

TRAJAN'S COLUMN: THE SCULPTING AND RELIEF
CONTENT OF A ROMAN PROPAGANDA MONUMENT

by

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Thesis submitted for the degree of Ph.D.
at The University of Newcastle upon Tyne

November 1988



Trajan's Column, CXLV, 10

To the memory of

LADY E.M.J. COULSTON
(née Nelson)

1897-1978

ABSTRACT

This thesis examines the reliefs of Trajan's Column in Rome (dedicated A.D. 113). It explores sculptural processes and provides a full and critical commentary on the relief content.

Section 1 reviews prior work on the column and explains how the present research was conducted whilst taking advantage of scaffolding erected in conjunction with conservation studies.

Section 2 examines the role of the column as a propaganda monument, exploring the value of the depictions of Trajan's wars as a source of historical information. This runs parallel to an enquiry into the imperial propaganda functions of the project. These two lines of approach are set against the column's immediate architectural environment which suggests how the reliefs were observed by the public audience.

Section 3 is a technical enquiry into the methods by which the column was fabricated, and the sculptures were planned and executed, based on minute observation and computer-assisted recording of the reliefs.

Section 4 deals with each of the potential sources of information concerning historical events, warfare, architecture and the Roman army available to, and employed by the sculptors working in Rome. It concludes that input from the war zone on the Danube was minimal in comparison with models and verbal information available in the capital.

In Section 5, the sixteen categories of human figures on the spiral frieze ('Figure Types') are dealt with in turn and examined in the light of comparative textual, artefactual and representational evidence with regard to their accuracy. Relationships with other contemporary monuments are also examined.

The last Section reviews the place of Trajan's Column in Roman monumental art, examining its innovative features and its influence on later works.

Preface and Acknowledgements

The present work started off by encompassing all sculpture with military content within the Roman empire. As the vastness of this undertaking became apparent, research concentrated on all sculpture of this kind from Rome alone, then just on imperial monumental sculpture. Finally, studies centred on one edifice, Trajan's Column. This process was very beneficial in building up, through library study and extensive fieldwork, a mass of comparative representational material, which could be employed in interpretation of the Trajanic reliefs. The resultant thesis also strongly reflects the writer's second main research interest, which is in Roman military equipment.

This thesis should be read in conjunction with one or more of the full photographic publications of Trajan's Column. In order of preference these are Cichorius, 1896;1900; Lehmann-Hartleben, 1926; Florescu, 1969. A new work which promises to make a useful contribution to studies of Trajan's Column most regretably was not available until after the text and notes of this thesis had been completed (F. Lepper and S. Frere, Trajan's Column. A New Edition of the Cichorius Plates, Gloucester, 1988). This also provides a readily available photographic coverage.

A number of institutions must be thanked for their generous support for the writer's researches. A firm financial base was provided at an early stage by the Department of Education and Science, and subsequently by the British Academy. Fieldwork in Italy, Germany, the Danube lands and the Levant were made possible by travel and research grants from The Tess and Mortimer Wheeler Fund, the British Institutes at Amman and Ankara, and from the British Schools at Jerusalem and Rome, most especially the

latter. A special debt of gratitude is owed to those referees whose kind support has been decisive, Mr. C.M. Daniels, Professor R.M. Harrison, Professor J.J. Wilkes and Professor T.P. Wiseman.

In Rome a tremendous amount of help and advice was freely given by Ms A. Claridge who discussed many marble-related problems. Dr. A. Alcock, then on the British School library staff, was also of great assistance. The writer is particularly grateful to the directorates and staffs of the Musei Capitolini, Museo della Civiltà Romana, Museo Nazionale delle Terme and the Musei Vaticani who allowed unrestricted study and photography, and access to their reserve collections. Professor A. La Regina granted special permission for long periods of work on the scaffolding around the Columns of Trajan and Marcus, and the Arches of Severus and Constantine, without which this thesis could not have been written. Arch. G. Martines accompanied the writer on some visits to monuments and provided stimulating technical discussion.

In Newcastle, many colleagues helped the writer's ideas to develop through informal conversation and more formal seminar and lecture discussions, in addition to kindly drawing attention to relevant references noticed during their researches. In particular, Mr. W. Hubbard helped with the formulation of the figures. The writer is also very grateful to all those people present at the series of Roman Military Equipment Conferences whose influence is apparent from a glance at the bibliography.

The text was typed up with great accuracy and efficiency by Mrs. B. Grainger, the notes and bibliography by Dr. M.C. Bishop.

All the plates come from the writer's own collection with the exceptions of Plates 120-2, 159, 163 which were provided by the Deutsche Archäologische Institut in Rome (respectively Neg. No. 31.119, 31.120, 31.122, 73.70). They were printed by the writer except for Plates 22, 24,

48, 72, 97, 146, 150-1, 154-7, 177-9 which were the work of Mr. S. Trounson. The frontispiece and Plates 9, 13, 21, 81, 98, 112, 116, 160 were printed by the Audio-Visual Centre, University of Newcastle upon Tyne.

The people to whom I am most indebted have been reserved to the end. My supervisor, Mr. C.M. Daniels read all of the text with great care and attention and was unfailing in his support. Dr. M.C. Bishop read parts of the manuscript and untiringly advised on the myriad practicalities of producing a doctoral thesis. The confidence of my father, Mr. J.A.H.N. Coulston, and of my family has been ever-present throughout my endeavours. Lastly, Dr. Hazel Dodge also read sections of the text and has been a constant adviser and companion at home and abroad. Her encouragement was the decisive factor which maintained my course. It is no more than the truth to say that without the help of these people this research would never have been completed.

Opinions expressed in this thesis and any mistakes it may contain are the responsibility of the writer alone, and not that of the many people gratefully acknowledged above and in the notes.

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SECTION 1

INTRODUCTION: THE STUDY OF TRAJAN'S COLUMN

It is not too much of an exaggeration to say that more ink has been spilled by scholars over Trajan's Column than over any other Roman monument or artwork¹. This is the case for three main reasons. Firstly, Trajan's reign represented the apogee of Roman military and territorial power, and Trajan himself was lauded by his contemporaries as the best of emperors. Many of the most admired imperial period latin writers worked during his reign and their views of the Roman past were, of course, shaped by contemporary political experience. Therefore, modern scholars have been concerned to learn more about Trajan and his times through the study of his most impressive and completely surviving monument.

The second reason for intense study of the column was the seemingly historical commentary graphically provided by the spiral frieze whereas, by comparison, the literary evidence which survives for the emperor's reign is very fragmentary and unsatisfactory. A great deal of modern 'historical' literature has sought to wring out every last detail from the frieze and many scenes², even some individual human figures, have scholarly articles devoted solely to them. Whilst such enquiries have been understandably thorough and the pursuit of every avenue of interpretation has been a very beneficial process, extreme caution should be exercised in accepting 'some strange chimeras'³ which literal approaches have generated (see 2.2).

The depiction of the Roman army at war is the third attraction of the frieze. The highly detailed representation of human figures and scenery provides a great deal of material for military equipment, fortifications and frontier activities. The vigorous development of Roman frontier studies, particularly in those modern countries

through which the limites passed, has concentrated attention on the column as a source of information for Roman castrametation, arms and armour. On a more popular level, the great visual impact of many scenes on the frieze has made their reproduction in general works on Roman culture and warfare irresistible. Frequently the column has been employed out of period for the depiction of Roman soldiers⁴, particularly in films and in Christian iconography⁵. However, since the 1970s, scholars have turned away from the column because the growing body of artefactual evidence and the development of equipment studies made it increasingly clear that details of the frieze were stylised and inaccurate. Some commentators broke with tradition and began to use the artefacts, not the sculpture, as their primary source⁶. Whether or not the pendulum has swung too far in this direction, and whether or not the column still has reliable information to offer are problems addressed by the present work (see 5.20). One area in which the column continues to exert unabated influence is the study of Roman military architecture. Any number of reconstruction drawings in excavation reports, and even some full-size simulations on sites are still based on the column. This is partly because the vast majority of 1st century A.D. fortifications on the northern Roman frontiers were built of perishable materials, wood, earth and turf. Artistic representations of these, as opposed to those of their stone successors, are extremely rare, and their upper features have not been recovered archaeologically. Caution must again be exercised in the easy acceptance of the column's representations without careful consideration of the functions of architecture located far away from the imperial capital and out of sight of the sculptors (see 4.7).

It is clear that whatever the latest scholarly standpoints on the many interpretational aspects of the frieze, the column permeates

the history of Roman studies in the fields of history, military affairs, architecture, religion and ethnography. However, despite the intensity of study, there are some major areas which have not in the past been adequately examined. Scholars have approached the column from the three directions of historical interpretation, art historical examination of frieze style and composition, and of military architecture and equipment studies. Few have combined these interests⁷. Archaeologists, content to selectively employ the frieze as a source of information, have not examined the practicalities of the planning and sculpting of the frieze. Art historians have been impressed by the high degree of detail and generally accepted the accuracy of equipment without serious question. Historians have often concentrated on the 'events' depicted on the frieze without taking a more detached view of how this content was generated. Some scholars have adopted the positive aspects of two approaches but it seems that none has taken on all three. All areas of study have suffered as well as benefited from specialist perspectives but some have been particularly neglected. Art historians have generally been disinterested in the practical approach to sculpture which is concerned more with materials and techniques⁸ than with subjective stylistic judgements. Thus, the sculpting of the column has rarely been closely examined⁹, and only once by a knowledgeable modern sculptor¹⁰.

There are of course problems created by a subject which is almost 40m high. It is comparatively easy to study in minute detail a small work, such as a sarcophagus, a stela or a monumental panel. On the other hand, the sheer size of the column, practical difficulties of access to the shaft face, and the large number of human figures depicted have prevented or deterred scholars from examining the frieze

in great detail. In fact, as soon as a full set of casts of the spiral had been made in 1861-62 such work was possible. However, copies of these casts have themselves seldom been given proper attention, despite the availability of complete or part-sets in several European capitals.

Casts were made for three French rulers, François I (1541), Louis XIV (1670) and Napoléon III (1861-62). The most complete coverage was that produced for the last, and copies from the matrices were used for the sets now in London, Berlin, Rome and Bucarest¹¹. The making of casts has proved to be crucial in preserving sculptural details lost through acid rain erosion since 1861-62, but it has also introduced an insidious limitation to modern studies. The most useful photographic publications of the frieze have, for practical reasons concerned with the curvature of the column shaft, employed the casts rather than the original as their subject¹². Detail is recorded by the casts to a very fine degree and the early photographic reproductions were brilliant, but these publications had no choice but to lay out the frieze in spiral sequence. This prevented all but a very few scholars¹³ from noticing that many scenes relate to each other vertically between the spiral windings and not along the helix. Once such vertical correspondences are admitted into discussion they transform the understanding of historical content, scene composition and the application of sculpted detail (see 2.2; 3.2.9).

With 2,639 human figures present on the frieze, commentators have dwelt principally on the general consideration of events depicted, or have attempted overall partial description¹⁴, or have chosen a few 'representative' scenes for detailed description and commentary¹⁵. There have been no complete figure-by-figure descriptions, or even

a complete description and interpretative commentary on the military equipment or fortifications¹⁶. This is not in any way to belittle prior scholarship. On the contrary, even the most literal historical examinations or the most ingeniously complex iconographical theories which do not bear close scrutiny have served to stimulate discussion and to eliminate certain dead-ends from the enquiry.

The leitmotif of the present work is the examination, recording and interpretation of the frieze in the utmost detail in the hope that this will reveal features of the sculptural process (see 3.2). Something may be learnt about the composition and planning of the spiral through tracing the incidence and distribution of various features of detail. A figure-by-figure description is provided for reference and as a future research facility (Appendix 1).

The close-up observation of the spiral was pursued in two ways. Firstly, casts in the Museo della Civiltà Romana, E.U.R., and in the National Museum, Bucarest, were studied and recorded, sometimes using raking torchlight to clarify worn and eroded features. The principal advantage of this is that the column was in a far better state of preservation in 1861-62 than it is now. Detailed classifications of such features as helmet types, lorica fittings and shield blazons were worked out at this stage (Appendix 2-4). Work then transferred to the scaffolding around the column itself. Reliance on the casts alone was found to be insufficient for three reasons. Firstly, in order that the matrices could have been removed from the surface of the shaft, the moulding process filled in many spaces behind limbs, tree branches, sword hilts and other objects which has been sculpted in high relief and undercut. Secondly, the column was covered by a fawn-coloured clay-based wash

Fig 3

Frontis.

over its entire surface, in common with the Marcus Column and the Arches of Severus and Constantine. Where this wash survives well the smallest details of chisel-marks and rasping are visible. Where this has been eroded away the marble beneath has usually lost such features (see 3.2.6). The colour of the surface clearly indicates its condition and the extent of erosion, and this cannot be determined from the cast¹⁷. Lastly, standing at the shaft face, the observer may appreciate the vertical relationships of scenes and details between spirals. Moreover, an important perceptual consideration is that the frieze may be viewed from the same perspective as that of the sculptors who worked on it. The third stage of work was to encode all the feature variants for each human figure on the frieze, then to sort the resultant mass of data with a computer so as to plot graphically detailed distributions on the shaft.

(Frontispiece,
(Pl 20,60,80,
(115

The first use of the distribution patterns was to throw light on the sculptural processes. This was done in the context of following the column project from the despatch of specifications to the quarries through to the last lick of paint, removal of scaffolding and the clearing up of the immediate area (see 3.1; 3.3.5). If it can be demonstrated that the distribution of certain features was dictated by the sculptural processes rather than by the choice of scene content, then the ramifications would be fundamental for the evaluation of detailed accuracy, and for the employment of the frieze as a source of information, whether with respect to historical events or on equipment (see 3.2). In any case, information which may be gleaned on the practical aspects of relief-sculpting is of value in an area of study which is still rather grey.

The commentary on relief content takes two interrelated forms. The first is an attempt to determine what sources of information about the Dacian wars in particular, and frontier warfare techniques in general, were available to the planners and sculptors working in the capital (see 4). This discussion necessarily explores potentialities as much as it does evidence specific to the Trajanic project, but it is hoped that a reasonable picture of the artists' aims, perceptions and cultural milieu may again reflect upon the evaluation of relief content. In this enquiry the scenery may be most conveniently examined in detail (see 4.7). The second form of commentary examines the human figures which may be divided into different types of soldiers, barbarians and non-combatants. Here the whole question of artistic stylisation, realism and the accuracy of equipment is dealt with (see 5).

Most aspects of the frieze are included in these commentaries and archaeological discussions. To put the spiral content into its proper context and to evaluate its accuracy, comparative literary, pictorial and artefactual material has been employed. All three species of evidence have their limitations, however, and these must be fully appreciated in order that circularity of argument and chronological anachronisms are not introduced¹⁸.

Much of the literary material was a product of senators writing for an elite audience, conforming to, and reflecting, a particular world-view. This could be an advantage for studying a monument which may have been couched in the same terms, but in different matters, such as descriptions of soldiers and battles, this bias must be taken into account¹⁹.

The reliability of pictorial evidence depends upon when, where, by whom, and for whom the particular representation was created. Depictions of soldiers on provincial stelae are generally considered to be more reliable in their depiction of military equipment than metropolitan sculptures because small details are corroborated by small-finds. However, these and other provincial classes of representation have their limitations and peculiar conventions which must be allowed for²⁰. So as not to introduce circular reasoning, care has been taken not to place reliance upon representations which may have been directly influenced by the column, that is to say upon post-Trajanic sculpture in Rome.

The artifactual evidence would seem to be the most reliable of the three forms as a source for military equipment. It does illuminate typological developments and actual equipment practices in comparison with which the column's equipment may be judged for accuracy and practicability. The drawbacks are that virtually no material has been found in Rome itself²¹, the bulk of it being found on the frontiers in more or less biased contexts such as graves, ritual contexts and fort demolition deposits²². There is also a paucity of artefacts datable to Trajan's reign. These limitations aside, the use of comparative artifactual evidence has been greatly facilitated by the development of this area of study through a series of Roman Military Equipment Conferences²³.

The present work was only made possible because scaffolding has been erected around the shaft²⁴ as part of a conservation and study programme, starting in 1980²⁵. This coincidence of research timing and means of access was the result of an ongoing tragedy for this and other monuments bearing reliefs. Rome is one of the world's

most atmospherically polluted cities²⁶. Both oil-fired central heating and the thousands of cars on the roads, especially on the Via dei Fori Imperiali, are taking their toll. Rainwater erosion and general physical damage are far less marked on Trajan's Column than on the Marcus Column, for example, because of the very low relief which rarely exceeds 5 cm. The black, sooty deposits seen on so many of Rome's marble monuments are comparatively infrequent on the column, except where higher relief allows rainwater to collect and evaporate, as in scenes XXIV and CXLIX, and on the sides of the pedestal. The acid solution which erodes the marble exploits every little weakness formed by sculptural detail, however, leaving eroded surfaces which are grey, gritty and pitted. The extremely high degree of virtuoso detail is in the utmost peril, or at least that which still survives is. Tiny armour fittings are disappearing fast, as are many of the most outstanding shield blazons such as the eagle and lupercal type in scenes LXII and LXIII which are now virtually illegible²⁷. Detailed observation of the column compared with examination of the casts carried out for the present work gives some idea of the appalling rate of loss (see 3.2.6)²⁸.

Pl 164-79

(2,3,21,33,
Pl (34,64,65,
(130,131,133

Pl 57,63

SECTION 2

THE FUNCTION OF TRAJAN'S COLUMN

Before the content of the spiral frieze is examined in detail there should be some understanding of the role which the column was intended to play and which presumably directed composition of the reliefs. Discussion of the extent to which the spiral was a faithful chronicling of Trajan's Dacian wars has generated a great deal of modern literature, but equally important is the definition of how the column functioned as a vehicle for imperial propaganda and the forms taken by these messages for public consumption. Interrelated with these questions of historicity and political display is the column's place within a wider architectural complex. It did not stand in isolation and the physical context may also have exerted influence and imposed constraints on the sculptures.

The results of archaeological excavations and surviving fragments of the Forma Urbis Romae combine to reveal the layout of buildings originally standing around Trajan's Column¹. The pedestal stood in a paved court, approximately 25 m wide and 18 m deep, with colonnades on three sides and, on the south-east side, a closed wall². Beyond the colonnades stood a confronting pair of libraries to the north-east and south-west, whilst beyond the south-east wall lay the massive Basilica Ulpia and the colonnaded forum. On the other side of the north-west colonnade was situated the Temple of Trajan and Plotina with its own colonnaded temenos.

Fig 31

The fasti Ostienses give a date of A.D. 112 for the completion of the forum and basilica, and A.D. 113 for the column³. The latter corroborates the consular date on the dedicatory inscription over the door of the column's pedestal⁴. The libraries were attributed to Trajan by Cassius Dio and bricks with Trajanic stamps have been found in their walls⁵. The surviving temple inscription has a Hadrianic consular date of A.D. 118 or later, and Plotina died in A.D. 121⁶.

The architectural environment of the column bears directly upon the impact of the spiral frieze and the column's pedestal reliefs on the public audience. Arrangements for public viewing may perhaps have been taken into account by the planners and sculptors who laid out the frieze (see 2.2-3; 3.3.3). Modern architectural reconstructions have favoured flat roofs over the

porticoes on three sides of the court, and some form of gallery facing out from the basilica on the fourth⁷. These would have provided viewing platforms at a height of perhaps c. 11 m above the ground on three sides and c. 13 m on the basilica side⁸. The spiral frieze starts at a level 9 m above the ground. If these platforms were connected by stairs then it would have been possible to move around the column shaft, viewing it from all sides, but the closest that an observer could have come to the spiral would have been c. 8 m. With a portico width of c. 6 m the top spiral would have been observed with a line of sight at an angle of not less than 45°, whilst from the court the angle would have increased to approximately 70°⁹. At ground level the court could only have been entered from the basilica at its south and east corners because the closed basilica wall precluded an axial approach to the pedestal doorway. The exact arrangement for approach from the north-west is unsure but either open colonnades or a central entrance aligned with the column have been postulated¹⁰.

Views of the column from outside the immediate court area were masked to the south-east by the bulk of the Basilica Ulpia. However high the libraries are reconstructed, with one or two storeys, they substantially obscured sight of the column from the Capitoline and Quirinal hills¹¹. It was only on the north-west side that the column was freely visible above the enclosing colonnade, and thus it is important to determine what buildings lay in this quarter.

Persuasive cases have been put forward for the building of the axial temple under Trajan and its rededication under Hadrian, or, alternatively, for the entire construction of both the temple

and its temenos under Hadrian. The Trajanic origin is based on the depiction of a large, unidentified temple on Trajan's coinage and the fact that all the other imperial fora had axial temples¹². The most persuasive commentator suggested that the red granite shaft with a quarry inscription of A.D. 105/6, used for the Column of Pius, was left over from a batch of columns ordered specifically for the huge temple¹³. This quarry inscription thus dates the temple to Trajan's reign. The coins show a major temple with surrounding colonnades which seem to correspond with modern reconstructions of the curving temenos wall based on excavation.

Against the Trajanic hypothesis is the temple's dedicatory inscription and the necessity for rededication from some unknown deity to Trajan and Plotina after the emperor's death in A.D. 117¹⁴. The Pius Column theory is attractive but speculative and the perspective employed for the colonnades on the coins makes the intention of parallel structures as likely as that of curving ones. However, serious doubts have been cast in any case upon the excavation evidence for the curving temenos wall, as the curb-stones associated by the excavators with this wall were probably located at a lower, pre-temple level¹⁵. Architectural fragments from the temple are insufficient for close dating within the short period of A.D. 112-21 in question¹⁶. Appeal to the other imperial fora plans ignore the fact that the Temple of Trajan was cut off from the open forum by the basilica. Moreover, forum layouts in the Italic tradition had associated temples, but these generally faced directly onto the open piazza and seem never to have stood behind associated basilicae¹⁷. In addition, the Basilica Ulpia was probably a necessary provision because none of the other imperial

fora had large under-cover halls. Its subsequent importance as a centre for legal and cultural activities would seem to bear this out¹⁸. It might be argued that the unusual location of the Temple of Trajan in relation to the forum and basilica resulted precisely from the interment of the deceased emperor in the column pedestal. Thus, the temple may have been more closely associated with the column and libraries than with the forum-basilica complex overall. Until excavation of the temple site itself is carried out the weight of evidence lies predominantly with the Hadrianic dating.

Before the temple was built, the area north-west of the column court as far as the via Flaminia was probably free of buildings, apart from tombs. Baths and an insula behind the temple appear to have been 3rd century A.D. constructions¹⁹. Thus, without the temple, the column would have been clearly visible to travellers approaching the city from the north along the equivalent of the modern Via Lata/Via del Corso. There was indeed a triumphal theme running up the north-west face of the shaft, vertically linking scenes on separate spirals, which was intended to have been intelligible to the viewer. After the temple was built it cut off sight from the road but its podium would have served as a viewing platform (see 2.2-3)²⁰.

Fig 5

The column was located in an axial position with respect to the whole forum-basilica complex and to this extent it was integrated in the overall architectural programme. According to the inscription on the pedestal the height of the column marked the height of a mons removed in the building work. Boni's excavations around the pedestal revealed Republican period structures on the column site so the 'hill' was not a saddle between the Capitoline and Quirinal hills but, as is generally agreed, it was a cutting into the side of the

Quirinal made to accommodate the north-east hemicycle of the forum²¹. Ill-considered theories about the original erection of the column at the latter site and its subsequent movement to the present location may be ignored on practical grounds²². One of several locational factors may in fact have been the desire for the shaft to have been visible to people on the via Flaminia.

Commentators have drawn attention to the similarity of the forum-basilica plan, without the temple, to military principia layouts, especially to those large buildings found in legionary fortresses²³. By extension, the libraries might be considered as having corresponded with clerical offices in the principia rear range, and the column with the legionary standard placed in the central aedes principiorum. The early plan to top the shaft with an eagle rather than with an imperial statue, as suggested by representations on coin issues, might further link column with legionary aquila²⁴. The architect who designed Trajan's forum, Apollodorus of Damascus²⁵, also worked on frontier projects and would have been familiar with military architecture (see 4.2). Whilst such a correspondence of building plans in Apollodorus' mind cannot be entirely ruled out, a simple principia parallel ignores the traditional Italic layout of fora with a basilica positioned along one side. This was very likely the antecedent of the military principia²⁶. Moreover, the column did not look inwards to the basilica, in the way that the aedes did, but outwards towards the via Flaminia or the temple. In fact it was invisible from the floor of the basilica because of the intervening closed wall.

The viewing platforms around the column enabled some of the frieze spirals to have been examined intelligibly, but they were

Fig 31

not close enough for the small sculpted detail which would have been largely invisible (see 3.3.3). Beyond this, there were vertically traceable themes in the relief content designed to have been seen from a distance, even from outside the building complex (see 2.2-3). The location of a spiral relief column in a situation crowded around by buildings was, however, never repeated. The Marcus Column probably stood in a large open area and the Columns of Theodosius I and Arcadius were erected in the centres of fora (see 6.2-3).

Every detailed study of the spiral frieze on Trajan's Column must squarely face the problem of how far the reliefs formed an historical documentation of the Roman conquest of Dacia. Dependent upon the solution to this problem is the use to which the column may be put as a source of historical information in its own right. Modern commentators have generally been predisposed to look upon the frieze favourably in this respect because literary sources for the Dacian Wars are sparse and mutilated. Records are confined to Dio Cassius' epitomised work, some comments in the Younger Pliny's writings, asides made by Pausanias and Procopius, one surviving sentence of Trajan's own account¹, and various epigraphic references, including the fasti Ostienses² and the epitaph of Decebalus' 'captor'³.

The spiral frieze is separated into two equal parts by a winged Victory (LXXVIII). A detached examination of devices employed to divide off groups of scenes reveals that these parts, or wars, are sub-divided into a series of phases which further break down into coherent blocks of scenes. The methods of breaking up the continuity of the frieze consist principally of inserting isolated trees, of abruptly changing the direction of human figure movement, or of repeating certain types of scenes in a cyclical manner (see 3.2.2; 3.2.10). When the action within scenes takes place in mountains, forests, camps, or in association with rivers and seas, the sculptors were able to make the context clear by the

Fig 2

Pl (63,81,
(116,119)Pl (23,53,
(62,87)

use of scenery conventions. The nature of activities in scenes with regard to army advances, building activities, battles and submissions are in general unambiguous for the viewer. Single 'scenes' are definable by the poses and actions of figures which form coherent units (see 3.2.2).

The action flows up the anticlockwise spiral in such a way that the Romans always inexorably advance whilst the Dacians retreat. Thus, when Romans, particularly the emperor, change direction and incline down the spiral they create a break in continuity. Taking this and the other divisive devices into account a scheme of wars, phases and blocks of scenes may be distinguished⁴.

Pl 45,92

First War (I-LXXVIII)

1. Army bridge-crossing and advance with heavy building activities, culminating in a large battle. Four blocks: I-X, campaign-opening sequence; XI-XXIII, advance with construction scenes; XXIV, battle; XXV-XXX, battle aftermath.
2. Barbarian counter-attack necessitating a change of location. Trajan moves up with reinforcements to a series of battles. Four blocks: XXXI-II, barbarian river-crossing and attack on a Roman fort; XXXIII-VI, Trajan's journey by ship and horse; XXXVII-XLI, three battles; XLII-VII, aftermath.
3. Army bridge-crossing and advance with building activities up to a series of battles and sieges, and culminating in a final barbarian submission. Six blocks: XLVIII-LIV, campaign-opening series; LV-XIII, advance with building; LXIV, Roman cavalry attack; LXV-XXIII, wooded battles and sieges; LXXIV-V, submission; LXXVI-VII, aftermath.

Second War (LXXIX-CLV)

1. Long journey by sea and land of Trajan and entourage. One block: LXXIX-XCI.
2. Barbarian resurgence and attacks on Roman fortifications and relief led by the emperor. Lull, sacrifice by a bridge and envoy reception. Two blocks: XCII-VII, building activities and battles around fortifications; XCVIII-C, bridge scenes.
3. Army bridge-crossing and advance to besiege a major Dacian fortress. Barbarian submission, mass suicide and flight. Fortress occupied. Seven blocks: CI-V, campaign opening series; CVI-X, advance; CXI-II, scenes around a fortress; CXIII-VI, fortress assault; CXVII-VIII, building and submission; CXIX-XXVI, fortress abandonment and Roman occupation; CXXVII-XXX, building and submission scenes.
4. Aftermath operations with Roman advance continuing the capture of Decebalus' treasure and the king's pursuit and death, followed by skirmishing. Seven blocks: CXXXI, advance; CXXXII-VI, assault series; CXXXVII-XL, adlocutio and treasure recovery; CXLII, submission; CXLII-VII, Decebalus pursuit, death and head display; CXLVIII-CLIII, skirmishes; CLIV-V, advance.

As a straight narrative account the frieze leaves a great deal to be desired. The campaign-opening sequences are so similar to each other that they seem to follow common formulae. Many single scenes stand in isolation and confuse, rather than elucidate the development of events (see 3.2.10). The last phase of the second war is particularly disjointed. Although it contains important scenes relating to the fates of Decebalus and his treasure, the action straggles on in such an indeterminate way that it was almost as though the sculptors were running out of ideas (see 3.2.10).

Early studies of the frieze in particular adopted a literalist approach, interpreting details of figure poses, landscape and scenery as careful records of events and geographical locations⁵. Subsequent studies of the style of the reliefs helped to put the 'historical' detail into the context of artistic composition⁶. As a result, a spectrum of academic stances on the historicity of the frieze has been taken up. These ranged from a minimalist belief that the content is entirely symbolic, episodic and poetical with virtually no historical value⁷, through to the view that, whilst much of the composition was epitomising and propagandist, it may still be used to reconstruct geographical lines of march, phases of the wars, and theatres of operation⁸. Nearly all commentators, including a reluctant Richmond, but with the notable exception of Lehmann-Hartleben, admitted the existence of a basic organisational framework to the frieze, following the general course of actual events⁹.

This standpoint is based upon the independent knowledge that there were two Dacian wars which correspond with the spiral divided into two by the Victory and trophies (LXXVIII)¹⁰. Moreover, a number of scenes seem to depict events mentioned in Dio's account of the wars. The man who falls off a mule before the emperor in scene IX is clearly to be identified with Dio's messenger from the barbarian Buri¹¹. The round, pocked object the man carries is not a shield but the mushroom upon which the warning to Trajan was written. The successes of Lusius Quietus are clearly alluded to by the depiction of Moorish cavalry in scene LXIV (see 5.11)¹². Late in the first war Dacian fortifications assaulted by Roman troops recall the recorded capture of fortresses by Trajan and Laberius

Pl 8

Pl 62

Pl 77

Maximus¹³. Demolition of walls by Dacians in scene LXXVI suggest compliance with terms of the treaty ending the war¹⁴. The last phase of the second war also has some links with Dio in that Decebalus dies by his own hand (CXLV) and his treasure is recovered by Roman troops (CXXXVIII)¹⁵. The tombstone of Ti. Claudius Maximus confirms the involvement of cavalry in the final pursuit of the king¹⁶.

Pl 114

These historical scenes are direct contact points with the literary and epigraphic sources. Other scenes with unusual content may record actual events which have not been preserved elsewhere. A run of scenes between XXXI and XLV is delineated and united (XXXIV) by the employment of stone towers, a device not used elsewhere on the frieze¹⁷. This phase depicts barbarians crossing a river to attack Roman forts (XXXI-II), the emperor restoring the situation, a series of ferocious battles in which, uniquely, Roman troops are wounded (XL) and the barbarians have wagons (XXXVIII) and armoured cavalry (XXXI, XXXVII). Commentators have speculated that these scenes record a barbarian invasion of Roman Moesia because the literary sources hint of conflict with Sarmatian peoples (the armoured cavalry, XXXI, XXXVII; see 5.14) during Trajan's reign¹⁸. Nicopolis-ad-Istrum was founded in Moesia at this time to commemorate a victory¹⁹, and metopes on the Trajanic tropaeum at Adamklissi (Romania) depict Sarmatians and wagon-borne barbarians (see 5.19). Between the wars Trajan travels by sea and land to the war zone and a great deal of literature has been generated by attempts to trace the exact course of this journey²⁰. In the second war the Dacian occupants of a major fortress in scenes CXX-XXII appear to commit mass-suicide by drinking poison and this may

Pl 27,33-6

Pl 86-90

have recorded a real situation²¹. A small submission scene before the king's treasure is found (CXXX), has been identified as the betrayal of the hiding place by one Bikilis, a traitor's act described by Dio²². Lastly, the head of Decebalus is paraded before the troops (CXLVII), as it presumably would have been prior to being sent to Rome for display²³.

On a descending order of reliability below the direct contact points, and the unusual scenes which may depict actual events, are the remaining scenes which record the marches, battles, construction work, submissions and speeches to the troops. Such actions indubitably occurred, especially the acclamation scenes at the end of each war (LXXVII, CXXV). The armies did advance into Dacia, fight the Dacians and build fortifications. The emperor would have received submissions and addressed the troops. Particular scenes may be further linked with literary accounts, such as the large battle in scene XXIV, presided over by Jupiter Tonans, which may represent the battle at Tapae²⁴.

