9). By our period these included the top 18 centuries (centuriae) of the voting assembly, the comitia centuriata, who were rated equites equo publico, the equestrian elite, obliging the state to provide them with the cost of a remount should their horse be killed on active service. Cato was later to boast that his grandfather had five horses killed under him in battle and replaced by the state (Plutarch Cato major 1.3). Being young aristocrats, the equites were enthusiastic and brave, but better at making a headlong charge on the battlefield than patrolling or scouting. This was a reflection of the lack of a real cavalry tradition in Rome, as well as the fact that the equites included the sons of many senators, eager to create a reputation for courage and so help their future political careers. Before being eligible for political office in Rome a man had to have served for ten campaigns with the army.
EQUIPMENT AND APPEARANCE

The basic model of legionary armour consisted of protective equipment for the head, the upper chest, and the lower legs. The need for protection was balanced by the need for mobility. Nonetheless, those who had the means to do so increased their protection by donning protective equipment for the shoulders, the lower chest and the lower abdomen too.

The Polybian hastati and principes carried the Italic oval, semi-cylindrical body shield, conventionally known as the scutum; the Iberian cut-and-thrust sword, the gladius Hispaniensis; and two sorts of pila, heavy and light. His triarii were similarly equipped, except that they carried a long thrusting spear, the hasta, instead of the pilum (Polybios 6.23.6). This weapon obviously survived from the era when the Roman army was a hoplite militia. Dionysios of Halikarnassos, who calls them ‘cavalry spears’ (20.11.2), says hoplite spears were still being employed in battle by the principes during the war with Pyrrhos. The hasta was perhaps obsolete in Polybios’ day, though probably still in use during the tumultus Gallicus of 223 BC, when it is, for the only time, mentioned in action (Polybios 2.33.4), while the annalistic tradition does not notice it at all.

Helmet (galea)
A legionary’s head, no matter his wealth, was well protected by a helmet, which fitted snugly over his cranium. Polybios says (6.23.14) that legionaries wore a bronze helmet but he does not describe it. However, we know that the Attic, Etrusco-Corinthian and Montefortino styles were all popular in Italy at this time and were probably all used, as they certainly all were by later Roman troops. Polybios does say (6.23.12–13) that helmets were crowned with three upright purple or black feathers one cubit (44.4cm) tall, exaggerating the wearer’s height. We shall look at just two patterns, the Attic and the Montefortino.

The Attic style of helmet seems to have evolved from the ‘Chalcidian’ helmet, so named after ‘Chalcidian’ vases of the late 6th century BC, when it first appeared. With good ventilation, the facility for unipaired hearing and vision, and without sacrificing too much facial protection, this had been a very popular helmet in its original form. However, improved versions with a cranial ridge for better protection and hinged cheek pieces for better ventilation appeared.
Mausolee de Glanum, Saint-Remy-de-Provence, a funerary monument of the luli dated to 30–20 BC. In this relief (pedestal, east face) we see a battle based on the Trojan War (struggle for Patroklos’ corpse). Of interest are the variety of helmet patterns. These reflect those worn by legionaries of our period, namely Attic, Montefortino, Etrusco-Corinthian and Boiotian. Note the more exotic crests crowning some of the helmets. (Maarjaara)

The nasal guard also became smaller and disappeared entirely from some helmets, giving rise to the Attic style in which the only vestige of the nasal piece was an inverted ‘V’ over the brow. This type was extremely popular throughout the Italian Peninsula. Crests, if worn, were most often white, red-brown or black, made from natural horsehair, but could also be dyed.

The Montefortino pattern evolved around the turn of the 4th century BC and was to prove extremely popular with the Romans, probably being adopted by them from the Senonian Gauls (Cascarino 2007: 104). The bulbous-shaped helmet was held in place by leather thongs that ran from rings under the protecting neck guard, crossed under the chin and attached to metal loops, hooks or studs on the lower part of each cheek piece. Though

FIRST-LINE LEGIONARY, HASTATUS

In this reconstruction we show a hastatus, in fighting order, from the time of the Pyrrhic War. He is a citizen of few means: he wears an unadorned Montefortino helmet and possesses no body armour, no greaves and is barefooted. A bronze pectoral plate (about 20cm square) is strapped across his upper chest. He carries an oval-shaped body shield, or scutum, with metal binding on the top and bottom and a sheet-metal boss plate (copper alloy or iron), which reinforces the wooden spindle boss. He is holding two pilæ, one heavy and one lightweight. An Iberian-pattern cut-and-thrust sword (a straight-bladed, sharp-pointed weapon from which the celebrated Roman gladius Hispaniensis would evolve) is carried in its scabbard high on the right hip. He wears an undyed woollen tunic. It is threadbare and patched.

It is worth noting that the term hastati, spearmen, should be taken to mean armed with throwing spears, namely pilae, instead of thrusting ones. This is, after all, the sense it bears out in our earliest surviving example of it, in Ennius’ line ‘hastati spargunt hasti’, meaning ‘hastati who hurl hasti’ (Annales fr. 284 Vahlen), and their name probably reflects a time when they alone used pilae.

1. Montefortino helmet
2. bronze pectoral
3. two pilæ (one heavy, one lightweight)
4. Iberian-pattern sword
5. Italic scutum
Based on a Celtic design, the Montefortino helmet was basically a hemispherical bronze bowl beaten into shape, with a narrow peaked neck guard and an integral crest knob, which was filled with lead to secure a crest pin. Such helmets also frequently had large, scalloped cheek pieces, as does this 3rd-century example (Bologna, Museo Civico Archeologico di Bologna inv. 28233). It comes from a burial site (Benacci tomba 953) of a Cisalpine Gaulish warrior. (Fields-Carre Collection)

One of the commonest designs throughout Italy, the Montefortino helmet offered good defence from downward blows. Large cheek pieces protected the face without obscuring the wearer’s vision or hearing, and those of this 3rd-century Samnite example (Karlsruhe, Badisches Landesmuseum, inv. AG 197) are identical in design to the triple-disc cuirass peculiar to an Oscan warrior. (Fields-Carre Collection)

Reconstruction caligae, worn by a member of legio XV Apollinaris cohors I. Caligae were heavy-soled hobnailed footwear worn by all ranks up to and including centurions. Though they look to us like sandals, they were in fact marching boots. The open design allowed for the free passage of air (and water) and, unlike modern military boots, was specifically designed to reduce the likelihood of blisters forming, the bane of all fighting soldiers, as well as other incapacitating foot conditions such as trench foot. (MatthiasKabel)

The neck guard was narrow, a blow on the side would have knocked the helmet entirely out of place if it was not well secured. Cheek pieces were hinged. A crest, either a flowing horsehair plume or three upright feathers, was attached by means of a pin to an integral knob at the apex with a hollow filial. This was filled with lead once the crest pin was inserted.

