ROMAN MILITARY EQUIPMENT

From the Punic Wars to the Fall of Rome

SECOND EDITION

M. C. BISHOP &
J. C. N. COULSTON

Frontispiece: Stela of P. Marcius Probus, a custos armorum. *He is shown wearing a* paenula *and carrying a staff of office and a book of writing tablets, both perhaps symbolic of his rank. Depicted around him are (clockwise from bottom left) a small round shield, a curved rectangular shield, a crested Italo-Corinthian helmet, a dagger and belt with straps and crescentic terminals, a bundle of shafted weapons (?), and a cuirass. Probably 1st century AD, from Bergamo, Italy (not to scale).*

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To Hazel, Martha, Oliver, and Christabel

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Front cover illustration: Oberammergau dagger and sheath
(photo: Archäologische Staatssammlung, München)
Back cover: Xanten cavalry helmet
(photo: Rheinisches Landesmuseum, Bonn)

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Preface and Introduction

Before the first edition of this book, the last attempt to examine Roman military equipment from the Republic to the late Empire in a single, substantial volume was made by Couissin in 1926. Our 1989 booklet provided only a summary, within a very restricted format which precluded the use of references. Wishing to bring the field of Roman military equipment studies to a wider audience, the primary aim of the first edition of the present book was to demonstrate that the subject provides a window into the practical workings of the Roman army. Moreover, we believed that it could elucidate the place of soldiers and military institutions within Roman culture and society as a whole and thus have broad implications for an understanding of the Roman world. We have not been disappointed in this respect.[1]

A study with the present title could either delineate and discuss separately the various classes of equipment (armour, shields, swords etc.), or it could adopt a more historical perspective. We have deliberately chosen the latter approach, not only because it enables us to explore various pertinent technological and sociological issues in their appropriate contexts, but also because it permits us to stand back and view the development of Roman equipment throughout our period.

We are aware that this is an ambitious project, but it is vital to attempt it because Roman military artefact studies have traditionally been subordinated to narrow art-historical discussions, or marginalized as 'typology-fodder'.

It is a commonly held view that Rome's rise to empire owed much to the efficiency and military skill of her armies. Often implicit in this opinion is the notion of Roman technical and technological superiority over 'barbarian' adversaries. One of the purposes of the present book is to investigate just how 'advanced' Roman military technology was in contemporary terms. Central to this are the origins of Roman equipment, its evolution, and the interrelationships between soldiers, the arms production 'industry' and the wider society of which the army was just a part.

What is meant by the term 'military equipment'? There is no general agreement amongst scholars and a definition is most easily formed in negative terms. There are grey areas within which objects could be either civilian or military, according to their context, which is only to be expected, since the Roman army included within its ranks many of the trades to be found in civilian life. Cart fittings are a case in point: soldiers used wagons and carts of various kinds, but these vehicles were not necessarily 'military' in design. Fittings are found in both military and civilian contexts without distinguishing features.

Thus, there is little advantage in defining a rigid specification for what is, and is not, 'military equipment'. Some readers may find our criteria to be arbitrary, but, for the purposes of the present volume, military equipment excludes the *dona militaria*, siege engines, draught harness and wagon fittings. Tools and clothing are only briefly discussed, whilst items of personal adornment, such as brooches, are generally omitted, except where they may act as representational evidence. On the other hand, we have sought to include standards and musical instruments for the first time, since further reflection has persuaded us that their role was fundamental to the operation of the Roman army.

The historical limits – from the beginning of the 2nd century BC to the beginning of the 5th century AD – accord with Rome's rise to, and decline from, dominance in the Mediterranean world. They also coincide with the bulk of the published archaeological evidence: to have started earlier or continued later would have required not only more space, but also a radically different approach to the source material.