Pl 20-3

The area of military operations on the middle and lower Danube, and the approximate territorial extent of Decebalus' kingdom within, and extending out from the Carpathian mountain ring are known from the literary sources and the development of archaeological studies²⁵. The physical topography of the region is unchanged and the routes followed by Roman forces advancing into Transylvania can be deduced from the few existing mountain passes which armies could practically have crossed²⁶. A sentence of Trajan's commentarii survives to give a route in the first war via Berzobis and Aizis, place-names which may be located using the Tabula Peuteringiana²⁷. Commentators have gone further in attempting to label all the towns, forts, camps and

rivers on the frieze in the belief that these all correspond with actual locations. The starting points of the three Roman invasions have only a limited number of alternative Roman bases to choose from (Viminacium (Kostolac), Lederata (Palanca) and Drobeta (Turnu Severin); IV. XLVIII, CI)²⁸. Forts in Dacia are more difficult to place but the assumption has been made that names in surviving 2nd to 3rd century A.D. documents corresponded with fortifications of the invasion period depicted on the column²⁹. Gauer deduced a topographical programme on the frieze whereby particular places occur according to a coherent system³⁰.

However, the suspicion is aroused that the growing modern knowledge of the Dacian wars acquired from sources other than the column may have forced interpretations of content and identities of places onto the frieze which were not necessarily intended by the Roman planners and sculptors. The only river which may be named with any confidence is the Danube in scene IV, the importance of which is indicated by the presence of a river god (III). By extension, the other rivers crossed by advancing armies might also be identified as the Danube (XLVIII, CI)³¹. Most of the place-names confidently appended by scholars to particular scenes are not based upon convincing features of the location represented. Towns associated with Roman campaign commencements are unspecific. Two which are sometimes both identified as Drobeta have an amphitheatre in common, but in XXXIII this building is made of stone, whilst in C it has a timber structure (see 4.7.3)³². The conventions of perspective, space and skill employed in the depiction of architectural scenery on the frieze preclude the literal deduction of building ground-plans, as does the representation of

Pl 3

Pl 42,98

Pl 97

landscape for tracing out topographical features (see 4.7; 4.8). This approach and the naming of locales are seriously called into question by the employment of fortifications on the frieze primarily for compositional effect, notably in the pairing of forts and camps (see 4.7.1) and in the defining of the suovetaurilia sacrificial genre (VIII, LIII, CIII)³³.

Pl 48

When all these qualifications are taken into consideration, only two places can be identified with any surety. Firstly, the bridge with stone piers and a wooden superstructure in scene XCIX corresponds with literary descriptions, coin depictions and the archaeological remains of Apollodorus of Damascus' Danube bridge at Drobeta (see 4.7.4)³⁴. The bridge crossed at the beginning of the second phase of the second war (CI) has a similar triumphal arch with trophies to that seen in XCIX and on the coins, but its identity is not completely assured because the structure is entirely wooden³⁵. Secondly, Trajan's journey between the wars starts off from a port characterised by an arch and two large temples (LXXIX). One of the latter has been identified with the Temple of Venus at Ancona, mentioned by Juvenal³⁶, and the arch corresponds with the edifice still standing on the harbour mole of that port. A major difficulty is the fact that the Ancona arch is dated to A.D. 115 by its inscription³⁷, two years later than the completion of Trajan's Column. Despite this, commentators have been almost unanimous in accepting the port's identification³⁸.

Pl 94

Pl 86

A third place-name which is applied with less agreement is Dalmatian Salona for scene LXXXVI during the sea journey sequence³⁹. Whilst this scene includes some fine architectural features (see 4.7.3), there are no details which were necessarily peculiar to

Salona. The labels applied to other towns and forts are even more disputed and it is significant that such a great variety of itineraries for this journey phase have been advanced by scholars⁴⁰. The sequence of scenes takes up a large amount of space and it is not impossible that its main function was to draw attention away from the serious unpreparedness of the emperor and his armies in the face of Dacian resurgence. A literary parallel might be found in Caesar's excursus description of Britain which was intended to distract his readers away from his having negligently allowed his beached fleet to be damaged by a storm⁴¹. Whatever the probabilities of the identifications of locations involved in the Dacian wars, it is important to draw a distinction between likely places concerned and those actually depicted on the column.

The scenery conventions made it very difficult for the frieze designers and sculptors to depict specific and readily recognisable geographical locations. Beyond this, there are other objections to the optimistic acceptance of the historicity of events on the spiral. Once the approximate height of the spiral band had been decided, the designers had a limited length of frieze (200 m) to work on within a unit of arbitrary length set by a shaft 100 Roman feet (29.78 m) high. The division of the spiral into two parts of equal length by the Victory was made without reference to the relative importance or complexity of the actual events of the two wars. In fact, the first war had more 'action' in it whilst the second consisted simply of an advance to the Dacian capital, its assault and surrender, and the pursuit and death of Decebalus. Thus, disproportionate space was given to Trajan's journey to the war zone, and to the last phase of the war, to judge by its indecisive and

stragglng course. Influences and restrictions were at work on the layout of the spiral which limited the naturalistic and faithful representation of events.

The most damaging blow to historical positivism was delivered by Lehmann-Hartleben's analysis of the frieze. He classified scenes in adlocutio, religious offering, construction, embassy and captive presentation, march and journey, and battle genres. The iconographic history of each was traced in sculpture, painting and coin representations, and, because their content was so generalised, Lehmann-Hartleben doubted that they carried any specific historical significance⁴². The ceremonies and activities which would actually have occurred in Dacia, some of which like sacrifices and adlocutiones would also have commonly been enacted in Rome, had already entered artistic traditions (see 4.8). Further, he drew attention to the employment of formulaic sequences of scenes to open each offensive Roman campaign on the spiral⁴³.

To these may be added the tendency of the sculptors to construct runs of scenes in such a way as to artistically balance or contrast their content. In the first war a stark dichotomy was struck between Roman victory and reward on one hand, and Dacian defeat and ignominious death on the other (XLII-V)⁴⁴. In the second war runs of scenes were frequently put together. Scenes CXIII-XVI group round a mêlée (CXV), on either side of which observing groups of figures (CXIV, CXV) and furious assaults (CXIII, CXVI) balance each other in pairs. A correspondence in compositions of figures and courses of fortress walls mark scenes CXX-XXII and CXXIV-VI, grouped round a submission scene (CXXIII). In the last phase of the second war, scenes of marching Dacians balance

Fig 6

to either side of a barbarian assault on a Roman fort (CXXXII-VI) and, lastly, a sequence of Roman adlocutio and capture of treasure (CXXXVII-VIII) balance and contrast with a Dacian adlocutio and barbarian suicide (CXXXIX-CXL; see 3.2.10). The primary force behind these constructions was not straightforward chronicling of events but composition for artistic effect. On a smaller scale, some particularly long single scenes were set-piece arrangements. Among these is scene LXXV depicting the large Dacian submission at the end of the first war. Much dispute has taken place as to whether or not the occasion was actual, or symbolic⁴⁵.

Scenes were built up using a restricted series of figure poses, particularly in the construction genre⁴⁶. Thus, any attempt to place historical or other detailed interpretations on individual figures is dangerous. Lehmann-Hartleben doubted that the figure of Decebalus taking his own life (CXLV, 11) was realistic beyond the fact of suicide rather than capture or death by other means⁴⁷. The king falling back, resting on one knee with the other leg extended, came directly from the Hellenistic 'dying Gaul' tradition of Pergamene sculpture⁴⁸. The pose is reproduced by four other barbarian figures on the column⁴⁹, and is seen on the Great Trajanic Frieze (Fig. No. 27), on one Adamklissi metope (Inv. No. 6) and on Domitianic and Trajanic coins⁵⁰. The mass-suicide of Dacians in CXX-XXI may or may not have been an historical event, but the layout of the composition was part of one of the balancing and contrasting scene sequences. The gestures and modelling of the figures was clearly influenced by Hellenistic sentiments of pathos and tragedy, in keeping with the sympathetic treatment of barbarians on the spiral (see 2.3)⁵¹. Cheating ignominious capture by suicide

not only furthered the 'noble adversary' theme but may have happened frequently enough in real life to have made it a leitmotiv in Roman literature and art⁵².

It was Lehmann-Hartleben who was also the first to recognise that not only does each Roman invasion of Dacia on the frieze start with an army crossing over a bridge and under a monumental arch, but that the three arches in question (IV, XLVIII, CI) all align on one vertical axis up the south-west face of the shaft. Moreover, Trajan's two journeys by ship commence with arches (XXXI, LXXIX) which also align, in this case on the west face. The bridge-crossing scenes all initiate 'offensive' Roman campaigns whilst the other two start off 'defensive' phases where the emperor reacts to barbarian moves⁵³.

Stimulated by these remarkable observations, Gauer searched successfully for more vertical alignments⁵⁴. The scene in which Decebalus' severed head is displayed (CXLVII) appears on the same axis and above the 'offensive' arches. The scene which initiates the last phase of the second war also involves soldiers crossing a bridge (CXXXI) and its position over the 'defensive' arches is not fortuitous. A third axis occurs on the north-west face of the shaft. From bottom to top, the Burus messenger (IX), the Victory with trophies (LXXVIII), the Drobeta bridge (XCIX), the capture of Decebalus' treasure (CXXXVIII) and the king's suicide (CXLV) vertically correspond. On this principle a small submission scene (CXXX) directly below the treasure recovery probably does represent Bikilis' betrayal. To these three major axes, which will be referred to as the 'First Level' correspondence framework, may be added a number of looser coincidences. Four submission scenes

Fig 5

Pl 3,42,98

Pl 30,86

Pl 112

Pl(8,84,
(94,114

align on the south face, including the surrender set-piece composition at the end of the first war and the conclusion of the siege in the second (LXXV, CXVIII, CXLI). The only two occasions on which Trajan is presented with severed barbarian heads by auxiliaries (XXIV, LXXII) are six spirals apart but one above the other. P1 21

Similarly, scenes with a fort on a hill with a zig-zag road below it (XIV, L) are separated by four spirals and are vertically aligned⁵⁵. P1 45

Two scenes in which Roman forts are attacked (XCIV, CXXXIV) are five spirals apart. Two arched structures (LXXXIII, XCI), Roman female civilians (XXXIX, XLV) and the only examples of armoured barbarian cavalry (XXXI, XXXVII) occur in scenes on adjacent spirals. P1 27,33

The female diety in scene XXXVIII appears above Jupiter in XXIV. P1 36

Lastly, Gauer suggested that the alignment of three rivers was deliberate (XXVI, LXXIV, CXXXII), but this is less supportable because the top occurrence is the 'defensive' axis bridge-crossing scene⁵⁶. P1 112

These vertical relationships of particular scene compositions and types of figures will be referred to as the 'Second Level' of correspondence (see 3.2.9).

The rivers, the zig-zag road scenes and fort attacks were woven by Gauer into his 'topographical programme'⁵⁷. Some of the lesser alignments were perhaps created by the sculptural process, rather than by deliberate planning of geographical locations (see 3.3.1-2; 4.6). The offensive, defensive and Victory axes were definitely not accidental. They served as a vertical correspondence framework which highlighted the main developments and propaganda achievements for a viewer standing at one of three locations. On entering the column court through the south-west doorway from the Basilica Ulpia, he would have seen the three invasions of Dacia

topped by Decebalus' head being displayed. Moving round in a clockwise direction, against the flow of the spiral, he was presented with the defensive campaign openings and the last army advance above them. Lastly, on the north-west face all the major achievements of the wars were summed up in the Victory axis. This was also the side facing towards people moving down the via Flaminia or standing on the temple podium (see 2.1; 2.3). The vertical axes were a brilliant solution to a problem of visibility which had not hitherto arisen in imperial sculpture. If the inter-war journey is amalgamated with the battles and ceremonies which follow it (LXXIX-C), then all six phases of the two wars start with a bridge, or an arch, or both (see 3.3.3). It would not have been practical for a viewer to walk round and around the column court, following the spiral upwards with his eyes. He would have become giddy and lost his concentration. The angle of the line of sight would have become increasingly oblique for the reliefs to have been intelligible on the upper spirals. At the balcony level the greater height would have alleviated the latter problem somewhat, but, if Amici's reconstruction is correct, then steps connecting the library balconies with the basilica gallery would have distracted the viewer's attention⁵⁸.

The frieze has nearly always been studied by scholars using publications of the casts made in the 19th century which laid the scenes out in order⁵⁹. However, a framework of vertically corresponding scenes cuts right across the spiral. The implications of this for the 'historical' narrative are serious. Key scenes were artificially positioned in locations determined by the vertical axes, not necessarily by their place in the development of

events. The campaign-opening sequences, the large, artistically composed set-piece scenes and the runs of balancing or contrasting scenes were fitted into a fixed-point framework. This introduced a restriction beyond those already imposed by the artificially calculated length of the column shaft and the division of the spiral into two equal parts.

Therefore, the frieze presented a series of scenes which depicted a chronological development of events, ordered more or less coherently into two wars and subdivided into war phases. It provided a generalised narrative of the conquest of Dacia. However, most scenes were of stylised significance with no specific adherence to historical happenings, and were subject to longstanding artistic genre traditions. A proportionally small number of scenes were intended to depict actual events and they stood apart from the scene genres. Some of them are corroborated by other surviving sources of information. Many modern commentators were unaware of the vertical correspondence framework and for this reason their attempts to employ the column as a source of historical information now seem over-optimistic. Nevertheless, scholars have sometimes considered that, despite the limitations imposed by scenery conventions, the Roman designers and sculptors could have made a better job of organising and representing the wars, had historical recording been their primary objective⁶⁰. This is especially true if the viewers did indeed try to follow the scenes in spiral order, but the vertical axes were designed specifically to improve this situation. It may be suspected that the creation of a realistic pictorial narrative of events was subordinated to other purposes, and that a large proportion of the modern literature devoted to the problems of historical interpretation has been misdirected (see 2.3).

2.3

THE COLUMN AS PROPAGANDA MONUMENT

The spiral frieze represented the two Dacian wars in the most generalised terms and in so doing explained the acquisition of Decebalus' treasure which financed the building of the forum-basilica complex¹. The column was a monumentum attesting to the emperor's victories and the conquest of a new region of barbaricum. If the senatorial dedication of the inscription on the pedestal is taken at face value, then the column was perhaps the only element of the complex not paid for directly by Dacian spoils².

Scenes on the spiral present the emperor's achievements. In addition, the majority of the human figures are common soldiers and the depiction of the armies in concert with the emperor was a complementary function of the column³. The Great Trajanic Frieze seems to have been concerned with the emperor solely in association with his infantry and cavalry guard units, whilst the column depicts many other types of troops involved in the wars (see 5.18).

Conventional triumphal imagery is strongly represented on the column's reliefs. The symbolic winged Victory in scene LXXVIII belongs to a classic type closely paralleled, for example, by the fine bronze statue from Brescia (Italy)⁴. Flanking her are piles of shields, armour and weapons, and a pair of trophies of the form carried on fercula in triumphal processions (see 4.5)⁵. Equipment in this scene and in LXXV is closely linked with the congeries armorum reliefs on the column's pedestal, despite a great difference in both style and scale of depiction. Quivers, curved swords,

standards and oval shields carried by Dacians throughout the frieze accord with items on the pedestal, even down to the head of a battering ram used in scene XXXII (see 5.17). A direct link may be suggested between the pedestal reliefs and Trajan's Dacian triumphs because the sculptures are so fine and realistically depicted that they were almost certainly modelled on the spolia displayed in Rome (see 4.5).

Pl (128-30,
(132-3

Pl 128

The vertically corresponding scenes on the north-west face of the shaft link Decebalus' final denouement with the capture of his treasure which financed Trajan's buildings, and the Victory figure (see 2.2). On the same alignment the Drobeta bridge represents an unequalled Trajanic architectural triumph. To these may be added scenes IX and CLI which denote the meeting of new barbarian peoples. Thus, on a single axis visible from one viewpoint, all the main achievements of the Dacian wars are laid out.

Fig 5

Pl 8,118

Throughout the frieze the emperor's actions were represented as restrained and as displaying dignitas⁶. Trajan is never directly involved in hand-to-hand fighting by riding down barbarians in heroic Alexander-fashion. This is in contrast to Pliny's Panegyricus⁷ and to contemporary representations on the Great Trajanic Frieze (Fig. No. 44), one Adamklissi metope (Inv. No. 6) and on coins⁸ where a different propaganda approach was adopted. Trajan often carries a spear or a sword on the frieze but the former is always held vertically and the latter is never unsheathed⁹. His portraits vary in quality from very fine through to almost unrecognisable (see 3.2.2) but he is clearly distinguishable from the mass of figures by his pose, gesture or position¹⁰. Trajan stands with his weight usually on one leg, his head represented in profile

Pl (9,13,21,25,
(41,45,48-9,
(55,83,89-90,
(91,99

and one hand gesturing towards adlocutio audiences, emissaries or barbarian supplicants. Several times he oversees building activities, but only in the first phase of the first war (XII, XVI, XX). In two scenes advancing armies pass the emperor who is seated on a sella castrensis (VI, CV). In battles Trajan stands back from the action, often receiving prisoners or being presented with severed heads, but never directly participating. Only once does he energetically react to a conflict situation when he rides to relieve the besieged troops in the second phase of the second war (XCVII). It may be noted that on three of the five occasions that Trajan is depicted mounted he is moving up to relieve dangerous situations (XXXVI, LXXXIX, XCVII). The emperor is seen officiating at sacrifices, often making a gesture of libation, and he has been identified as one of the figures displaying Decebalus' head in a very eroded scene (CXLVII)¹¹.

The emperor is readily distinguishable in close-up by his portrait or at a distance by the 'command group' of cuirassed officers who almost always attend him. It has been suggested that portraits of some of Trajan's more prominent comites appear in these groups¹². Certainly P. Licinius Sura first influenced Trajan to become emperor. Lusius Quietus played an important part in the Dacian campaigns, and Hadrian was already an important figure¹³. However, none of these identifications is incontestable in any specific instance and in general the attribution of sculpted portraits, other than those of emperors, to particular personalities can be a subjectively misleading occupation. Many scenes, especially those in the adlocutio and submission genres, were composed in such a way as to draw attention to the command group (see 3.2.2). An

P1 13
P1 99
P1 21
P1 92
P1 90,92
P1 48
P1 (9,13,45,
(55,99

additional device frequently employed to pinpoint Trajan's position was the grouping of military standards around him. Such standards generally appear in two contexts: with the emperor or at the heads of marching columns to denote movement (see 5.5.1). If the standards, and perhaps Trajan's cuirass, had been gilded, and if his cloak was picked out in a distinctive colour, then the viewer would have had no difficulty in locating the emperor at various points all the way up the spiral (see 3.3.3). The emperor himself was sometimes used as a visual pointer to define blocks of scenes or even war phases, notably when he faces towards the viewer's left, down the spiral¹⁴. In such cases attention is drawn to important individual scenes or to points of reference in the phase organisation (see 3.2.2). However, this is not necessarily the case every time Trajan turns to the left and the suovetaurilia scenes, for example, are quite self-contained in this respect (VIII, CIII).

Pl(9,15,41,46,
(48-9,59,89Pl(6,14,42,
(101

Pl 45

The emperor is credited with having all the ideal qualities of generalship which were praised in senatorial literature. He addresses and inspires the troops¹⁵. In far-flung conquests new peoples are met with and overcome¹⁶. Major field-works are undertaken, including the extraordinary Drobeta bridge (XCIX), and Trajan oversees the siting of fortifications¹⁷. He is acclaimed by the army and watches over the troops in paternal fashion¹⁸. Clementia is displayed to his enemies whose worthiness as brave and noble adversaries is made evident. The emperor exhibits pietas in fulfilling his responsibilities to the tutelary gods¹⁹. Without actually battling in the front rank, his constant presence leaves

Pl 41,46,49

Pl 118

Pl 94

Pl 48

no room for doubt that it is he who orchestrates the victories. These were all qualities expected of a victorious general and emperor²⁰.

Interrelated with these ideals was the depiction on the frieze of the armies at war. It is noteworthy that Trajan had an unusually long military career before becoming emperor as the candidate of the frontier armies²¹. Trajan's role on the column emphasises very strongly his harmonious and competent relationship with the armies to an extent hitherto unparalleled in propaganda art²². To judge from the favourable historical tradition²³, the munificent building works and the lavish triumphal games²⁴, the emperor was popular with the Senate and people in Rome. Before the eastern campaigns soured, his success in war presumably maintained his credit with the frontier armies. These considerations should not obscure the fact that Trajan's relationships with the soldiery were as much 'holding the wolf by the ears' as were those of his predecessors²⁵. However, there was a special problem for him with the praetorians. During Nerva's reign praetoriani, egged on by the praefectus praetorio, Casperius Aelianus, burst into the palace and threatened the emperor, demanding retribution for the murder of Domitian²⁶. One of Trajan's early acts after his accession was to execute Aelianus and a number of praetorians as punishment for this unrest²⁷. Pliny extolled the emperor for restoring discipline within the armies in direct reference to the praetorians²⁸, and for an emperor who presumably planned to spend much time on the frontiers away from Rome, these executions were a courageous measure. The likely creation of the equites singulares Augusti by Trajan may have provided a counter-balance to potentially continuing

praetorian resentment in the capital²⁹. More positively, the emperor's propaganda sculpture attempted to closely associate Trajan with his praetorians. On the column he is accompanied during his inter-war journey by carefully represented unarmoured praetorians (LXXXV-VIII), and throughout the frieze praetorian standards are far more dominant than would have been the case during real campaigns (see 5.5.1; 5.7). Advertisement of the emperor sharing the toils and dangers of his men as a fellow soldier (comilito) was an important leitmotiv of imperial propaganda³⁰ and one praised by Pliny in his panegyric of Trajan³¹. The Great Trajanic Frieze accords with this in depicting the emperor fighting alongside praetorian infantry and cavalry (see 5.18). However, it goes further in the unparalleled representation of an eques holding up a helmet which clearly belongs to Trajan (Fig. No. 45). Emperors and cuirassed generals were virtually never depicted with helmets in Roman art and by the display of this one, which is of exactly the same form as those worn by common troopers on the Frieze, Trajan is identified even more closely as a comilito.

Pl 88-9

Pl(6,41,46,
(48-9,59,89

The frieze on the column is also concerned with extolling the technical and martial qualities of the Roman armies. An important facet of this was the repeated depiction of construction work³². Buildings were in themselves solid advertisements of victory when planted in enemy territory, and were always considered to be skilled achievements for which epigraphic commemoration and identification of the builders was necessary³³. With reference to the Dacian wars, Pliny felt that the spanning of rivers with bridges was particularly worthy of praise³⁴. Thus the column not only represents construction activities and military architecture, but also depicts

a large number of bridges³⁵ and identifies them as victorious achievements by frequent association with triumphal arches³⁶.

Pl(45,94,
(98,112

The different classes of troops and barbarian adversaries exhibited on the column fall into a series of clearly definable categories which will be referred to in this study as 'figure types'. These are distinguishable by combinations of dress and equipment which, despite a great variation in such details as types of helmets armour fittings and shield blazons, almost always make identification easy. The process by which figure types were formulated presumably involved a great deal of equipment simplification and stylisation, and this will be examined later (see 5.20), but the organisation of the human figures in this way is potentially crucial to modern understanding of the sculptors' frame of reference (see 3.2.3).

With three exceptions (LXXV, LXXVII, CXXXVIII), troops wearing segmental plate armour ('lorica segmentata'; see 5.2.1) are seen on the frieze in association with praetorian and legionary types of military standards (see 5.5.1). The curved, rectangular shields carried by these troops are never represented in Roman art borne by types of troops other than those in citizen units (see 5.2.3; 5.20). On the column the soldiers in 'loricae segmentatae' fulfill a largely different role from those in mail (lorica hamata; see 5.3.1). They do all the building and clearance work. Out of 182 figures engaged in these activities only 3 wear mail (XII, 10; CXXIX, 5, 6). In battle they rarely take part in the actual fighting (XL, LXXII) but instead stand in groups in reserve³⁷. Only in four siege scenes do these soldiers take a more active part³⁸, and in two of these they are wielding dolabrae which link them

Pl 13,111

Pl 79

Pl 92

with the construction scene genre (XCVI, CXVI). Only 'lorica segmentata' wearers operate artillery pieces (XL, LXVI).

Pl 40,64,68

In contrast, the men in loricae hamatae who carry flat, oval shields bear the brunt of the fighting. Excluding archers and slingers, the 161 Roman figures in fighting poses are made up of 118 wearing mail, 26 bare-chested irregulars, and only 17 with 'loricae segmentatae'. The three Roman forts besieged by Dacians have mail-clad garrisons (XXXII, XCIV, CXXXIV). Whenever the emperor appears on horseback he is attended by a mail-wearing cavalry escort³⁹ and armoured cavalry inevitably appear to counter barbarian horsemen⁴⁰. Infantry in loricae hamatae are seen more frequently than those wearing segmental armour in a secondary, support role. They guard camps and act as sentries during construction work (17 to 13)⁴¹, and carry supplies or attend wheeled transport (28 to 12)⁴². Dacian captives are always presented to the emperor by these men (XVII, XL, LXVIII). In the skirmishes and pursuits of the last phase of the second war most of the soldiers wear mail, with only two boat-builders and two sentries appearing in 'loricae segmentatae' (CXXXIII, CXLVII).

Pl 28

Pl 92

Pl 113-4

Pl 19,105

Pl 29

Pl 116-7,119

Most commentators are in agreement over the identification of men in segmental armour as praetoriani and legionarii and of troops in mail as men from auxiliary cohortes and alae. However, difficulties arise when scholars attempt to distinguish praetorians from legionaries using the occurrence of types of signa and the escort role of some men in close proximity to the emperor as criteria⁴³. Identifications have even been made amongst the auxiliaries of equites singulares Augusti and exploratores⁴⁴. The most 'elite' classifications were put forward by Gauer who saw the

men in segmental armour as legionaries and praetorians, and the men in mail as members of guard units or as legionaries in some form of 'camp dress' (Etappenuniform)⁴⁵. The latter term is echoed by Speidel⁴⁶. This view is vitiated by the inclusion of irregular troops on the frieze who were of a lower status even than the auxilia. Furthermore, even the distinguishing of praetorians from legionaries is probably anachronistic. Many groups of 'lorica segmentata' wearers, it is true, are accompanied by all-praetorian or all-legionary signa, but over the whole frieze there is much mixing of standard types⁴⁷. On one occasion signa even appear with men in mail (LXXVII; see 3.2.3), and it is clear that standards were not intended by the frieze designers to have been a guide for troop identifications (see 5.5.1). Moreover, there was absolutely no discernible attempt to draw distinctions between praetorians and legionaries in either differing activities or such equipment details as shield blazons or helmet crests (see 5.2.2). Pl 46,48,59

Therefore, it would be best to consider men in 'loricae segmentatae' generically as citizen troops, and soldiers in mail as non-citizen auxilarii. This would account for the differing roles whereby citizens perform all the technical actions whilst the auxilia fulfill support functions and fight the battles. In the latter respect the column aspires to another ideal of senatorial historiography, which is contemporaneously expressed by Tacitus, the victory won without the loss of Roman citizen blood⁴⁸. No preference for either citizens or non-citizen appears in other scene genres, such as adlocutiones, marches and submissions. The native exuberance of the auxiliaries manifests itself in the severing of barbarian heads (XXIV, LXXII, CXIII) as it does on the Great Pl 21

Trajanic Frieze (Fig. No. 56, 57). This activity reflects the atrocities perpetrated by auxiliaries described by Josephus⁴⁹. Decapitation and the display of severed heads in Rome, especially in connection with political killings, was not of course uncommon⁵⁰. A citizen/non-citizen distinction between legiones and auxilia was still meaningful in the Trajanic period but the use of easily distinguishable figure types on the column perhaps resulted in a departure from the actual appearances and activities of these troops (see 5.20). Sculptors working on other monuments, such as the Adamklissi tropaeum or private funerary reliefs, had different objectives from those engaged on the frieze, so they produced figures which were less uniform and readily identifiable (see 5.19).

The representation on the column of four types of irregular troops in Roman service was unprecedented and is important for modern studies not only because the presence of Moorish cavalry was implied by Dio (see 5.11)⁵¹, but because information of the participation of the archers, slingers and bare-chested irregulars in the wars is supplied by this source alone (see 5.8-10). The archers and slingers provide missile support for the other troops in battles and sieges⁵², whilst the bare-chested barbarians fight ferociously⁵³ and are the only irregulars to appear at an adlocutio (XLII). The inclusion of these colourful troop types was probably prompted by their curiosity value, but was most important in exhibiting a polyglot element of the armies under Trajan's firm command⁵⁴. Moreover, in some scenes they appear chiefly as a compositional device, especially in building up marching columns of troops.

The irregulars in scene XXXVI form a knot of figures balancing the group of soldiers wearing animal skins. In CVIII archers, bare-

Pl 61-2

Pl (22,31,36,
(41,69,
(75-6,79,
(102-3,108

Pl 31

cheded irregulars and slingers occur in threes providing a range of troop types taking part. Considering the link with Dio's account and the importance of Lusius Quietus, it is perhaps surprising that Moorish cavalry only appear once, but, then again, mounted troops of all types are sparingly depicted on the spiral overall.

In the depiction of the Dacians a certain amount of sympathy is displayed, regardless of the fact that they are cut down in droves in battle scenes⁵⁵. This is a stark contrast in the treatment of adversaries on other monuments, such as, for example, the Marcus Column (6.2). Despite numerous defeats and submissions, the Dacians fight on right to the end of the spiral. Many, including their king, chose suicide in preference to ignominious captivity. These noble qualities naturally enhanced the achievements and glory of the victorious emperor and his armies.

It would not be too much of an exaggeration to suggest that Trajan's Column was as much a monument to the achievements of the Roman armies as it was to the virtus of the emperor. Whilst the propaganda messages of the frieze were undoubtedly intended to appeal to the elite of society, the unprecedented detail and care with which Roman forces were depicted may perhaps have been calculated to favourably impress the large numbers of soldiers always present in the capital (see 4.4). The column designers may also have had in mind the audience moving down the via Flaminia, if the axial temple was not part of the original Trajanic building plan (see 2.1). An important element of this group of people would have been soldiers travelling to Rome.

SECTION 3

THE SCULPTING OF THE COLUMN

In order to determine how the frieze was sculpted it must be examined in the greatest degree of detail. There are 2,639 human figures on the spiral, each of which may have up to nine varying features of clothing and equipment. In turn, each feature may fall into as many as 27 recognisable categories¹. Such a large data set has necessarily been recorded and sorted with the aid of a computer². The importance of these varying features lies in their distribution patterns on the shaft which are governed by, and in turn elucidate, the working practices of the sculptors. If the incidence of a particular feature was demonstrably a product of the sculpting process, rather than of the models upon which the work was based, then there are important ramifications for the modern use of the frieze as a source of information. Any reliable employment of the content is intrinsically dependent upon an understanding of the factors governing the creation of the frieze. If this seems to be self-evident it must be emphasised that, with few exceptions, commentators have largely ignored basic considerations of sculptural techniques and the sources of information available to the sculptors.

In this section the process of sculpting is explored whilst the subject matter is examined in depth elsewhere (see 4; 5). The first part deals with the quarrying, transport and erection of the column, and the preliminary surface dressing and layout for the frieze. The second part provides analyses of the scenery, human figures and the variations of sculpted detail based on minute observation. Drawing upon this examination, the last part of this section attempts to elucidate the sculptural techniques, the composition of the frieze and the sequence of work in all stages of the project.

3.1

PRELIMINARY WORK

Once the architectural scheme of basilica, forum, libraries and column was given imperial approval, and the exact dimensions of the column had been calculated with the aid, presumably, of architects' models¹, a special order would have been despatched to the marble quarries at Carrara (Liguria)². A source for the stone at Rovaccione has been suggested³, and the process of extraction may be closely paralleled at the Harmantaş quarry on the Island of Marmara (Turkey), where abandoned blocks and a flawed drum are to be seen⁴. The latter were perhaps intended for the Column of Theodosius I in Constantinople. Trajan's Column was constructed of stacked drums because a monolithic marble shaft, 29.78 m long, would have been liable to structural faults and would have made carving an internal spiral staircase very difficult. A 14.5 m long Proconnesian column from the Basilica of Maxentius is the longest monolithic marble shaft to survive in Rome⁵. Transport of the drums for the Trajan's Column would have been easy in comparison with the problems posed by moving the Maxentian shaft or even longer granite obelisks⁶.

In order to reduce the weight of stone to be moved and to check for flaws, it was common practice to roughly shape large marble architectural components at the quarry⁷. During this 'blocking out' process the predetermined final dimensions would have been carefully taken into account. In the case of Trajan's Column it is likely that the internal spiral stairway space would have been roughly cut in order to test further the structure of

the stone for flaws⁸. Thereafter, the blocks and drums would have been transported down to the coast and loaded on board ship at Luni⁹. A coastal voyage would have taken them to Portus where they would then have been trans-shipped for the river-barge journey up the Tiber to Rome. Carrara marble blocks took this route for use in the paving and veneering of the Basilica Ulpia, as they had been doing for other projects since the late Republican period, via Ostia¹⁰.

Materials for the column may have been landed at the Forum Boarium river front and drawn on rollers or on specially constructed cars round the north of the Capitol to the building site of the Trajanic forum complex¹¹. This route would perhaps have been taken in preference to landing at the normal marble yards in the Marmorata area because of the size of the block and because of the greater distance for transport¹². Landing on the Ripetta river frontage and carriage down the Via Flaminia would likewise have been a longer route and one rendered impossible by the passageway of the Arch of Claudius¹³.