Hobnailed boots (caligae)
The standard form of military footwear for all troop types, caligae consisted of a fretwork upper, an insole and a sole. The 20mm-thick sole was made up of several layers of oxhide glued together and studded with conical iron hobnails. Weighing a little under a kilogramme, the one-piece upper was laced...
up the centre of the foot and onto the top of the ankle with a leather thong, the open fretwork providing excellent ventilation that would reduce the possibility of blisters. Later sculptural evidence shows that thick woollen socks (*undones*), open at toe and the heel, could be worn within the boot.

The hobnails served to reinforce the *caligae*, to provide the wearer with better traction and to allow him to inflict harm by stomping. Moreover, the actual nailing pattern on the sole was arranged very ergonomically and anticipated modern training-shoe soles in being designed to optimize the transferral of weight between the different parts of the foot when it was placed on the ground. Experiments with modern reconstructions have demonstrated that, if properly fitted, the *caliga* is an excellent form of footwear, and can last for hundreds of kilometres. Much like all soldier’s equipment past and present, *caligae* would have needed daily care and attention, such as the replacement of worn or lost hobnails or the cleaning and buffing of the fretwork upper.

**Body armour (*lorica*)**

Polybios says (6.23.15) that all soldiers wore a bronze pectoral, which was a span (223mm) square, to protect the heart and upper chest, although those who could afford it would wear instead an iron mail shirt (*lorica hamata*).
Close-up view of a replica Roman mail shirt. Combining strength with flexibility, mail consisted of a matrix of alternatively riveted and solid iron rings, each being linked through its four neighbours. Very laborious to make, the problem was partly overcome by the introduction of alternate rows of solid rings, which did not need to be riveted. The ‘rivet’ to secure the flattened ends of riveted rings was a small triangular chip of metal, closed with a pair of tongs with recessed jaws. (Matthias Kabel)

The sides of a pectoral were undoubtedly pierced with holes for the stitching of a leather backing and the attachment of leather straps to hold it in place across the upper chest. To date no actual examples of the square pectoral have been found, though a round version has been recovered near Numantia with a diameter of 17cm. So it seems likely that the old Italic round models (viz. disc armour) were still very much in circulation, and less well-off citizens probably wore these too.

Varro (de lingua Latina 5.4.116) attributes the invention of mail to the Gauls. It was normally made of iron rings, on average about 1mm thick and 3–9mm in external diameter, it took some 10,000–20,000 rings to make a mail shirt. The wearer’s shoulders could be reinforced with ‘doubling’, of which there were two types. One had comparatively narrow shoulder ‘straps’, imitating those of the Graeco-Etruscan linen corselet, and a second pattern, probably derived from earlier Celtic patterns, in the form of a shoulder cape. The second type required no backing leather, being simply drawn around the wearer’s shoulder girdle and fastened with S-shaped breast hooks, which allowed the shoulder cape to move more easily.

Mail had two very considerable drawbacks: it was extremely laborious to make, and while it afforded complete freedom of movement to the wearer, it was very heavy (10–15kg). Nonetheless, such armour was extremely popular with the soldiers. A mail shirt was flexible and essentially shapeless, fitting more closely to the wearer’s body than other types of armour. In this respect it was comfortable, whilst the wearing of a waist belt helped to spread its considerable weight, which would otherwise be carried entirely by the shoulders. Mail offered reasonable protection, but could be penetrated by a strong thrust or an arrow fired at effective range. Finally, and from a more workaday perspective, the action of ring rubbing against ring meant that mail shirts were pretty much self-cleaning.

**Greaves (ocreae)**

Though not fatal in itself, a blow to the shins could prove debilitating enough to allow a legionary’s guard to slip, thus opening him up for a killing blow. Though cumbersome and hot to wear, greaves protected the shins well. Interestingly, Polybios (6.23.8, cf. Livy 9.40.2) clearly refers to only one
greave being worn, and Arrian (Ars Tactica 3.5), writing more or less three centuries later, confirms this, saying that the ancient Romans used to wear one greave only, on the leading leg, the left, whereas Vegetius (1.20), writing a couple of centuries even later, puts the single greave on the right leg. Without doubt many of those who could afford it would actually have a pair of greaves covering each leg from ankle to knee (see photograph on page 27). Italic-style greaves, as opposed to Graeco-Etruscan ones, were often fastened by straps and not their own elasticity.

**Heavy javelin (pilum)**

In the Livian legion there is no reference to the pilum, which, if Livy’s account is accepted, may not yet have been introduced. The earliest reference to the pilum belongs to 293 BC, during the Third Samnite War (Livy 10.39.12, cf. Plutarch Pyrrhos 21.9), though the earliest authentic use of this weapon may belong to 251 BC (Polybios 1.40.12). The pilum, therefore, was probably adopted by the Romans who had experienced the deadly efficiency of this weapon when it was used against them by Iberian mercenaries fighting for Carthage in the First Punic War (264–241 BC).
Some of the 60 pilum heads recovered from the site of Telammon, probably deposited as a votive offering in a local temple after the battle. The pilum was employed by legionaries as a short-range shock weapon; it had a maximum range of 30m or thereabouts, though in all likelihood it was discharged within 15m of the enemy for maximum effect. The armour-piercing capability of the pilum made it an effective missile weapon, deadly to both armoured and unarmoured opponents alike. Indeed, a pila volley delivered at less than 20m could be devastating both physically and morally. (After Vacano 1988: abb. 5, taf. xi)

Polybios distinguishes between two types of pilum (byssos in his Greek), ‘thick’ and ‘thin’, saying that each man had both types (6.23.9-11). Surviving examples from Talamonaccio (ancient Telamon, Etruria), the site of a Roman battle (225 BC), and Numantia (near modern Burgos, Castile), the site of a Roman siege (134–133 BC), confirm two basic types of construction. Both have a small pyramid-shaped point at the end of a narrow soft-iron shank,