We have assumed that the reader has a basic knowledge of the Roman army and will refer to the standard texts. No apology is made for mixing modern and ancient place-names but we have endeavoured to be consistent, and the perplexed reader will find a map and topographical list immediately after this preface. In most instances, line illustrations have been used in preference to photographs because they are capable of conveying more information than a single photograph and it is easier to scale them accurately. We have been careful to reference facts wherever possible, whilst trying to keep the notes to a manageable size. We have also sought to avoid the pseudo-technical Latin terminology which abounds in publications on the Roman army.[2]

A dozen years have passed between the publication of the first (1993) and second editions of *Roman Military Equipment*. This might not seem a great length of time compared, for example, with the gap between the first edition and Couissin's 1926 study, but the pace of research has accelerated amazingly in recent years. It is not much of an exaggeration to assert that military equipment studies constitute one of the most exciting, dynamic and fast-changing areas within the broad field of Roman research. Eight Roman Military Equipment Conferences met before 1993, of which five were held in England; seven have been staged since 1993, no less than six of which have met on the continent. With each new national venue a new circle of archaeologists became directly involved, often realising that hitherto localised work had an extensive international audience. Each conference followed a chosen theme, such as Republican or Late Roman or barbarian equipment, but each also included sessions highlighting newly studied old finds or entirely new discoveries. Thus the conference series has been precisely geared to bring new people into a forum for new work. And the show goes on!

Whilst the illustrations in the second edition remain substantially the same as before, the text and especially the endnotes have been completely revised and substantially extended throughout. This reflects overall research, but also reveals some of the areas of greatest change, as the reader will be able to see in the following pages. Most obviously the Republican period has seen a veritable explosion in the artefactual record, notably in swords, *pila* and artillery, largely from Spain and the Balkans. Serious rethinking on the origins and development of the '*lorica segmentata*' has been set in train by the finds from Kalkriese near Osnabrück. These are certainly Augustan, and most scholars now accept that they are associated with the events of AD 9. Major new finds made all along the northern frontiers have refined the development of the armour form almost into the 4th century. For the Antonine period there is a growing corpus of material from Transdanubian sites occupied, very conveniently for our purposes, for a short period around the Marcomannic Wars. Recently there has been a renaissance in the study of Late Roman helmets, new finds reawakening old discussions, such as the Christian nature of some helmet insignia. Publication of painted

shield leathers from Egypt has revitalised controversies over Late Roman shield blazons in the *Notitia Dignitatum*.

In addition, apart from other syntheses, there has been a steady appearance of large catalogues of finds from individual sites such as Caerleon, Xanten, Augst, Vindonissa and Siscia, as well as from ritual sites outside the empire. The appearance of the corpus of finds from Dura-Europos is itself a major event in Roman military equipment studies. Published together and to a modern standard for the first time, this group is probably the most important collection from anywhere in the Roman world for its range and degree of preservation alone. The accompanying commentary and discussion is wide-ranging, scholarly and concerned with a broad spectrum of historical, technological and cultural issues. With this volume the 'small-finds catalogue' really has come of age.[3]

As previously mentioned, we have included military standards and musical instruments in the chronological chapters. We have also made more of the funerary deposition of military equipment, both within and outwith the Roman empire, and maintained our emphasis on 'ritual' deposition. We have retained the term 'Antonine Revolution' to characterise the changes in equipment forms and decoration seen so vividly in the later 2nd century, not unconnected with the Marcomannic wars. The last chapter is the most altered, extended as it is to take into account developments in broader discussions and integrating more effectively (we hope) the appendix from the first edition on the nature of 'legionary' equipment. Although individual chapters originated from different pens, they were passed back and forth so often between us and rewritten so much by both of us, that the text of the first edition was truly integrated. This is even more the case with the second edition in which we both romped freely across all parts of the book. The volume of work published over the past dozen years is amply indicated by the massively enlarged bibliography of works cited (703 increased to 1205). On the model of Webster's *Roman Imperial Army* (1969 and later editions), so influential on our generation when we were 'growing up', we hope that the bibliography will be of use to students long after our text (like Lindenschmit's) has ceased to be read.