The final carving of the spiral staircase may either have been carried out in each individual drum whilst on the ground at the construction site, or during the shaft assembly after each drum was positioned and before the next was lifted into place. The second method would have facilitated matching stairs between drums but would have been more time-consuming. There can be no doubt that the spiral frieze on the outer face of the shaft was executed after assembly and not on individual drums on the ground before positioning¹⁴. The erratic course of the spiral dividing band ignores the joints between drums which often cut across human figures¹⁵. It would have been impossible to carve the frieze in segments, lift up the drums and then rotate them in position to

match the spiral. Such a process would have damaged the sculpture and inevitably some details would not have matched exactly across the joints. There is no sign of either feature¹⁶.

Lifting and positioning the drums would have required a gigantic tread-mill crane of the type seen, for example, on a relief from the Tomb of the Haterii¹⁷. The splayed legs and rope rigging of the crane, the marshalling of marble components and scaffolding material, and the passage and access for personnel would all have required open space¹⁸. Thus, the colonnades around the column court and the precinct wall around the north-west end of the complex could not have been constructed until the column had been erected (see 2.1). As the shaft rose it would have been shrouded in wooden scaffolding, platforms and ladders to allow access for workmen involved in positioning the drums and carving the internal staircase¹⁹. When the capital was in place the whole column would have been obscured, but the scaffolding in no way acted as a support for the shaft during assemblage because it would necessarily have stood free of the column face in order that the frieze sculptors could have unrestricted access. Rising above the square pedestal the scaffolding may have had a square framework with the spaces created by the curve of the shaft bridged by planks. Platforms for the sculptors would have been moveable, again so as not to restrict work. The scaffolding would presumably have remained in place until work on the frieze was completed (see 3.3.5)²⁰.

Work on the blocked out exterior of the shaft would have commenced with claw-chiselling in order to prepare the surface for the frieze, to smooth out the joins and inequalities between drums, to produce a uniform circumference, and to create the required degree

of entasis²¹. Blocks and columns at Portus arrived in a punched state, a condition which was preserved by these pieces never having been used²². Two monolithic cipollino columns, now in the Colosseum, are in an intermediate state with bands of claw-chiselling worked down to the desired final profile leaving unworked, punched zones in higher relief²³. On a small scale these give some idea of the process carried out on Trajan's Column. Similar bands of chiselling can be seen on the standing columns of the temples of Artemis at Sardis and of Apollo at Didyma (Turkey)²⁴. These represent work carried out after shafts composed of drums were erected as would have been the case with Trajan's Column. During this carving process constant observation and adjustment were necessary to produce the perfect profile and circumference following preliminary sketches and templates²⁵.

The normal method of dressing a standing column was to work from the top downwards. When column flutings were being cut this downward progression prevented falling marble chippings from damaging already completed surfaces below. Uncompleted flutings on the columns of temples at Sardis and Didyma clearly demonstrate this process²⁶. Plumb-lines and measured surface scorings were used to mark out the flutings before carving commenced, markings which survive particularly well on columns of the Hadrianeum in Rome²⁷.

It might, therefore, be expected that the especially vulnerable figural reliefs of Trajan's Column were likewise carved from top to bottom. However, this was definitely not the case. Throughout the work the helical dividing-band respects the figures and objects below and often curves or kinks sharply to avoid them. Moreover, all the way up the shaft objects such as heads, buildings, trees and

Fig 4

Pl 101

Pl 99

weapons, actually extend onto the band from below²⁸. Many military standards not only do this²⁹, but they even pass across the divider into scenes on the spiral above³⁰. No objects ever overlap downwards onto or across the band. The top two spirals are noticeably broader than those below, consequently the human figures have elongated proportions, especially in scene CLI. Whilst this could be interpreted as a belated attempt to make these figures more visible to the viewing audience below (see 3.3.3), it is perhaps more likely that when progressing towards the top of the shaft the sculptors realised that they had allowed slightly more space than was necessary³¹. This could also be taken as evidence for a bottom-to-top sequence of work in addition to the consideration that the upwards, anti-clockwise spiral progression of the frieze's 'narrative' would have been solved by surrounding the shaft with a tarpaulin to catch the debris and this device could have been moved upwards as work progressed³².

P1 (6,20,23,
(25-6,42,
(48-9,56,59

P1 117

The line of the dividing band is very erratic. Not only does it curve around objects, but it steps up disjointedly in some places to compensate for stretches which take an almost horizontal course³³. The result is that the spiral does not make a smooth spiral progression up the shaft and relief spiral height is irregular with no gradual increase such as might aid visibility³⁴. This is in stark contrast with later spiral relief columns on which the curve of the divider is smooth and regular (see 6.2). From this behaviour it may be inferred that the spiral on Trajan's Column was not laid out ahead of relief sculpting. The divider is carved using a 'rock' convention and forms the ground on which scenery figures stand³⁵. Thus it was carved in conjunction with, and at the same time as,

P1 33

P1 51-2,119

the scene above, effectively capping the scene below. It would not have been difficult to measure and mark out the divider all the way up the shaft with painted or chiselled lines, perhaps using a rope wound around to achieve a smooth line. Surprisingly, this does not seem to have been done.

The types of tools employed by the sculptors of the frieze may be identified by close observation of undamaged surfaces as round chisels, pointed chisels and drills of various gauges³⁶. Surfaces such as flesh were not polished, perhaps because of the scale of the work or because of the application of a comprehensive paint coverage (see 3.3.3). Claw chisel marks appear only on the internal staircase, no trace of this tool surviving subsequent work on the exterior face. The forty windows illuminating the staircase were evidently cut through before the frieze was carved because their frames stand out in high relief and because figural sculpture was composed in such a way as to avoid window openings (see 3.2.2)³⁷. However, the window frame mouldings may have been finished during work on the frieze.

Pl (21,23,31,
(80-1,
(92,113

3.2

DETAILED ANALYSIS OF THE FRIEZE3.2.1 Scenery

Many omissions and inconsistencies appear in the depiction of architectural scenery, the most common of which is the failure to carve ashlar joints on walls (see 4.7)¹. The latter forms no discernible pattern on the shaft such as might suggest the movements of one particularly careless sculptor. Sometimes other forms of detail are omitted, such as roofs of towers (II, XLV), or tents or parts of tents within camps (XXI, CX). More serious are the impractical details of some buildings. In scene II a store-house (?) has its door positioned high up in one wall whilst two similar neighbouring buildings have theirs at ground level. Elsewhere, several walls have ashlar joints which are illogically cut with regard to both perspective and structure². The positions and numbers of courses of log-ends on ashlar walls vary not with any structural consistency, but according to their incidence on different parts of the column shaft. On the bottom six spirals log-ends appear at the tops of Roman walls immediately below crenellations³, and once, they are positioned both at the top and halfway down a wall (XIII). Higher up the shaft they are only located at a point a little more than halfway up the wall face (CIV, CIX, CX). In scene XLIX, a course appears halfway up a circular building. Likewise, on Dacian walls, log-ends appear at the top (LXXI, XCIII), halfway up (CXIX), or in both positions together (CXIII-V). On two occasions courses are placed right at the feet of Roman walls (CXXIX,

Pl 103

Pl 13,113

Pl 77

CXLI). Evidently, the sculptors were employing this device inconsistently for purely decorative effect and were not following structural considerations (see 4.7.1).

In scene XLIII crenellations on the left wall of the camp are bent over, and inside the fortification the lines of a tent seem to run into a wall. The circular building in XLIX appears to be a tower but it bears no relation to the linear constructions between which columns of troops march. A pair of vertical posts rise within its hollow shell without any structural function. Bridges sometimes appear to be unsound and very schematically employed. The layout of camps often defies logic with curiously curved walls, disembodied towers and unfinished corners (see 4.7.1)⁴. In scene CVII the walls of a camp were extended to enclose a greater number of figures during the course of sculpting (see 3.3.1).

These illogical and unfinished features excite the suspicion that the sculptors provided scenery as much to fill space as to set the scene. The scaling down in size of scenery and its subordination to the human figures inevitably caused logical and architectural problems, especially because walls were treated as essentially two-dimensional objects. Some contrast in realism is discernible between military and urban architecture and the employment of multiple-perspective viewpoints and varying scales of size in a given scene confuse the modern eye. However, they do not disguise the very competent representation of some complicated structures (see 4.7.3)⁵.

Pl 94

Buildings were of some importance in identifying scene contexts but a high degree of detail was sometimes applied with primarily decorative intent.

3.3.2 Figural Composition

In many scenes human figures appear to have been composed in such a manner as to avoid the window openings, especially in long scenes⁶. In a number of cases expanses of rocky ground scenery coincide with windows so the problem was avoided⁷. In scene XXXIV part of a ship's stern is lost and in XLIV the reluctance to lose part of a figure imparts an emptiness which makes the imperial group seem to float above an audience of auxiliaries. Where human figures unavoidably coincide with windows, usually in crowded scenes, the sculptors were especially careful not to lose heads (LXXXIII). Sometimes two figures appear flanking a window with a third, half-figure, above it. Thus only the middle man's legs are lost and, where single figures coincide with openings one or both legs may disappear⁸. Part, or all, of a shield could be sacrificed to reduce unavoidable loss of torso detail⁹. In scene XXIV a cavalryman has to suffer because his role is to link the imperial group with the other scene elements of advancing soldiers and combatants. Loss is minimalised in scene CXV where a citizen soldier misses a little of one thigh and an elbow, and an auxiliary loses nothing by raising his shield-arm up above the window (CXV, 3, 6).

Some windows, for example those which occur at the tops of scenes, were easier to avoid than others. However, the erratic course of the spiral meant that windows are in a variety of positions in relation to the dividing band. Moreover, scenes suffered because they were in positions dictated by the vertical correspondence propaganda framework which restricted compositional flexibility.

Consequently, both the messenger's mule and the mushroom in scene IX are affected, despite the fact that the mushroom is the scene's

Fig 1

Pl (23,31,80,
(92,113

Pl 21

Fig 5

Pl 8

most important feature (see 2.2). Likewise, in scene CXXXVIII, the rear of a horse carrying Decebalus' treasure fails to avoid the window. Other scenes occurring next to vertically corresponding scenes may be indirectly restricted. In XCVII the emperor's head narrowly misses a window, perhaps because of the adjoining Drobeta bridge scene. In addition, the horses ridden by Trajan and two cavalymen seem to be foreshortened in order to fit them into the available space (XCVII, 1, 3, 8). The body of a Dacian is largely obscured by a window in scene CXL, but his torso was slightly elongated in order that this head might not be lost (CXL, 18). This situation may be due to the scene being part of a balancing series (see 3.2.10). Quite unusually a Dacian in scene LXXII has lost part of his chin but this is the least of many mistakes and omissions in a very confused scene (LXXII, 30; see 3.2.3).

Pl 92

Pl 81

Many interesting sculptors' mistakes are revealed by an examination of the juxtaposition of human figures and scenery. Problems arise from the confused relationships between foreground and background figures. Often an arm, head, shield or drapery of a man in the background passes in front of one in the foreground so that the two figures seem to be trying to trip one another up or to be jostling forward to the front of a crowd¹⁰. A deal of confusion accompanies the depiction of horses' legs, notably in cases where a pair of forelegs pass both in front of and behind a tree, or where one leg of a background rider hangs down between the forelegs of a foreground horse¹¹. In scene CXXVII, two builders hand a block to each other across a wall. The problem arises not so much from the diminutive scale of the wall, so much as from the presence of a third man who is bending down between the other two (CXXVII, 2-4).

Fig 29

Pl 79,114

Pl 113-4

Pl 110

In fact, serious scenery-related mistakes were frequently made, especially early on the spiral. Scene X has a man half inside a camp gateway, but the lintel is lower than his head (X, 25). In the next scene two builders inside a fortification in the background pass a beam through a gateway from the outside inwards, as if they are standing in the foreground outside the camp (XI, 2-3). Scene XII has a man inside a camp who kneels on the top of the camp wall with his left knee, whilst his right foot is placed on the balustrade of a bridge outside (XII, 2). An auxiliary torches a background building in scene XXV whilst his forearm passes in front of a structure in the foreground (XXV, 4). A Dacian in CXX stands with one foot on the top of a city wall and the other foot on the ground above the wall (CXX, 15).

Difficulties with scenery were a direct result of the scaling down in size of architecture, of the subordination of scenery to the human figures, and of the two-dimensional treatment of the walls. On the basis of these errors, Rockwell suggested that more than one sculptor was working on the frieze¹². The more skilled carver(s) worked on the figures; the less skilled followed on afterwards and filled in the scenery. However, it is difficult to see how this could have been done unless the two worked closely together, scene-by-scene. There is no evidence of mistakes in secondary work cutting through or damaging the figures. Moreover, in many scenes figures are composed around the scenery in a way that would have been impossible if the latter was not already worked out. Such a dual process would have been unnecessary and less efficient than if a single sculptor carried out all the work on a given scene, and the errors of figures/scenery juxtaposition can be accounted for in other ways (see 3.3.1; 3.3.4).

The division of the spiral into 'scenes' is not just a modern anachronism¹³. A close examination of the frieze reveals that trees, architecture and rocky ground were employed specifically to define breaks in the action (see 2.2)¹⁴. If a consistent set of criteria based on these devices and on the modelling of figures is employed, then it is possible to be reasonably sure of the extent of the resultant units. In construction scenes a defining tree often has one man on the 'wrong' side of it but his actions clearly attach him to the scene¹⁵. Trees are noticeably absent from the imperial journey sequence between the wars, during which architectural devices are relied upon. Thus a number of artificial divisions imposed by Cichorius and other commentators may be removed¹⁶, reducing 155 scenes to 135 units, 72 in the first war, 63 in the second.

The removal of divisions serves to clarify the composition of scenes which fall into several classes. Many scenes are symmetrically centred around the emperor, especially adlocutiones¹⁷. Others are centred on other figures or have a degree of balance within them¹⁸. Asymmetrical scenes form six categories: adlocutiones, submissions and sacrifices focused on the emperor who faces to the viewer's right¹⁹; the same - facing left²⁰; the emperor facing right with figures moving off ahead of him²¹; the same - facing left²²; the emperor leading to the right at the head of figures following him²³; the same - to the left²⁴. Right faces up the spiral and left downwards against the general flow of the action. It is clear that Trajan is the most important element in many of these compositions whether or not he is playing an active part, and whether or not he is accompanied by military standards (see 2.3; 5.5.1). Similarly, Decebalus appears in such readily identifiable situations²⁵.

Fig 1

Fig 2

Pl(30,42,45,
(82,86,92,
(98,119

Pl 74

Pl 46

Pl 116

Pl(9,25,41,
(48-9,83

Pl 89

Pl 114

Errors in figural compositions often occur at the junctions of scenes²⁶, or between groups of figures which form scene components²⁷. Many short scenes and groups of figures within large scenes may be viewed from one stand-point and conveniently carved as a unit by one sculptor²⁸. This being so, it may be observed that some units of work were fitted into available spaces between scenes of the vertical correspondence framework (see 2.2; 3.3.9). For example, scenes IX and XIV are links in the vertical programme. Scenes X and XIII are single, self-contained units, whereas XI-XII are a cramped and confused series of building activities designed primarily to fill a gap. Their cramped nature may also owe something to their being the first construction genre scenes on the spiral. The junction of scenes CXXVI-VII is clumsy and the upright shields which unite CXXVII-CXXVIII project back into the open space of CXXVI. Moreover, scenes CXXV and CXXX are on important vertical axes, and thus CXXVII-IX fill a gap in a similar fashion to XI-XII. Filling of spaces could cramp a scene but could also result in its being stretched with sparse and empty results²⁹. Thus, 'ripples' of error were caused by the vertical correspondence framework and it may be said that the mistakes would not have gone uncorrected in a smaller scale work, such as the reliefs of a triumphal arch. The great number of figures on the column and the richness of detail acted in certain circumstances to confuse the sculptors.

Varying sizes of figure groups are the building blocks making up scenes³⁰, but some small groups play noticeably little or no direct part in activities and seem to be present principally to fill space³¹. A number of these are three-figure units which represent the early development of a device later extensively employed

Fig 29

Fig 5

on the Marcus Column (see 6.2). Some appear to have been separately P1 52
 inserted into spare spaces but presumably other 'filler' groups
 were more subtly applied and they cannot be identified after the
 completion of work. A particularly clear example occurs in scene
 CXI where the top of the right-hand auxiliary's shield (CXI, 3)
 disappears beneath the foot of a Dacian (CXI, 4). The foot and
 the section of ground upon which it stands are in higher relief
 than the shield and are not cut into the latter, despite the fact
 that the Dacian should logically be in the background. Thus, the
 Dacian was primary work and the auxiliary with, by extension, his
 triplet group, was a secondary insertion into the space between the
 Roman reapers (CX) and the Dacian capital (CXI).

The repeated use of stock poses by the sculptors to build
 up unified groups of figures, particularly in construction scenes,
 was demonstrated by Lehmann-Hartleben³². The artistic play of
 poses is especially clear when figures are composed to form a
 'rhythm' of similar or alternating stances, alternating figure P1 116
 types, or patterns using shield faces³³. However, variety in the
 turning of a head or the amount of weight placed on a particular
 foot, imparts a great measure of individuality, especially in scenes
 such as adlocutiones where many figures could potentially assume P1 49
 uniform poses³⁴. Patterning of stances, figure types or shields
 is not particularly common but it was a device fully developed and
 employed on later sculptures, especially the Marcus Column (see 6.2). P1(169,175,
 (177

Occasionally, the repetition of a stance is noticeable by its
 awkwardness³⁵ and in scene CXXIX the ungainly pose of a builder may P1 111
 be explained by his change during sculpting from a beam-carrier to
 a block-holder (CXXIX, 5; see 3.2.3). The only occurrence of Dacian

artillery is noteworthy in this connection because despite the fact that the ballista is pointing in the wrong direction due to the sculptor's technical incomprehension, the operators are a mirror image of the confronting pair of Roman artillerymen (LXVI, 42, 44; see 4.7.4). Stylised and symbolic gestures are repeatedly employed to elucidate situations, such as submissions, appeals for mercy and speeches to the troops³⁶. P1 72

Lines of perspective were employed in the depiction of architecture but there is no graded diminution in size between figures in the foreground and those in the background³⁷. The feet of background figures are simply placed on a higher level, or heads and torsos appear in ascending rows above the front row, devices commonly employed in Roman imperial sculpture³⁸. P1 68

The modelling of individual faces has been considered by some commentators to have been an important element of the column's propaganda function (see 2.3). Many faces of soldiers and barbarians are highly individualistic, especially in the application of beards, and it is attractive to speculate whether any represent sculptors' self-portraits (e.g. XXXIX, 25). However, only Trajan's features are readily recognisable and even these vary greatly in quality and faithful reproduction according to the skill of the particular sculptor at work³⁹. P1 (25,41, (45-6,49, (92,104

Modern attempts to identify specific historical characters such as Hadrian, Sura, Labienus and Quietus amongst the imperial command groups are unconvincing (see 2.3)⁴⁰. It is impossible to know whether the heads of Decebalus were taken from life but, like Trajan's faces, they vary greatly and the king is identifiable by context rather than by portrait⁴¹. P1 (9,20,25, (30-1,52, (56,59

Some identifications have been made of particular ethnic types amongst the more unusual faces of barbarian P1 39

P1 114

P1 28

adversaries but these, with the possible exception of the Moors (LXIV; see 5.11), are mainly based upon sculptors' mistakes or distorted photographic studies⁴².

Pl 61

3.2.3 Figure Types

The formulation of the series of figure types has a direct bearing on the sculptural process (see 2.3), especially when the sculptors confused the features of one type with another, or when they introduced demonstrably mistaken elements. The occurrence of such inconsistencies with regard to contemporary dress and equipment is fully explored elsewhere (see 5), but something is also revealed of the sculptors' frame of reference which evolved as the work progressed.

Fig 7-9

A number of figure type contraventions simply involve mistakes where, for example, auxiliaries have waist-belts which are not their proper equipment (LI, 17; CXII, 9; CXLII, 4). The depiction of a Dacian with a sheathed sword at his hip is rare enough to be considered as a sculptor's mistake (LXVII, 1, 9; XCIII, 26). Three Dacians in scene XXIV have scalloped short sleeves and one has a fringed tunic under his normal split tunic (XXIV, 52, 53, 56). The details have been confusedly applied from the auxiliary infantry figure type but no other features of these Dacians are remarkable. Two bare-chested irregulars are depicted with short breeches over long trousers (CVIII, 22, 24) when they should wear one or the other of these garments. This may have resulted from a decision taken after work had commenced on the spiral to give this figure type breeches in order to identify them with the Roman forces, but this was only partially carried out (XL, XLII). Alternatively,

Fig 10,29

Pl 114

all the breeches may be sculptors' mistakes and a confusion with the auxiliary infantry figure type (see 5.10).

The group of auxiliaries in the top left of scene XXXVI consists of four men wearing animal skins and four men with open-work helmets through which the wearers' hair is visible (XXXVI, 2, 4-6, 8-11). No other figures on the spiral exhibit this curious form of helmet (see 5.2.2), and no other auxiliaries wear animal skins (see 5.3.2). The corresponding group of bare-chested irregulars and the auxiliary cavalry also in scene XXXVI are quite unexceptional. A similar situation occurs in scene L where three citizen troops wear skins and 'loricae segmentatae' (L, 1, 2, 4; see 5.2.7). Significantly, the emperor in this scene has mail chiselling on his muscled cuirass and one citizen has his sword on the wrong hip (see 5.3.1; 5.2.4). Standards are conspicuous by their absence in the scene's adlocutio-like composition, and the confusion of features may be explained by a change of figure type from standard bearers to citizen troops during the course of sculpting. Open space above the heads of the skin-wearers is partly obscured by a pack animal. Perhaps either the latter's prior carving forced the sculptor to improvise, or he was simply confused as other mistakes in the scene would suggest. Interestingly, the only vertically corresponding bridge-crossing scene (CI) where standards are similarly absent has a rocky open space above the column of soldiers where standards could have been carved. Scenes XLVIII-L and CI-II depict similar motifs of an army advancing to a meeting place. In the first case, the emperor is standing waiting at the far right, and in the second he is heading the column. These two compositions are further linked by the unusual fact that the

Pl 31

Pl 44

Pl 98

Pl 45

standards which are present (XLVIII, CII) do not accompany Trajan to help pinpoint his position (see 5.5.1).

Only one out of 464 auxiliary infantry carries the rectangular shield associated with citizen troops (XXXVIII, 5). In the same scene as this man a couple of barbarians are depicted with unusually short hair (XXXVIII, 22, 24) and it is the only occasion on which Dacians wield clubs and are accompanied by wagons (see 2.2). Likewise, there is only one occasion when citizen troops carry the oval shields normally identifying auxiliaries and barbarians (LXXII, 14, 15). These represent two out of 608 citizen figures and the scene in which they occur is confused in many other respects. One auxiliary has a vent in his tunic skirt and pteruges on his upper arm (LXXII, 24), features normally seen on the cuirassed officer figure type. Three citizen troops have mail sleeves with lappets projecting out from under their 'loricae segmentatae' and over their tunic sleeves (LXXII, 7, 8, 15). Like the oval shield, this is an auxiliary figure type feature. The group of standing citizen troops seems to wear unfinished loricae, lacking girdle plate junctions. A slinger in the scene throws a stone by hand rather than by using a sling (LXXII, 17), in contrast to other slingers on the spiral (see 5.9). One figure who attacks the Dacians is marked by his long hair as a barbarian himself, and his conical cap is unlike headgear worn by either side (LXXII, 30). His tunic is long-sleeved but clings around the torso in the manner of mail representations. One indisputably Dacian figure also appears to be assaulting his fellows (LXXII, 28). There are a great number of compositional errors in the scene which also has confused background and foreground objects and limbs. From his pose, it would appear

that the barbarian with the cap and clinging tunic was originally intended to be an auxiliary, but the sculptor finished him off as a Dacian. The two citizen troops with oval shields are in fighting poses and it is quite unusual for this figure type to engage in combat outside siege situations (see 2.3). Their position in the battle, their shields and one of the mail sleeves, indicate that they too may at first have been planned to be auxiliaries.

In three scenes standard bearers depart from their normal attire with the addition of slipped tunics over their mail, girt by cingula with aprons (XXVI, CVI, CVIII; see 5.5.2). Examples on the march towards the Dacian capital are of interest because combinations of bearers indicate that the foreground and background columns switch position between scenes CXVI and CXVIII. The head-gear of the standard bearer figure type in general varies not just according to the type of standard carried, but also with the position of the bearer on the column shaft. Vexillum-bearers are bare-headed in scenes IV-VII and wear animal skins thereafter, whilst aquiliferi are bare-headed before scene LI and subsequently have skins. Scenes CVI and CVIII are an exception to this in that in the former a vexillarius, and in the latter an aquilifer are bare-headed (CVI, 31; CVIII, 25). Slipped tunics also appear with the unarmoured soldier figure type (see 5.7.1) and occasionally on bare-chested irregulars (XXXVI, 17). They are worn by a few barbarians (XXIV, 49; CXII, 12) and some Dacians even appear bare-chested (LXVI, 37; CL, 7, 8). A bare-chested muleteer occurs once amongst the Roman forces early on the spiral (XVI, 1). Slipped tunics only appear in two scenes worn by soldiers engaged in construction work (XCII, XCVII). The messenger in scene IX wears

Pl 24,101

Pl 6,49

Pl 24,48,59

Pl 101

Pl 31

Pl 93

Pl 8

nothing but a slipped tunic. This man has no barbarian features of hairstyle or dress yet his mushroom and Dio's reference make his identification as a Burus assured (see 2.2). It may be significant that he is the first barbarian to be represented on the spiral (IX, 1).

Two members of the cuirassed officer figure type wear mail armour, of the type worn by auxiliaries, standard bearers and musicians, instead of muscled cuirasses (V, 7; X, 1). Both instances occur on the first spiral and nowhere else. All the officers on the column are bare-headed with two exceptions (LXI, 1, 2). Only one unarmoured standard bearer wears an animal skin whilst all the rest go bare-headed (LXXXVII, 13). Two auxiliary figures, surrounded by other auxiliaries in armour, are depicted in tunics (VII, 3; XXXIII, 1).. The scene contexts are not particularly appropriate for this attire and the first example is on only the second spiral. Two other auxiliaries in an early building scene carry small round shields of a type comparable with those associated with standard bearers and musicians (XVI, 7, 8; see 5.5.2).

The normal provision of a single cingulum for citizen troops is contravened in two scenes where two or even four belts are depicted (IV, 3, 4, 8, 14; XXI, 6, 7). The second of these scenes has other confused details whereby an auxiliary carries a shield which in shape seems to be a cross between an oval shield seen face-on and a rectangular shield seen in profile (XXI, 8). This man also has no tunic hem depicted below his mail and a cavalryman has a curled motif mistakenly represented on the inside face of his shield (XXI, 10; see also CXXXIX, 2). Scenes IV and XXI with the extra cingula correspond vertically. Scene IV also has very long

aprons with the wrong number of hanging strips and the only concentration of wreath blazons on rectangular shields (IV, 4, 6, 8, 14; see 5.2.3). Moreover, it is the only scene which shows marching kit carried on poles (see 4.7.4). Round the waists of two standard bearers in scene V are worn tied belts of a form not seen elsewhere with this figure type (V, 1, 3). The three praetorian signa are depicted in great detail with clearly discernible imagines clipeati and in common with a vexillum they are the only standards on the frieze to be topped by statuettes of Victoria. The tunics worn by standard bearers in scenes IV-V have the longest hems on the column and the cross-members of musical instruments in V have projecting shafts unique to this scene (see 5.6).

Pl 4
Pl 4-5
Pl 5
Pl 6
Pl 7

Some confusions in figure type features involve inconsistencies with regard to a particular scene genre. Auxiliaries fight in battle wearing helmets except for one scene where three men are bare-headed (CXII, 5, 9, 15). In this scene they also wear cloaks which is again unusual for Roman combatants⁴³. A fourth auxiliary does wear a helmet and has no cloak (CXII, 2). In contrast, citizen troops only wear their helmets in two scenes whilst engaged in building activities (LXVI, 6, 8; CXXVII, 1, 4, 5) and one case corresponds vertically on adjoining spirals with the helmet-wearing officers (LXI, LXVI). These instances represent such small proportions of fighting auxiliaries and building citizen troops that they may be ascribed to sculptors' error⁴⁴. Three cavalrymen at the end of the first phase of the first war are seen torching buildings (XXIX, 1, 6, 9). Their hairstyles, horse-harness and tunic slits mark them as barbarians but their activities seem to identify them with the Roman forces. However, they do occur in

Pl 104

a scene where the action is very disjointed and difficult to interpret. More serious are the scenes in which auxiliaries are engaged in construction work (XII, CXXIX). The first involves a single auxiliary in the earliest set of building scenes on the spiral (XII, 10). Richmond pointed out the change in pose of the auxiliary in CXXIX during sculpting⁴⁵ and this confusion may perhaps have extended to depicting two men as auxiliaries (CXXIX, 5, 6). They are quite contrary to the column's propaganda programme which confines technical expertise to citizen troops (see 2.3; 5.20).

Pl 13,111

Once, perhaps twice, a group of auxiliaries in an adlocutio situation appears with military standards. In scene CXXXVII the main audience with signa is made up of auxiliaries, although one citizen appears in the subsidiary group on the opposite side of the rostrum (CXXXVII, 1). Scene LXXVII unquestionably has auxiliaries alone. This is doubly strange because the men's upraised arms suggest an acclamatio which should have been an important propaganda component of the frieze requiring citizen troops⁴⁶. Moreover, mail chiselling was definitely not applied (see 3.3.1), tunic hems were omitted, mail edging was left unfinished and the standard bearers lack animal skins. Conversely, in scenes LXVI and LXXII the composition of figure groupings corresponds vertically in adjacent spirals so that the emperor appears to the left of the reserve group of citizen troops instead of to the right, as in scenes XXIV, XL and LXV. Consequently, standards were not depicted with the reserves because they could not serve to locate the emperor (see 2.3; 5.5.1). In scene LV, marching citizen troops lack necessary standards but they have been squeezed in to fill an awkward space with no vertical room for signa in contrast with scenes XXII, XXVI and XLVIII.

Pl 66,78

Some differences within figure types were part of the propaganda programme, examples of which are the unarmoured praetorians in scenes LXXXV-VIII, and barbarian ethnic variants in C and CLI (see 2.3). However, most differences are the result of sculptors' confusion and inattention to detail as may be judged from the fact that they represent such small proportions of the particular figure types and from their scene genre contexts. Moreover, some mistakes correspond vertically, such as the extra cingula (IV, XXI), the confused wearing of animal skins (XXXVI, L), superfluous helmets (LXI, LXVI), wrong shield types (XXXVIII, LXXII) and, perhaps, the combination of auxiliary infantry and standards (LXXVII, CXXXVII?). Significantly, a number of problems are located low down on the spiral and 53 (70%) out of 76 figure type errors occur in the first war. In particular, the rich detail in scenes IV-V, the non-ethnic Burus (IX), the officers wearing mail (V, X), the extra cingula (IV, XXI) and the first building auxiliary (XII) occur on the bottom three spirals. These may have resulted from sculptors not being precisely sure of the features distinguishing figure types, and these types may still have been evolving in the sculptors' minds after work started. One category which clearly did evolve as work progressed was the archer figure type. It first appears in the guise of a normal auxiliary infantryman (XXIV, 38) with bow instead of shield and shafted weapon. Subsequently 'invented' equipment was borrowed from the armoured Sarmatian figure type (XXXI, XXXVII to LXVI) with vertical correspondence, before a model was found in captured barbarian equipment (LXX, CVIII, CXV). This process continued right up until the last appearance of archers on the seventeenth spiral (see 4.5; 5.8; 5.17). Some other figure type

Fig 10,29

Pl 88-9

Pl 95-6,118

Pl 22

Pl 69

Pl 27,33-5

Pl 75,102-3

Pl 108

confusions may have resulted from accommodation of the vertically corresponding propaganda framework. For example, the cramped second instance of auxiliary building occurs beside the 'Bikilis' betrayal scene (CXXX; see 2.2).

3.2.4 Figure Type Details

The depiction of individual figure types varies in detail so that types of helmets, 'lorica segmentata' fittings, shield blazons, shield shapes, mail edging, tunic hem decoration and horse-harness may be categorised. Study of the distribution of these variants on the shaft must take into account the incidence of the particular figure type concerned which would naturally dictate the overall presence or absence of specific features. Citizen troops, officers, auxiliaries and barbarians are virtually absent during Trajan's journey between the two wars, so reference to the occurrence of details using the wars is not meaningless. Slightly more figures appear in the first war than in the second (54%). Notice must also be taken of rainwash erosion and damage to the frieze through which finer details such as shield patterns or mail chiselling, have been lost, and which may distort distribution patterns.