**THIRD-LINE LEGIONARY, TRIARIUS**

In this reconstruction we show a triarius, fully equipped for campaign, from the time of the Hanniballic War. He is a citizen of substance, a battle-scarred veteran. He wears an Etrusco-Corinthian helmet, a peculiar and perverted development of the closed Greek Corinthian helmet commonly worn by hoplites. For battle this was usually adorned with upright feathers (purple or black) and a fore-and-aft horsehair crest (undyed), but these have been removed for the march. He has equipped himself with a long, iron mail shirt and Italic strap-on bronze greave on his left leg, though many triarii would equip themselves with a pair. He carries an oval-shaped body shield, or scutum, with metal binding top and bottom and a metal boss plate (copper alloy or iron), which is reinforcing the wooden spindle boss. He is gripping with his right hand an old-style long thrusting spear, or hasta, with a large, socketed iron spearhead and a bronze butt-spike. A gladius is carried in its scabbard high on the right hip, as is a pugio on the left hip. He wears an undyed woollen tunic and a pair of caligae. He also wears a form of coarse woollen hooded cloak, the poncho-like paenula, commonly worn by everyone, soldiers and civilians, rich and poor, in inclement weather. Invariably of a yellow-brown hue, the body is cut from a single piece of cloth, to hang with a straight lower edge. It is fastened down the front, to mid-chest level, with two button-and-loop fastenings and two bone or wooden toggles. Its pointed hood has been sewn on separately. It is travel-stained. Behind him grazes a mule carrying the leather tent, digging tools, quern stones and pots and pans of the triarius’ eight-man contubernium.
What Greeks called the *saumion* was a distinctive Iberian weapon, a slim javelin, about 1.6–2m long, made entirely from iron (Latin *soliferreum*), with a small barbed head and a pointed butt. According to Strabo (5.4.12) it could punch through helmet, shield or body armour, and then embed itself in flesh or bone. Another type had an iron shaft tipped with a barbed head, around 20–30cm long, riveted to a wooden shaft. It was thus similar to the Roman *pilum*, and may have served as a model for it. In this collection of Iberian weapons (Alicante, Museo Arqueologico de Alicante) we see an example of the *soliferreum*.

A member of the Tarragona-based re-enactment group *LEGO PRIMA GERMANICA* equipped as a veteran citizen soldier, a *triarius*, from the time of the war with Hannibal. As we can see, the third line of the manipular legion still wielded the old hoplite spear (Greek *doru*, Latin *hasta*), a weapon for thrusting, not throwing. (Photograph courtesy of Graham Sumner)

The principal weapon of the *triarii* was a long thrusting spear. Fashioned out of polished ash wood and some 2–2.5m in length, this spear, which was a relic of the era when the Roman army was a hoplite militia, was equipped with a socketed iron spearhead, often between 20cm and 30cm long, and a bronze butt-spike. As well as acting as a counterweight to the spearhead, the butt-spike allowed the spear to be planted in the ground when not in use (being bronze it did not rust), or would be used to fight with if the spear shaft fitted to a one-piece wooden shaft some 1.4m in length. For the latter, ash was the preferred wood, though hazel, willow, poplar and alder were also used. One type had the shank socketed, while the other had a wide flat iron tang riveted to a thickened section of the wooden shaft. The last type was probably Polybious’ ‘thick’ *pilum*, referring to the broad joint of iron and wood. This broad section could be either square or round in section, and was strengthened by a small iron ferrule. The iron shank varied in length, with many examples averaging around 70cm.

All of the weapon’s weight was concentrated behind the small pyramidal tip, giving it great penetrative power. The length of the iron shank gave it the reach to punch through an enemy’s shield and still go on to wound his body. A useful side effect of this ‘armour piercing’ weapon was that the narrow shank tended to buckle and bend under the weight of the shaft. With its aerodynamic qualities destroyed, it could not be effectively thrown back, while if it lodged in a shield, it became extremely difficult to pull free, which probably forced the man to discard his weighted-down shield and fight unprotected. Modern experiments have shown that a *pilum*, thrown from a distance of 5m, could pierce 30mm of pine or 20mm of plywood. The maximum range of the *pilum* was some 30m, but its effective range was something like half that. Throwing a *pilum* at close range would have improved both accuracy and armour penetration.

**Hoplite spear (hasta)**

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snapped or shattered in the mêlée. The main drawback of the spear was of course the inherent weakness of the wooden shaft.

In close-quarter combat the weapon was usually held over the right shoulder, poised for an overarm strike, although it could be conveniently thrust underarm if charging into contact at the run. In both cases the wielder needed to keep his elbows tucked close to the body so as not to expose the vulnerable right armpit. The primary target area for the weapon was the face, which was neither armoured nor shielded. Secondary target areas were the throat and right armpit, which were usually exposed and poorly armoured. Hits on all these areas were potentially crippling if not fatal. The centre of the shaft was bound in cord or a thong for a secure grip.

The retention of the hasta as the offensive arm of the triarii shows that the Romans were not yet entirely convinced of the superiority of the pilum in all tactical circumstances, but still preferred to depend on the thrusting spear for the final push in the attack, and conversely, in the event of the need for a last stand.

Short sword (gladius)
Sometime in the 3rd century BC the Romans adopted a long-pointed, double-edged Iberian weapon, which they called the gladius Hispaniensis ('Iberian sword'). A later lexicographer, possibly following Polybios' lost account of the Iberian war, says the gladius Hispaniensis was adopted from the Iberians (or Celtiberians) at the time of the war with Hannibal, but it is possible that this weapon, along with the pilum, was adopted from Iberian mercenaries serving Carthage during the First Punic War (Polybios fr. 179 with Walbank 1957: 704). It was certainly in use by 197 BC, when Livy (31.34.4) described the shock of the Macedonians, who were disciplined professionals, when they saw the terrible wounds it inflicted. The Iberians used a relatively short, but deadly, sword. This was either the falcata, an elegant curved single-bladed weapon derived from the Greek kopis, most common in the south and south-east of Iberia, or the cut-and-thrust, straight-bladed weapon from which the gladius was derived (Polybios 3.114.2–4, Livy 22.46.6).

The earliest Roman specimens date to the turn of the 1st century BC (Mouries, Delos), but a 4th-century sword of similar shape has been found in Spain at the cemetery of Los Cogotes (Avila), as has an earlier Iberian example from Atienza some 100km north-east of Madrid. The Roman blade could be as much as 64–69cm in length and 4.8–6cm wide, and waisted in the centre. It was a fine piece of 'blister steel' with a triangular point between 9.6cm and 20cm long, with razor-sharp edges, and was designed to puncture armour. It had a comfortable bone handgrip grooved to fit the fingers, and a large spherical pommel, usually of wood or ivory, to
Unusually, a legionary carried his sword on the right-hand side, and it was suspended from a leather belt (cingulum) worn around the waist. As opposed to a scabbard-slide, the four-ring suspension system on the scabbard enabled the legionary to draw his weapon quickly with the right hand, an asset in close-quarter combat. By inverting the right hand to grasp the hilt and pushing the pommel forward, he drew the *gladius* with ease, and without unnecessary exposure of his right arm.

**Military dagger (pugio)**

The legionary also carried a dagger, called a *pugio*. It had a short, edged, stabbing blade, and was a weapon of last resort. However, it was probably more often employed in the day-to-day tasks of living on campaign. Carried on the left-hand side and suspended on the same waist belt that carried the sword, the *pugio* was slightly waisted in a leaf-shape and some 20–25.4cm long. The choice of a leaf-shaped blade resulted in a heavy weapon, to add...
momentum to the thrust. Like the *gladius*, the Roman dagger was borrowed from the Iberians and then developed further. It even had the four-ring suspension system on the scabbard, characteristic of the *gladius*.