We have naturally also taken the opportunity to eradicate various errors that have been pointed out to us (and many that were not). Unfortunately, we have almost certainly unwittingly introduced new ones, for which we will have to beg the reader's indulgence. Corrigenda, detailed source information for the illustrations, and other relevant material are available on the website for the book where the reader is advised to check in the first instance.[4]

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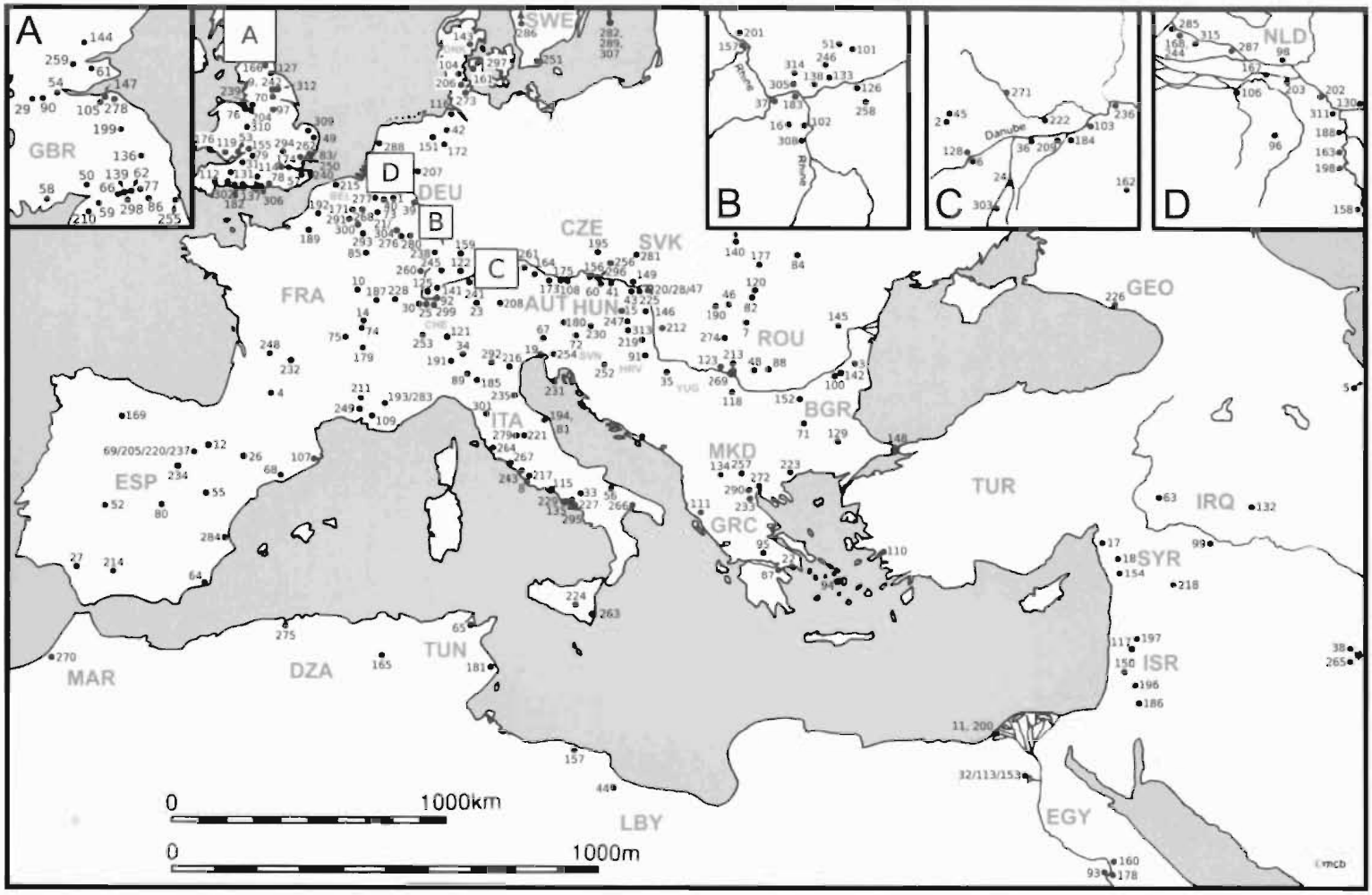
Chirnside and St Andrews, November 2005