Fig 7-9

Fig 3

The helmets worn by citizen troops and auxiliaries may be divided into 27 classes based on the shape of neck guard, the variant of peak and the type of bowl-top feature (see 5.2.2; Appendix 3). There are 20 types in the first war, 7 of which only appear in that war. The second war has 21 types, 5 of which are peculiar to it. With more definable helmets occurring in the first war than in the second (340 to 285), it appears that there is proportionally more variation in the second war. Of the 27 categories, 15 appear in

Fig 11-2

both wars. Only 6 categories occur in one scene alone, 4 in the first and 2 in the second war. Those in the first group on spirals 2 and 3, and the two in the second are in the same scene (CXIV). Moreover, Type 16 appears only in scenes in the first war which correspond vertically (XXIV, XXIX). Type 6 appears in two scenes and these adjoin on the same spiral (XCV, XCVII). Type 19 also vertically corresponds in two scenes (XCV, CIX). Other types which occur in greater numbers of scenes exhibit some grouping in shaft zones⁴⁷. These also suggest links between scenes which are otherwise unrelated by zoning or vertical correspondence. Types 3 and 4 occur in scene LIV and again in close vertical proximity in scenes CVI and CXIII. Type 14 occurs in a zone on spirals 8-10 and Type 13 appears on spiral 8. The only other appearances of these types happen to be both in the same scene in the second war (CXXII). Type 18 also follows this coincidental distribution in two of its three occurrences (XXXII, LXII, CXXIII). Type 22 is the most common on the shaft (146 examples) and its distribution is marked more by zones of absence on spirals 5-6 and 14-15 than by its presence. However, it is notable that along with Type 17, it dominates spirals 19-22, almost to the exclusion of all other types.

Types 1-5 are confined principally to spirals 2-7 with outliers on 12 and 15-17. This corresponds with the first of three super-categories defined by the presence of brow-plates (Types 1-5), frontal peaks (6-15) and all-round peaks (16-27). Whilst some preference is demonstrable in the application of certain helmet categories to certain figure types (see 5.2.2), it is significant both to the sculptural process and to the realism of the depiction of military equipment that the brow plates cluster low down on the

Fig 12

Pl 100

Pl 67

Pl 116

shaft and the frontal peaks form small zones on spirals 1-2, 8-10 and 14-18 (with 8-10 relating to 15-16 and 18). Whilst for some types of helmet distortion is attributable to the distributions and predominance of figure types in certain zones, round peaks are exclusively applied on spirals 14-22 irrespective of figure type. Plumes appear on a variety of helmet types in a number of scene genres, but they are in scenes which, with the exception of LXXIII, cluster together significantly (see 5.2.2)⁴⁸.

Pl 83,91

The fittings on the chests and upper backs of 'loricae segmentatae' worn by citizen troops may be divided into 26 types (see 5.2.1; Appendix 2). There are more definable cuirasses in the first war than in the second (129 to 70) and a correspondingly greater variety of types in the first (20 to 11). Twelve types appear in only one scene⁴⁹ but a greater number is confined to the first war alone than only to the second war (14 to 3). Six types appear in both wars⁵⁰. This distribution strongly suggests that composition was freer in the first war and that types formulated in the first were applied to the second largely in preference to newly created types. Individual types display some spatial links. Type 21 only appears in two scenes which vertically correspond (XCVI, CXIV) and Type 14 is in two adjoining scenes only (LI-II). Types 10 and 17 occur in scenes on adjoining spirals⁵¹. Three incidences of Type 24 are on the same vertical axis (LXVIII, CI, CXXIV) and Type 23 clusters on spirals 9-10 in the first war. Type 1 appears, with one exception (CVI), exclusively on the bottom three spirals; Type 5 in two vaguely clustering zones on spirals 1-8 and 17-20; Type 17 likewise clusters on 14-19.

Fig 13-4

Super-categories may be defined by fittings involving lobate features (Type 1), ties (2-6, 26), studs (7-9), rectangular plates (10-16), rectangular and curvilinear plates together (17), curvilinear plates (18-22) and toothed plates (23-5). Lobate fittings therefore cluster on spirals 1-3 and ties occur proportionally more frequently in the first war than the second (60 to 14). Studs appear in four scenes which fall into two vertically corresponding pairs (XXI and XXVII; LXXII and LXXXV). Rectangular fittings cluster on spirals 14-16 and 6-7 in two pairs of related scenes (XLV and LV; LI-II). Curvilinear plates are scattered without any discernible overall distribution pattern, whilst toothed fittings are most numerous in the first war (19 to 4) but are largely confined to spirals 9-10.

Fig 14

Pl (4,10,11,
(15-8,37-9,
(46,50,54,
(73,79,92

Shields carried by citizen troops are divisible by shape and size (see 5.2.3). Those which are rectangular with parallel top and bottom edges are to be found on spirals 9-10 and 14-17⁵², whereas those which are trapezoidal in profile are carried exclusively on spirals 1-8 and above spiral 17⁵³. In only one case do the zones overlap (CI). With regard to size, shields extending from the shoulder down to the tunic hem, or below, appear on spirals 6-9 and 14-16, whilst those not extending down as far as the hem are largely confined to spirals 1-6 and 18-21. These are essentially tripartite distributions, short and trapezoidal shields above and below a zone of long, rectangular shields which is bisected by the inter-war imperial journey. Citizen shield patterns are largely of the bolts-and-wings type. Those examples with wreath instead occur predominantly in the first war (12 to 2), mainly on the north-west round to the south-west faces of the shaft.

Fig 15

Pl 66

Pl 4

Pl 44

Pl 78

Fig 16

Pl (16,18,30,
(66,79

Pl 4,5,24,78

The oval shields carried by auxiliaries and barbarians are definable by blazon and it is demonstrable that these, like helmet categories, were employed to help visually identify the figure types (see 5.2.3; 5.3.2; 5.12.3). Therefore, the distribution of blazons is largely governed by the occurrence of figure types. However, blurring of the distinctions occur where simple ring patterns cluster on spirals 9-10, or where small motifs appear on spirals 2-6, 9-10 and 16-17. There are only six oval shields featuring eagle blazons. Four of these cluster together in nearby scenes⁵⁴, whilst the remaining two vertically correspond⁵⁵, perhaps suggesting that they may have been the preference of one particular sculptor. Blurring of Roman and barbarian distinctions was also caused by the occasional practice of applying the same blazon to all the shields in one scene, for example 'piles' in scene XCIV and rings in CXXXIV. In many instances sculptors attempted to give different classes of blazons to all the figures in a particular scene, and it is unusual to find two auxiliaries or Dacians standing beside one another with exactly the same shield pattern. This is in complete contrast to the situation with rectangular shield patterns⁵⁶. There are only three 'Roman' classes of oval shield blazon (eagles, wreaths, and bolts-and-wings) and because of the applied variety in such scenes as XXXII the number of 'abstract' designs on Roman shields was inevitably increased.

The sleeve and hem edgings of auxiliary, standard bearers and musician mail armour vary in finish (see 5.3.1) and the distribution of three types requires comment. Edgings of rounded tongues only occur in scenes V and XXIV on the bottom three spirals. Zigzag edgings appear more frequently in the first war than in the

Fig 16-9

Fig 17-9

Pl 74

Pl 76

Pl 57,63,69

Fig 18

Fig 17

Pl (41,80,
(84-5,91,
(114,117-8

Pl 28-9,41,99

Fig 21

Pl 6,20

Pl (52,56,101,
(111-5,117

second (108 to 32) and, in the latter, grouped on spirals 14-15 and 21-2. Fringed edgings, on the other hand, occur predominantly in the second war (47 to 119) with a grouping in the first war on spirals 6-10. These patterns, like those of the shields carried by citizen troops, are wholly artificial and are not solely the product of figure type distribution.

Most tunic hems worn below mail are undecorated but two hem types do occur with distinctive distributions (see 5.3.5). Hems with spaced tufts hanging down appear on spirals 2-6 and 21-2 with a single instance on spiral 10⁵⁷. Hems with a continuous fringe appear predominantly on spirals 7-10 with a grouping on spirals 20-2⁵⁸. Neither form is mutually exclusive but the distribution patterns result from the implementation of two decision processes, the decision to decorate the hem, followed by the choice of form of decoration.

Fig 22

Pl 49,80

Horse-harness is another class of detail which occurs in a number of variants (see 5.4.7). The addition of simple straps across horses' necks is a feature which occurs alone only on spirals 1-11. Throat straps with an attached hanging strap in addition only occurs on spirals 13-16. Thereafter, no neck straps are carved with or without hanging straps. This pattern is partially affected by the distribution of auxiliary cavalry on the shaft but the zoning is real nonetheless. Likewise, the provision of short, narrow straps hanging down from saddle pommels occurs only on the bottom eight spirals, with one exception (CIV, 32). The addition of dangling pendant straps on chest straps in scene CXLV is a departure from the normal range of provision.

Pl 90

Pl 31

Pl 114

3.2.5 Additional Detail

In addition to the variations in equipment details there are forms of decorative detail sometimes applied beyond normal provisions. Helmets were given chevron decoration and ribs on neck guards in scene X⁵⁹. Wreaths encircle helmet bowls in scenes XXXVII, CVI and CXLVI, the last two of which vertically correspond⁶⁰. Studs appear on helmet bowls, neck guards and cheek-pieces in other scenes⁶¹. Chevron decoration on 'lorica segmentata' chest plates around the neck opening cluster on the north and west faces of spirals 7-9 and appear nowhere else (see 5.2.1)⁶². Mail often has studs carved within the lappets of zig-zag edgings or the edgings are divided off from the lorica by a narrow, incised line (see 5.3.1)⁶³. Baldrics have additional decoration with a series of studs or a wavy line (see 5.2.5)⁶⁴. Occasionally, sword scabbards and hilts exhibit stud, trefoil or tendril details, or have a ring attaching baldric to scabbard⁶⁵. One early horse harness is studied (VII, 3).

Fig 23

Pl 100

Pl 18

Pl 58,66

Pl 20,80,115

Pl 28,58,67

Pl 32

It is noticeable that chevron-decorated 'lorica segmentata' plates and wavy-line decorated baldrics appear together in LXII and LXVI, scenes which are vertically adjacent. Overall, the application of additional detail is carried out far more frequently in the first war than in the second (80 to 40). This might be taken to indicate a falling off of the sculptors' interest. To put this extra decoration in perspective, 121 instances are confined to figure types wearing armour, baldrics and swords, a maximum of 1344 figures. Considering that much detail has been lost through erosion, and many figures are masked by others, or are damaged, an absolute minimum application of additional detail was carried out on c. 8.9% of the applicable figures.

3.2.6 Presence or Absence of Features

The presence or absence of features as a common practice is quite separate from the other variants of dress and equipment discussed above, and from the mistaken application or omission of detail examined below (see 3.2.5; 3.2.7). It mainly concerns the combinations of cingulum, apron, baldric and sword on citizen troops, baldric and sword on auxiliaries and the execution of zig-zag chiselling on the mail armour of appropriate figure types (see 3.3.1; 5.2.4-5; 5.3.3).

Fig 24-7

Fig 28

Of the 285 citizen troops with unobscured or undamaged waist areas, 147 (52%) have been given cingula. Similarly, 107 (65%) of the 166 visible abdomen regions have been provided with aprons. Out of 157 cases where both areas are visible, 93 (59.5%) have both cingulum and apron, 52 (33%) have neither, 8 (5%) have cingulum

Fig 24

Pl 67

Pl 78

alone, and 4 (2.5%) have apron alone. In 235 cases where the torso is not open there are 70 (30%) provisions of both baldric and sword, 26 (11%) of sword alone, and 13 (5.5%) with baldric alone. Combining these statistics in the 207 cases where more of the torso is visible, there are 48 men (23%) with cingulum, baldric and sword, 15 (7%) without cingulum, 15 (7%) with sword and cingulum, and 39 (19%) with cingulum alone. Only 4 (2%) have a sword but neither cingulum nor baldric. This leaves 86 men (42%) with none of these three items.

Pl (5,16,18,
(47,53-4,
(58,66,74,
(78,92,98

The presence or absence of swords and belts does not correspond with particular genres of scenes or with other logical constraints of depictional content. Like the classes of other military equipment, application of these items was determined by other factors linked to the sculptural process. There is an almost

Fig 25-6

complete lack of baldrics on spirals 1-5⁶⁶ but a good number of them on 7-9 and 15-19. There is also some grouping of baldrics without cingula on spirals 6-9 and 15-19. Instances of a cingulum without an apron are more frequent in the first war than the second⁶⁷, but the nonsensical aprons without cingula are few and equally divided between wars⁶⁸. The complete complement of cingulum, Fig 26 baldric and sword appears in two zones on spirals 6-9 and 15-19 whilst baldric and sword alone appear in the first war on 6-7, but is more widespread in the second on spirals 15-19. Both combinations roughly coincide in application. Cingulum alone is common in the first war but only appears in the second late on (CXXVII, CXXIX). Sword suspension from a cingulum alone occurs right at the beginning of the first war (spirals 1-3), in a zone on spirals 7-10, and only in one scene in the second war (CI). This all suggests that the maximum logical complement of items was seldom the sculptors' ideal and that to these artists the presence or absence of such equipment was not significant.

The provision of baldric and sword for auxiliaries forms a more simple pattern. Of the 201 determinable torsos, 101 (50%) have both items, 34 (17%) have baldric alone, 4 (2%) have sword alone, and 62 (31%) have neither. Without the cingulum and apron in addition to tax the sculptors' concentration, the auxiliary provision compares favourably with the depiction of baldric and sword on citizen troops (30% both, 53.5% neither). It would seem that swords were easier to overlook than baldrics which were prominently visible across the body. The illogical provision of sword without baldric occurs, with one exception, fairly early on in the first war. Otherwise, presence or absence forms no real pattern

Fig 27

P1(19,49,52,
(63,80,104,
(111-5,117

on the shaft except that generally baldric and sword are present together on spirals 16-18.

The types of sculpted detail discussed above have suffered from physical damage to some extent, but the zig-zag chiselling of mail armour is particularly vulnerable to rain-wash erosion. Consequently, its presence or absence is seriously complicated because on some armours it has definitely been lost whereas on others it may never have been applied originally. Comparisons between the casts of the frieze made in 1861-62 and the contemporary state of the shaft suggest a high rate of erosion in the intervening period⁶⁹. Out of 601 discernible loricae, 239 (40%) on all the available evidence were chiselled, and 362 (60%) were not. Between 1861-62 and 1984 chiselling was lost from 108 figures, 45% of the known provision. An acceleration of the erosion rate is to be expected from the advent of oil-fired domestic heating and motor cars but rain-wash damage already visible on the casts confirms that loss must also have occurred prior to 1861-62. The distributions of chiselling, lost chiselling, and loricae with no evidence of tooling reveal a high degree of recent damage on the south-east face of the shaft where run-off from the balcony has been particularly erosive. On the other hand, elsewhere the balcony has provided protective shelter for the upper spirals. Understandably, there is greater loss from the exposed area above the torus at the bottom of the shaft. Physical damage has also been caused by the cutting and widening of holes cut through the drums out from the staircase, presumably in post-Roman times.

The survival of the clay wash where water run-off has not stripped it away provides the surest guide to real, rather than

Fig 28

Pl(20,60,80,
(115,117
Frontis.

Fig 3

Frontis.

Pl 115

Pl 7

Pl(9,83,
(86,90

Fig 28

perceived, absence of mail chiselling. Thus, in some scenes where zig-zag tooling is generally present, background figures in lower relief have not been chiselled⁷⁰. Elsewhere, chiselling was definitely never applied, and sometimes runs of scenes occur where it is entirely absent⁷¹. Taking into account loss before the casts were made, the application of tooling was patchy on some spirals (1-6, 14-16) but near complete on others (7-10, 17-22). The protection affected by the balcony clearly demonstrates that there was no slackening off of application towards the end of the work. Some scenes appear in isolation with chiselling (XXIV), others without (LXXVII), suggesting conscious diligence or unconscious negligence unrelated to other scenes in close proximity. It should, perhaps, not be concluded that tooling was an afterthought carried out once work on the frieze was well under way because it appears in scenes X-XI. Whilst it may be thought that the intention had been for all mail shirts to be provided with zig-zag chiselling and, therefore, that some scenes were negligently unfinished, a clue to the process is provided by a number of mistaken applications. Zig-zags run horizontally in a confused or lackadaisical fashion on only three auxiliaries, two of which are in adjoining scenes⁷². One armoured officer has chiselling on his muscled cuirass (X, 2) and once even Trajan is similarly provided (L, 8). Four citizen troops have mail tooling applied to the chest plates of their 'loricae segmentatae' in a scene with good overall zig-zag provision (XXIV, 11-3, 15). Mistakes in unrelated but adjoining scenes (CXII-XIII), and the over-provision of chiselling where it is inappropriate, might suggest that the process was separate from the main scene sculpting. Perhaps different sculptors were employed to

Fig 29

follow on after the scene-sculptors applying zig-zag chiselling with more or less diligence. The possibility also remains that the carved folds and texture of mail fooled some of these sculptors into thinking that the loricae were made of cloth, or the carvers were completely ignorant of the nature of mail armour (see 5.3.1).

3.2.7 Mistakes in Detail

Two forms of mistakes occur which may be characterised as straightforward omissions, and as the application of erroneous or inconsistent detail. They may be judged to be errors by comparison with the normal provision of dress, equipment or decoration, and they may be examined separately from confusions in figure type details (see 3.2.3).

The straightforward omissions include the failure to depict tunic skirts below mail armour⁷³. Many instances occur on the lowest four spirals, three appear on spiral 11 (LXXVII) and four on spiral 22 right at the end of the frieze. The lower zone may, perhaps, be explained by sculptors' inattention at an early stage in the work, the others by occasional lapses and by the general confusion in scene LXXVII. Eight examples of straight arm and hem edgings on mail, likewise represent non-application of decorative detail, three of which appear in LXXVII⁷⁴. Some 'loricae segmentatae' did not have their girdle plate junctions and attachments carved or their chest details delineated⁷⁵. The Dacian figure type is characterised by its slit tunic, long trousers and cloak, but in 13 instances the latter was omitted⁷⁶. The illogical provisions of aprons without cingula to hang from are so few that they form a distinctly spurious element of the normal presence and

Fig 29

Pl(19,104,
(119

Pl 78

Fig 24

absence patterns⁷⁷. Likewise, swords lacking cingula or baldrics for suspension seldom occur and on auxiliaries only up the shaft as far as spiral 10⁷⁸. Very occasionally a sculptor forgot to give a man his shield (e.g. XXXVII, 6). Out of 205 oval shields carried by Roman forces, 27 (13%) have no blazon and 24 (13%) out of 183 barbarian shields are similarly undecorated, suggesting that in this respect no more or no less care was taken with patterns for either side (Appendix 4)⁷⁹. However, there is some concentration of missing patterns on spirals 19-22. Rather more serious is the omission in two instances of eagle statuettes from aquila standards (IV, 22; XXVI, 13), the outright non-depiction of standards or the failure to provide metal inserts⁸⁰. In several cases there are no clear relationship between standard and bearer or even a provision of an appropriate member of the standard bearer figure type⁸¹.

The second type of mistake is made up of spurious details resulting from a variety of factors. The provision of two tunics on one auxiliary is a simple confusion (XL, 20) as are Dacians wearing both long and short sleeves together in several scenes⁸². The progressive shortening of auxiliary tunics is particularly marked from scene CXXVIII onwards, where buttocks and groins become exposed, although there is some variation in length throughout the frieze⁸³. Coincidentally, in the latest scenes there are also the missing tunic skirts, and an even greater visual contrast with the Dacians is achieved because barbarian tunics become unusually long, partly in association with a figure sub-type (see 5.12.1). In one early scene the edging of mail armour is executed in a very ragged fashion quite unlike the usual range of variants (X, 4, 10). Details of 'loricae segmentatae' are also applied outside the usual

Fig 26-7

Fig 20

Pl 24

Pl 25

Pl(49,117,
(119

Fig 29

categories of fittings and some loricae are very ineptly depicted⁸⁴. Helmets with cheek-pieces and cross-pieces, but no bowl or neck flange, which expose the wearer's hair are only depicted in scene XXXVI and they are quite impractical (see 5.2.2)⁸⁵.

Multiple cingula in scenes IV and XXI appear early on the spiral and vertically correspond⁸⁶. The appearance of a sword on a wearer's left hip is clearly inconsistent with the vast majority which are worn on the right⁸⁷. Such a mistake could easily have been overlooked when figures in a scene present backs and fronts to the viewer. The example in L occurs in a scene which is very confused in other respects (see 3.2.4). Left hip suspension was almost uniformly represented in scene XXXII where the particular sculptor either forgot the normal convention or was ignorant of it. Out of 14 incidences, 12 are in the first war, a proportion which presumably reflects the sculptors' increasing proficiency. In one scene early on the frieze, two auxiliary infantrymen carry extraordinarily long swords high up on their right sides (XI, 12, 13), and elsewhere auxiliary cavalry have long swords with very detailed fittings (XXXVII, 1-8). Irrespective of whether these weapons represent the results of empirical observation (see 5.4.4), they stand apart from the type of sword normally provided.

Shields are marked by several representational mistakes beyond the appropriation of a particular form of shield by the wrong figure type (see 3.2.3). One board held by an auxiliary early on the frieze is sub-oval with a vertical profile suggesting the combination of oval and rectangular shields (XXI, 8). This is the only example of this form which has no blazon or boss and the bearer lacks a tunic skirt. In some crowded scenes, also early on the spiral,

where there was insufficient room to fit in a whole shield face, the sculptor moved the boss off-centre and even squeezed the blazon up into a visible corner⁸⁸. A similar manipulation of equipment is seen when a sword is bent into a crescent so as to avoid obscuring a Dacian face (XXXVIII, 12). Decorative patterns were occasionally also applied to the back or inside face (XXI, 10; CXXXIX, 2). On the outer face of rectangular shields the tendril blazon may be viewed as a space-filling device mistakenly applied⁸⁹, and the three Dacian shields with Roman patterns are a confusion in detail (see 5.2.3; 5.3.2; 5.12.3)⁹⁰. Pl 36 Fig 16 Fig 19

Considering the large number of figures involved on the frieze and the great potential for detailed variation, it is, perhaps, surprising that the work was carried out with such a high degree of uniformity and conformity within the sculptors' frame of reference and compositional freedom. Out of the 65 mistakes in detail of the two types discussed above, 59% occur in the first war (38 to 27).

3.2.8 Stone Objects and Metal Inserts

In a similar fashion to the Great Trajanic Frieze (see 5.18), all the way up the shaft, tools, weapons and standards are either carved in stone or provided by metal items inserted into drilled hands⁹¹. It may be supposed that the inserts were made of copper alloy, rather than iron, because of its superior corrosion properties. Traces of metal discolouration remain in some hand-holes but actual inserts do not survive. A few scenes had all their items carved in stone (XXIX, LII, LVI). Occasionally, an object such as a spear or a standard was provided with both stone and Pl (4,32,52, (62.67.71) Pl 39,47,50 Fig 30

metal sections (XXV, 3; LI, 19). Identification of missing items P1 46
 may be made by comparing the user's pose with other figures which
 wield stone tools or weapons. This is true of pick-axes, hammers P1 15,53
 and chisels, standards and bows. With other weapons the situation
 is less clear. Sentries evidently lean on shafted weapons⁹², but P1 16,18
 the upraised hands of other men may be engaged in thrusting spears, P1(36,76,
 (79-80,104
 throwing javelins, slashing with swords or bashing with clubs.
 Equally, it is difficult to make the distinction between straight
 and curved barbarian swords when the weapon is missing or even when
 only the hilt of a stone sword survives (see 5.2.5-6; 5.12.3).

Some classes of object form a discernable pattern on the shaft
 beyond the biased clustering of stone weapons dictated by the occur-
 ence of the battle scene genre. With one exception, clubs only
 appear in three scenes which are on spirals 3 and 5⁹³. Dolabrae P1 36,75
 on spirals 1-3 are, with two exceptions (XIII, 6; XVIII, 15), metal P1 17
 inserts⁹⁴, whilst those on spirals 7-9 and 17-19 were carved in P1(47-50.
 stone⁹⁵. Only on spirals 10-14 is there a mixture of stone and (74,92-3
 metal, and sometimes both appear together in the same scene⁹⁶.
 Likewise, sickles in both media appear in scene CX.

Despite the occurrence of building genre scenes in the second
 war, hammers and chisels only appear once on the upper spirals
 (CXXXIII). This is in contrast to the frequent chiselling activities
 in the first war. A mixture of stone and metal tools marks the run P1 15,39,53
 of building scenes on the second spiral⁹⁷. Stone shafted-weapons
 appear very seldom and are usually short in comparison with the P1 69,105-6
 long shafts in scene V⁹⁸. Length is not limited by the height of
 the spiral band (see 5.3.4). In scene V spears appear to have been
 extended in order to fill an awkwardly bare space caused by the

helical band entering its second spiral and mounting the starting point of the first. The cross-bars of two musical instruments were likewise uniquely lengthened for the same purpose (see 5.6). Pl 7

There are 120 stone-carved weapons and tools as compared with 475 figures with clenched empty fists. Thus, the stone medium was chosen in 20% of the 595 potential contexts. However, this percentage is misleading because in many scenes clenched empty hands were never drilled to take metal items. This is particularly clear where archers' hands in siege scenes were not carved in high enough relief to take drilling, and thus they were always empty (XXXII, CXXXIV). The same may be said of hands in other scenes, and even many that were drilled are too closed, too flat, or held in awkward positions close to the user or to the spiral dividing band, to allow metal shafts to be permanently attached⁹⁹. One aquila had its lower shaft provided in metal and its upper shaft carved in stone, yet the socket in the latter and the fist holding the former do not align, so the metal insert was very likely never positioned (LI, 9). Thus, some metal items were definitely present when the work was finished but others could never have been, or were never provided. The low-relief problems for inserts were partly due to the differing relief heights on particular faces of the shaft (see 3.3.3), but the incomplete application of inserts elsewhere indicates that such work was left unfinished. Perhaps the drilling and insertion was not the job of the scene-sculptors and those who were doing this work followed on after the sculptors with less diligence and more haste (see 3.3.1). Pl 28
Pl (27,80,
(101-2
Pl 46

Military standards, together with musical instruments, were nearly always carved in stone. It has already been observed that

standards are often unusual in having been carved onto, and even across, the spiral dividing band, and this underlines the importance attached to their propaganda function (see 2.3; 3.1; 5.5.1). Interestingly, the four occasions where standards carry on up into the scene above cluster loosely in the first war, and there are no second war occurrences. What does happen in three scenes on spirals 16-18 is that standards were foreshortened so as not to run over the dividing band¹⁰⁰. Standards and musical instruments which were provided by inserts occur in four scenes only in the second war, three of which scenes are closely related¹⁰¹.

Fig 4

Pl (6,25,42-3,
(48-9, 56

Pl 101

3.2.9 Second Level Scene Correspondence

The first level of scene correspondence is represented by the vertically corresponding framework which was employed to organise and emphasise the propaganda programme (see 2.2-3). The second level correspondence is made up of scenes linked vertically, laterally or diagonally across the face of the shaft by subject matter, occurrence of figure types and distribution of specific detail. Some of these relationships may have been intended, but most were incidental products of the sculptural process.

Fig 5

Several corresponding scene compositions have been identified by Gauer. Rivers appear in scenes XXVI, LXXIV and CXXXII on a vertical axis¹⁰². Likewise, a zig-zag road and a fort on a hill in scene XIV are reproduced very similarly in scene L which is aligned five spirals above¹⁰³. Roman forts besieged by Dacians also appear on the same vertical axis (XCIV, CXXXIV)¹⁰⁴. Within scenes certain components correspond. The first two supernatural beings, Jupiter (XXIV, 50) and a female deity (XXXVIII, 2) align

Pl 45

Pl 36

on spirals 3 and 5, and the only two occasions in which auxiliaries present severed barbarian heads to the emperor occur one above the other, six spirals apart (XXIV, LXXII). 'Moesian' women link scene XXXIX with XLV immediately above it, and the only two occurrences of armoured barbarian cavalry on the frieze correspond diagonally on adjoining spirals (XXXI, XXXVII)¹⁰⁵. These relationships are too close and too numerous to be purely coincidental. During Trajan's journey between the two wars monumental arches are diagonally placed on adjoining spirals (LXXXIII, XCI), perhaps a more than fortuitous juxtaposition considering the important use of aligned arches in the first level correspondence framework (see 2.2-3).

Pl 21

Pl 37

Pl 27,33-5

The analysis of figure type detail has also revealed a number of links between scenes (see 3.2.2-8). Wreaths on helmets (CVI, CXLVI), multiple cingula (IV, XXI) and the extra provision of helmets (LXI, LXVI) vertically correspond. Citizen troops and auxiliaries mistakenly wearing animal skins correspond diagonally on spirals 5 and 7 (XXXVI, L), as do the longer bows in Roman use on adjoining spirals (CVIII, CXV). According to Gauer, the auxiliaries with standards occur in two vertically aligned scenes (LXXVII, CXXXVII)¹⁰⁶. Figures carrying incorrect forms of shields appear in axially-related scenes (XXXVIII, LXXII). Helmets and 'lorica segmentata' fittings have the greatest number of definable variations and thus are sensitive indicators which spatially link scenes. Thus, it may be observed, for example, that scene LIV corresponds strongly with scenes CVI and CXV according to helmet types represented, and lorica fittings link XXI with XXVII. The organisation of imperial command groups, citizen troops in reserve and auxiliary

Fig 10-4

and Dacian figure groups in scenes LXVI and LXXII, plus the similarity of Dacian poses and stone-carved curved swords, group these vertically adjacent scenes together. Moreover, the helmet types not only link them but also associate them with scene LXII below. The latter also shares the form of additional baldric decoration with LXVI. In fact, 'lorica segmentata' fittings and chevron neck decoration, helmet types and oval shield blazons define a distinct unit of associated scenes on the north-east round to the north-west faces of spirals 8-10. These scenes may have been the work of the same sculptor, or groups of sculptors, and the same may be said of clustering scenes with helmet plumes or traditionally Roman oval shield blazons. The unit of scenes on spirals 8-10 is further linked with scene CXXIII on the basis of helmet types, and toothed lorica fittings associate it with scenes on the south-west face of spirals 14-17.

Fig 23

Fig 5

Fig 18

Fig 11-4

Lateral relationships between scenes may be discerned where unusual figure type variations occur as with standard bearers in scenes CVI and CVIII, and unarmoured soldiers in XCII and XCVII. The arrival of armies at meeting points, led by or met by the emperor (XLVIII-L, CI-II), represent linked compositions using the positions of military standards in a similar way (see 3.2.2; 3.2.10). Combative groups in scenes XXXVIII and XL are perhaps close enough in composition and similar figure poses to suggest a lateral link, although because the former lacks citizen troops it is difficult to make connections based on figure type details. Likewise, the use of Dacian fortifications with a gate and pallisade may associate LXX with LXVI and LXXII, whilst curvilinear walls connect CXX-XXII with CXXIV-XXVI.

3.2.10 The Components of the Frieze

The content of the frieze does not run smoothly in a 'continuous' fashion but consists of a number of distinct elements forming a more or less logical progression in the action. Firstly, there are the scenes which are primarily important for their vertical, rather than spiral relationships. These form the first level vertical correspondence framework (see 2.2) which caused mistakes in pose and detail in other scenes which were so constructed as to accommodate them (see 3.2.2)¹⁰⁷. Some scenes of propaganda importance without reference to vertical alignment also appear¹⁰⁸. Different genres make up logical series of scenes at the opening of each campaign: bridge-crossing, march, suovetaurilia and adlocutio¹⁰⁹, and an adlocutio is understandably placed sometimes after battle scenes (XLII, LXXIII). However, even these sequences are disrupted by the inclusion within them of vertically corresponding scenes (IX), or scenes unconnected with the series (VII, LI-II). Fig 5

Apart from these groups of scenes which are linked by content but divided up by genre, there are set-piece compositions of unusual length and clearly definable cohesion. In the first war these are long, surging battle scenes, culminating in the great submission ending the conflict (LXXV). The latter is part of the first level correspondence framework. In Trajan's journey between the wars, two groups of scenes stand together, forming in one case a sea-borne advance (LXXIX-XXX), and in the other, an adventus (LXXXIII-V). Part of the campaign-opening series of scenes in the offensive campaign of the second war forms a similar adventus without a break between the army crossing a bridge and the furthest extent of the Fig 6

emperor's reception (CI-II). The sinuous walls of a Dacian fortress create a continuity within two different sets of scenes employing the same scenery device (CXX-XXII, CXXIV-XXVI) irrespective of whether or not the same locale was intentionally being depicted (see 2.2). Lastly, the flight of Dacians on horse-back ending in Decebalus' suicide continues through four Cichorius scenes without a break (CXLII-V; see 3.2.2). Insofar as these groups of scenes run together the term 'continuous style' may be applied to them (see 4.8). They could be viewed as single units of sculptural work (see 3.2.2).

Another class of scenes is not continuous but laterally coherent units are found by the choice of balancing subject matter. The vertically corresponding scene of auxiliaries receiving rewards (XLIV) is bracketed in stark contrast by a pair of scenes representing incarcerated and tortured barbarian adversaries (XLIII, XLV). In turn, these three scenes are flanked by scenes with the emperor inclined inwards to the left (XLII) and the right (XLVI), the latter being noteworthy because Trajan faces down the spiral. This is a lone and small-scale example of scene grouping in the first war. Scenes XCI-IX form a group which is symmetrical in content but not in length. The siege scenes are the core, medially divided into a pair of conflicts (XCIV-VI). Flanking it are two scenes in which the two leaders, Decebalus (XCIII) and Trajan (XCVII), both take an active role in events. In turn these scenes are bracketed by two construction scenes (XCII, XCVII), uniquely composed of unarmoured soldiers (see 5.7.1). Lastly, in a pair of scenes belonging to the sacrificial genre, the emperor performs religious duties which create sharp breaks with scenes preceding and following on,

Fig 6

Pl 93

Pl 94

and which clearly define the whole series (XCI, XCVIII-IX). Overall, in order from left to right, the series is sacrifice, construction, leader, siege, siege, leader, construction, sacrifice. The last scene, the Drobeta bridge sacrifice, is itself part of the first level correspondence framework and thus was immovable. This may explain why the whole series is so cramped towards the end, especially where elements were combined in scene XCVII.