**Body shield (scutum)**

In an ideal world a shield should be large enough to cover the body, thick enough to be impenetrable, and light enough to permit ease of movement. In practice, of course, only two of these factors are achievable. The Romans of this period compromised on thickness in order to give the legionary a large manoeuvrable shield.

The *scutum*, seen here on the Altar of Domitius Ahenobarbus (Paris, musee du Louvre, inv. Ma 975), was large enough to practically hide a legionary, who probably seldom exceeded 1.65m in height. To give it an effective mixture of flexibility and resilience, it was constructed of three layers of plywood and covered in calfskin. Plywood construction imparted a greater degree of resilience than its plank equivalent. To prevent splitting, copper alloy or iron binding protected its head and foot, while a sheet-metal boss plate reinforced its wooden spindle boss. (Fields-Carre Collection)

Iberian straight sword (Madrid, Museo Arqueologico Nacional), from the necropolis of Almedinilla, Cordoba, 5th/3rd century BC. This Iberian pattern was normally housed in an iron-framed scabbard fitted with three or four rings by which it was suspended from a belt or a baldric. The ring suspension system, commonly associated with the Romans (see photograph on top of page 38), allowed an Iberian warrior to draw his sword quickly in combat without exposing his fighting arm. (Luis Garcia)
Each legionary carried a large dished shield (*scutum*), which was oval-shaped in the republican period. It was an Italic body shield possibly derived from the Samnites. To be light enough to be held continually in battle, shields were usually constructed of double- or triple-thickness plywood, which was made up of laminated wooden strips. Covered with canvas and hide, the shield was edged with copper alloy binding and had a wooden spine (*spina*) with a centrally placed bowl-shaped protrusion. This was hollowed out, furnished with a horizontal handgrip and reinforced with a sheet-iron or copper alloy or iron boss plate (*umbo*). According to Polybios the *scutum* measured 120cm in length by 75cm in width, and the one possible example of a republican *scutum*, found in 1900 at Kasr-el-Harit preserved in the dry sands of Fayum, matched his description closely (Connolly 1998: 132).

This shield was midway between a rectangle and an oval in shape, and was 128cm in length and 63.5cm in width with a slight concavity. It was constructed from three layers of birchwood strips, the centre layer running vertically and being made of the widest strips, the outer and inner layers running horizontally and narrower. These layers were glued together and covered in lamb’s wool felt, which was sewn carefully round the rim. This material was likely fitted damp in one piece, which, when dry, shrank and strengthened the whole artefact. The shield board was thicker in the centre (1.2cm) and flexible at the edges, making it very resilient to blows, and the head and foot may have been reinforced with copper alloy or iron-edging strips to prevent splitting. Nailed to the front and running vertically from top to bottom was a wooden spine in three sections.

Much like the riot shield of a modern policeman, the *scutum* was used both defensively and offensively to deflect blows and hammer into the opponent’s shield or body to create openings. As he stood with his left foot forward, a legionary could get much of his body weight behind this punch. Added to this was the considerable weight of the *scutum* itself. Weights of reconstructions range from 5.5kg to 10kg, and a hefty punch delivered with the weight of the body behind the left hand stood a good chance of overbalancing an opponent.

Finally, least we forget, these short-term citizen soldiers provided their own equipment and therefore we should expect considerably more variation in clothing, armour and weapons than the legionaries of the later professional legions. There is no good reason to believe, for instance, that they wore tunics of the same hue or that shields were adorned with unit insignia. In fact, Polybios makes no mention of shield decoration, despite his detailed description of legionary equipment down to the colour of their plumes. This seems to be supported by sculptural evidence, such as the Aemilius Paullus monument or the Altar of Domitius Ahenobarbus, which show *scuta* as austere and unadorned. If indeed they were decorated, it was a matter of individual taste as opposed to one of group identity.
The veles
The velites were armed with a sword, the gladius Hispaniensis according to Livy (38.21.15) – contrary to Polybios, who uses the general Greek term machaira – and a bundle of javelins, with long thin iron heads a span (223mm) in length, which bent at the first impact. For protection they wore a helmet without a crest and carried a round shield (Latin parma), but wore no armour. In order to be distinguished from a distance, some velites would cover their plain helmets with a wolf’s skin or something similar (Polybios 6.22.1–3). Polybios does not specify the number of javelins carried. Livy, on the other hand, says (26.4.4) that velites had seven javelins apiece, whilst the 2nd-century Roman satirist Lucilius (Satires 7.290) has them carrying five each.

The eques
Polybios (6.25.3–8) discusses the changes in the Roman cavalry in some detail, emphasising that the equites were now armed in ‘the Greek fashion’, namely bronze helmet, stiff linen corselet, strong circular shield, long spear and sword, but he observes that formerly (perhaps up to the Pyrrhic War when the Romans first encountered Greek cavalry) they had lacked body armour and had carried only a short spear and a small oxhide shield, which was too light for adequate protection at close quarters and tended to rot in the rain. This earlier shield may be the type shown on the Tarentine ‘horsemen’ coins of the early 4th century BC, with a flat rim and convex centre. For what it is worth, Livy mentions ‘little round cavalry shields’ (equestris parma, 2.20.10, cf. 4.28) in use as early as 499 BC, but this may be anachronistic.
An eques on the Altar of Domitius Ahenobarbus (Paris, musée du Louvre, inv. Ma 975) wearing a mail shirt. The downside of this armour was its weight, around 15kg, and so the belt would transfer part of the shirt’s burden from the shoulders to the hips. He also wears a Boiotian helmet, as is evident from its crinkly brim. This was a popular style with Graeco-Italic horsemen of the period as it provided unimpaired vision and hearing. (Fields-Carre Collection)

Intriguingly the sword now carried by the equites appears to have been the *gladius Hispaniensis*, for when Livy describes the horror felt by Macedonian troops on witnessing the hideous wounds inflicted upon their fallen comrades, the perpetrators were Roman cavalrymen. If true, then the *gladius* used by the equites may well have been a little longer than that of the infantry.

Contrary to popular belief, the lack of stirrups was not a major handicap to ancient horsemen, especially those like the Numidians who were born among horses and spent their lives with and on them. Moreover, Roman cavalry of the time were perhaps already using the Celtic four-horned saddle, which provided an admirably firm seat. When a rider’s weight was lowered

MOUNTED LEGIONARY, EQUES

In this reconstruction we show an eques standing beside his mount, fully equipped for campaign, from the time of the Third Macedonian War. He is an aristocratic youth. He wears a Boiotian helmet with a horsehair plume, which is dyed red. He has equipped himself with a short, iron mail shirt with cape-like shoulder doubling and a slit at each side of the bottom edge, giving ease of movement when mounting and dismounting as well making for an easy mounted seat. He carries a large round, flat shield made of wicker and covered in hide, complete with a wooden spindle boss reinforced with a sheet-metal boss plate and plain, painted face. He has a cavalry spear with a small, socketed iron spearhead and butt-spike. A long, straight Greek-pattern sword—a slashing weapon with a longer reach than the *gladius*—hangs at his left hip from a baldric. He wears a woollen tunic dyed red, and Thracian-style boots. His mount is equipped with a Celtic four-horned saddle, which sits on a tasseled saddlecloth, plain leather reins and bridle, an iron snaffle bit and a plain leather harness. Slung behind the saddle is his campaign equipment, which includes a rolled *paenula*, mess tin, camp kettle, water gourd, leather satchel and a feed bag for the horse.