Notes

1. Couissin 1926; Bishop and Coulston 1989.
2. Hoffmann 1969; Connolly 1981; Maxfield 1981; Johnson 1983; Campbell 1984; Keppie 1984; Webster 1985b.
3. Other syntheses: Feugère 1993; 1994; Stevenson 1999; Coulston 1998b; 2002. Catalogues: Chapman 2005; Hanel 1995; Deschler-Erb 1999; Deschler-Erb *et al.* 1991; Radman-Livaja 2004. Outside: von Carnap-Bornheim 1991; Jørgensen *et al.* 2003. Dura: James 2004.
4. http://www.romanmilitaryequipment.co.uk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Map and List of Sites

1. Aachen (DEU)
2. Aalen (DEU)
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4. Agen (FRA)
5. Ai Khanoum (AFG)
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1 The Representational Evidence

Introduction

Before the 19th century, representations of soldiers in Roman art were virtually the only source for antiquarian studies of Roman military equipment. This gave rise to some curiously decorative armours when Renaissance craftsmen sought to cater to taste for the 'antique' style. Until Robinson's re-evaluation of the pictorial sources in the 1970s, stone sculpture was used to form a conceptual framework into which the artefactual evidence was fitted, often unsatisfactorily, rather than the actual objects leading the enquiry. In particular, the great propaganda monuments of Rome dominated the field, with Trajan's Column pre-eminent. After Robinson published his *Armour of Imperial Rome* in 1975, representational sources came to occupy a more subordinate position, although it may be noted that they continue to exert undue influence on cinema and television costume design. However, they remain valuable in many respects, not least because the metropolitan monuments present aspects of how the armies were viewed at the centre of power, and provincial artworks – notably funerary representations of soldiers – were executed by people intimately familiar with their subjects, thus much empirical detail was incorporated.[1]

Certain questions must be asked of every representation. What was its intended function? Who was the artist involved, and what were his likely objectives? For whom would he have worked and what were their requirements? What was the artist's technical and cultural background? What type of stone was he working with and what degree of carved detail could it sustain? In individual cases some of these questions may be impossible to answer, but they help in the construction of conceptual models for production, supply, patronage and artistic intent, all of which might bear on content, and thus on interpretation of the equipment represented.

Ideally, the study of stone sculpture involves the first-hand examination of individual pieces. If this seems obvious, then it must be said that many scholars rely solely upon photographic publication without personally examining the material. Naturally, there are practical and financial limitations to field and museum work, but however 'famous' and well-published the piece, it ought to be revisited wherever possible. Indeed, it is very difficult to take one photograph of a stone sculpture which shows all of its detail. Again ideally, each sculpture should be published with a series of general and detail photographs taken in a variety of lighting conditions. Above all, it should be drawn in a manner which records all the features and deals with it as an archaeological artefact.[2]

A very extensive literature deals with the representational evidence. Much of it is useful for the context and dating of finds and for their present location, but only a small proportion of publications deal directly with the military equipment content. Most of the major propaganda monuments are dealt with in monographs, whilst smaller pieces are often to be found in museum catalogues or in the regional corpora. However, the geographical coverage of the latter is generally limited to western and

central Europe, with Spain, North Africa and the Levant poorly represented. This situation will doubtless improve, especially due to the *Corpus Signorum Imperii Romani*.[3]

For present purposes, the representational sources may be conveniently reviewed in a number of very broad categories: propaganda monuments; funerary monuments; miscellaneous and non-Roman sculptures; and minor works. These groupings are neither mutually exclusive nor to be seen in any way as an order of value. The prominence accorded to stone sculpture is of course a result of its durability in comparison with other media.