Pl 94

Scenes CVI-IX are not a symmetrical sequence so much as a run of activities broken up by camp walls, but they are closely linked by the employment of figure types and sub-types at the heads of marching columns (CVI, CVIII). Thus, the run is march, camp, march, camp, with the camp walls very similarly laid out (CVII, CIX). The plan of the camp in scene CVII was changed and extended rightwards in order that it conform with CIX (see 3.2.1) and the two were further linked by the positioning of a single auxiliary sentry to the right of each camp entrance. This might suggest that the *original* camp in CVII was carved before CIX.

The main assault on the Dacian fortress (CXIII-XVI) would be a single major composition were it not for scene CXIV which breaks up the continuity. Yet CXIV is firmly integrated by the sinuous fortification composed of polygonal masonry (see 4.7.2). In this instance the core of the series is the Roman assault backed by archers, confronted by a group of Dacian defenders (CXV). Bracketing this are the emperor with a group of soldiers standing quietly amidst the action (CXIV), and a group of barbarians which is much less numerous than the imperial group, but is comparable in stance and detachment (CXV). In the scenes flanking these observant groups, the action is violent as the walls are assaulted with

Pl 106-8

escalade (CXIII) and destruction (CXVI). Running through assault, observation, assault, observation, assault, the right-hand elements are confined in a much narrower space than are those on the left, just as in the sequence XCI-IX. The explanation for this is obscure because the next vertically corresponding scene (CXVIII) does not immediately occur but is divided from the scene by a superfluous construction scene (CXVII). The latter could have been dispensed with and the balancing series of scenes extended rightwards into its space. P1 109

The Dacian suicide and flight from the fortress (CXIX-XXII) is balanced and starkly contrasted by the Roman fortress-occupation and acclamatio sequence. The two are linked by figures of Dacians (CXXII) and auxiliaries (CXXVI) exiting by similar side gates, by the sinuous wall layouts, the 'lower' fortress (CXIX, CXXIV), the layout of figures and by the very contrast in barbarian and Roman fortunes. They are spaced apart by the insertion of a connecting submission scene (CXXIII). Thus the sequence runs lower fortress, suicide, movement, submission, lower fortress, acclamatio, movement. It may be observed that greater care, pathos and thought went into the Dacian suicide than into the Roman gathering, and that the latter is again comparatively cramped towards the right.

Lastly, there is some balancing and grouping of scenes in the third phase of the second war. Here two sequences may be defined. Barbarians march to attack a Roman fort (CXXXII-III), attack it (CXXXIV-V), then march away (CXXXVI). The movement scenes are linked by a continuous line of Dacians, much like the Roman marching columns in scenes CVI and CVIII, and by the inclusion in both cases of Romans detachedly observing the situation (CXXXIII, 2, 5;

CXXXVI, 13-16). The capture of Decebalus' treasure (CXXXVIII) is an important part of the triumphal vertical axis (see 2.2) and is flanked by two adlocutiones, one Roman (CXXXVII), one Dacian (CXXXIX), which are the last occurrence of the genre on the frieze. Either these balance in a sequence of three scenes, or the depiction of Dacians killing each other in CXL is also part of the run. This would form a progression of Roman adlocutio, Roman reward, Dacian adlocutio and Dacian fate, contrasting Roman victory with bitter Dacian defeat in the manner of scenes XLII-VI and CXIX-XXVI.

The thinking behind the construction of balancing, symmetrical and contrasting sequences of scenes was not peculiar to Trajan's Column. Such devices may be paralleled elsewhere in Roman art and in literature. For example, wall paintings in the third and fourth Pompeian styles often had a large picture as a main focus flanked by pendant works, all set into a decorative architectural framework. A common genre or myth cycle for these pictures could impart unity to the scheme¹¹⁰. Contrasting stories linked by a common theme and using death and suffering as a literary topos appear in Roman poetry, notably in Ovid's Metamorphoses. Thus the intellectual background was present for the composing of sequences of scenes on the column in general, and in particular for the runs of scenes which contrast defeat and death with victory and reward¹¹¹.

In between the vertically corresponding scenes, the isolated propaganda compositions, the campaign-opening sequences and the balancing scene sequences there are many genre scenes which singly or in series contribute little to a 'continuous' narrative (see 2.2)¹¹².

They are mostly short, break-off abruptly, and are sometimes illogically or superfluously placed. Such scenes often belong to the construction genre and this is particularly the case on spirals 1-3 where there is a long gap between the campaign-opening sequence and the first battle (XXIV). Odd adlocutiones occur outside the logical contexts early in campaigns, after battles and at the ends of wars. A number of march scenes were fitted into cramped spaces, sometimes without the presence of military standards¹¹³. These superfluous works may be considered as 'filler' scenes in the same manner as 'filler' groups of figures (see 3.3.2). The scenes which end the second war are in a class of their own (CXLVIII-CLV) because they contribute nothing to the narrative or to the propaganda programme, with the exception of CLI (see 2.2-3). In the manner of scenes I-III at the beginning of the frieze, scenes CLIV-V were a solution to the problem of filling an increasingly narrow space¹¹⁴.

3.3 THE SCULPTING AND COMPOSITION OF THE RELIEFS

3.3.1 Sculpting

The framework of wars and campaigns, and the vertical correspondence framework were almost certainly planned before sculpting commenced. The most obvious way for this to have been done was in conjunction with architects' models on which the spirals could have been marked. This planning stage would also have involved the collation of available information about the course of the wars, the preliminary definition of the figure types and the incorporation of imperial propaganda directives. There was presumably liaison between the planners and palace officials but very little is known about the mechanisms by which monumental projects were initiated, and how the architects, sculptors and other personnel were commissioned, recruited and co-ordinated. Overall direction may have been exercised by a single architectus or a committee of planners. Apollodorus of Damascus would have been involved in the architectural design of the column and perhaps also in matters of relief content (see 4.2)¹.

To judge by the innovative freedom exercised by the sculptors, they were probably of sufficiently high technical competence to have been involved in the planning stage, if they were not, in fact, the planners themselves. Indeed, such an involvement would have been a necessity, considering the dynamic processes of the accommodation of the vertical correspondence framework. Thus, the concept of a spiral relief column within the architectural complex would have been formulated first, followed by the marshalling of materials and

personnel by the directorate. Planning of the spiral on a model would have been influenced by instructions from the palace and traditional genres of propaganda art (see 4.8), and furthered by open consultation between planners and sculptors. Work on the frieze would then have commenced with sculptors freely communicating with each other and composing scenes within certain guidelines as they went along (see 3.3.2)².

Two basic models may be entertained to explain how the spiral frieze was sculpted. The first envisages one sculptor ascending the shaft on a spiral course carving the scenes in order from I to CLV. Alternatively, several sculptors worked around the shaft at the same time, moving upwards in parallel fashion, spiral by spiral, on a moveable sloping platform. Scenes on the same spiral could potentially have been sculpted out of order.

The strictly spiral model would seem logical because of the helical order of 'events' on the frieze which starts with the first invasion of Dacia and ends with the final defeat of the Dacians. Moreover, long balancing sequences of scenes are sometimes cramped at the right-hand, up-spiral end (XCVII, CXVI), suggesting that they were sculpted from left to right and not inserted en bloc. The longest sequences are spread across two spirals with the last scenes overlying the first, thus requiring a helical progression of work (XCI-VIII, CXIX-XXVI). The great variety of all types of applied detail and the scale of the project suggest that the single sculptor was not always the only sculptor involved and that artists would have worked in shifts. This would explain the zoning of detail on the shaft, for example, the occurrence of lobate hinge lorica fittings almost exclusively on the bottom three spirals, or

Fig 6

of brow-plate helmets on spirals 2-7. Such differentiation could have resulted from the preferences of a particular artist having been applied during his work on a number of spirals, thus forming a zone. Subsequently, another sculptor with different ideas took over, and the zone ended. In addition, these sculptors would have been free to discuss their views on events, architecture and military equipment so a good deal of verbal cross-fertilisation of ideas may have transpired, accounting for the great variety of applied detail. It is now very difficult to attribute identifiable patterns of work to particular sculptors because of this complexity. Much of the second level vertical correspondence may have resulted from verbal discussion but already completed work may have been more influential. The sculptor at work could have looked to spirals below for detailed inspiration, and in the process fortuitously created connecting vertical axes.

The second model is based on the realisation that the sculptors were not purely concerned with chronicling 'historical' events in a helical progression, but were consciously imposing a framework of vertically corresponding scenes for the first level propaganda programme (see 2.2-3). Whilst this does not preclude one sculptor at work progressing upwards in a spiral fashion and using a plumb-line to align scenes, it does introduce an element which cuts radially across the helical layout. On the other hand, the second level correspondences of detail are very numerous and include not only vertical relationships, such as the extra cingula in IV and XXI, but also groupings of such details as helmet plumes on one face of the shaft, which suggest one sculptor moving between, rather than along, the spirals (see 3.2.4). Mistakes in figure type

Fig 5

details with the wrong men wearing animal skins (XXXVI, L), or forms of shields depicted on the wrong figures (XXXVIII, LXXII), point strongly to one sculptor working vertically. A number of artists could have stood next to each other around the shaft carving several scenes at the same time. They would have had to work in such a way as to create a spiral frieze and thus could not move upwards in strictly parallel fashion, but this method would have been much faster than with one man at work at a time. The horizontal tendencies of the spiral dividing band may have been caused by the men standing on a horizontal platform, their experience and natural proclivities leaning towards lateral, rather than diagonal composition, but a movable, sloping platform ascending spiral by spiral would not have been a problem to construct (see 3.1).

Gauer's examination of scene composition led him to identify three main groups of sculptors based on stylistic criteria³. The 'Nicopolis Werkstatt' worked on the south-west face from spirals 3 to 20; the 'Pontes-Gruppe' on the north-west face of spirals 12 to 16; and the work of the 'Schnitter-Gruppe' appears on the north to north-east face of spirals 3-4, 8-10 and 15-17. Gauer's methods were somewhat subjective but nonetheless the results independently serve to reinforce the already strong vertical elements of the project. The repetition of rivers, topography and scene genres either followed the propaganda programmes propounded by Gauer⁴, or they resulted from the vertical movements of sculptors who preferred a narrow range of compositions (see 2.2-3; 3.2.9). Either way, they too cut across the spiral.

Both models of frieze sculpting have arguments in their favour. However, the greater number of men working alongside each other

in the second model is an important, practical difference, both in the time taken over the project, and in the implications for detail occurring on the shaft. In both models the sculptors were free to converse and observe and, perhaps, because of this, variations of figure type detail do not exhibit purely vertical distributions. Nonetheless, it is unlikely that so many vertical correspondences of variants, figure type contraventions and errors would have occurred as a result of observation of work completed below. Firstly, the scaffolding shrouding the shaft would have obscured vision. Secondly, the carvings are in such low relief that figural compositions, never mind small details, would have been distorted when viewed obliquely from above, and thus could not have been copied directly unless the sculptors spent their time constantly climbing up and down the scaffolding. The vertical correspondences in detail which were achieved are best explained as the work of particular sculptors moving upwards.

The content of the frieze follows some logical spiral progression but it is not 'continuous' because many genres of scenes or balancing sequences of scenes form self-contained units deployed to fill spaces between set-piece and first level correspondence compositions. However, the frieze is a spiral, not a series of superimposed horizontal registers, and some spiral progression was intrinsic to the work, if only in terms of co-ordination and supervision. This would not necessarily have entailed helical movement of sculptors. It is, perhaps, a mistake to consider the 'spiral' and 'vertical' models as mutually exclusive because a variety of work methods seem to have been employed. This is clear when attention is shifted from the variations in detail to the components

of the frieze (see 3.2.10). The first war has six large set-piece compositions but only one balancing sequence (XLII-VI). Six scenes are part of the first level correspondence framework and the remainder are in campaign-opening sequences, in the putatively historical 'Moesian incursion' (see 2.2), or are space-filling scenes. In contrast, the second war has six balancing sequences and ten first level correspondence scenes, but only one campaign-opening series. There are fewer filler-scenes than in the first war and also a smaller number of work units (see 3.2.2). Thus, different methods of scene composition were employed in the second war with balancing sequences being particularly favoured.

The zoning of detail changed as work progressed and so did a number of other traits. Some figure types were represented with many idiosyncratic details early in the work but with increasing assuredness as time went on. Others, like the Roman archers, evolved throughout the process. The variety of 'lorica segmentata' fittings, the number of mistakes in detail, and the application of additional detail are all fewer in the second war. One super-type of helmet dominates the top three spirals. Military standards overlapping the spiral dividing band only appear in the first war. The proportion of objects carved in stone and not provided with metal inserts also declined in the second war (25 to 18.5%; see 3.2.8). Some degree of detailed innovativeness was lost but figures were carved with increasing proficiency.

Fig(13-4,
(23,29

Fig 12

Fig 4

Fig 30

There are many permutations for the order and sequence of work which could explain the great complexity of detail on the column. Sculptors working together around the shaft over a long time period could have worked in shifts, repeatedly arriving and departing from

the site, taking up where others left off, some moving up vertically, and others leap-frogging from scene to scene, slipping in between their colleagues to insert filler-scenes or groups of figures. No sculptor need have followed one particular pattern throughout the project but could have employed many methods dependent upon the context, length and frequency of his work periods. The great variety of detail and the series of portraits of Trajan point to a number of men involved. Had the spiral been carved helical-fashion by a single sculptor at a time, then that artist would have changed for virtually every scene. Lateral connections in detail do occasionally extend over a few neighbouring scenes but links between scenes are most often vertical or diagonal, rather than horizontal. Judging by the number of scenes on each spiral, four to six men could have been at work on the shaft at any one time. Doubtless the fact that the spiral dividing band was not laid out ahead of work also contributed to the piecemeal distribution of detail. However, the dominant trait of the frieze is the vertical connection between spirals, rather than the spiral progression of relief content. In many instances the actual physical movement of sculptors upwards is the best explanation for this.

The progress of the frieze was presumably co-ordinated by an overseer, as would have been the coherent progression of the 'events' depicted. Continued consultation of experts, use of models and overall supervision would have been necessary. Positioning of first level correspondence scenes would have been easy using plumb-lines to align them on the main axes but, despite this, some examples did stray slightly from their proper positions. Each sculptor probably completed the figures and scenery of his work

unit before moving on but two other sculptural processes may have involved separate personnel. Firstly, mail zig-zag chiselling could have been executed by the scene-sculptor after all else was finished, but mistakenly applied instances suggest that perhaps less proficient men completed this time-consuming detail after the main work had finished. Similar zig-zag edging to cuirassed officers' pteruges may also have been part of this process⁵. Secondly, the drilling of hands would logically have been carried out in conjunction with the production and installation of metal inserts, after the scene-sculptors had moved on. There is every likelihood that versatile marmorarii would have designed and cast copper alloy inserts as part of their work, and even painted their own sculptures (see 3.2.8; 3.3.3; 4.8; 5.18). However, in such a large-scale project as the column, it is perhaps unlikely that sculptors would have slowed down their work considerably by providing inserts scene-by-scene. Either they finished carving the frieze then worked at drilling and at manufacturing and inserting metal items, or different artists followed on behind the scene-sculptors doing this work. Separate processes might explain the lack of coordination whereby the relief was often too shallow for drilling and insertion (see 3.2.8).

Fig 28

Fig 30

Once the sculpting of the frieze was completed, the metal inserts were provided and the painting scheme was finished, the scaffolding shrouding the shaft would have been dismantled. It is likely that only at this stage were the pedestal reliefs carved along with the dedicatory inscription over the door. Access to the faces of the pedestal would have been obstructed with the scaffolding in position, and down at the bottom it would have been

very dark, as it is as a result of the modern scaffolding coverage. It is clear from the composition of the pedestal reliefs that they were planned and executed with unrestricted space, and it would also have been necessary to have good light for the mixing and application of paint (see 5.17).

3.3.2 Composition and Layout

Some commentators have suggested that the sculptors worked from detailed cartoons⁶. Perhaps the mistakes in poses, figure types and applied detail were merely the result of departures from minutely prepared sketches or of close adherence to mistaken drawings. However, this approach cannot be upheld in the face of detailed analysis of the frieze. The sculptors were clearly not following cartoons because variations in small detail exhibit vertical distributions, because additional decorative detail was applied at will and because some figure types evolved during the course of work. The incidence of mistakes and confusions of detail indicate that some sculptors were at fault in their own perception of the models. Patterns formed on the shaft by the presence or absence of certain types of equipment were products of the sculptural process. The manipulation of figures to avoid windows, the insertion of filler scenes and filler groups of figures, and the fluid accommodation of first level correspondence scenes, which in turn caused mistakes in figural and scenery juxtaposition, all point to a high degree of on-the-spot compositional freedom. This accords well with the evidence for a lack of forward planning in the layout of the spiral dividing band and for problems in filling the space of the top two spirals (see 3.1). No clear system of movement of sculptors is readily discernible.

Little is known about the use of cartoons by Roman sculptors in preparatory work. To suggest that the frieze followed such sketches may be to anachronistically introduce Renaissance period or later methods into the discussion⁷. The production of a detailed cartoon for the column would have involved a series of connecting illustrated scrolls (volumina) which, although having an advantage for planning 'continuous' work, would of course have been horizontal rather than spiral like the frieze⁸. Birt went so far as to see the spiral as representing a volumen wrapped around the shaft with the flutings at the top alone not covered, and the 'rock' convention of the spiral dividing band denoting the rough edges of papyrus scroll⁹. However, evidence for the existence of continuously illustrated scrolls is lacking and it is much more likely that, after the vertical correspondence framework and the sequence of campaigns had been worked out, the sculptors composed the frieze at the shaft face as they worked.

Extremely complex artifacts could be produced by pre-industrial societies with the aid of the artisan's mental picture or template alone¹⁰. Buildings could be constructed using schematic ground plans and models but without the need for drawn and measured elevations¹¹. Large ships could be built by eye and experience without using any plans whatsoever¹². Roman sculptors executed copies of artworks not by making measured drawings of them but by direct transference using puntelli and pointing instruments¹³. This is to suggest that the taille directe method of sculpting was employed on Trajan's Column whereby the ideas and concepts in the sculptor's mind were transferred directly to the stone without an intermediate stage except, perhaps, for some chalk

markings on the surface as guidelines¹⁴. Detailed drawings were not worked out on the shaft for organisational or compositional purposes because the spiral was not laid out ahead of sculpting. Models used for working out the vertical correspondence framework could not have been large enough in scale for marking the figures in detail. Composition at the shaft face was a dynamic free-fall process carried out by the sculptors themselves and they became increasingly proficient in depicting figure types and in organising set-piece scenes and balancing sequences of scenes. Empirical observation of models is particularly notable in the first war, as is the application of additional decorative detail (see 3.2.5; 5.20), but variation and innovation declined in the second war. A part of the latter tendency was the patterning of equipment details and figure poses which was developed in part to fill the top two spirals and which marks the first experimentation with new devices which were to be given full rein on later monuments (see 3.2.2; 6.2-3).

Freedom of composition suggests high levels of competence and degrees of responsibility on the part of the sculptors. These men were very likely intimately involved in every planning stage and were highly skilled artists of some considerable status within their own profession (see 4.3; 4.8). Some co-ordination of their work would have been necessary, perhaps with some overseeing personnel, but the innovativeness of the frieze suggests that the sculptors were not merely acting on the dictates of an overall director. They were working freely within wide bounds and were at liberty to vary equipment and decoration details, much of which, it may be suspected, was applied for the sculptors' own pleasure.

Decisions on what particular scene genres were deployed, and where, lay primarily with the sculptors, as did the adjustment and manipulation of human figures.

The scale of the sculptural work was unprecedentedly large, both in terms of the extraordinary number of human figures depicted and the extent of stone surface to be covered (c. 284 m²). This in itself led to many errors being made in the relationships between figures and scenery which would not have been missed and left uncorrected on smaller works, such as panels and friezes on triumphal arches. The range of figure types was largely outside the usual experience of propaganda artists with the exception of cuirassed officers, unarmoured soldiers, sacrificial attendants lictors and Roman civilians (see 5.1, 7, 15, 16): The proliferation of small details, of which chevron-decorated neck openings on 'loricae segmentatae' or rosette-decorated cingulum plates are notable examples, speak of a love of virtuoso detail for its own sake (see 3.3.3). This richness of carving also in itself led to a great many errors which perhaps indicate carelessness and ignorance on the part of the sculptors but which do not denote shoddiness resulting from haste. The work was certainly not rushed or discontinued before completion. The only elements for which provision was demonstrably incomplete were mail zig-zag chiselling and inserted metal items.

3.3.3 The Visibility of the Reliefs

Much emphasis has been placed upon the high degree of detail applied by the sculptors to the frieze, yet it must be said that much of the finer carving is invisible at more than 2 m away from

the face of the shaft¹⁵. This suggests that the sculptors were working with their own close-up view in mind, without considering the interests of the viewing public. Moreover, the spiral was not increased in height as it coiled up the shaft to aid the viewer, and it is unlikely that the unusually high top two spirals were a belated attempt to make the relief content more discernible from below (see 3.1). Balconies on three or four sides above the colonnades of the column court would have elevated the viewer, but he could have come no closer to the shaft than c. 6 m on the level¹⁶. The bottom spirals were most visually accessible, but those above were increasingly obscure because of the uniformly low relief of the sculpture and the oblique line of sight from below (see 2.1).

The sculptors were self-indulgent in their carving but they were not entirely unconscious of the viewer's perspective from the ground. The height of relief is appreciably less on the south and south-east faces of the shaft. Gauer suggested that this was a device intentionally employed to elucidate the frieze by accentuating shadows on the dark side and reducing the harshness of shadow on the predominantly sunny side¹⁷. In the latter case, strong raking light would have been particularly confusing because, of course, the shaft always curves away from the direction of sunlight. However, the light conditions would have been seriously affected by the deep morning shadow cast on the shaft by the Basilica Ulpia and the low relief on the south-east face is accentuated by rain-wash erosion¹⁸.

The greatest aid to visibility was the vertical correspondence framework. It is unlikely that anyone would have walked

Fig 5

around the court or the balconies twenty-three times, following the spiral upwards with his eyes, becoming dizzy and losing concentration. However, the vertical framework pinpointed all the major phases of the wars, elucidated the emperor's role and the army's achievements, and accentuated the triumphal propaganda programme (see 2.2-3). Entrance into the column court from the southern Basilica Ulpia doorway enabled the viewer to see the three most important vertical axes by walking clock-wise around the pedestal from south to north-west. The propaganda programme was furthered by the employment of military standards to locate the emperor on the frieze as well as to distinguish the movement of troops (see 2.3; 5.5.1).

It is clear from observations made in the 19th century that there were traces of yellow, blue and red paint adhering to the surface until quite recently¹⁹. Much paint will have been obscured by the application of clay wash, and lost through the latter's erosion, so that neither Rockwell nor the writer can attest to its contemporary survival (1984)²⁰. If the military standards and the emperor's cuirass had been gilded, then Trajan's location and role would have caught the audience's attention, even on the highest spirals. Most Greek and Roman sculpture received paint in a more or less naturalistic fashion but, understandably, such polychromy seldom survives open-air weathering²¹. On marble statuary and reliefs, hair, lips, eyes, nipples and drapery were often picked out in red, black, blue, brown and gilding, with the flesh left polished to take advantage of the colour of the marble itself²². A different scheme is well represented by reliefs protected by burial in the mithraeum under

S. Stefano Rotondo in Rome²³. On these sculptures the flesh areas were gilded and black, red, blue and gold colouring was applied to the clothing. It would be surprising if the column and other propaganda monuments were not painted very richly indeed, but to judge from surviving polychromy on other sculpture the colour scheme would have been garish and very stylised by modern standards²⁴.

Apart from helping to locate the emperor the painting scheme very likely furthered the visual differentiation of the figure types. The device of distinguishing torsos by the coloured presence or absence of armour would have been clearly visible from a distance. It may also be suggested that shields were colour-coded to separate figures into citizen, auxiliary and barbarian categories. Carved shield blazons were already used to this end (see 5.2.5; 5.12.3) but the question of how finely or crudely detailed was the application of paint in such a massive project is at present unanswerable. Support for such a colour convention may be provided by the awkward, unnatural and visually prominent carriage of many oval shields, especially those viewed from the owner's right side²⁵. This was a device designed to display the shield face-on, both to exhibit specific blazons and to present the field. Had colour differentiation been employed, many crowded scenes in general, and battle compositions in particular, would have been greatly clarified²⁶. Any part of a shield could have been picked out in the colour appropriate to the figure type, even when the blazon was obscured by the shield-bearer or by other figures. In this light, the failure to provide shield blazons on a number of boards is less serious (see 3.2.7).

The application of paint, the grouping of standards, the varying height of relief and the vertical propaganda framework all increased the visibility and clarity of the reliefs for the viewing public but the impression of virtuoso detail being visually superfluous remains. Even shield blazons picked out in contrasting colours would have been lost to the eye of the observer below. There are of course parallels where high degrees of sculpted detail have been applied for the pleasure of the sculptor, not of the viewer. Relief sculpture and ceiling or roof sculpture on Gothic cathedrals readily come to mind in this connection. Small detail on the column would have acted as a guide for the perennial repainting of the reliefs, made necessary by weathering during the Roman period. This is particularly true of the much larger-scale decoration on the faces of the pedestal (see 5.17)²⁷.

3.3.4 Personnel Involved in the Work

It is not possible to calculate how many people would have been employed on the column project, nor can the overall time-scale of the work be estimated with any assurance. However, the range of professions involved may be profitably investigated.

At the original planning stages an architect, or architects, could have worked out the column's structural form and dimensions. This probably involved Apollodorus of Damascus, with perhaps some delegation of detail. Overseers and marmorarii in the quarry chose the exact, fault-free stone to be used, extracted the blocks and roughed them out. Work probably started on the spiral staircase at this stage. Manual labour and ox-teams would have been employed to transport the blocks down to Luni on the coast and to place them

on ships. Sailors then ferried them to the Tiber mouth and up to the city. More teams moved the materials to the building site. Co-ordinators, planners and skilled marble workers were necessary for its safe arrival at the destination and the apparatus already existed to supply Rome with smaller scale blocks of Carrara marble.

Erection of the column required architects to co-ordinate the work, labourers to power the cranes and guide the blocks into position, marmorarii to finish the spiral staircase and scaffolding-builders to provide access and platforms for the work. Metal-workers manufactured the structural clamps, sculptors and copper-alloy workers fashioned the statue on the top. Sculptors would then have dressed down the shaft and cut the windows ready for the spiral carving.

The spiral could have been planned from the start on architects' models. Planners and sculptors would have cooperated in this because the latter were so intimately involved in the composition of the frieze. Thereafter, work probably proceeded spiral-by-spiral with up to six marmorarii working on the shaft at any one time. Some executive element was necessary to co-ordinate these men, to maintain the planned sub-division of the spiral into wars and campaigns, and to maintain the vertical correspondence framework. The supervisors may themselves have been senior sculptors carving the frieze, or architects, or palace officials. Much of the information for the spiral content would have been provided by a range of people available for consultation in Rome. Architects, soldiers, construction workers and other informed people could have verbally imparted material (see 4.1-4). Soldiers and barbarians could have been used as 'studio' models and passers-by,

site-workers and other people empirically observed in the city played a passive part (see 4.4-5; 4.7).

Perhaps sculptors of lower status and skill carved the zig-zag mail chiselling and drilled the hand-holes whilst they, or separate metal workers, manufactured and installed the metal inserts. Painters provided a polychrome coverage and gilding. Once the statue was in place workmen could remove the scaffolding and allow one or two marmorarii, and painters and gilders to execute the pedestal reliefs and the inscription. At some stage, metal-workers perhaps constructed a railing around the balcony, and metal and wood-workers manufactured and fitted doors on the pedestal and at the top of the stairs. Lastly, when work was finished on the column, the libraries, the colonnades and the courtyard paving, workmen cleared away the debris and tidied up the surrounding area.

Thus, the personnel involved in all stages of the column project, from the first plans to the last lick of paint, may be categorised as planners and co-ordinators; architects; quarry personnel; transport people; building site workers, including scaffolders and sweepers; sculptors of various levels of competence; metal-workers; wood-workers; painters; gilders; advisors; human models.

3.3.5 The Sequence of Work

The foregoing discussion of the column's creation may now be summarised.

- (1) Initial Planning Stage Architectural setting and decision to erect a column formulated. Dimensions calculated.

Decision to carve a spiral frieze taken now or at stage 7.
Order despatched to quarry (see 3.1).

- (2) Quarrying Drums and blocks roughed out and work started on spiral staircase (see 3.1).
- (3) Transport Components moved down to Luni. Shipped down the coast and up the Tiber to Rome, then drawn to building site.
- (4) Assembly Blocks and drums assembled. Work on staircase finished with claw chisels. Scaffolding covering shaft. Tread-mill cranes then removed and construction work around the column court continued (see 3.1).
- (5) Dressing Surface of shaft claw-chisel dressed from top to bottom to provide entasis and smooth profile, removing inconsistencies between drums (see 3.1).
- (6) Windows Openings cut through drums to light spiral staircase (see 3.2.2).
- (7) Secondary Planning Stage The sequence of wars and campaigns planned out now, or refined if already worked out in stage 1. Imperial propaganda directions incorporated. Vertical correspondence framework constructed on model. Some other important scenes perhaps identified and positioned. Preliminary formulation of figure types from 'studio' models (see 3.3.2).
- (8) Frieze Sculpting Sculptors work up the shaft, spiral-by-spiral, sometimes moving in parallel fashion or from left to right for long balancing scene sequences. Free-fall composition mode for genre scenes. Accommodation of vertical correspondence, 'historical' and propaganda scenes. Filler scenes and filler groups of figures inserted. Mistakes and changes in plan resulting. Constant consultation of information sources, figure type evolution and some empirical observation throughout process (see 3.3.1).

- (9) Separate Processes Mail zig-zag chiselling partially applied by scene-sculptors or lower status workers. Hands drilled by scene-sculptors, separate artisans or as a separate process in stage 10 (see 3.2.6; 3.2.8; 3.3.1).
- (10) Metal Inserts Hands drilled now, if not before, and metal tools, weapons, musical instruments and standards installed by sculptors or by metal-workers (see 3.2.8; 3.3.1).
- (11) Painting Frieze given polychrome coverage and gilding by sculptors or specialist pictores (see 3.3.3).
- (12) Scaffolding Removal (See 3.3.1)
- (13) Pedestal Reliefs Sides of the pedestal and inscription carved in the order of sides ⁴⁻³⁻²⁻¹ (see 5.17).
- (14) Pedestal Painting and Gilding (See 3.3.3; 5.17)
- (15) Other Fittings Doors and balcony railings (?) manufactured and fitted. The owl, eagle or Trajan statues crowning the column may have been lifted by tread-mill crane or hoisted up the scaffolding at any stage of the work (see 3.3.4).
- (16) Site Clearance Completion of building activities around the column court and clearing up of all unused materials, marble chippings, etc. (see 3.3.4).
- (17) Secondary Work Changing of the statue may have occurred before work was completed. Pedestal modified to be the mausoleum of Trajan and Plotina. Temple of Trajan and precinct arrangements completed during Hadrian's reign (see 2.1).

SECTION 4

SOURCES OF INFORMATION FOR THE RELIEFS

The content of the spiral frieze and pedestal reliefs is divisible into four elements, each of which required the gathering of information from a variety of sources. Firstly, there is the division of the frieze into wars and campaigns, and the provision of some 'historical' scenes. Secondly, there is the architectural scenery which includes Roman towns and forts, and Dacian fortresses. Thirdly, there are the figure types which had to be formulated at an early stage in the project. Lastly, material was needed for the composition of congeries armorum reliefs on the pedestal.

Of necessity, an enquiry into sources of information potentially available to the sculptors must be speculative. However, it is important to determine what material was freely available in Rome and what could only have come from the theatre of war. This approach may contribute to assessments of the realism of detail on the column and the column's value as a source of evidence for events, military equipment and architecture.

4.!

DOCUMENTARY SOURCES

The manner in which the frieze appears to be 'wrapped', scroll-like around a fluted column (CL-CVL), and the fact that the column was flanked by a pair of libraries, has suggested to some commentators not only that the spiral relief concept was inspired by book-roll illustrations, but also that Trajan's commentarii were the main source of information for the 'historical' content (see 2.2)¹. On the other hand, Gauer strongly denied the use of the commentarii for the frieze because he considered many of the scholars' assumptions based on detailed observations to have been groundless. Such assumptions were oblivious to the background and history of official monumental art and followed a putative 'script', whilst ignoring the generalised nature of the scene genres². If the latter shortcoming is avoided, use of the commentarii to provide an historical background for the two wars, for their division into campaigns or phases of scenes, and for some major 'events', is a possibility which cannot be ignored. Either the 'historical' framework of the frieze was completely arbitrarily constructed, or it had some element of truth, the information for which necessarily came from somewhere.