1. Boiotian helmet
2. Attic helmet
3. Short, iron mail shirt
4. Thracian-style boots
5. Greek-pattern sword
6. Celtic four-horned saddle
Oblique back view of a reconstructed Roman saddle. This type was certainly a part of Roman cavalry equipment in the time of Caesar, a concession, so he says (Bellum Gallicum 4.4.2), considered effete by the Germans. The padded saddle with four horns made by internal bronze stiffeners appears for the first time on Roman sculptures (Arc de triomphe d'Orange, Mausolee de Glanum) of the Augustan period. (Matthias Kabel)

Onto this type of saddle the four tall horns (cornicule) closed around and gripped his thighs, but they did not inhibit free movement to the same extent as a modern pommel-and-cantle saddle, which is designed for rider comfort and safety. This was especially important to spear- and sword-carrying cavalry favoured by the Romans, whose drill called for some almost acrobatic changes of position.

**ON CAMPAIGN**

It was not all plain sailing with the new tactical system, and the manipular legion was to meet some very tough opponents upon the field of battle. One example will suffice here. During the Third Samnite War (298–290 BC) the Romans faced a powerful coalition of Etruscans, Umbrians, Samnites and Senonian Gauls, and at Sentinum in Umbria (295 BC) they fought one of the most crucial battles of their history. The Etruscans and Umbrians were not present on the historic field, yet bitter experience had shown the Romans that of all these people only the Samnites and Gauls were really formidable in battle. Just as Wellington said of Waterloo, Sentinum was ‘the nearest run thing’. Livy (10.27.18) was sure it would have gone the other way had the Etruscans and the Umbrians been present, and we have no reason to doubt his certainty here.
Salary
It is at the siege of the Etruscan city of Veii, when the campaign dragged on into the winter months of 396 BC, that we first hear of payment (stipendium) being made to the citizen soldiers (Diodoros 14.16.5, Livy 4.59.11). It was not until Polybios’ day, however, that any sure evidence on regular pay becomes available. Polybios, writing of his own day, says that a legionary received 2 obols a day, which was equivalent to 120 denarii a year if we make the assumption that the Polybian drachme was the equivalent of a denarius. He adds that centurions were paid double that rate, while the equites received even more, one denarius a day, from which to meet the cost of maintaining their mounts (6.39.12, 15). He also tells us that stoppages were made for the cost of a soldier’s rations, clothing and extra equipment, and that these stoppages were made at source according to a fixed schedule. So the wage was not high and certainly did not make soldiering a career, but it supported the citizen during his military service by covering his basic living expenses. It appears that the commander himself took charge of the pay parade. Livy, writing of Scipio in 206 BC, says (28.29.2) that the absence of the commander through illness prevented the payment of the soldiers on time.

Sustenance
The axiom, commonly attributed to Napoleon, that ‘an army marches on its stomach’ applies to all armies of all periods, and the Roman army was certainly no exception. After all, men who carried the weight of so much war gear and equipment when they go off to fight must have got hungry.

It was the Roman practice in the 2nd century BC, according to the contemporary testimony of Polybios (6.39.13), to issue a monthly ration of cereal equal to two-thirds of an Attic medimnos (34.56kg) to each legionary, which is more or less equivalent to the daily allowance of one choinix (1.08kg) of cereal per man we commonly read of in Greek sources.

One cereal or another has formed the staple basis of the human diet in every nook of the globe since agriculture first began. In the ancient Mediterranean world barley and wheat were the two main grains. Oats were viewed as a weed and thus considered fit only for animals, but given how well they grew in cold climates,
they were popular among Celtic and Germanic peoples, while rye, the closest relative of wheat, was a ‘northern’ grain. Barley was generally known as ‘fodder for slaves’ (Athenaios 7.304b) and was considered far less nourishing than wheat, so much so that by the 4th century BC the preference for wheat and the bread made from it, in affluent circles at least, had ousted barley from its prominent position in the Mediterranean diet. Wheat therefore became the staple cereal in the Mediterranean basin, and barley the cheaper but lowly alternative. In the Roman army, so Polybios (6.38.2) tells us, soldiers were fed on barley instead of wheat as a form of punishment. The legionaries would eat unleavened bread, with the resulting loaf looking more like a modern pitta. Another form of unleavened bread was ‘quick bread’, *panis strepticus*, which was rolled into wafer-thin sheets then baked quickly, probably on hot stone. This was probably the daily bread eaten by legionaries.

Eggs, olives, fruit and cheese should not be forgotten, nor sour wine (*acetum*) and salt. Sour wine, as opposed to vintage wine (*vinum*), was the drink of the ordinary soldier, and could be mixed with water to make the time-honoured tipple of the proletariat, *posca* (Plautus *Miles Gloriosus* 837, *Truculentus* 610). In some cases, flavouring herbs, honey or eggs were also mixed. Popular with travellers too, *posca* was a refreshing drink on the road. Like soldiers, they carried the sour wine in a flask, ready to dilute when they found water. Its acidity not only meant it took longer to spoil but it also killed harmful bacteria, a bonus when the only available water came from a dubious source. As well as purifying water, wounds could be washed clean with it, and Pliny the Elder (*Historia Naturalis* 23.27) gives a long list of applications including its use as an eye salve and for the treatment of diarrhoea.
Before battle
The legionary, like all professional foot soldiers before his day and after, was grossly overloaded – alarmingly so according to some accounts. Cicero wrote of ‘the toil, the great toil, of the march: the load of more than half a month’s provisions, the load of any and everything that might be required, the load of...
the stake for entrenchment’ (*Tusculanae disputationes* 2.16.37). Normally, perhaps, a legionary carried rations for three days, not the two weeks to which Cicero refers, who, after all, was scarcely a soldier. All the same, it has been estimated that the legionary lumbered into battle burdened with equipment weighing as much as 35kg if not more, making him as helpless in open skirmishing as he was invulnerable in close formation.

Generally speaking, the military duties of a legionary were twofold: combat and construction. Construction went along with campaigning, and the construction of a marching camp every day gave the men peace of mind in the field, because they would have a place to retreat if needed. It also provided a relatively safe place to sleep; passing the night behind guarded ramparts kept the army from any more mental or physical fatigue than necessary. Although not as prolific at field engineering as legions of later periods of Rome’s history, nonetheless it was in our period that the marching camp was perfected. Pyrrhos is supposed to have realized that he was not dealing with mere barbarians when he saw the order of the Roman camp (*Plutarch* Pyrrhos 16.5).