Propaganda Sculpture (Figs.1–2)

Most Roman sculptures were in some sense created with propaganda intent, whether on a triumphal arch commemorating an emperor's victory, or on a gravestone advertising the deceased man's status and achievements. In this study 'propaganda' is taken to mean works with a specific public message erected by rulers, public officials or emperors. Soldiers appear principally in representations of imperial journeys (*profectiones*, *adventus*), ritual sacrifices, the public burning of debt-records, speeches to the troops (*adlocutiones*), battles and triumphal processions. These generic scenes represented what rulers wanted to project about their achievements blended with what activities were expected of a 'good' ruler by the élites of Roman society. Naturally, the largest viewing public was in the capital, so most propaganda monuments were erected in Rome or Constantinople. Indeed, a significant proportion of that public was made up of serving soldiers, and the symbiotic relationship of emperor and army often informed the content of metropolitan propaganda sculpture.[4]

The major limitation of propaganda works for present purposes is that they were largely the product of metropolitan sculptors, often men trained in a Hellenizing style, whose knowledge of military matters was restricted to the guard units in Rome. They were concerned to display the human form unobscured, for example, by large cheek-pieces, shields or horses. Moreover, the human figures were often composed in stereotyped groupings which owed more to religious ceremony, court ritual or writhing Greek battle motifs than to the realities of Roman warfare. Even some details of Greek equipment lingered on anachronistically in Roman artworks, such as the hand-grip (*antilabe*) and sleeve (*porpax*) peculiar to the carriage of Archaic and Classical period hoplite shields. The minutely accurate rendering of military artefacts was unlikely to have been the primary objective. On the other hand, sculptors were often consummately skilled at naturalistic carving, and in Rome they invariably worked with the finest marbles, the compact structure of which took the highest degree of carved detail.[5]

In the atmosphere of public service and political rivalry of the Republic few propaganda monuments bearing military figures were erected. Exceptions are the so-called Altar of Domitius Ahenobarbus in Rome (see Fig. 21), which depicts soldiers attending ritual sacrifice (1st century BC), and the Monument of Aemilius Paullus (Fig. 1) erected by the Greeks at Delphi to commemorate the victor of Pydna (168 BC). Both show Roman mailed infantry with long, curving oval shields.[6]