Had the commentarii itself survived as a source for modern scholarship, it would in any case have had the limitations of its literary form. Its value would have been in providing place-names, ethnic identities of enemies and, perhaps, some names of army units involved in the conquest. As a member of the senatorial class, writing for a senatorial audience, Trajan would presumably have had a frame of reference similar to the column in both his

outlook concerning war and glory, and in his propagandist aims (see 2.3). Clementia, pietas, decisive action and the general's qualities of paternal command and technical skills would have been emphasised in the imperial role and events reported from the appropriate slant³. Despite this, the commentarii would have formed a high point in a scale of available 'historical' evidence, descending through Dio's mutilated account, the column with its stylised content and broad historical framework, down to the Adamklissi sculptures. The latter provide useful ethnic and equipment information but they merely record the occurrence of a Trajanic war (see 5.19).

Trajan's commentarii will have formed only part of the literary endeavours stimulated by the Dacian wars and potentially available to aid the column project. Pliny's letter to Caninius Rufus demonstrates the interest of a private individual, who was not even involved in the wars, in writing poetry about the events in Dacia. Senators and equestrians directly involved may have written memoirs, histories or panegyrics, in verse or in prose⁴. It is likely that the events were for a time in literary vogue in the manner of the campaigns of Caesar or Domitian⁵. Contemporary accounts are of course at issue here, written soon after the wars in order to have influenced the column designers. Necessarily these would have been published quickly or made privately available at the earliest stage of design work⁶. Senators and equestrians who had done some public service, quite likely including military posts, or who had acquaintances more directly involved in the Dacian wars, would perhaps have had a greater awareness of events than any other social group. This is especially true of the over-view necessary for an 'historical' account.

The use and availability of official reports such as those despatched to the senate by the emperor, or sent between commanders in the field, is a strong possibility, particularly considering the part played by the Senate in financing the project⁷. Like any other piece of propaganda, at some stage during the column's design directives must have come down from 'the palace' and it is conceivable that helpful documentary material was also made available. To judge from Lucius Verus' information-gathering activities for his Parthian memoirs, had Trajan taken a personal interest in the spiral then a range of documentation could have been made available⁸.

4.2

SPECIALIST KNOWLEDGE

The architects involved in designing the column, the forum-basilica complex and the markets were not restricted in expertise just to 'building' in the manner of modern architects. Ancient members of the profession were versed in naval architecture, military engineering, mathematics, geometry, philosophy and hydraulic engineering¹. Therefore, a pool of specialist knowledge was available in Rome which could have supplied information about fortifications, bridges, ships, artillery and other siege engines, monumental architecture and, perhaps, about the buildings of Ancona (scene LXXIX; see 2.2).

Apollodorus of Damascus may have provided specialist knowledge for frieze content in addition to his part in planning the column's position in the architectural complex and, perhaps, its form and dimensions. His involvement in the frieze beyond conceivably himself 'inventing' the spiral relief decoration, is strongly suggested by the detailed depiction of his Danube bridge at Drobeta in scene XCIX. P1 94 This construction is completely different from all other bridges on the column and is on one of the first level vertical correspondence axes (see 2.2). The curious wheeled machine in scene CXIV P1 107 is stylistically very similar to a surviving drawing from Apollodorus' Poliorcetica and may represent another direct input from this architect, albeit one misunderstood by the sculptor (see 4.7.4)².

Some of the frieze designers and senior marmorarii responsible for scene composition presumably had access to documentary sources (see 4.1) and to models used for the figure types (see 4.4), thus

up-grading their knowledge to a 'specialist' level. The sculptors' main handicap, if such it was in the light of their own purposes, was their lack of direct experience of frontier warfare with its concomitant architecture and equipment (see 4.3). However, as monumental artists, they were specialists working within a koine which provided all the main genres of scenes, and the symbolic conventions and contexts for conveying the propaganda messages (see 4.8). The freedom of scene composition, the lack of detailed cartoons and the sculpting of the frieze spiral-by-spiral without marking out of the frieze ahead of work (see 3.3.1-2) indicate that specialists would have been consulted continuously. These authorities will have included architects, but also soldiers present in Rome who fought on the Danube, and, perhaps, other people who were present in the imperial entourage in Dacia.

4.3

GENERAL KNOWLEDGE

General knowledge is a problematical area with regard to the definition of 'general' and it raises questions not only of what the frieze was intended to depict but of who its content was aimed at (see 2.3). The degree of public awareness and understanding of imperial propaganda messages has been discussed by scholars in connection with the impact of coin motifs¹. They speak of 'the man in the forum' and treat his mind at one extreme as a tabula rasa requiring clear and simple messages for comprehension, and at the other as politically, historically and geographically aware, capable of grasping minor historical allusions, complex allegories and deep imagery. Perhaps major propaganda programmes on monuments were directed solely at a discerning and educated viewing public, that is the upper echelons of Roman society whose opinions were the only ones worth influencing politically. Certainly the main propaganda messages of the column seem to conform closely with values expressed in senatorial literature (see 2.3).

However, a minimum level of knowledge about the events in Dacia may be deduced for the mass of Rome's population, apart from the elite and the professional specialists. This would represent the background information pertaining specifically to the content of the spiral known to the sculptors, whatever other sources of material were employed. A number of coin issues associated with the Dacian wars alluded to Trajan's victories, the conquest of a new region, Dacia, and the construction of Apollodorus' Danube bridge². It would have been generally known that there had been

two wars because of the games and two Dacian triumphs held in the capital (see 4.5), that Decebalus was the main adversary, that he had died and his head had been ignominiously displayed in Rome, and that an immense treasure had been captured and used to finance Trajan's building projects³. The marches, adlocutiones, sieges, battles, sacrifices and field construction work may have been, in the public eye, prompted by propaganda art on coins and sculptural monuments in general, and in particular by the paintings displayed during triumphs (see 4.5). In addition, troops present in Rome for the triumphs, and men belonging to guard units stationed in the capital which took part in the Dacian wars, will have spread a certain amount of very general conversational information (see 4.4).

The general knowledge of the social elite would have been greater than that of the mass of the population because of experience in office, involvement on the Danube, and discussion with friends and colleagues who played a part in the wars. Education allowed an understanding of symbolism, imagery and propaganda messages, and this social element may not only have advised on figure composition but may even have been involved at the highest level in court circles with formulating the concept of a column bearing a spiral frieze. Thus, there were conceivably two levels of general knowledge, plebeian and elite, both of which had means to contribute information to the sculpting project.

The presence of troops in Rome would have affected the sculpting of the frieze in three ways. Firstly, troops marching in triumph, escorting the emperor around the city, and strolling off-duty every day in the streets would have ensured that observant sculptors, and indeed citizens in general, were familiar with military dress and equipment. Secondly, soldiers in the capital were a ready verbal source of information about military affairs and the Dacian wars. Thirdly, the military units had their own specialists who could advise, and their own artillery, transport and other equipment which could have acted as models for the frieze (see 4.2; 4.7.4).

From the Augustan period onwards there was always a major military presence in Rome, even before Severus increased the size of the Praetorian Guard and stationed a legio nearby at Albano¹. By the time the column was being carved, ten cohortes praetoriae were stationed at the castra praetoria in Regio VI². These units quite likely of military strength, involving some 8-10,000 troops in all³, plus at least 1,000 equites praetoriani⁴. Similarly, the police force of 4 cohortes urbanae, 2,000 men, were also concentrated in the castra praetoria⁵. Scattered around the city were seven stationes vigilum housing the c. 3,400 men of the fire brigade. These vigiles were an armed military force organised into cohortes with officers, standard bearers and musicians⁶. A cavalry body-guard, the equites singulares Augusti, was drawn from provincial auxiliary units and was probably raised by Trajan. This 1,000-strong

unit was located in the castra priora equitum singularium in Regio V⁷. Detachments of indeterminate strength from the two praetorian fleets were also permanently present in the capital by the time of Domitian. The sailors (classiarii) dealt with the awnings (vellaria) of the Flavian amphitheatre and public displays held on the naumachia Augusti. Presumably they were also involved in transporting imperial parties, officials and messengers overseas from the capital. They were housed in the castra Misenatium in Regio III and the and the castra Ravennatium in Regio XIV⁸. Lastly, a fluctuating population of soldiers visiting Rome on official business, principally legionary frumentarii and speculatores, lived at the castra peregrinorum on the Caelian in Regio II⁹. Therefore, there were potentially at least 15,500 troops present in the capital in Trajan's reign. By modern standards this was a high proportion of an urban population which may have been as much as 1,200,000¹⁰. This number of men was approximately equivalent to three legiones and represented the greatest concentration of troops at any one place in the whole empire. Perhaps 1 in 77 people in the capital was a soldier¹¹.

Soldiers going about their escort and policing duties, in the streets around their numerous castra, off-duty visiting friends and relations, lounging around in bars, shopping and frequenting thermae must have been very familiar sights. To judge from sculptural depictions on public monuments and private stelae, troops in the city generally went unarmoured, carrying weapons and shields on duty, but always wearing cingula and studded caligae as badges of military status (see 5.7). These men would have provided plentiful models for the unarmoured figure type. On the other hand, decursiones and other public displays mounted by guard troops, and

imperial adlocutiones and military parades, did involve troops wearing full armour as suggested by depictions in sculpture and on coins¹². These may have been sufficient for the formulation of figure types of citizen troops, auxiliaries, standard bearers and musicians. Such occasions would also present opportunities for the study of military standards and, perhaps, artillery (see 4.7.4).

The troops who marched in the Dacian triumphs probably did so unarmoured, to judge from relief depictions of such processions¹³. The irregular troops in Roman service on the column were quite unlikely to have been ordered to Rome on such occasions, and perhaps not even auxiliaries from the frontier armies were present. Tacitus' description of Vitellius' triumphal entry into Rome does seem to include auxiliaries in the procession, but this was a most unusual situation involving a whole army which had advanced on the capital¹⁴. It may be supposed that, normally, only guard troops and legionarii participated¹⁵. Thus, models for the archer, slinger and bare-chested irregular figure types on the column would have been lacking in the capital, and it may be observed that the depiction of these troops was commensurately unsatisfactory (see 5.8-10). The Moorish figure type was a different proposition (see 5.11).

It is, perhaps, not too fanciful to suggest that one praetorian and one auxiliary may have been detailed to physically act as 'studio' models for the sculptors (see 5.20). In any case, the presence of guard troops in Dacia would have ensured at least some oral information being available about the appearance of irregular figure types and also of the varied barbarian adversaries.

The guard units had their own technical specialists, such as mensores, architecti, doctores and ballistarii, who could have provided information about military architecture, tents, artillery and other equipment¹⁶. Although these technicians come under the heading of 'specialist knowledge' (see 4.2), their help was dependent on the presence of troops in Rome. Common soldiers and sailors may also have been available for consultation about events and military practices. During the reigns of Domitian and Trajan, guard units saw a great amount of frontier service and were not simply ornamental troops confined to the capital¹⁷.

4.5

THE DACIAN TRIUMPHS

The triumphal processions of A.D. 102 and 107 undoubtedly displayed barbarian captives and spolia from the wars¹. They played a crucial role in supplying models for figure types and equipment in Rome, brought directly from the theatre of war. Thus, Dacians appearing as statues adorning Trajan's forum, on propaganda reliefs, and on coins could have been based on living models, particularly with respect to details of attire. Information for Dacian figure type variants, Germans and Sarmatian envoys on the column may also have been supplied in this way (see 5.12-14).

Captured military equipment was often assembled into upright trophies which could best display such items as helmets, body armour and shields. These were carried in procession at shoulder height on pallets (fercula), according to sculptural depictions². Two such trophies appear in scene LXXVIII. It is almost certain that material left over from the triumphs was made available to the column sculptors because of the unusually realistic style of the pedestal reliefs, the details of which may be corroborated by the artifactual record (see 5.17). Similar forms of barbarian arms and armour appear on the frieze in a number of scenes and their distribution reveals not only modelling from actual spolia, but also the sculptors' methods of figure type formulation (see 3.2.3).

Pl 84-5

Pl 120-34

Armoured barbarian cavalry only occur in two scenes in the first war which vertically correspond on adjoining spirals (XXXI, XXXVII; see 5.14). Details of ribbed, flat-topped helmets, the

Pl 27,33-5

tailoring of scale armour, and forms of short swords and small bows do not correspond with arms and armour on the pedestal. However, they are closely linked with the Roman archer figure type. The latter's equipment changes from scene to scene, commencing in XXIV with a man who is simply an auxiliary in mail and short tunic, P1 22 carrying a short, curled-ear bow instead of a shield. The next archers appear in scene LXVI, after the armoured cavalry, and, like P1 69 them, wearing scale armour and flat-topped helmets without neck guards. In scene LXX archers wear mail armour and long-skirted P1 75 tunics. Their bows are of the same type as carried in scene XXIV and by the cavalry but their helmets with conical and ribbed bowls, and with neck-protecting curtains, are closely paralleled by items P1 127 on the pedestal. The penultimate group of archers again wear mail P1 102-3 with long skirts and conical helmets, but they shoot with a new type of bow exhibiting a set-back handle and gently curving ears (CVI). Lastly, in the siege of the Dacian fortress, archers appear P1 108 in scale armour and long-skirted tunics (CXV). Their conical helmets are ribbed, pointed, and have neck curtains. Their bows have curved ears and set-back handles which, with the helmets, are closely paralleled on the pedestal.

On the basis of these details, a progression in composition may be deduced whereby the first archer (XXIV) stands apart from the archer figure type whilst the next occurrence (LXVI) is based entirely on the barbarian cavalry equipment (XXXI, XXXVII). In scene LXX, helmets corresponding with the pedestal reliefs are introduced. In scene CVI, comparable bows appear for the first time and continue to be present in CXV. Therefore, there is no evidence that actual barbarian bows or helmets were employed by

the sculptors until scene LXX. Helmets of types seen on the pedestal also occur in scenes LXXV and LXXVIII, thereby fitting into this progression, and the long tunics may also have been based on actual clothing (see C; 5.8.4; 5.14.4). The one item which does disrupt this neat picture, although not for the formulation of the archer figure type, is the curved Dacian sword. Numerous examples on the pedestal correspond with the weapon which first survives in stone in scene XXIX. Thus, curved swords, helmets, long tunics and then large bows were successively employed as models. It is uncertain whether the sculptors chose on purpose not to use spolia, then changed their minds, or whether, more likely, for unknown reasons the material only became available item-by-item after work on the frieze had progressed some way. The suggestion has been made that the pedestal was carved after the spiral was completed (see 3.3.1; 5.17) and at that time captured equipment was evidently at hand in abundance.

Pl 84-5

Pl 128-30

Pl 70,81-2,85

For public information, tabulae ansatae were carried on poles 'labelling' the components of the triumphal processions³, but, most importantly for the column, triumphal paintings were also commonly borne along. These apparently consisted of screens or placards painted to depict generalised landscapes, battles, sieges and sacks, as well as specifically historical scenes⁴. It is unknown whether or not they were carried in any chronological order or followed a rough geographical itinerary of the war concerned. In any case, they continued an established Hellenistic triumphal genre and would perhaps have formed a framework for the organisation of the procession (see 4.8).

Lehmann-Hartleben discussed the influence of these paintings on his various genres of scenes but he thought that stone sculptural traditions exerted a more direct influence on the frieze⁵. Hamberg admitted a role for triumphal paintings but stressed the difference in treatment between single, disjointed painted scenes and the 'continuous style' of the column's frieze⁶. Whilst it is difficult to do more than speculate about the relationship between paintings which do not survive and sculpted scenes which do, it is likely that the screens were phrased in the language of Lehmann-Hartleben's genres, and that they were very stylised and generalised with regard to the actual events of the campaign concerned (see 4.8). Moreover, the composition of the frieze and the genre nature of its scenes means that many scenes stand in isolation. The 'continuous' element can be over-stressed and the spiral is disjointed enough perhaps to admit a closer relationship with painted panels than either Lehmann-Hartleben or Hamberg allowed. It is not impossible that paintings carried in Trajan's triumphs were made available to the column sculptors. If so, either they were a very valuable source of information, forming a temporal bridge between the events of the war and the sculpting of the column, or they were too generalised in content to have been of any real use. The possibility cannot be excluded that the painters of the panels also sculpted the column but, as with the column, so does the problem of information sources arise with the placards. Sources available to the painters and the time period in which their work was done will presumably have been much more restrictive.

One last element of the triumphal processions which perhaps provided information not available from other sources, was the parading of legionary standards (see 5.5.1).

Koeppel suggested that the zig-zag road with rhomboid shapes and the double arch in scene L, were copied directly from illustrated itineraria¹. The arches do closely resemble a convention employed in the agrimensores land-survey manuscripts representing river crossing-points. Zig-zag roads between towns also appear in these illustrations². Koeppel identified the rhomboids as forts on an itinerarium leading from Trajan's crossing of the Danube, at the beginning of the third campaign of the second war, to his meeting with the army in scene XLVIII. However, the 'forts' are not positioned at the bends in the road and do not touch the road at all. Similar objects appear as mortar-mixing troughs (XIX, XCVII, CXVII; see 4.7.1) and in scene XXV, two occur in front of fortifications as approach-obstacles with stakes in them³. Moreover, the 'road' is edged with rows of small round projections, and it looks to be just a road leading up a hill and not some symbolic device. In any case, the numerous errors in detail in scene L make attempts at detailed historical or geographical interpretation inadvisable (see 3.2.3; 3.2.9).

Pl 45

Unfortunately, nothing is known about the form of illustrations in the military itineraria mentioned by Vegetius and other writers as having been used by generals in the field⁴. Koeppel even suggested that the scrolls carried by cuirassed officers on the column specifically represent these documents⁵. In the context of Trajan's Dacian wars intelligence concerning the regional

geography could have been gathered from prisoners, merchants and traitors, and by long-distance scouting. The invasion armies would have advanced along known routes with the help of guides and exploratores, routes which Roman forces had in many cases advanced some of the way along in the past⁶. The use of documents with anything more graphic than the barest lists of place-names may be seriously doubted⁷. Citation of itineraria of Dacia, illustrated or otherwise, as a major source for the organisation of the column frieze goes well beyond the historical and geographical content of the reliefs (see 2.2).

However, the correspondence of the arches in scene L to the convention in the agrimensores manuscripts is close enough to suggest some link between the two, even though the road itinerary can be discounted. Architects present during the sculpting of the frieze will have been conversant with, and presumably possessed, illustrated technical treatises on surveying and related subjects, so the transfer of ideas can easily be accounted for (see 4.2).

Less specifically to technical treatises, it may be noted that some landscape devices employed on the column are closely paralleled in other media. Lines of trees representing forests, and ground lines indicating mountain ranges may be seen in later works such as the Tabula Peuteringiana, the Madaba Map and again in the agrimensores manuscripts⁸. Mountain lines were used on the column to separate groups of figures and put scenes into landscape contexts⁹. Rocky ground also generally forms a horizontal level for figures and buildings to stand on, often a necessity given the fact that the frieze constantly slopes upwards. It was employed to fill in open spaces caused by compositional processes and the

Pl(3,45,58-9,
(62,107,113

accommodation of windows (see 3.2.2)¹⁰. Sometimes it is difficult to determine whether a block of rocky ground represents perspective distance on a flat plane as seen obliquely from above, or vertical elevation which is often used to raise up imperial command groups or Decebalus (see 4.8)¹¹. Ditches are graphically indicated by rocky ground swallowing up figures¹². The texture of the spiral dividing band is actually finished as a rocky ground line and for much of the frieze figures stand directly on it (see 3.1).

Pl 53

The depictions of streams seen from above¹³ and small towns and forts¹⁴ are strongly reminiscent of the style employed by the Notitia Dignitatum, some architectural sculptures, frescoes and mosaics, and again by the agrimensores manuscripts and the Tabula Peuteringiana¹⁵. The variety of comparative media indicates that these works share in a common landscape tradition manifested both in detail and in the perspective system employed. However, much of this material post-dates the column and this may not be purely a function of survival. Maps of the Tabula Peuteringiana type and itinerary manuscripts belong to periods of imperial organization and consolidation and perhaps it is unreasonable to postulate such documents in use by generals advancing into areas outside the empire¹⁶. Doubtless, lists of staging posts and places such as that surviving from Trajan's commentarii, were common enough after conquest, but detailed itineraries and cartographical aids may not have been conceivable before. It is also likely that artworks in a number of media, particularly manuscript illustrations surviving from the Late Roman period, were directly influenced by existing spiral relief columns¹⁷.

Pl(3,31,42,
(45,59,119

The premise which underlay all of Richmond's assessments of frieze content was that "each scene is clearly based upon a careful sketch, which must have been made in the war-area from actual details on the spot, because nowhere else can such things be seen or imagined in accurate composition"¹. He reasoned that several stages between the original drawing in Dacia and the sculpting in Rome interposed too many selections of material for the final result to have ~~had~~ accurate historical content. Artists in the theatre of war did not know which of the scenes they were sketching would be most historically important in retrospect, nor, perhaps, did they have in mind the translation of their drawings into stone. A time-lag ensued between the sketching and the supposed drawing of cartoons for the column so a first selection of scenes to be sketched in the field was followed, years later, by a second choice of scenes to be sculpted. Moreover, in Richmond's view, this process explains why the ill-informed sculptors reproduced some details accurately whilst misunderstanding others and applying them unintelligibly².

It has already been argued that carving on the frieze did not follow detailed cartoons (see 3.3.2). Sources of information available to the sculptors in Rome considerably reduce the necessity of postulating the use of campaign sketches and the presence of artists in Dacia. However, it is appropriate in connection with this discussion to examine technical elements of the frieze not

covered by investigation of the sculpting of the frieze, or of the figures types. These elements consist principally of the architectural scenery, but it is convenient also to include such items as tents, artillery and transports, thereby determining whether specific details necessarily originated in the war zone, or whether information for them was potentially available to the sculptors in Rome.

4.7.1 Roman Military Architecture

Roman fortifications on the frieze have been repeatedly employed by scholars for the reconstruction of permanent forts on paper and in full-size simulations³. An army advancing on campaign into enemy territory, as on the column, would have constructed two types of fortification, to judge from practical requirements and archaeological analogy. Camps consisting of a simple turf or earth bank and a ditch surrounding an open space for tents would have been used for overnight stops and perhaps for marshalling forces at strategic locations⁴. Forts would have been more substantially built with turf or boxed-earth ramparts, proper parapets, wall-walks, timber towers and gates, and wooden internal buildings⁵. These fortifications would again have been positioned at strategic nodes in occupied country and occupied just over winter or all year found. On the frieze there is a definite group of fortifications with tents and no gate structures which may be termed 'camps'⁶. However, the distinction between camps and forts is not altogether clear-cut or consistent. This is partly because details of fortifications were often reduced to a backdrop role in sacrifice, submission or adlocutio genre scenes. Construction scenes were concerned less with the actual activities than with advertising

the skills of the citizen troops and the generalship qualities of the emperor (see 2.3)⁷.

Many defences do fall nicely into one or other of the fort or camp categories. Others blur the distinction as does the camp with tents and an arched gateway in scene CII. The prison enclosure in XLIII has no gate structure, just an opening in common with camps, but does have a wooden building similar to those depicted in forts. A gate tower and wall-mounted ballistae suggest a fort in scene LXVI yet tents appear in the interior. Timber buildings and a tent are even seen in combination in scene XCVIII, and a pair of gate posts with a cross-beam coincide with tents in CX. Fortifications in the process of construction often defy classification, although simple upright-posts occur twice in such scenes, perhaps indicating forts rather than camps⁸. Discounting these construction scenes, fortifications with mixed features, and similar structures which may be classed as Dacian, there are nineteen forts and twenty-one camps. If all the works with any form of gate structure or internal buildings are classed as forts, then there are twenty-five in total. Forts with tents inside perhaps form a sub-category which could be a feature of campaign situations⁹. Nevertheless, in some scenes the combination of a camp beside a fort seems to be applied purely for pictorial variety¹⁰.

Fort gateways are depicted either as timber structures of varying complexity, or as masonry arches¹¹. The wooden gates sometimes have upper storeys indicated by openwork frames. The latter in particular have been used in modern reconstructions of excavated gateways but their defensive qualities are questionable¹². Whilst openwork balustrades are perhaps realistic for the bridges, ships

Pl 65-6

Pl (3,21,
(28,42

Pl 45-6,65

and signal towers on the frieze, they are inappropriate for defensive constructions where closed frameworks with planking, wicker or green hides would presumably have been employed to protect troops from attackers' missiles. It would have been illogical to provide parapets and crenellations on ramparts, yet leave the gate-towers unprotected. Cross-members of some towers are well depicted in perspective, whilst others are only schematically represented. In scene CXXXIV a gate-tower with cross-pieces has been so radically scaled down in size, presumably in order to avoid obscuring human figures, that it is too small to fill the opening in the fort wall. Some of the gates would correspond in plan with excavated gate-post pits in frontier forts¹³. Perhaps the open upper works and diagonal frame members of towers reflect sculptors' observations of timber structures present in Rome, such as wooden scaffolding, temporary public viewing platforms or amphitheatres (see 4.7.3).

Pl(2,45,87,
(89,94,98

The fort in scene LI is of singular interest because it is the only example with readily identifiable barrack-blocks which are roofed with tiles or shingles, not with the ubiquitous nailed planks. Moreover, towers appear in logical corner and gate positions. The left-hand corner-tower was given a very schematic framework only because a signum obscures it. The most striking feature is a large, plain rectangular object over the gate which most likely represents an inscribed dedicatory panel¹⁴. Significantly, the spacing of crenellations on the fort wall is governed purely by the positions of barrack-block doorways.

Pl 46

Six camps have claviculae, or curved walls defending their entrances¹⁵. Two external examples were mistakenly carved without

any opening for gate access (XXI, CIII). One external (CV) and one internal (CXVIII) clavicula would logically have forced an enemy to enter the camp by turning to his left. The internal example was more efficient because it would have exposed the attacker's unshielded flank to the front of the curved wall which would in real life have been crowded with soldiers. Both of these forms of clavicula, and others which necessitate a right turn, may be paralleled by marching camps in Britain, Germany, France, Palestine and Egypt. They were a defensive device most commonly employed in the Flavian period but some examples suggest construction well into the 2nd century A.D.¹⁶. The fifth clavicula on the column has two curved walls overlapping (CXLVII), somewhat like an internal version of the Stracathro type of external gateway¹⁷. A clavicula which appears on the corner of a camp in scene CIV is presumably a sculptor's mistake. The clavicula in scene XXI is something of an outlier, but the other five examples cluster in adjacent scenes (CIII-V) or one above the other (CXVIII, CXLVII), suggesting links in the sculptural process underlying the choice of this particular form of entrance.

Forts and camps are in many cases distinguishable, but the two-dimensional nature of much architectural scenery, and its scaling down in size to avoid obscuring human figures, create some unintelligible structures. For example, the works in scene XVI are an illogical assemblage of walls and vertical posts. In scene XCVI the parallel walls may be Roman rather than Dacian, but it is unclear whether the dolabra-wielders standing behind one are demolishing it or defending themselves (XCVI, 8, 9, 11). The parallel layout of walls itself makes no structural sense.

Likewise, in scene XLIX, the series of parallel walls and palisades defy interpretation. The large circular building in the same scene has two internal, upright posts which appear to fulfill no structural function. In these and other scenes walls were employed simply as 'screens', straight or curving, without any attempt to lay out a coherent circuit¹⁸. Vertical posts in completed constructions often lack connecting cross-pieces¹⁹.

In fact, the depiction of wooden structures is often problematical. The log platforms of a type associated with ancient siege operations appear on the frieze in confusing circumstances²⁰. In scene LXXIII a platform is placed next to an indubitably Roman camp. The fortress in LXXV has every indication of being Roman, yet a massive log platform supporting siege penthouses appears against its wall. The greatest concentration of these platforms occurs in scene LXVI, in association with a Roman fort and a reserve group of citizen troops, but the Dacian fortifications in LXVI-II are too far off to be directly associated with them. They serve primarily to support artillery. A small log platform appears in scene CXVII but it is separate from the siege operations in CXVI. Log-built fortifications in scenes CXXXII-III belonging to both adversaries are paralleled on the frieze only by a wooden structure in CXVI.

The walls of fortifications are depicted as ashlar masonry and Richmond drew attention to the incompatibility with this of lines of what appear to be log-ends. He suggested that these logs represented a corduroy wall-walk when they appear below the crenellations and concluded, by analogy with construction methods on the frontiers, that the walls were made of turf²¹. Furthermore,

Pl 83

Pl 66,68-9

Pl 109

Pl 10,13,103

the carrying of blocks on the back of the shoulders, held in place by a rope, must refer to turves because stone ashlar would have been too heavy to move in this fashion²². Reconstruction drawings which take the walls literally as stone constructions, one block wide, with a timber wall-walk supported on wooden posts, are not only impractical but are also without archaeological parallels²³.

Log-ends appear in the walls of both camps and forts without distinction, mainly on the lower six spirals of the column shaft with only a few examples higher up²⁴. In scene XIII two courses appear on one wall. Dacian fortresses also have log-ends²⁵, as does an isolated temple (?) in XXVI and the rotunda in XLIX. All of the Roman examples low on the column shaft, with the exception of XIII, occur directly below the merlons, whereas on the upper spirals and all those in Dacian walls, appear several courses below the merlons. The latter position would have been structurally correct if the logs do represent a wall-walk because the crenellations would have topped a parapet. This would suggest that initially the feature was applied impractically, but that between the sixth and tenth spirals it was corrected. The distribution and variation of log-course position would seem to have been a product of the sculptural process rather than of the models being followed (see 3.2.1).

Roman camps without log-ends include all those in suovetaurilia P1 148 scenes (VIII, LIII, CIII) which Turcan-Déléani postulated were based on a single cartoon²⁶. However, this is an unnecessary suggestion and the scenes are less alike than she thought (see 3.3.2). Walls without logs have a plain moulding instead, upon which the merlons were placed. Twice, the moulding is positioned at a realistic

P1 (21,28,42,
46,48,53,56
65,103,105

wall-walk level (CV, CXI) but this probably represents sculptors' mistakes because in CV two walls of the same fort exhibit mouldings in both positions.

Merlons are represented as single masonry blocks with capping mouldings forming a 'T' shape, widely spaced along the tops of walls. Baatz attempted to equate widely spaced merlons with the use of hand-hurled missiles whilst closely spaced crenellations denoted the use of bows²⁷. He cited the embedded Tiberian castra praetoria merlons in support of this²⁸, together with those on the column. However, merlon spacing on the frieze varies from extremely wide to very close, where widths of merlons are equal to widths of spaces in between. Whether or not Baatz's functional spacing is a realistic proposition, the merlons of the castra praetoria itself, whilst not necessarily having any relevance to military architecture on the frontiers, may have directly influenced the column sculptors. Wide spacing and squat, 'T'-shaped profiles, were conventions commonly employed in Roman depictions of town walls²⁹. However, spacing on the frieze was often dictated primarily by the sculptors' concern not to obscure human figures or details of buildings within the fortifications. This is particularly clear in scene LI.

Pl 46

Like the courses of log-ends, merlons appear on the walls of both forts and camps, but in reality, camps would not have had such elaborate fixtures. Stakes would presumably have been driven into the tops of the banks, perhaps forming a framework for a plashed brushwood barrier, and the pointed so-called pila muralia, found on military sites, would have been lashed together as chevaux-de-frise for blocking the entrances³⁰. Therefore, merlons, like

log courses, are an inappropriate feature for camps. Ramparts of turf and timber forts would have had wooden upper works with nailed boards or wickerwork providing protective parapets and merlons³¹. The 'T'-shaped tops of upright timbers making up gate structures and towers on the frieze may reflect woodwork in Rome which was familiar to the sculptors, rather than features of timber uprights on the frontiers. This is suggested by an unpublished relief found under the Palazzo della Cancelleria in Rome which depicts a temporary wooden-frame amphitheatre which has diagonal cross-members and posts with capped tops and 'T'-shaped profiles³².

A close examination of what the builders in construction scenes are actually doing is revealing with reference to how the sculptors viewed the architectural scenery. Lehmann-Hartleben noted that such scenes were built up using a few stock figure poses and these may be closely paralleled elsewhere in Roman art³³. Work may be divided up into digging, woodworking and wall-building activities. The first is carried out using dolabrae and wicker baskets to dig ditches around forts, and perhaps also to make roads³⁴. Anomalies occur in scene LXV where an undulating fort interior is ignored by the men building walls and digging ditches, whilst another fortification is having its interior dug out in scene XX. Activities in this scene have been identified as turf-cutting, but a low wall indicates that the second of a pair of fortifications is being constructed and that a ditch is being dug around it. The low wall actually has crenellations³⁵. Digging in LII is associated with neither a ditch nor a road. Dolabra-heads with cutting blade and tine correspond to heads commonly found on military sites, and this tool was used in Rome by the vigiles³⁶.