As a consular army neared the end of a day’s march, one of the military tribunes and the centurions who formed the camp-surveying team were sent ahead to select a site for the camp. The site had to be open, preferably on rising ground and with no cover that could be exploited by the enemy. The camp itself covered an area of about 4 *plethra* (700m²). A point affording maximum visibility was selected for the site of the consul’s tent (*praetorium*) and a white flag was placed on the spot. A red flag was set up on the side nearest water. Here the army would camp.

A ditch, some 0.9m deep and 1.2m wide, normally surrounded a camp. The spoil was piled up on the inside, faced with turf and levelled off to form a low rampart (*agger*). The two legions constructed the defences at the front and rear of the camp, while the two *alae* built the right and left sides. Each maniple was allotted a section about 2.5m long. The centurions checked that the work of their maniples was done properly, while a pair of Roman tribunes or Latin/Italian prefects supervised the overall effort on each side of the camp.

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‘Dying Celt’ (Bologna, Museo Civico Archeologico di Bologna), cast of a Roman copy (Naples, Museo Archeologico Nazionale, inv. 6015) of 2nd-century Pergamene original. The Celts had a fearsome reputation for aggressiveness, even among the militaristic Romans, and there can be no doubt that initially they were terrified by these larger-than-life warriors, who adorned themselves with gold torques, wore long moustaches and hair that was slaked with lime to make it stand up like a horse’s mane. They were also armed with a fearsome slashing sword. This was a blunt-ended long sword, wide, flat, straight and double-edged, with an overall length of 85–90cm. (*Fields-Carré Collection*)
Far stronger defences were needed when camping close to the enemy, and the work was likely to be hampered by attacks. Therefore as the army arrived, all the cavalry, the lightly armed troops and half of the heavy infantry were deployed in battle array in front of the projected line of the ditch facing the enemy. The baggage train was placed behind the line of the rampart and the remainder of the soldiers began to dig in. They dug a ditch 2.7m deep and 3.6m wide, piling up the spoil on the inside to form a turf-faced rampart 1.2m high. On the march, as Cicero alluded to above, each soldier carried a bundle of sharpened stakes, usually cut from sturdy branches. These were planted close together in the top of the rampart to form a palisade (vallum). As work proceeded, the heavy infantry were gradually withdrawn from the battle line, maniple by maniple, starting with the triarii who were nearest the rampart. These men were put to work digging the other sides of the camp. The cavalry were not withdrawn until the defences facing the enemy were complete.

These defences offered protection against surprise attack, the ditch and rampart being sufficient only to delay attackers and not to stop them. The Romans rarely, if ever, planned to fight from within the camp, but to advance and meet the enemy in the field. Between the rampart line and the tent lines of a camp, a distance of 60m, was an open area known as the intervallum, which ensured that the tents were out of range of missiles thrown or shot from beyond the defences. More importantly, this space allowed the army to form itself up ready to deploy into battle order.
The marching camp was a highly organized, neatly laid out structure with the legions and alae divided into lines and maniples. Always constructed to recognizably the same pattern, a camp had four gateways (portae praetoria, principalis dextra, decumana and principalis sinistra) and two main roads (viae principalis and praetoria) running at 90 degrees and meeting in front of the praetorium. Everything was regulated, from the positioning of each unit's tents and baggage to the duties carried out by various contingents, so that, for instance, the triarii always provided guards for the horse lines. Likewise, the responsibilities of various officers to supervise the sentries around the camp and to transmit orders for the next day's march were also clearly allocated.

During battle
Polybios does not offer his readers an account of the legion in battle, but there are a number of combat descriptions both in his own work and that of Livy. However, very few accounts describe tactics in detail; a contemporary Roman (or Greek) audience would take much for granted. Even so, the legion would usually approach the enemy in its standard battle formation, the tripex acies, which was based around the triple line of hastati, principes and triarii, with the velites forming a light screen in front. As we know, each of these three lines consisted of ten maniples. When deployed, each maniple may have been separated from its lateral neighbour by the width of its own frontage (about 18m), though this is still a matter of some debate. Livy tells us that the maniples were 'a small distance apart' (8.8.5), which does not really help us a great deal. Moreover, the maniples of hastati, principes and triarii were staggered, with the more seasoned principes covering the gaps of the hastati in front, and likewise the veteran triarii covering those of the principes. This battle formation is conveniently called by modern...
Panoramic view of Talamonaccio, the ancient site of Telamon. It was on and around this hill that a booty-laden Cisalpine Gaulish army was trapped and virtually destroyed by two consular armies. The Gauls, deployed to face in both directions, north and south, still managed to terrify the Romans with their ‘fine order’ and their ‘dreadful din’ (Polybios 2.29.6). The Romans had traditionally found the Gauls terrifying and, despite terrible losses, the Gauls upheld the struggle with the Romans for a lengthy time. (Mac9)

commentators the quincunx, from the five dots on a dice cube.

Battle would be opened by the screening velites, who attempted to disorganize and unsettle enemy formations with a scattering of missiles, each individual carrying a clutch of javelins to be thrown in very quick succession. This done, they retired through the gaps in the maniples of the hastati and made their way to the rear. The maniples of the hastati now re-formed to close the gaps, either by each maniple extending its frontage, thus giving individuals more elbow room in which to handle their weapons, or, if the maniple was drawn up two centuries deep, the centurio posterior would move his centuria to the left and forward, thus running out and forming up alongside the centuria of the centurio prior in the line itself (Keppie 1998: 38–39).

The first line now walked slowly forward in an eerie silence until some 15m – the effective range of a pilum – from the contact point. Immediately and without due warning the hastati then let fly their missile weapons, throwing first their light and then their heavy pila.

During the confusion caused by this pila storm, which could be devastating, the hastati drew their swords and, said Polybios, ‘charged the enemy yelling their war cry and clashing their weapons against their shields as is their custom’ (15.12.8, cf. 1.34.2). He also says (18.30.6–8) that the Romans formed up in a much looser formation than other heavy infantry, adding that this was necessary to use the sword and for the soldier to defend himself all round with his shield. This implies that the legionary essentially fought as an individual fighter, a swordsman, during the confusing but hopefully decisive end-phase of battle. Yet Cato, who served during the Second Punic War as an eques and a quaestor, always maintained that a soldier’s bearing, confidence and the ferociousness of his war cry were more important than his actual skill with a blade (Plutarch Cato major 1.4). The importance of the psychological effect of the war cry is given in an account by Frontinus. He writes that, ‘Marcus Marcellus on one occasion, fearing that a feeble battle cry would reveal the small number of his forces, commanded that sutlers, servants, and camp followers of every sort should join in the cry. He thus threw the enemy into panic by giving the appearance of having a large army’ (Strategemata 2.4.8, cf. Livy 23.16.13–14).
Polybios, in an excursion dedicated to the comparison between Roman and Macedonian military equipment and tactical formations, says the following: ‘According to the Roman methods of fighting each man makes his movements individually: not only does he defend his body with his long shield, constantly moving it to meet a threatened blow, but he uses his sword both for cutting and for thrusting’ (18.30.6). It appears, therefore, that the tactical doctrine commonly associated with the Roman legionary of the Principate was already in place during Polybios’ day. Having thrown the pilum and charged into contact, the standard drill for the legionary of the Principate was to punch the enemy in the face with the shield boss and then jab him in the belly with the razor-sharp point of the sword (Tacitus Annales 2.14, 21, 14.36, Historiae 2.42, Agricola 36.2).