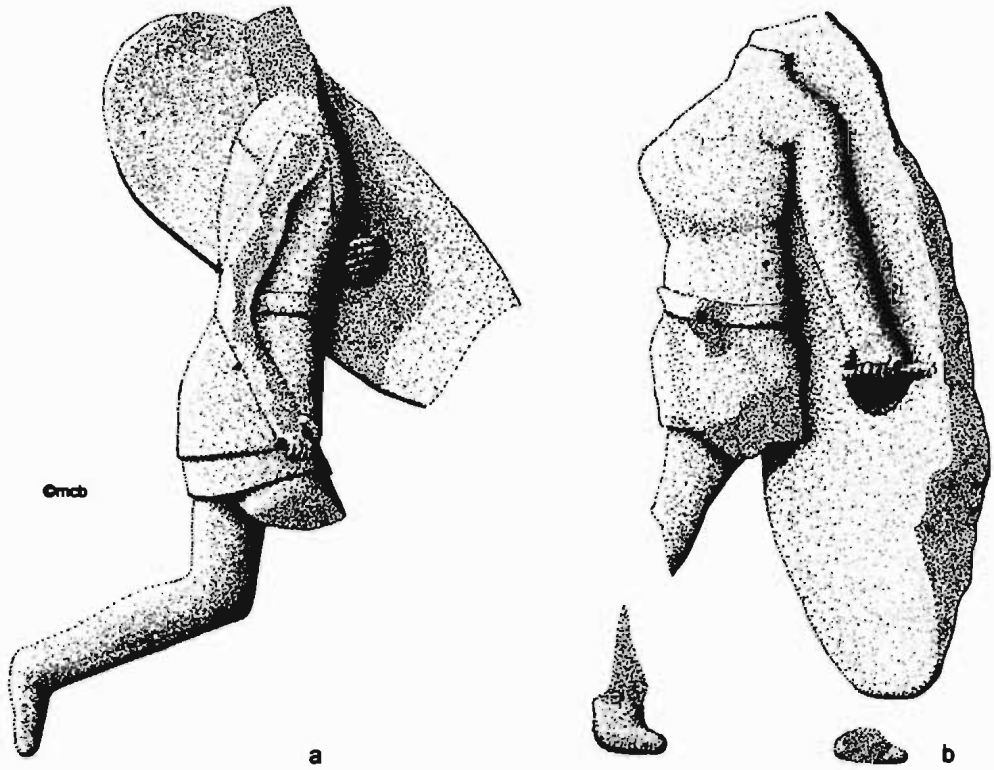

Figure 1: Details from the Aemilius Paullus monument (Delphi). a legionary running; b legionary standing. (Not to scale)

During the Julio-Claudian period there were plenty of celebrated successes but few monuments with figural sculpture, and fewer still with representations of soldiers. The arch at Orange (probably of Tiberian date) has Romans and Gauls, infantry and cavalry, in Hellenistic-style combat scenes on its attic. Mail and scale armour, contemporary helmet forms and legionary shields appear. On the piers of the arch, piles of equipment (*congeries armorum*) provide interesting 'still life' representations of shields, standards and saddlery. Other exceptional depictions of armoured soldiers were probably carved on the Arch of Claudius in Rome but, if surviving fragments are correctly ascribed, the figures were in archaizing style with Hellenistic helmets, muscled cuirasses and hoplite-grip shields. Only one group, the Louvre 'Practorians' panel, now with an assured Claudian (not Hadrianic) dating, was affected by contemporary equipment practices.

What did develop as an important propaganda genre was the depiction of the emperor with his military escort as he would have been seen in triumph or moving around the capital. This appears first on coins (see below, p. 19), but from the Flavian period onwards also in monumental sculpture. Soldiers are equipped with military belts, shields and weapons, but hardly ever with helmets or body armour. Prime examples are the Flavian Cancelleria Reliefs (Fig. 2), as well as the 'Anaglypha Traiani', the

Hadrianic Chatsworth Relief, all from Rome, and panels on Trajan's Arches at Pozzuoli and Benevento.[7]

This unarmoured convention continued into the late Empire, but depiction of soldiers at war changed radically with, and after, the erection of Trajan's Column in Rome (AD 113). For the first time in the capital a vast number of armoured soldiers in contemporary equipment were represented on one monument. A 200 m-long spiral frieze winds up the column shaft in anti-clockwise fashion, bearing 2640 carved human figures at half life-size (Pl. 8c). These take part in a loose narrative of Trajan's two Dacian wars (AD 101–2 and 105–6). They represent citizen troops wearing the earliest indisputable '*lorica segmentata*' in Roman art, auxiliary infantry and cavalry in mail, irregular troops, and the various enemy ethnic types. Amongst the latter are Sarmatian cavalry, virtually the only armoured barbarians to appear in Roman art. Clear distinctions are made between citizens and *peregrini* in equipment, standards (the auxiliaries generally have none) and military roles. The rare involvement of citizen troops in fighting contributes to the presentation of Trajan's skilled generalship.[8]

The Column stands on a pedestal, the four sides of which are carved with approximately 525 items of captured barbarian equipment, presumably modelled on *spolia* from Trajan's triumphs. Whilst the artists may have devised their own space-filling decoration on shields and helmets, they faithfully reproduced small details of single- and double-handed Dacian swords (*falces*), *draco* standards, helmets, archery equipment and scabbard-fittings.[9]