Pl (13,37,47,
(50-1,53

Pl 17

Pl 47

Although Josephus mentions baskets amongst soldiers' equipment, the form of those on the frieze is exactly paralleled by one depicted in the Trebius Iustus building site fresco³⁷. This suggests that sculptors were perhaps depicting baskets commonly seen in use in Rome. P1 163

Woodworking scenes are concerned with forest clearance, ship-building and construction of fortifications³⁸. Such scenes suffer badly from the scaling down in size of scenery, so men try to hammer massive gate posts into the ground using little mallets or carry timbers around without clear purpose³⁹. Dolabrae are used to fell trees and dress timbers, whilst mallets and chisels are also employed for finer carpentry⁴⁰. The stance of the chiseller in scene XIX is echoed elsewhere in Roman art⁴¹ and socketed chisels accurately reflect contemporary woodworking tools (XVI, XIX)⁴². However, woodworking figures often contribute little to collective endeavours, and construction scenes are generally not logically composed with regard to the project in hand. P1 (50,73, (109,111

In wall construction scenes individual blocks are treated as if they were made of stone. Sometimes the walls are so reduced in scale that the stones being moved are larger than those already laid (XI, XXXIX), but at other points the comparative sizes are well adjusted⁴³. Blocks could not have been carried on one shoulder without crumbling if they were made of turf (XI, 5, 10). Moreover, stone-working tools are used to dress blocks in place on walls (LX, 18), and to dress down bedrock (XXXIX, 25). In scene LX a man holds a block in one hand whilst hitting it with a mallet in the other (LX, 11). Throwing stone blocks at besieging Dacians in scene CXXXIV would have been damaging whereas turf missiles would P1 38 P1 53 P1 39,53 P1 53

not have been effective⁴⁴. The portage of blocks on the back of the shoulders may not have been appropriate for stone blocks, but would perhaps also not have been an obvious or comfortable method of carrying turf despite modern reconstruction tests⁴⁵.

Pl 53-4

So far, the discussion has revealed a number of elements in Roman military architecture on the frieze: timber towers and gateways; turf rampart corduroys and claviculae; stone walls; masonry arches and crenellations. In a campaign context the building of any fortifications using cut stone would have been completely out of the question because of the time involved in quarrying, shaping and transporting the materials. The combination of stone walls and timber gates is very occasionally found in permanent forts, such as Flavian Inchtuthil in Scotland⁴⁶. In fact, fort defences were not masonry built along the northern frontiers in the 1st century A.D., with the notable exceptions of a few Domitianic forts in Germany⁴⁷. Under Trajan some Stanegate forts in Britain, British legionary fortresses and a few forts in northern Wallachia (conquered by Trajan and abandoned by Hadrian) were built or reconstructed in stone⁴⁸. Along the Rhine and Danube permanent fort defences were generally built of turf or timber-boxed earth, only reconstructed in stone under Hadrian, Pius or even later⁴⁹. Forts in the new Dacian provinces likewise did not originally have stone walls, consequently there are no stone Trajanic fort building inscriptions⁵⁰. Thus, not only were stone walls on the frieze inappropriate for campaign fortifications, but they were also anachronistic for the great majority of permanent forts in the Trajanic period.

Had the sculptors wished or intended to depict turf walls they could easily have done so, employing many closely-spaced horizontal lines instead of the ashlar joints, much like the brick wall represented in the Trebius Iustus building fresco. It seems likely that the artists were completely ignorant of turf construction but had a knowledgeable source of information, the material from which they applied impractically. This would explain the presence of such features as mistakenly depicted corduroys and claviculae seen in conjunction with openwork gate structures and stone-dressing activities on masonry walls. Ashlar masonry was the traditional form of wall depiction in Roman art, employed continuously from the 2nd century B.C. Esquiline construction fresco through to the Trajanic Terracina building site relief⁵¹. As an artistic style it originated from the cut stone building traditions of the eastern Mediterranean, especially those of the Hellenistic period⁵². The architectural style was widely used in Republican Rome, and it is worth noting that the tufa-block ashlar 'Servian' city wall, dating from the 4th century B.C., was still impressively intact and may have acted as a model for the frieze⁵³. Whilst brick-faced concrete was the predominant construction technique in Trajanic Rome, it was often sheathed in marble to simulate opus quadratum for monumental buildings, or the unfaced concrete was given a keyed, pseudo-ashlar skin⁵⁴. Moreover, on the Forum of Trajan building site the column sculptors would have seen the forum perimeter wall being built of dry-laid peperino tufa blocks⁵⁵.

Pl 163

The sculptors working on the column may also have been engaged in producing the rich sculptural ornament of Trajan's forum-basilica

complex, including the Great Trajanic Frieze and the captive Dacian statues (see 5.18)⁵⁶. In any case they would have been intimately familiar with building sites, and in all probability they had worked previously on the many Domitianic construction projects⁵⁷. Building work will have been happening all around the column, especially on the libraries, colonnaded court and Basilica Ulpia, whilst the frieze was being carved (see 2.1). Clear evidence for an element of empirical observation as a source of information for building scenes is provided by the occurrence of three oval or trapezoidal objects (XVIII, XCVII, CXVII). The first two examples are being worked upon by men with dolabrae. Rossi suggested that the one in scene XCVII represented the carving of the tabula Traiana on the Iron Gates road. Given that the tabula was a rock-cut inscription on a cliff-face, not a separate panel like the object on the ground in XCVII, this explanation is clearly mistaken⁵⁸. Other commentators have identified the objects as lime-cutting or mortar-mixing troughs⁵⁹. A similar 'trough' appears in a mosaic construction scene in the Bardo Museum (Tunisia), with a man pouring water into it from an amphora⁶⁰. A painting from Stabia (Campania)⁶¹ and the Trebius Iustus building fresco both show a trough worked over by a man with a long-handled tool on a building site. When cement-mixing machinery is absent from sites today the same method of combining materials is employed whereby the mortar mixture and the water are contained in a pool which is retained by sides of banked up sand⁶². Thus there is no 'trough' structure per se, but this activity is certainly what was being depicted on the column.

Pl 93,109

Mortar was of course not necessary for turf wall construction (XVIII), road building (XCVII) or timber working (CXVII). It was

not even used in Roman ashlar wall construction where blocks were laid dry, sometimes with metal clamps to bind them⁶³. Therefore, the mortar-mixing on the frieze indicates that contemporary concrete architecture was influencing the sculptors. Furthermore, blocks being handled by builders in some scenes are sufficiently narrow when seen on edge, and large enough when seen face-on, to have been modelled on bricks, particularly bipedales (XI, 5, 8, 10; XXXIX, 14, 18, 23)⁶⁴. The carrying of materials on one shoulder in scene XI suits brick rather than turf or stone. Likewise, portage on the back of the shoulders may represent bricks carried in a hod with handles. Some brick facings on concrete walls were given an additional mortar rendering to protect the pointing. Whilst still wet the mortar was scored to give a pseudo-ashlar effect⁶⁵. It is possible that mortar-mixing on the column was inspired by this process.

Pl 37-8

The five towers in scene I have ashlar walls and plank or thatch roofs. Balconies exhibit the same open timber-work as seen on fort gate towers, bridges and ships. All the towers are surmounted by log or plank palisades. Like the forts, towers on the 1st century frontiers in Britain and along the Rhine and Danube were built of wood, and not of stone until the reigns of Hadrian or Pius⁶⁶. However, many Flavian towers, especially those in Scotland and the German Taurus, were surrounded by palisades and ditches which correspond generally with the works in scene I⁶⁷. Supplies of combustibles and a torch on the frieze correspond with Vegetius' description of signalling with smoke by day and with fire at night⁶⁸. Modern full-size reconstructions have often employed the column's towers as models⁶⁹ and their very presence on the frieze

Pl 1-2

suggests that a knowledgeable source of information was available to the sculptors, although they again chose an unrealistic depiction of them as stone-built. The first two towers differ from the other three in lacking balconies, in having gabled roofs and in being proportionally much shorter. It may be that two different sculptors were at work but the increasing height of the relief band was probably the most decisive factor. Like the four auxiliaries present, the towers neatly solved the problem of filling up an awkward space (see 3.2.10).

Three blended elements may be detected in Roman military architecture and construction genre scenes on the frieze:

1. Features of turf and timber frontier forts, such as timber gates and towers, log corduroys, claviculae, the gate dedication panel, and these elements in combination. The distinction made between camps and forts is also important.
2. Ashlar walls, stone architectural details and the treatment of most building blocks as stones, based on artistic traditions and perhaps some observation of actual buildings.
3. Details of building materials and techniques contemporaneously employed in Rome, based on empirical observation. These include the dressing of ashlar in situ, working tools, baskets, mortar-mixing, bricks and perhaps their portage, open wooden frameworks, and crenellation shapes and spacing.

It would appear that artistic conventions and the observation of metropolitan building materials and techniques played a large part in the depiction of Roman military architecture on the frieze. Details of contemporary castramentation would have been familiar to architects in the capital and intimately known to any

soldiers in Rome who had served on the frontiers (see 4.2; 4.4). Readily accessible models would have been supplied by the many castra in the capital, and by the surviving urban defences of Rome and the Italian cities.

4.7.2 Dacian Architecture

Davies attempted to identify the geographical locations of barbarian fortresses in the first campaign of the first war and he considered them to be Daco-Roman in appearance, the products of Roman technicians in Dacian service⁷⁰. These Dacian fortresses (XIV, XVIII, XXII) and others elsewhere on the frieze share with Roman fortifications such features as ashlar walls, log courses and gate towers⁷¹. The remaining fortresses are also ashlar-built and have stone or timber gateways with a variety of moulded lintels, studded doors and simple posts⁷². None of these features is diagnostically 'barbarian' and there is some room for doubt in some 'Roman' or 'Dacian' attributions. Wooden internal buildings constructed with planking appear in both Roman and Dacian fortifications indistinguishably, and barbarian timber houses are put to the torch at various times by both sides⁷³.

Pl (59,77,81,
(117-9

Defences in scene XXV are identified as Dacian by the presence of dracones and impaled heads. Associated with them is a circular palisade of indeterminate function⁷⁴. Dacian field-works overwhelmed by the Roman advance commonly combine a gate-tower and a linear fortification⁷⁵. This very repetition, and the flimsy and illogical layout of these works, combined with a lack of evidence for fortified Dacian barriers, casts doubt upon the veracity of these representations.

Pl 81

Romanian excavations have revealed a cluster of hillforts in the Munții Orăștiei region and these may be linked with Dio's reference to Dacian fortresses captured by Roman forces during the wars⁷⁶. However, the features of barbarian defences on the frieze are so generalised that attempts to link particular scenes with specific sites are ill-advised. The pinpointing of Blidaru and Pietra Roșie on the column by Rossi is especially unconvincing⁷⁷. He employed in his identification of the latter a supposed staircase under the feet of the testudo in scene LXXI. These steps are purely a product of the carving of the soldiers' feet in the ground scenery and, even if stairs were present, staircases also occur at Bănița, Blidaru and Costești⁷⁸.

Pl 77

The depiction of Dacian stone walls in the ashlar style actually suits building practices at these sites better than it does contemporary Roman fortifications (see 4.7.1). Surviving fortress walls consist of massive rectangular stone blocks laced with horizontal timber tie-beams at irregular intervals. Some walls, as at Tilișca, are extremely finely jointed, and others have metal dove-tail clamps, as at Bănița⁷⁹. However, the heights of courses are irregular, as are the spacings of vertical joints between blocks, so these walls do not correspond closely with the fine opus quadratum on the column⁸⁰. This partial correspondence of artistic convention and actual building practice may perhaps be ascribed to coincidence. These hillforts in Dacia surround Decebalus' capital and the sites must have been assaulted in at least the first Dacian war if the barbarians chose to hold them in the face of the Roman advance. Their capture is recorded by Dio and their destruction is archaeologically dated to the Trajanic period, thus the column

provides no additional information that is not now known from other sources⁸¹.

The defences of Sarmizegethusa Regia, the Dacian capital near Gradiştea-Muncelului, exhibit the same style of masonry as is seen at the hillforts, but on a more extensive plan⁸². Column scenes which have been identified as depicting this fortress exhibit sinuous walls and numerous towers (CXIII-VI, CXIX-XXII, CXXIV-VI). The curving walls fit all the known actual fortress plans, except that of Blidaru⁸³. Square towers appear in large numbers in the lower part of the Sarmizegethusa site, but not on the upper enclosure wall. A convention for wall masonry employed in scene CXIII-V is very different from the usual opus quadratum and it requires some explanation. Roughly polygonal stonework is divided up by two horizontal log-end courses. The suggestion has been made that this stretch of wall represents re-fortification of the Dacian capital contrary to the terms of the A.D. 102 peace treaty⁸⁴. This is too simplistic and historically specific an explanation and of course it would have been simple if polygonal masonry had been employed throughout the frieze to distinguish Dacian walls from Roman works. The log courses do not correspond with the tie-beams used in Dacia, and the polygonal joints are actually less representative of actual fortress walls than the opus quadratum convention. Log courses were employed on the frieze essentially as a decorative motif so play no direct part in the discussion. Direct models for the polygonal masonry were readily available to the column sculptors in the many town walls of Republican date constructed with massive, irregular blocks⁸⁵. This style would have been a familiarly primitive building technique, perhaps considered by the artists to have

been appropriate for adversaries who, unusually for northern barbarians, were known to build with stone.

The problem remains as to why polygonal masonry appears only in one place on the frieze. The answer probably lies with the motives of the sculptor or sculptors who constructed the balanced sequence of scenes running from CXIII to CXVI. The polygonal wall undulates through these scenes specifically serving to link them together (see 3.2.10)⁸⁶. Rossi concluded that "when we examine the many sketches of ramparts attributable to Sarmizegethusa on the frieze, we have the impression that only the curved outline and what looks like terracing hint at the actual aspect of the citadel"⁸⁷. Some attempt may have been made to show the fortress shape as irregular and unplanned in contrast to Roman constructions, and some verbal information given to the sculptors may well account for Rossi's hints. However, the course of the walls was subordinated to, and dictated by, the distribution of groups of human figures, around which they curve.

Dacian buildings in scene LXII consist of round constructions with ashlar and conical roofs, which may have been intended to be temples or domestic structures. They have been employed as models in modern temple reconstructions⁸⁸. Round sanctuaries with columns and solar discs existed at numerous Dacian sites, notably Gradistea-Muncelului, but nothing like the tholoi in scene LXII has been found⁸⁹. On the other hand, thatched timber round houses appear on fragments of the Great Trajanic Frieze and are attested on Dacian archaeological sites⁹⁰. Like forts and towers, these buildings on the frieze may again represent a sculptor's replacement of wood by ashlar, but landscape sketches in the Campanian sacro-idyllic

tradition may have been the inspiration for them⁹¹. Moreover, round shepherds' huts have been a feature of the Roman Campagna in all periods⁹². Circular towers associated with Dacian fortification on the column in scenes CXIX and CXXII are archaeologically unattested and with their conical roofs make them very similar to the lighthouse in scene LXXXI.

4.7.3 Roman Civil Architecture

Models would have been plentiful in the capital for the depiction of temples, colonnades, theatres and amphitheatres, and some of the resultant architectural depictions on the frieze are outstandingly fine⁹³. The stone amphitheatre in scene XXXIII is seen obliquely from above, revealing seating and the meticulous attention to detail of flights of steps separating cunei. Likewise, the theatre in LXXXVI has steps and a finely carved rear view of the wall backing the scaenae frons. Views of a quadraporticus with engaged temple (LXXXI) or of porticoes enclosing horti (III, LXXXVI) P1 3 are readily paralleled by known monuments in the capital⁹⁴. Stone town walls, towers with windows, and masonry gates had models available in the walls of Rome, the capital's castra and in the defences P1 3 of Italian cities. The best architectural scenes are mainly associated with imperial journeys (XXXIII, LXXIX-XXXVI).

Individual buildings were commonly used as backdrops for genre scenes in propaganda art⁹⁵ and surviving townscapes, such as the Fucine Lake relief depicting a walled town, would not have looked P1 3 out of place on the frieze (III, CXIX)⁹⁶. The wooden amphitheatre P1 97 in scene C would frequently have been seen on the frontiers⁹⁷. However, temporary structures were built in Rome for public displays,

and a wooden amphitheatre surrounded by colonnades is depicted on a fragmentary relief found under the Palazzo della Cancelleria⁹⁸.

4.7.4 Non-Architectural Elements

It is convenient to examine items of scenery and equipment under this heading which do not fall under categories discussed above or under figure type divisions.

Bridges are an architectural element of the frieze but one linked with shipping because of the pontoon river-crossings (IV, XLVIII). Most are wooden frame constructions with openwork balustrades⁹⁹. These would presumably have been familiar to the sculptors Pl 45,98 from small countryside examples and the pontoon bridges would have been known by architects¹⁰⁰. The plank-built bridge without balustrades in scene CXXXI is horribly crude and divides up into three Pl 112 separate sections. This is the fourth and last river-crossing on a vertical correspondence axis in a very makeshift, space-filling sequence which concludes the second war. Even the third army bridge-crossing is not a pontoon construction but one of the simple Pl 98 frame support type (CI). The bridge in scene XCIX stands out from Pl 94 all the rest because of its length, stone piers and detailed wooden upper works. It is unlike major bridges in Italy and in Rome which were entirely stone or concrete built, but it corresponds very well with the remains of Trajan's bridge at Drobeta on the Danube (see 2.2)¹⁰¹. This had ashlar-faced concrete piers and wooden arches. It was designed by Apollodorus of Damascus, and its correctly detailed appearance on the frieze is indicative of his involvement in the sculpting project (see 4.2).

Ships on the frieze would have been familiar to sculptors from vessels seen in the harbours at Ostia and Portus, and from those which came up the Tiber. The majority of the latter would have been lighters, skiffs and barges, and the smaller military galleys, whilst large ocean-going merchantmen and warships may have stayed at the river mouth¹⁰². Small merchant ships appear in some numbers on the frieze¹⁰³. They are recognisable by their upswept stern and small cabin, and are also employed for pontoon bridges (IV, XLVIII)¹⁰⁴. Only one large merchantman is depicted (LXXXVII) with anchor, swan figure head and more elaborate stern fittings¹⁰⁵. Warships are almost all biremes or liburnae with two banks of oars¹⁰⁶. Once a sculptor confused the oar banks on a breme (XLVI) but one definite trireme is depicted (LXXIX)¹⁰⁷. Warships are very ornately decorated on the bows with marine creatures and eyes in a manner which might suggest empirical observation. The horse transport in scene XXXIV is a simple skiff as are the boats being built in CXXXIII. Comparison with paintings and other reliefs of ships and boats demonstrates that vessels on the column, in common with architectural scenery in general, were drastically scaled down in size¹⁰⁸. Human figures are proportionally huge and again demonstrate their predominant importance to the sculptors.

Pl 98

Pl 30

Other forms of transport on the frieze include pack-horses and two-wheeled carts¹⁰⁹. Both would have been everyday sights for the sculptors, the latter doubtless being used to carry building materials to the forum-basilica construction site¹¹⁰. Neither carts nor beasts of burdon were confined to the military and two-wheeled vehicles occur in Roman art¹¹¹. Four-wheeled carts only appear in scene XXXVIII and belong to the barbarians but this type also appears

often on provincial reliefs¹¹². Carts bearing military equipment on the column are depicted in such a way as to display their loads which in reality would have been better ordered and presumably covered against the weather. The vehicles were again radically scaled down in size.

Two sizes of tents appear on the frieze, large and small ridge tents with vertical walls. Richmond's small 'hiking tent' reconstruction without high sides is an illusion caused by defences masking the lower parts¹¹³. The larger examples may be headquarters tents or even intended for the emperor. Tents are also depicted rolled up in papilio form¹¹⁴. Small details of door and side tie-rings, strings and brailings are well depicted, but the lack of guy ropes is a serious omission. The surfaces of tents are made up of many small rectangular or triangular panels which have been used to identify pieces of tent leather from such sites as Birdoswold (England) and Valkenburg (Holland)¹¹⁵. In 1985 a rolled-up section of leather tent was found at Vindolanda (England), further supporting this assignation¹¹⁶. Such accurate depiction of tents on the column suggests knowledge acquired by observing troops encamped, perhaps those present around Rome for the Dacian triumphs, or by examining tents belonging to troops stationed in Rome¹¹⁷.

Personal equipment appears in scenes IV and XXXIX. This again suggests familiarity with actual accoutrements because the individual paterae, wine-skins, rectangular satchels and bowls may be closely paralleled by small-finds including the rectangular leather bags¹¹⁸. Any soldiers marching to Rome would have carried this equipment. However, it is clear from modern experimentation that carrying the bundle of items high up on the end of a pole is impractical. The

Pl 56

Pl 29

Pl 5

centre of gravity has to be nearer the shoulder for it to be carried comfortably. Reconstructions have favoured slinging the bundle over the shoulder on a dolabra and dispensing with the pole¹¹⁹. Like the equipment in wagons, with these bundles the column sculptors were clearly concerned to display the accoutrements clearly. In no other marching scene besides IV are packs carried and this scene is notable for its richness of detail and in being the first in which citizen troops appear (see 3.2.3).

Light bolt-shooting artillery pieces appear in only two scenes. In XL two are mounted on carts in battle. This mobile form, known as a carroballista is mentioned by Vegetius and by Byzantine military writers¹²⁰. In scene LXVI two ballistae are wall-mounted and unmanned, another is mounted on a log platform ready to shoot, and a fourth is set apart from the action on a cart. Facing the Roman advance in the same scene is a ballista mounted on a timber palisade and operated by two Dacians. The carroballistae of XL are rather scaled down in size. The details of all the ballistae are depicted with varying degrees of competence, and consist of two cased torsion springs, a pair of arms, a cross-bracing bar with a curved arch, and a frontally projecting beam or 'slider'. Most accord in general form with archaeological finds of artillery fittings, drawings in surviving technical treatises and with the few sculptural representations of torsion weapons¹²¹.

However, some sculptors evidently misunderstood the slider mechanism used to draw back the string¹²². The Dacian weapon in LXVI actually has its slider pointing away from the Romans, although the two barbarian artillerymen are facing in the right direction as a mirror image of Roman operators on the platform opposite

Pl 40

Pl 64-5,68

Pl 72

(LXVI, 42, 44). This mistake and the link in stances with the Roman machine make it tempting to see the Dacian use of the weapon as a sculptor's error, not the registering of the Dacian capture of Roman artillery recorded by Dio¹²³. If the latter was the case, it is curious that no ballistae appear on the pedestal reliefs to record recapture because artillery was commonly depicted on congeries armorum reliefs (see 5.17). The torsion arms to which the string was attached are represented on the frieze only as vestigial knobs or are not present at all. This error may be contrasted with the well-depicted arms of a catapult on the side of the funerary altar of C. Vedennius Moderatus from Rome (c. A.D. 100)¹²⁴. The background carroballista in scene XL has a pair of long, spear-like missiles projecting out from its front. Apart from the fact that there should be only one, it is likely that this form of ballista shot short quarrels like those found at Dura-Europos (Syria)¹²⁵.

Pl 40

On the positive side, the horizontal cross-bar with an arch seen between the torsion housings in both XL and LXVI correspond exactly with manuscript drawings of a kamerion in Heron of Alexandria's artillery treatise¹²⁶, and with a 4th century iron kamerion found at Orșova (Romania)¹²⁷. Contrary to Richmond's doubts, this arched bar on the column was a practical and accurate feature¹²⁸. The sculptors' error which is associated with it is the tendency for the arch to be widened, as on the foreground machine in XL. More extremely, the bar on the left-most ballista in LXVI is wholly curved with no horizontal sections.

The sculptors had some knowledge of light ballistae, albeit applied in stone in a slightly garbled form. C. Vedennius Moderatus was an artillery technician who had served in the Praetorian Guard

and the praetorians used machines for public displays in addition to employing them in the field¹²⁹. The vigiles also had ballistae to help with fire-fighting¹³⁰. Thus, artillery specialists and actual pieces were present in the capital for the sculptors to observe. Although flawed, the column's ballistae represent the latest artistic depiction of torsion weapons in this the most developed form, which continued in use with slight modifications into the Byzantine period¹³¹.

The strange device depicted in front of the polygonal masonry wall in scene CXIV has attracted a great deal of scholarly speculation, non of which has solved the problem of its function¹³². It corresponds with no known form of ancient artillery, wall-batterer, pile-driver or defensive engine. Detached examination reveals no logical explanation of its working parts. Its main compositional role on the frieze seems to have been to fill the empty space above the group of Roman soldiers in the scene and the sculptor himself evidently did not have much idea of what he was depicting. The triangular frameworks of beams with associated circular objects are most reminiscent of the tread-mill cranes which would have been visible around the forum-basilica building site, but this observation only makes the device's obscurity more surprising, given that such cranes were intelligibly depicted elsewhere in Roman sculpture (see 3.1). A surviving manuscript illustration from Apollodorus of Damascus' Poliorcetica pictures a siege tower on little wheels like those in scene CXIV, and employs the same overall perspective style¹³³. This again suggests Apollodorus' direct involvement with the frieze and further reveals

architects' general knowledge of military engineering. It does not, however, provide enlightenment as to the function of the device in scene CXIV.

It is clear from the discussion of architecture and other non-figural elements of the frieze that some elements reflect knowledge of contemporary military practices. Echoes of Roman turf and timber building techniques are present but any accurate information was diluted by the sculptors' interpretations and personal lack of direct experience. On close inspection, there proves to be very little detail which could not have been available in Rome, obtained from sculptors' models, intelligent observation or from informed advisors. The modern resort to campaign sketches as a source is at first glance attractive and problem-solving, but it introduces a potentially anachronistic element to the discussion of frieze composition (see 3.3.2). There is no evidence that artists were in the imperial entourage, and even less indication that impromptu field-sketches were a commonly employed element of artistic practice in this period. Such a suggestion is appropriate more to 19th century newspaper reporting of military campaigns than to Roman propaganda sculpture.

The specific historical and geographical details on the frieze have often been over-stressed, with anachronistic results (see 2.2). Nevertheless, it must be admitted that the frieze is carved in a more 'documentary' manner than is seen on other pre-dating or contemporary monuments. The 'continuous style' employed is more disjointed than has sometimes been believed and 'continuous' friezes had a long pedigree¹. The supernatural figures are incidental to the action and serve more to set the scene in the manner of scenery, than to impart allegorical meanings. Thus, Danubius passively observes and identifies a major river in IV. Jupiter underscores the fury of battle in XXIV. Victoria in scene LXXVIII marks the junction between the two wars but is otherwise divorced from them. A female deity, perhaps representing Nox, adds a further dimension to the battle in scene XXXVIII, and the female in CL may allude to the remoteness of Roman advances². What deities do not do is stand as equals alongside the emperor in direct association with him, in the manner of the Arch of Benevento panels, or of the Great Trajanic Frieze adventus scene³. The column is more akin to the style of the Ara Pacis procession reliefs and the Arch of Titus ferculum panel which have no overt supernatural interference⁴. P1 3 P1 36

What makes the column so outstanding is the scale of the decorative work, equally in the number of figures, the high degree of detail and the area covered. It is not surprising that the sculptors treated the frieze composition and details as though they

were working on smaller projects, more visible to the viewers on the ground, and that they made so many mistakes in figure relationships because they had simply never worked on such a scale before⁵.

It has already been observed that the background figures are not reduced in size but are raised up as though the ground on which all the figures stand is tilted up at an angle (see 3.2.2). Thus, figures are lined up with, in some scenes, ranks of disembodied heads filling the space above them to form a crowd. This method of creating depth or 'space' has been considered by scholars to be a specifically Roman contribution to relief sculpture. The device is also employed on the Great Trajanic Frieze⁶, whilst there were antecedents in Greek and Etruscan art for this oblique, bird's-eye view, the Trajanic period saw its development and most extensive employment⁷. The alternative, flat portrayal of a line of figures standing on one level, with background heads not raised up, is seen on the Ara Pacis, the Arch of Titus and the Cancelleria Reliefs⁸. However, it is clear from the appearance of both spatial styles on the Arch of Benevento panels that various methods of giving depth were in contemporaneous use⁹.

Slanting the ground on which figures stand has been termed the 'map' technique and it allowed the scenery on the column to be seen obliquely from above in correspondence with the depiction of buildings and towns in illustrated manuscripts (see 4.6). Thus, whilst individual walls of camps on the column were treated two-dimensionally, the defences may be seen from above in three dimensions as a logical circuit. A paucity of Augustan historical and landscape sculpture has led commentators to favour paintings as the medium from which monumental reliefs developed¹⁰. It has

been further suggested that the specific genre which developed the bird's-eye style was the triumphal painting carried in processions and displayed in public places depicting landscapes, buildings, sieges and battles (see 4.5). That these paintings continued to exert influence on scene composition is perhaps indicated by the layout of siege panels on the Arch of Septimius Severus (Forum Romanum)¹¹ which is so close to the treatment of ground and perspective in the amphitheatre riot fresco from Pompeii¹².

The scene genres defined by Lehmann-Hartleben on the column may be traced back through various artistic media¹³. Adlocutio compositions appear frequently on coins¹⁴, building scenes on frescoes¹⁵, submissions on metalwork¹⁶ and battles on sculpted stone reliefs¹⁷. March scenes were essentially processional activities which, together with imperial adventus scenes and sacrifices may be paralleled by many earlier sculptures¹⁸. What is different about the column's frieze is that a large proportion of figures represent armed soldiers. Most pre-Trajanic works in Rome, if they depicted soldiers at all, did so in ceremonial contexts without the presence of armour (see 4.5; 5.7). The exceptions are mainly battle scenes and some adlocutio coin motifs¹⁹. However, Bandinelli drew attention to the close resemblance of individual fallen barbarians on the column and the Great Trajanic Frieze to dying figures on the Telephus Frieze from Pergamon²⁰, and conflicts both on foot and on horseback had a long Hellenistic pedigree involving Amazonomachies, Gigantomachies triumphal paintings and scenes of Alexander the Great in battle²¹. The 2nd century B.C. Aemilius Paulus reliefs at Delphi (Greece), a contemporary cavalry battle frieze from Lecce (Italy) and late 1st century B.C. reliefs on the Julii Monument at

St. Remy (France) represent overtly Hellenistic styles first coming under Roman patronage in Greece and then moving westwards to Italy and beyond²². The Tiberian battle reliefs on the Arch at Orange (France) and the Claudian (?) Mantova frieze continued the tradition²³. On Trajan's Column most of the battle scenes exhibit the same type of confused and entangled juxtaposition of figures²⁴. The sculptors' specific contribution was to represent these figures in contemporary equipment and ethnic dress, not in the archaising attire seen, for example, on some Claudian reliefs (see 6.0)²⁵.

In addition to the developmental background of the battle genre, Hellenistic influence is present in the treatment of human bodies on the column, both with respect to pose and to modelling. Poses include those of men fighting and dying, but also such seemingly 'historical' figures as the suicidal Decebalus in scene CXLV who is evidently influenced by Pergamene statues of dying Gauls²⁶. The scaling down in size of walls, trees, bridges and buildings is symptomatic of a paramount concern with the human body (see 3.2.1). Soldiers and barbarians were required to be clad in contemporary armour and clothing, rather than being represented in the heroic nudity of Hellenistic compositions²⁷, but the sculptors were free to manipulate scenery, objects and figure type details in order not to obscure bodily forms. Thus, figures were composed in order to avoid the coincidence of torsos or heads with window openings (see 3.2.2). Ships, carts, horses and artillery are impossibly small in comparison with their passengers and attendants (see 4.7.4; 5.4.7). Items carried or worn on the person were further reduced so as not to cover too much of the torso, in the case of shields (see 5.2.3; 5.3.2), or the face, as with helmet

cheek-pieces (see 5.2.2). Mail armour was depicted in many instances as inaccurately tight-fittings, revealing musculature of the torso (see 5.3.1), as does the scale armour of barbarian cavalry in scenes XXXI and XXXVII. The same may be observed of mail and scale on the Great Trajanic Frieze (Fig. No. 36, 47, 56). It may be strongly suspected that the treatment of human bodies also played a part in the reduction in length of tunic skirts, and even their absence, so that buttocks are revealed (see 3.2.7).

Scholars refer indiscriminately to any propaganda reliefs depicting the emperor and his armies as being 'historical'²⁸. This obscures the primarily symbolic or allegorical nature of many of the genre scenes and their frequent non-specificity to particular events. Whilst Trajan's Column had a documentary element which was different from most reliefs in the 'grand style' sculpted hitherto, it is difficult to know how much the choice of generalised material of speeches, marches, battles and the like depended on imperial directives or whether the sculptors just proceeded with the job without detailed interference. Beyond the historical framework of wars and campaigns, and a few historical contact points, the indications are that they relied upon their knowledge of Roman propaganda themes and Hellenistic figural traditions (see 2.2-3; 3.3.3).

The strong Hellenistic influence on Trajan's Column is not surprising considering the history of Roman artistic development²⁹. Moreover, an examination of the sculptors suggests that many were Greeks from the eastern provinces³⁰. A fragmentary sacrificial relief from Trajan's Forum, which was part of the same overall decorative programme as the Great Trajanic Frieze, has the signature of M. Ulpius Orestes carved on a bull's hoof³¹. The name

suggests either a Greek given citizenship by Trajan, or a Greek imperial freedman. Signatures on Roman artworks are very rare, especially on official sculpture, but, out of 26 inscriptions from the capital mentioning sculptors, 9 are in Greek and 8 of the remainder record Greek names³².

Roman sculptors seem to have operated on a workshop (officina) basis with artists of varying levels of skill and professional status working, teaching and learning together³³. Socially, it was common with many types of artisans for a large proportion to be freedmen and slaves³⁴. The Zenon family workshop was located on the Esquiline in the 2nd century A.D. and it specialised in Aphrodisian marble sculpture, the artists again being Greek³⁵. Transport of some marbles around the empire also involved the movement from the quarries of sculptors who were familiar with a specific stone's properties³⁶. Thus 'colonies' of Greek artists specialising in eastern Mediterranean marbles existed in Rome. It may be suggested that the Carrara marble from which the column's frieze was carved, first exploited at the end of the Republic when Greek artists were even more dominant³⁷, was so plentiful in Rome that specialists in its working were not necessary.