In his near-contemporary account of the battle of Telamon (225 BC), Polybios tells us that ‘Roman shields... were far more serviceable for defence and their swords for attack, since the Gaulish sword being only good for a cut and not for a thrust’ (2.30.8). Soon after, when he covers the tumulatus Gallicus of 223 BC, it is disclosed that legionaries, ‘instead of slashing, continued to thrust with their swords, which did not bend, the points being very effective. Thus, striking one blow after another on the breast or face, they slew the greater part of their adversaries’ (2.33.6). In a much later passage, he hints that they were trained to take the first whirling blow of the Celtic slashing sword on the top edge of the scutum, which was suitably bound with an iron or copper alloy octal strip (6.23.4).

An interesting argument for why the republican Roman army had adopted this tactical doctrine of ‘punch-jab’ comes from the Augustan historian, Dionysios of Halikarnassos. Having derided the Gallic manner of fighting, whereby the Gauls wielded their long slashing swords ‘like hewers of wood’, Dionysios (14.10.2) continues with a description of the art of swordsmanship as practised by legionaries:

The Morelli Cassone depicting the Gauls defeated by Marcus Furius Camillus (main panel), Italian School (15th century). As the most experienced general of the day – he was to be elected dictator five times – Camillus (d. c. 365 BC) was the one to whom the Romans turned in times of dire need. He is also accredited with the introduction of the stipendium, the pilum, the scutum and manipular tactics. Apparently he had studied the Gallic art of warfare and thereby devised the panoply and tactics to cope with their maniacal charge. (© Courtaulds Art Gallery / Bridgeman Art Library)
Seeing the deficiencies of the rather static traditional Roman tactics, Scipio experimented with small tactical units that could operate with greater flexibility. His tactics were inspired by Hannibal’s, and they needed good legionary officers as well as generalship to implement. He thus saw the value of capable subordinates who could proceed on their own initiative. (Massimo Finizio)

On the other hand, the Romans’ defence and counter manoeuvring against the barbarians was well practised and afforded greater safety. For while their foes were still raising their swords aloft, they would duck under their arms, holding up their shields, and then, stooping and crouching low, they would render vain and useless the blows of the others, which were aimed too high. The Romans, on the other hand, holding their swords straight out, would strike their opponents in the groin, their sides, and drive their blows through their breasts into their vitals. And if they saw any of them keeping these parts of their bodies protected, they would cut the tendons of their knees or ankles and topple them to the ground roaring and biting their shields and uttering cries resembling the howling of wild beasts.

What is apparent is that close-quarter combat between Roman legionary and Celtic warrior was a clash of two very different techniques. Physically superior and armed with a far more clumsy weapon that was virtually blunt at the tip and only effective in sweeping, slashing blows that left the attacker wide open to quick counter jabs, the Celt would have required plenty of room.

**BATTLE AT SEA**

In this reconstruction we witness legionaries attempting to board an enemy vessel. We are on the high seas somewhere off Sicily. The ever-adaptable Romans have decided to fit their quinqueremes, the standard fighting vessel of the day, with a corvus, ‘crow’, a mechanical gangplank that enables enemy vessels to be boarded by legionaries serving as makeshift marines. This ingenious but simple device was clearly designed to enable the Romans, with their advantage in weight of metal and of men, to turn a sea battle into a close imitation of a land battle and thus swarm aboard and confront their adversaries with cold steel. They deserve our admiration for braving what was cooped-up fighting on an unknown element in a thing made of wood that might at any moment founder under foot. The possibility of plunging fully armoured into deep water by accident was always present.
in which to swing his long slashing sword while simultaneously manoeuvring
his flat oblong shield to block any Roman thrust. The warrior would have
fought upright, aiming to slash his adversary with a downward blow to the
head, neck and shoulders (if visible), or the right arm and the left leg. By
using the whole arm, more force could be put into the blow than if it were
delivered solely from the elbow. Such a blow would have been delivered
diagonally downward right to left or left to right.

The Celtic slashing sword was certainly not contrived for finesse, but was
designed to either hack an opponent to pieces or to beat him to a bloody
pulp. Instinctively, the legionary would have attempted to use the metal rim
of his scutum to ward off such an attack, but if he failed in this he was not
totally vulnerable. The narrow neck guard projecting straight out at the back
of his Montefortino helmet would have provided some protection against
this type of assault, and his lorica hamata would have offered good
protection, since mail is vulnerable to thrusts rather than slashes. Furthermore, its shoulder doubling would have given even better protection,
possibly absorbing much of the stroke’s kinetic energy and reducing the risk
of the underlying clavicle being broken.

Having drawn his gladius the legionary now adopted a very slight crouch,
with the left foot forward, holding the scutum horizontally in front with the
left hand and using it to cover the upper legs, the torso, and lower face. By
keeping the scutum close to his body, the legionary not only gained optimum
protection but also increased the range of the punch. His body would have
been slightly turned in profile to his opponent in order to present as small a
target as possible, with his elbows tucked close to the torso so as not to
expose the vulnerable underarm. His feet were roughly a shoulder width
apart. In this balanced position he could put all his body weight, which rested
on the back leg, behind a punch with his scutum.
Punch delivered, it was now time for the swordplay. The footwork was simple and as direct as walking, for the legionary instantly stepped forward with his right foot, the weight of the body now helping to deliver an upward jab with the *gladius* held in the right hand with its blade horizontal. It is important to note here that although the right shoulder would deliver some of the power behind the thrust, the real power of the thrust came from the rotation of the legionary’s hips as he stepped forward.

Essentially, two methods of combat could be employed by the legionary, namely proactive or reactive fighting. The first necessitated striking the first blow, perhaps through overwhelming his opponent with the *scutum*: here its sheer size was a premium. The second method involved taking the opponent’s sword strike on the *scutum*. This would entail moving the shield a relatively short distance to meet the incoming blow: here the metal binding on its upper edge was a premium. The advantage here was that the parry and punch could be combined, the legionary moving in closer all the while to deliver the deadly thrust. In both cases, however, we should be aware of the fact that the final position of the legionary would have been a few inches from his opponent.