Robinson's main contribution to Trajan's Column studies was to point out that the traditional interpretation of auxiliary armours as made of hardened leather was mistaken, and that metallic mail was everywhere depicted. Moreover, the detailed fittings of '*lorica segmentata*' prove to be useless and misleading for reconstructing this armour form. The Column's main shortcoming is that the sculptors were unfamiliar with much of their subject matter. With such a large number of figures they were forced to work in a shorthand of 'figure types' (citizen soldier, auxiliary, officer etc.). This categorization served to distinguish visually the status of individuals, but it may also have imposed an unrealistic degree of equipment uniformity. Some figure types, such as archers with long skirts, were artificially created using barbarian *spolia*.[10]

Until recently Trajan's Column has dominated most fields of Roman army studies, particularly where castrametation and equipment were concerned. Taking into consideration stylization, sculptors' mistakes and recent developments in artefactual studies, the Column does not offer much independent information. The latter may be summarized as the presence and equipment of certain irregular troop types and barbarians, and the visual appearance of contemporary standards, tents and artillery.

Another Trajanic monument in Rome is represented by four panels reused on the Arch of Constantine and various fragments scattered amongst museum collections. This is the 'Great Trajanic Frieze' which depicts Trajan accompanied by Roman cavalry and infantry, the latter wearing '*lorica segmentata*', identified as praetorians by their scorpion badges. There is some controversy about the sculpture's original context, but the majority view favours a position within Trajan's forum complex. Many features of horse-harness, scabbard and belt-fittings, and *falces* may be paralleled by artefacts and

non-metropolitan sculptures. Great attention to detail is a function of the more than life-size scale.[11]

All the soldiers wear an 'Attic' form of helmet characterized by a narrow neck-guard and a plate across the front of the bowl. This type is very common in propaganda sculpture and it is quite different from the majority of contemporary artefacts, suggesting that Hellenistic artistic licence was at work. However, 'brow-plate' helmet finds do exist. Standards and unit emblems on the Frieze probably identify all the men as Practorians, and guard units in Rome may have used such helmets.[12]

A further monument associated with Trajan's Dacian wars is the *Tropaeum Traiani* at Adamclisi, for which epigraphic evidence suggests a date of AD 108/9. It consisted of a great rotunda decorated with a metope frieze and other sculptures. Some 49 of the original 54 metopes have survived and each is sculpted with a vignette of Danubian warfare. The confinement of figures within rectangular frames imposed limitations, but the attention to verifiable equiprnent equipment detail suggests that military sculptors executed these reliefs, providing a perfect foil to Trajan's Column.[13]

The metopes have most in common with military gravestone figures (see below, p. 8) and show legionary troops in mail and scale armour (see Fig. 53), not '*lorica segmentata*'. Helmets correspond with known artefacts and drilled holes were used as an unmistakable mail convention. Overall, the metopes show less uniformity of equipment than does Trajan's Column, and citizen troops bear the brunt of the fighting. However, clear distinctions between legionary and auxiliary equipment are maintained.

Trajan's Column deeply influenced 2nd- to 3rd-century sculptors in Rome. This is clearly demonstrated by some *congeries armorum* reliefs which were carved into the Antonine period with progressive stylization and diluted ethnic content. Every post-Trajanic monument in Rome depicting armoured soldiers cannot be evaluated in isolation, but must be compared with the Column to trace divergences from the original figure types. For example, on two sides of the Antoninus Pius Column pedestal a *decursio* of cavalry surrounds a group of Praetorian infantry. The latter wear '*lorica segmentata*' which differ from Trajan's Column armours in having multiple chest-plates and a scalloped undergarment. It can be argued either that these represent real differences in equipment practices, or that they are merely a slide into artistic embellishment.[14]