As we have discussed, Roman swordsmanship – entirely alien to the Celtic manner of war – was a result of careful training and a comprehensive system of discipline. It was relentlessly aggressive and emphasised striking a single, deadly thrust with a minimum of effort and with a minimum of penetration. Roman swordplay was simple, direct and effective. Such systematic violence had only one objective: the swift demise of the enemy on the field of battle. Celts, like other ‘barbarians’, always placed heroic deeds and a scorn of death above equipment and technique; in adopting the opposite attitude, ‘civilized’ Rome changed the nature and purpose of combat, and conquered triumphantly for centuries.
Ideally, it was the *hastati* who fought the main enemy line to a standstill, but if they were rebuffed, or lost momentum, an entire second formation, the succeeding line of *principes*, surged forward into the combat zone, casting their *pila* over their comrades' heads in the mêlée, the entire process of mechanical butchery now beginning anew. In the meantime, the *triarii* watched and waited at the rear. Close-quarter hand-to-hand fighting was physically strenuous and emotionally draining, and the skill of a Roman commander lay in committing his second and third lines at the right time. Left too late then the fighting line might buckle and break. Too soon and the value of adding fresh soldiers to the mêlée might be wasted. The survivors of the *hastati* and the *principes* were reinforced by the *triarii* if it came down to a final trial of strength. The phrase *inde rem ad triarios redisse*, 'the last resource is in the *triarii*' (Livy 8.8.9), passed into the Latin tongue as a description of a desperate situation.

Victory would eventually go to the side that endured the stress of staying so close to the enemy and was still able to urge enough of its men forward to renew the fighting. It was the inherent flexibility of the manipular system that made the legion a formidable battlefield force. In Polybios' measured analysis (15.15.7-10):

The order of battle used by the Roman army is very difficult to break through, since it allows every man to fight both individually and collectively; the effect is to offer a formation that can present a front in any direction, since the maniples that are nearest to the point where danger threatens wheels in order to meet it. The arms they carry both give protection and also instil great confidence into the men, because of the size of the shields and the strength of the swords, which can withstand repeated blows. All these factors make the Romans formidable antagonists in battle and very hard to overcome.

Hellenistic armies, for instance, preferred to deepen their phalanx rather than form troops into a second line, and made little use of reserves, as the commander's role was usually to charge at the head of his cavalry in the manner of Alexander the Great. The deepening of the pike-armed phalanx gave it much stamina in the mêlée, but even the men in the rear ranks were affected by the stress and exhaustion of prolonged combat. The Roman system, on the other hand, allowed fresh men to be fed into the fighting line, renewing its impetus and leading a surge forward, which might well have been enough to break a wearying enemy.

**SIEGE OF SYRACUSE, 214–212 BC**

In this reconstruction we witness legionaries mounting a formal assault upon a well-fortified city. We are outside the landward walls of Syracuse, Sicily. But the Romans have reckoned without the ingenuity of the defenders, inspired by the local genius-scientist, Archimedes. Sieges tended to consist of move and countermove as the attacker and defender employed their engineering skill and massive labour to gain an advantage or negate a project begun by the other side. For the attacker a siege involved him finding a way over (escalade), through (breach) or under (mine) the defender's fortifications. All the time the defender would be employing artillery to hinder this activity, countermining to thwart the attacker's tunnelling, and launching sallies to burn his towers and break his engines. Outside Syracuse, however, the Romans are learning, to their horror and discomfort, that Archimedes has also designed a fabulous and formidable array of ballistic and mechanical machines for the city.
Section of frieze decorating a victory (Pydna 168 BC) monument of Aemilius Paullus (Delphi, Archaeological Museum), the son of Lucius Aemilius Paullus killed on the fatal field of Cannae. From left to right: a legionary fighting a Macedonian cavalryman, a legionary in a mail shirt and a socii cavalryman also in a mail shirt but shorter and slit at the thigh to make for an easy mounted seat. The frieze plausibly depicts the skirmish between opposing watering parties that led to the main engagement, which was fought late in the day. (Fields-Carre Collection)

**After battle**

Having just captured New Carthage (209 BC), Scipio decided to exercise his battle-weary army outside its walls and so introduced a rigorous retraining programme for the men. It is described by Polybios thus: ‘He ordered the soldiers on the first day to go at the double for thirty stadia (5.33km) in their armour. On the second day they were all to polish up, repair, and examine their arms in full view, and the third day to rest and remain idle. On the following day they were to practise, some of them sword fighting with wooden swords covered with leather and with a button on the point, while others practised casting javelins [viz. *pila*] also having a button on the point. On the fifth day they were to begin the same course of exercise again’ (10.20.2–3).

Livy likewise describes Scipio’s training programme, but reverses the order of the third and fourth days, which does make sense from a practical point of view: ‘On the first day the legionaries manoeuvred under arms over a distance of 4 [Roman] miles (5.92km); on the second their orders were to parade in front of their tents and attend to the maintenance and cleaning of their weapons; on the third they had a mock battle all in proper form with wooden swords and foiled missiles; on the fourth they rested, and on the fifth there was more manoeuvres in full equipment’ (26.51.4, cf. 40.6.5–7). And so the programme continued for all the time they remained at New Carthage.

And that is the point I am trying to make in this monograph. For no matter how many times the opposition beat the Romans, they never truly gained victory the Romans. Pyrrhos and Hannibal, to pick the most obvious exemplars, did not understand that; for all their genius, they did not know anything about Romans.
GLOSSARY

Acies  line of battle

Ala/alae  ‘wing’ – Latin/Italian unit comparable to legio (q.v.)

As/asses  small copper coin, originally worth 1/10th of denarius (q.v.), but retariffed at 16 to the denarius at the time of Gracchi

Centurio/centuriones  officer in command of centuria (q.v.)

Centuria/centuriae  administrative subunit of manipulus (q.v.)

Decurio/decuriones  officer in command of turma (q.v.)

Denarius/denarii  silver coin first issued in 211 BC, worth 10 asses (later 16 asses)

Drachme/drachmae  Greek standard weight as well as silver coin (Attic drachme = 6 obols)

Manipulus/manipuli  ‘handful’ – tactical subunit of legio (q.v.)

Modius/modii  Roman dry measure (= 9.1 litres)

Legio/legiones  ‘levy’ – principal unit of Roman army

Optio/optiones  second-in-command of centuria/turma (q.v.)

Praetorium  consul's tent

Stadion/stadia  Greek unit of distance that varied from place to place, but Polybios counts 8.5 stadia to the Roman mile, giving a Polybian stadion a length of 177.5m

Tribunus(-i) militum  ‘tribune of the soldiers’ – military tribune

Turma/turmae  tactical subunit of cavalry

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