The closest emulation of Trajan's Column occurred with the erection of the Column of Marcus Aurelius in Rome, if one discounts Napoleon I's *colonne de la grande armée* in the Place de Vendôme, Paris (1810). No inscription survives on the pedestal so it is undated, and estimates for its completion range from the reigns of Commodus to Caracalla. Again, a spiral relief frieze depicts trans-Danubian warfare, in this case Marcus' Marcomannic wars. Much of the fine carved detail on Trajan's Column is invisible from more than a couple of metres away, and scenes on the frieze are very crowded. In consequence, sculptures on the Marcus Column were greatly simplified.[15]

The military equipment on the Marcus Column appears at first to follow the conventional citizen/non-citizen distinction but the sculptors played visual games within figure groups by alternating armour types in rhythms of scale – mail – plate. The '*lorica segmentata*' of citizen troops lack the detailed fittings of Trajan's Column but like the

Pius Column they often have multiple upper torso plates and a protruding scalloped undergarment or a skirt of protective strips (*pteryges*). Helmets are likewise increasingly stylized; shields are poorly depicted, small and flat, and generally lack detailed decorative blazons. On Trajan's Column most hand-held weapons were provided as metal inserts, but on the Marcus Column they are rendered in stone. All the shafted weapons are spears because slim, stone *pilum* shanks would have been sculpturally impractical. Of greater significance is the appearance of peltiform scabbard-chapes alongside the triangular type which is depicted on Trajan's Column. These, like the *pteryges*, may indeed reflect contemporary equipment changes. Moreover, new figure types were introduced on the Marcus Column, including an auxiliary horse archer, and unarmoured irregular spearmen and archers.[16]

Some of these new armour features also appear on a series of panels dating to the reign of Marcus Aurelius, and reused on the Arch of Constantine in Rome. Upper-arm and long skirt *pteryges* indicate the presence of an undergarment worn between tunic and '*lorica segmentata*'. Scale and drilled mail armours correspond with those on earlier monuments, but a new representational convention consists of single drilled holes within a framework of lines. This may be an experiment in mail or a padded undergarment with *pteryges*. A strap with an ivy-leaf terminal hanging from a scabbard is a new feature. Otherwise the equipment on these panels and other fragments of Antonine sculpture is formulaic.[17]

The process of reducing sculpted detail continued through into the Severan period. The Arch of Severus in the Forum Romanum at Rome (AD 203) bears four huge rectangular panels depicting the operations around four cities in Severus' eastern wars. Roman soldiers wear musceled cuirasses, mail, scale or '*lorica segmentata*' (the last time the latter are seen in Roman art). All the auxiliaries have armour, except some small groups in tunics alone which correspond to irregular troops on the Marcus Column. Shields are all oval and flat, and the only detail not seen on earlier monuments is a weighted *pilum*. Armoured Roman figures appear on triumphal friezes below the city panels. Despite damage, it is clear that carved detail was not lavished on equipment. In contrast, the arch's pedestal reliefs are more naturalistic and conservative in style. They include soldiers with *paenulae*, who also have short swords and triangular chapes; they would not look out of place on a Trajanic or Hadrianic monument. Overall, the arch combines the increasingly bland conventions ultimately derived from Trajan's Column and the 'unarmoured soldier' genre discussed above. Similarly, the nearby Arcus Argentariorum (AD 204) depicts unarmoured soldiers, captive barbarians and some praetorian standards.[18]

The Arch of Severus at Lepcis Magna (*c.* AD 202–4?) commemorated the eastern campaigns with one city siege scene. The same armour types appear as in Rome and a testudo of shields is copied directly from the Columns of Trajan and Marcus. Large-scale friezes with ritual and processional content include two soldiers in drilled mail and Attic helmets.[19]

The wars and usurpations of the 3rd century created a hiatus in propaganda sculpture between Severus and Diocletian. The latter visited Rome for the first time to celebrate his twentieth anniversary of rule, and military reliefs from two of the associated propaganda monuments survive. The first is the so-called Decennalia Base in the