The products of the Zenon workshop were found built into foundations and they included statues of deities, cantheri, fountains, candelabra and relief sculptures³⁸. This wide range of carvings is indicative of sculptors' versatility and is also symptomatic of the lack of barriers between different art-forms and such skills as relief-sculpting, carving in the round, painting and gilding. A man could have been capable of undertaking all the tasks between cutting a panel from a block, through the relief carving to

the final polishing and painting³⁹. However, it is likely that such stages of work were divided up between a series of craftsmen, especially when large numbers of similar objects, such as cinerary urns, were for public sale. This would probably not have represented absolute specialisation, either for individuals or for all of a workshop's products. Such a model for division of labour seems to have worked with military fabricae producing complex items in a number of stages⁴⁰. Heads on the Cancelleria reliefs were carved after the figures, perhaps suggesting that some more skilled artists concentrated on portraiture, but not necessarily to the exclusion of other work⁴¹. The variety of heads of Trajan on the column, some almost unrecognisably poor attempts at a likeness, shows that there was no separation of these tasks in this case (see 3.2.2; 3.3.4).

Burford made the point that the legal status of a sculptor was irrelevant to the product because the same skills had to be learned and the same tools were used by both slave and free craftsmen⁴². Patronage of the officina would presumably have taken the traditional Roman form, especially where freedmen were concerned, and the market involved sale to private citizens of statuary, garden furniture, religious sculptures and funerary works. The emperor and the Senate would have been the only customers for propaganda sculpture, the latter supplying the finance but perhaps not detailed compositional directives in the cases of Trajan's Column and the Arch of Benevento⁴³. The location in the Campus Martius (Regio IX) of some workshops producing sculpture on their own premises for imperial projects is known from finds of unfinished pieces. The two Domitianic reliefs from under the Palazzo della

Cancellaria are the most substantial example of this, found stacked and apparently abandoned because of changing political circumstances⁴⁴. An unfinished Dacian statue, presumably destined to adorn Trajan's Forum, was found in Via dei Cononari near S. Salvatore in Lauro, still with puntelli on it which indicate the copying process employed⁴⁵. Numerous finds of blocked out architectural members from this area of the city indicate the presence of a sculptors' 'quarter', and it is likely that the sculptors and workshops for Trajan's Column were chosen from here⁴⁶.

A further Hellenistic influence on the column project was provided by the strong Greek element of the architectural profession. Trajan himself recognised that the best architects came from the eastern provinces in a letter to Pliny the Younger⁴⁷. The most gifted architect of the period, in overall charge of the forum-basilica complex and involved in the column's spiral itself, was a Syrian Greek, Apollodorus of Damascus (see 3.3.2; 3.3.4; 4.2; 4.7.4).

In the discussion of sources of information potentially available to the sculptors in Rome it must be appreciated that craftsmen were not detached from prior developments in their own artistic medium, or in other artforms. Nor were they unimaginatively static or necessarily regimented. They worked within a Hellenistic koine which provided them with models for composition and tastes in figural depiction. The interests of their patrons allowed them to draw upon a long-established repertoire of politico-religious imagery and convention. Their remarkable eye for, and pleasure in, detail, often for its own sake, complimented two unusual features

of the project: the historical framework of the spiral and the attempt to depict the contemporary Roman army. Surprisingly, the richness of detail was not restricted by a third extraordinary feature, the large scale of the sculpting task.

SECTION 5

THE FIGURE TYPES

The human depictions on the column fall within distinct 'figure types' definable in terms of clothing, armour, equipment, rank and ethnic identity. The categories differ also in their roles within scenes and their employment in the propaganda programme of the column. Each figure type is discussed in turn with regard to the accuracy of its depiction using varied textual, artifactual and representational comparative evidence. Some conclusions may then be drawn on the value of Trajan's Column as a source for Roman military equipment and for the Roman army in general.

5.1

CUIRASSED OFFICERS

The 127 armoured officers on the column are distinguishable by the wearing of a muscled cuirass, protective thigh and arm lappets (pteruges), a cloak (sagum), closed boots (calcei), a short-sleeved tunic and knee-breeches. They are usually bare-headed. Officers often hold a sword or a scroll. Trajan sometimes carries a double-headed spear rendered in stone (XXVII), or half in stone and half in metal (XXV), or supplied entirely with a bronze insert¹. This was a potent symbol of power and its form is exactly paralleled by a relief in the Museo Chiaramonti (Rome)².

Pl (9,13,21,25,
(41,45,49,55,
(59,92,99

5.1.1 Armour

Muscled cuirasses extend down to the waist level with only one exception (LIV, 6). Often, but not always, a breast band is added with a frontal knot and tucked-up ends. To judge from Hellenistic period representations and artifacts this form of protection consisted of front and back plates laced or strapped together at the sides and over the shoulders. On the column one of a pair of narrow shoulder-pieces is usually visible when the cloak is pulled back. An 'arming tunic' was worn underneath from which hung the pteruges which were not attached to the cuirass itself³. These strips protected the upper arms and thighs whilst not impeding the movement of the limbs or the bending of the torso. The horizontal lower edge of the column cuirasses marks them as one form suitable for riding. Another type (LIV, 6) curved down low to cover the belly making it unsuitable for horseback. The

Pl 49

Pl 49

armour form is most commonly seen on Hellenistic and Roman cuirassed statues depicting generals and emperors⁴. Low thorax armours appear on the Great Trajanic Frieze (Fig. No. 13) and the soffit relief of the Arch of Benevento worn by Trajan on foot⁵. On horseback he wears the proper mounted form (Fig. No. 44). Cuirassed representations are very stylised and of little use without corroborative material.

Late Republican funerary reliefs depict high-ranking officers in the mounted form of cuirass with pteruges⁶, but this type of monument for men of high status was less fashionable in the imperial period. One important exception to this is the recently discovered stela of T. Exomnius Mansuetus, praefectus cohortis II Hispanorum, from Sous-les-Scex (Switzerland)⁷. This dates to the late 1st to early 2nd century A.D. and depicts the deceased in low thorax cuirass with pteruges, a sagum and calcei. The sleeve of the cuirass extends down onto the upper arm and this may represent mail armour (see 5.3.1) or it may denote a stylised plate cuirass⁸. The surface is too damaged to determine whether it is muscled or decorated so unfortunately the nature of the cuirass is unclear. More certain are the officers' cuirasses on the Adamklissi metopes (Romania). In one case a mounted Trajan riding down a barbarian wears a cuirass of small scales (Inv. 6)⁹. Two attendants to the emperor on another metope (Inv. 10) wear scale or mail loricae with short pteruges and one at least is an officer to judge from his pose. Cuirassed officers on the early 2nd century A.D. Nawa helmet (Syrian Hauran) wear mail cuirasses with pteruges¹⁰. What meagre evidence there is suggests a variety of armour forms in contemporaneous use by senior officers whereas, with a few exceptions, the column only depicts muscled cuirasses.

Several figures on the column may be identified as officers by their stance and context, but they wear mail cuirasses. One man in mail is leading a marching column, lacks a shield and is standing in the negligently observing pose often adopted by cuirassed officers (V, 7). Another appears on a tribunal as part of a command group (X, 1). He wears a sagum and a waist belt, and the edge of his lorica is ragged like those of two auxiliaries in the same scene (X, 4, 7). In a building scene two bare-headed men carrying small round shields and wearing mail (see 5.3.2) back the emperor (XVI, 7, 8). Later on one officer, who is mostly obscured by another figure, appears to have a mail sleeve but this could be an unfinished set of pteruges (LXVIII, 10). The possibility that these men are centuriones, who appear on funerary stelae clad in mail and pteruges¹⁰, may be dismissed because if this rank of officer was intentionally depicted on the column it would have been ubiquitous on the spiral because of its central importance to the army. Nor are they likely to be auxiliary officers for the same reason and because auxiliaries are supplied with no associated figure types such as standard bearers or musicians. However, these mail-clad figures all occur on the first three spirals. It is quite likely that at this early stage of the work the figure types had not yet been fully formulated, especially as the four figures in question represent only 3% of the officer figure type. Other deviations include the application of zig-zag chiselling representing mail on an early muscled cuirass and once even on the emperor (X, 2; L, 8). Both of the scenes concerned have other confusions and the sculptors were clearly at fault.

Pl 9

Pl 14

Two officers wear helmets in one scene (LXI, 1, 2). Although in real battlefield situations officers would have worn helmets,

Pl 55

the cuirassed statue genre never depicts them because they would have obscured the subject's portrait. Likewise, on the column helmets would have obscured the emperor's face and, because he was an integral member of the cuirassed officer figure type, officers were not supposed to wear them. The appearance of helmets is, therefore, a sculptor's mistake.

5.2

CITIZEN TROOPS

The 608 figures wearing the 'lorica segmentata' on the column may be generally identified as citizen troops with no distinction between praetorians and legionaries (see 2.3; 5.5.1). Each man wears a short-sleeved tunic under a 'lorica segmentata'. Over the latter is worn a gladius, suspended from a baldric on his right side, and a cingulum with apron. A helmet and a curved, rectangular shield complete the equipment. This is the most that is worn or carried, helmets and shields being discarded during construction work. The absence of sword, baldric, cingulum or apron in any combination may be ascribed to the sculptural process rather than necessarily to contemporary military practice (see 3.2.6).

5.2.1 Body Armour

The body armour is depicted with five, six or seven pairs of girdle plates joined at front and back, a pair of chest plates, a pair of upper back plates and three, four or five plates over each shoulder. A great variety of fittings fasten the back, chest and girdle plates together. This body armour has been named 'lorica segmentata' in modern times¹.

On the chest and upper back of the lorica some 26 variants of fittings appear which fall into seven overlapping groups:

lobate fittings (Type 1), ties (2-7), studs (6-9), rectangular (10-17), curvilinear (17-22) and toothed fittings (23-25)(see Appendix 2). Type 26 may be grouped with Type 5 (see 3.2.4). Of these types, 18 have five or fewer instances. Girdle plates have a more restricted treatment. Their ends can have featureless rounded ends

Pl (4,10-1,15-8,
(37-9,46,50,
(54,73,79,92

touching; ends touching and studded; studded ends overlapping to right or left; plain or studded ends touching and fastened with horizontal ties; featureless, squared-off ends; completely featureless plates not divided at all. The last group very likely represents unfinished work (e.g. LXXII, 6-11; CXXVII, 2). Two loricae are fastened by small cross-ties between the girdle plates (LXII, 7, 10). Occasionally the squared-off ends have beaded decoration between them extending down from the upper back or chest plates' junctions (Type 24) and some other chest fittings extend down onto the girdle, singly or in pairs (Types 15, 18-23). However, with these exceptions, the main girdle variants do not correspond closely with particular chest and back variants. The relationships seem to be almost random, the larger the number within a chest fittings' category the more girdle variants are associated with it. Types 20 (12 examples) and 23 (14 examples) appear with two girdle types as do the much smaller Types 2 (4 examples) and 13 (5 examples). Types 11 and 12 (13 each), on the other hand, are only found with tied girdle plates as are all but one instance of Type 1 (11 examples). Type 5 is the largest category with simple horizontal ties and studs (45 occurrences) and it appears with every girdle variant. In contrast, the rectangular rosette fittings on girdle plates in scenes LX and LXIX (Type 25) result from the sculptor transferring the rosette cingulum plates of the same figures onto the loricae. The chest fittings of the cuirasses are simple, horizontal ties of Type 5, so that these fittings seen on 197 unobscured or undamaged cuirasses on the column consist of 6% lobate fittings, 37% ties, and 55% horizontal fastenings. The remaining 2% is made up of cuirasses with no fittings.

The employment of the column's details for modern reconstructions of the 'lorica segmentata' has been wholly unsuccessful, even when archaeological finds from London and Carnuntum have been used in conjunction. In fact, the pervading influence of the column prevented reconstruction in the latter case². The real problem is that, apart from the variety and arbitrariness of the applied detail, very few of the fittings appear to fulfill explicitly practical functions. Except for the ties in scene LXII it is unclear how girdle plates are fastened. Only the lobate hinges with buckles and some knotted chest-ties clearly fasten plates together (Types 1-4; 10% overall). No external connections between the groups of girdle, shoulder and upper torso plates are depicted. Moreover, the plates do not really overlap or extend properly, according to the wearer's pose. Shoulder plates, for example, often do not ride up realistically when a wearer exerts himself with a dolabra or carries a basket on one shoulder, although they are not completely independent of these actions. Girdle plates are more often than not unaffected by a man bending his torso. This depiction of plates without close reference to pose has the result of making it unclear how the plates are attached to each other internally whilst the lorica remains flexible. Some scholars have assumed that the armour was not in fact very flexible and that the plates were attached to an undergarment like a Medieval coat-of-plates without an outer covering³.

Pl 4,11

The solutions to all these problems were provided by the discovery in 1964 at Corbridge (Northumberland) of a Roman chest containing, amongst other material, parts of four 'loricae segmentatae'. These were successfully reconstructed without reference to the column by Daniels and Robinson⁴. The result was a

cuirass made up of 40 mild steel pieces in four major groups of attached plates: right girdle, left girdle (each 8 pieces), right shoulder and left shoulder (each 12). The eight pairs of girdle plates were overlapped and laced down both the front and the back using bronze tie-loops. The plates of each half were riveted to and connected by narrow, internal vertical leather strips. The five plates of each upper torso element were attached by riveted, lobate hinges and were linked to the five shoulder segments (in 7 pieces) by more leather strips. The upper torso elements were buckled together externally by horizontal leather straps on front and back. They were attached to the girdle plates either by vertical, buckled external straps at the front, internal straps at the back, or by vertical copper alloy hook-and-eye fasteners. The two largest shoulder segments were made up of three plates, all riveted to the leather strips, but attached to each other with copper alloy lobate hinges. Some of the rivet heads fixing plates to leathers on the shoulders were embellished with copper alloy rosettes.

The column's loricae reproduce the basic layout of plates without any real understanding of attachment methods. In comparison with the Corbridge material the cut of the shoulder segments is arbitrary with the lower edges cut off either horizontally or diagonally. Occasionally the diagonal is in the wrong direction (XXII, 1; XXVI, 6). Sometimes the plates overlap segmentally, in other cases they adjoin without appreciable overlap. The length of shoulder-pieces varies with the proportions of the wearer's torso (e.g. X) and sometimes they are far too long (LXXXV, 28; CXV, 8, 9). Similarly, on the Great Trajanic Frieze, one

shoulder plate which is not the innermost is longer than the others (Fig. No. 22). However, when the length of shoulder plates increases from the innermost to the outermost, and when this does combine with good overlaps, the similarity to Corbridge and Newstead reconstructions can be close (e.g. XI, 8; XII, 7; XXXIX, 25).

The variety in the actual number of segments on column loricae was to some extent at the sculptors' discretion but within their frame of reference examples of six pairs of shoulder plates are mistakes⁵. Fewer pairs of girdle plates appear on the column than on the Corbridge cuirasses but this need not be inaccurate, per se, because a lorica found at Newstead had seven pairs, the width of the lowest being equivalent to two Corbridge pairs combined⁶. On the column the exact arrangement is often obscured by a cingulum. The girdle plates on the Corbridge armours are all cut off squarely and overlap to be tied. The Newstead lorica had a pair of chest plates and a pair of upper back plates, in the manner of the column's cuirasses, whereas the Corbridge armours had three segmental plates on each half of the upper back. Occasionally the latter feature occurs on the column⁷, and on the Great Trajanic Frieze a chest is similarly segmented⁸. The chest pieces on the Corbridge loricae overlap diagonally but the Newstead plates overlap squarely, again as do those on the column.

Pl 135

Turning to the column's lorica fittings, the buckles and lobate items (Types 1, 4) clearly reflect strap attachments similar to those on the Corbridge cuirasses. Lobate plates for hinged straps occur in the Carnuntum small-finds assemblage and on Upper Danubian sites whilst lobate hinges are common finds on British and German forts⁹. However, it must be noted that these form only

Pl 10-1,16

6% of the total number of definable loricae and 9 out of 11 occurrences group on one side of the column shaft at the bottom (see Fig 13 3.2.4)¹⁰. No attempt was made to depict the attachment of girdle to upper torso elements, but, with few exceptions (Types 7-9), all of the ties or fittings on chest and upper back are horizontally orientated like the Corbridge buckled straps. Many are depicted as riveted plates (Types 3, 4, 13, 14, 17, 23) and it might be suggested that a garbled form of actual attachments was here reproduced by the sculptors. In contrast to the Corbridge loricae, the chest and upper back plates of the Newstead loricae were fastened by pins-and-eyes, a method similar to that seen on lorica squamata chest plates¹¹. The rectangular holes with copper alloy surrounds on the Newstead plates may be represented by Types 2 and 9 on the column, although the knot of the former type indicates a tied attachment rather than pinning¹². A similar approximation of real detail may explain the application of fittings to the girdle plates. The Corbridge girdle elements were laced using bronze plates with loops which are also commonly found on other fort sites. When tied, each pair of fastenings would have had a horizontal alignment which could have been hastily interpreted as a rectangular shape. The Newstead girdle plates lacked this form, employing simple copper alloy eyes of a type reflected in the crossed ties of scene LXII¹³. It might also be suggested that the studs appearing near the ends of girdle and shoulder plates, and on chest and upper back plates, are a dim reflection of the rivet heads used for attaching plates to internal leathers. Pl 50 Pl 15-8

Some features on the column's 'loricae segmentatae' may represent empirical observation of armour in Rome, notably the examples of segmental chest areas (paralleled by the Great Trajanic

Frieze), the lobate fittings and some girdle ties. The general form and appearance of actual fittings may be reflected dimly by other girdle, upper back and chest details. Care must be taken not to dismiss features not seen on the Newstead, Corbridge and other loricae which may have existed on other armour in use. For example, fine chevron decoration appears in relief round the necks of seven loricae in scenes where extra detail has been applied to helmets, baldrics and shields (see 3.2.5)¹⁴. The grouping of this feature on the column shaft suggests that, like lobate fittings, this is the hallmark of a particular sculptor. Nevertheless, it is not impossible that it represents observation of loricae more highly decorated in Rome than those surviving on the frontiers.

Pl 58,66

Several further column lorica details may confidently be pronounced as inaccurate and mistaken, without reference to the artifactual evidence. The summary treatment of shoulder plates, the featureless upper torso and the apparently opened-up girdle plates of a cart attendant's lorica may be ascribed to sculptural error (CVI, 5). The scalloped sleeves on three figures (LXXII, 7, 8, 15) overlying tunic sleeves and protruding out from under shoulder plates suggest a change in figure type from auxiliary infantry to citizen troops in the course of sculpting (see 3.2.3) rather than the provision of additional mail defences to the upper arms. Four loricae have mail chevron tooling on the chest plates (XXIV, 11, 12, 13, 15) as a result of carelessness in the process of mail chevron application (see 3.2.7). Such a provision of mail in practice would represent the replacement of plate armour at a vital point with an inferior armour form. Comparison with armour fragments from Corbridge and Newstead suggests that the column's loricae are also inaccurate in having shoulder and girdle plates

Pl 78-9

with rounded ends, in the application of studs on these plates, and in the absence of necessary external attachments of girdle to upper torso elements. Moreover, the hinged, rather than tied or buckled, fastening of girdle, chest or upper back plates (Type 19 and some Type 1) is mistaken and this feature in particular has in the past vitiated many attempted 'lorica segmentata' reconstructions¹⁵. The delineated edges of plates is a neat sculptural finish on the column but none of the plates so far discovered archaeologically exhibit decorative borders. At waist, armpits and neck, edges were rolled for the wearer's comfort but all other edges were left plain.

Robinson was happy to identify the loricae on the column with the Newstead type of cuirass¹⁶. This form was more robust than the Corbridge loricae, lacking the thin copper alloy lobate, strap and girdle-tie fittings. However, the profusion of column detail suggests that the sculptors had seen just these types of fittings, albeit misunderstanding and misrepresenting them. The coincidence of the vertical joints of the upper back and chest plates with the Newstead arrangement instead of with the diagonally overlapped Corbridge method cannot be relied upon. Failure to depict links between girdle and upper units makes the Newstead similarities more apparent than real.

Recent re-examination of the Corbridge and Newstead archaeological contexts demonstrate that Robinson's dating of the lorica forms was mistaken¹⁷. He assumed them both to be Trajanic, whereas it now appears that the Corbridge Hoard is, at the earliest, Hadrianic, and the Newstead pieces came from an Antonine pit. In one respect this strengthens his view that the lorica construction was simplified over time, but the Newstead armour may be too late

in date to be used in close comparison with the column. On the other hand, Robinson's directly typological approach may be discarded in favour of a view of greater variety of forms in contemporaneous (Trajanic) use¹⁸.

The column is the earliest clear representation of the 'lorica segmentata' in any artistic medium. One of the Flavian principia pedestal reliefs from Mainz may show shoulder plates but folds of a cloak or tunic may in fact be represented¹⁹. Similarly, a 1st century relief in Saintes Museum (France) may depict shoulder plates but it is too damaged for certainty²⁰. 'Lorica segmentata' fittings occur on early fort sites in Britain but most of these were held well into the Neronian period, if not later²¹, and there is every reason to suspect that such small-finds usually belonged to the time of site abandonment, rather than being deposited evenly throughout the time of occupation²². Thus the date of the invention and introduction of this armour form cannot be precisely fixed, nor is it even proven that the Claudian invasion army was equipped with segmental armour. However, the spur to its development may have been provided by the experience of fighting gladiators in laminated iron-plate armour during the revolt of Florus and Sacrovir (crupellarii). These men had to be struck down by axes and dolabrae because swords and pila were ineffective against them²³. A bronze statuette from Versigny (France) and a relief from Alba Iulia (Romania) depict gladiators with banded torso armour very similar to the 'lorica segmentata' and segmental arm defences (manicae) were commonly used by gladiators²⁴. Although some Hellenistic and Parthian cavalry wore segmental limb armour there is no evidence for any segmental torso defences in the Levant and Europe

between the Mycenaean Dendra cuirass and the occurrence of 'lorica segmentata' fittings in the 1st century A.D.²⁵. It is most probable that the manicae worn by legionarii on the Adamklissi metopes (Inv. 12-3, 16-8, 20-3, 29, 31, 33, 35) were based on gladiatorial equipment and a similar influence exerted earlier by the crupellarii may be envisaged. Normally the search for specific causes of changes in ancient military equipment is to be avoided but the 'lorica segmentata' was a singular form of torso armour without long-term antecedents and perhaps in this case such a historical explanation may be put forward as a contributory factor.

P1(147,149-
(50,152

The use of internal leather strips resulted in a completely flexible armour form with many advantages. The leathers allowed the wearer to engage in construction work, to throw shafted weapons and to wield his sword with complete freedom for limbs and torso²⁶. Combined with this flexibility was the fact that mild steel plate was the most protective armour form technologically possible for its time. It was superior to metal scale which was thinner and highly movement-restrictive. Mail armour could cover more of the body and limbs, and was flexible, but it was more effective against slashing blows than thrusts. Any heavy blow would cause bruising and internal bleeding²⁷. The 'lorica segmentata's' disadvantages were that it only extended down to the waist, leaving the thighs with their major arteries unprotected. Moreover, it gave no protection to the armpits and any attempt to run, as modern reconstructions demonstrate, resulted in the shoulder-pieces flapping around wildly. This armour form was especially complicated to make. The Corbridge armours and the common occurrence of the thin copper alloy fittings as site-finds vividly demonstrate the need for constant upkeep and repair²⁸.

The 'lorica segmentata' was ideal for the line infantry of the legiones because their close formation and their large, curving shields would have negated the lack of protection below the waist. The thrusting mêlée action of the gladius would not have exposed the right armpit whilst the plate form would have given the maximum possible protection to the vulnerable shoulders and vital organs. Legionary construction work in the field as seen on the column could have been carried out in armour. The auxiliary infantry, on the other hand, were intended to fight in more dispersed formations and to move at speed, skirmishing with and pursuing a retiring enemy on the battlefield. Their open order and greater use of missile weapons would have necessitated the more comprehensive protection which would have been provided by mail in particular (see 5.20).

The 'lorica segmentata' advantages presumably led to its adoption and currency in the 1st to 2nd centuries A.D. but the lack of pre-Trajanic depictions may in part be ascribed to its disadvantages which presumably meant that it was not exclusively adopted by legionary troops. The stela of C. Valerius Crispus of legio VIII Augusta from Wiesbaden, probably dates to Domitian's Chattan War and must date to the Flavian period at the earliest²⁹. On it the deceased wears a lorica hamata with shoulder pieces and pteruges. The stela of C. Castricius Victor of legio II Adiutrix from Aquincum, dating to A.D. 95 at the earliest, has a lorica hamata with pteruges but without shoulder pieces³⁰. The few earlier tombstones which depict armoured infantry all have mail³¹ and figures in mail on a Mainz Flavian pedestal relief³² and on the 2nd century A.D. Nawa Helmet³³ may be identified as legionarii by their curved, rectangular shields. Most telling is the fact

that all the identifiably legionary figures on the Trajanic Adamklissi metopes have loricae squamatae or hamatae (see 5.19). P1 147,149,152

The depictional evidence for a variety of armour forms contemporaneously in legionary use obviously calls into question the uniformity of equipment worn by citizen troops on the column. It has been suggested that the Adamklissi legionarii were members of eastern vexillationes used in the Dacian Wars, and that the 'lorica segmentata' was not employed in the eastern provinces because its fittings have not appeared in the eastern archaeological record³⁴. A description by Fronto of eastern armour so ill-maintained that it could be pulled apart using the fingers might perhaps best suit corroded iron mail rings³⁵. As already mentioned, the Nawa helmet may represent eastern legionarii in mail. However, the apparent lack of 'lorica segmentata' fittings from eastern sites is a product of a general paucity of small-finds of all classes from the eastern provinces³⁶. In fact part of a 'lorica segmentata' has been found at Pergamon (Turkey)³⁷ and fittings have recently been found at the First Jewish Revolt site of Gamala (Palestine)³⁸. Alternatively, Robinson thought the Adamklissi body armour to have been 'old fashioned' equipment brought out of store to provide more full protection for the limbs against the murderous Dacian falx (see 5.12.3)³⁹. This is in part undoubtedly the correct explanation for the manicae and the greaves (ocreae) on the metopes. The greaves had been used by legionarii in the pre-Marian army but in the imperial period they were normally confined to use by cavalry for sports displays and to centuriones⁴⁰. The metopes' body armour may, however, be interpreted as normal legionary equipment on the basis of the gravestone depictions. Small-finds of scales or mail rings are

P1(128,
(149,152

unhelpful here because these armour forms were normally in use by legionary officers, standard bearers and musicians (see 5.1.1; 5.5.2; 5.6).

Large pieces of 'loricae segmentatae' have been found at such sites as Newstead, Corbridge, Caernarfon, St. Albans, London, Longthorpe, Hod Hill and Carnuntum whilst loose fittings occur frequently in Britain, Germany, along the Upper, Middle and Lower Danube, and in Dacia⁴¹. The dichotomy between the column on one hand and the provincial representations on the other cannot, therefore, be explained simply by the sculptors in Rome being ignorant of frontier equipment because the 'lorica segmentata' had a demonstrably wide geographical distribution. Likewise, the armour form was not confined to the praetoriani who were familiar to the sculptors. The explanation of the column's uniformity must lie with the formulation of figure types by the column designers. Citizen troops wearing segmental armour may indeed have been based on praetorian models (see 4.4) and these would have been readily available to account for such details as lobate fittings on the column. However, the wearing of the 'lorica segmentata' makes the clearest distinction between citizen troops and the auxiliary troops in mail. As such, the uniformity of armour was an identificational convention, but to carry this through the sculptors must have seen actual loricae being worn. Although the results were stylised and the fittings in particular were often non-functional, with this complicated armour form the sculptors were able to indulge their love of detail for its own sake (see 3.3.3).

5.2.2 Helmets

Some 33 categories of helmet may be classified with reference to a variety of features (Appendix 3). The bowl may have a frontal peak or a peak running all around it. The apex may be plain or have an upstanding ring, point or crest. The bowl may have ribs or additional decorative details. The flange protecting the neck may be small and squared off, or larger and curving. There are 650 helmets depicted, 238 for citizen troops, 334 for auxiliary infantry, and 58 for cavalry. Large numbers of citizen troops march or are engaged in construction work bare-headed, so the number of citizen helmets is considerably reduced. 27 categories fall into three major groups, with brow plate (98 examples; Types 1-5), peak (133; Types 6-15) and round peak (387; Types 16-27).

Fig 11-2
Pl 58,117
Pl 18,67,78,83
Pl 18,58,100
Pl 66,105
Pl 16,100

Close examination of the distribution of features reveals some conscious distinction made by the sculptors between citizen and auxiliary infantry helmet types (Appendix 3). The majority of citizen helmets have either brow plates (33%) or peaks (44%) with only 23% exhibiting round peaks, whereas the auxiliary proportions for plate, peak and round peak are 5%, 8% and 87% respectively. Curved instead of squared neck flanges occur on proportionally more citizen helmets (85%) than on auxiliary ones (65%). Rings appear on 41% of citizen and 78% of auxiliary infantry apexes, whilst proportions for points are 35% and 3% respectively. Ribs are sculpted on approximately half of all helmets with a slightly larger citizen proportion (60% to 53%), but plain bowl apexes are more frequently auxiliary (18%) than citizen (7%). Only one auxiliary helmet has a crest (CIX, 4),

whilst 38 (16%) of the citizen helmets have them (LXXIII, XCV, XCVI, CIV), the high proportion again being a function of the many bare-headed legionaries present. The auxiliary cavalry follow the auxiliary infantry closely with 8.5% plate, 7% peak and 84.5% round peak. Some 79% have an apex ring but none have a point and only 10% have ribs. A blurring of the helmet distinctions is caused by the tendency in some scenes for the majority of figures to have exactly the same helmet irrespective of figure type (e.g. X, XL).

Pl 83,91

Pl 113-4

Exactly contemporary comparative evidence with which to judge the accuracy of the column's helmets is very sparse. A large number of 1st century infantry helmets have been found but few are securely dated and even fewer are demonstrably post-Flavian. However, their common features and direction of development are applicable to this question. Robinson's 'Imperial-Gallic' and 'Imperial-Italic' helmet types had a broad, splayed neck-flange, a ribbed back and a frontal, reinforcing peak⁴². Many bowls have flat, circular crest-mounts on the apex. Surviving cheek-pieces are all large, essentially only exposing the eyes, nose and mouth of the wearer⁴³.

Helmets of both types have been found with cross-bars attached to the bowl. One from Berzobis in Dacia must be Trajanic or later in date and has the cross-pieces riveted on over an Imperial-Gallic bowl with embossed 'eyebrows'⁴⁴. Undated helmets from Brigetio (Hungary) and Theilenhofen (West Germany) have cross-bars of similar semi-circular cross-section⁴⁵. On the former example and that from Berzobis, the bars are secondary, perhaps representing the strengthening of old equipment. In contrast, the decoration of a helmet from Hebron (Palestine) suggests that

in this case the cross-bars were a primary feature⁴⁶. This piece is probably part of a collection of armour, including mail, scale, non-matching greaves and parts of two cavalry sports helmets anciently collected as scrap, plausibly associated with the Hadrianic Bar Kockva Revolt. The crossing of the bars is finished off with a knob and none of the helmets with bars have crest-attachment fittings. A copper alloy helmet of uncertain date and provenance, now in the Museo Archeologico, Florence (Italy), has upstanding cross-pieces of rectangular section which slot into each other at the apex⁴⁷. It has been suggested that the reinforcing of helmet bowls with cross-bars started in the late 1st century A.D. and became standard in the 2nd century. Reinforces of the Florence type occur as site-finds and on 2nd century cavalry helmets⁴⁸.

The frontally-viewed helmet on the stela of C. Valerius Crispus is unhelpful but that worn by C. Castricius Victor has a most realistically flaring neck-flange. Likewise, legionarii on the Adamklissi metopes wear helmets with a large, curving neck-flange, and in common with the Hebron helmet they exhibit a frontal peak, bowl ribs and an apex knob. Here account must be taken of the metope sculptors' style which resulted in a stylised elongation of the bowl⁴⁹.

Pl 149,152

Some features of helmets on the column, particularly those worn by citizen troops, correspond well with this comparative evidence. The frontal peak, the apex point and the cross-bars all occur reasonably accurately. Helmet neck-flanges obviously caused the sculptors some representational problems but again the more curved and naturalistic examples appear on citizen helmets. Of course, without ribs or apex feature, a helmet is not necessarily

sculpturally unfinished (Type 11), but bowls with ribs should not have plumes in addition. Realistic elements combine best in helmet types 6, 10 and 14 with the latter on the Hebron form and most like the Adamklissi sculptures.

Pl 66-7

The features on the column which do not appear on surviving infantry helmets are the peak extending all around the edge of the bowl, the upstanding apex ring, the small neck flange and the brow plate. All of these are predominantly on the column's auxiliary helmets. Robinson explained the peak (Types 16-27) as a running together of frontal peak and the stepped back of the 'Imperial' helmets⁵⁰. A round peak also appears on a sculpture in Saintes Museum (France) and here it is placed at a slight angle to the lip of the bowl (see Types 24-27)⁵¹. The addition of decorative bronze strips to the edges of helmet bowls would have created horizontal lines which could also account for the column features if viewed briefly by a sculptor unfamiliar with the model. On a relief from Lyons (France) the frontal peak and the edge of the neck flanges are run together as in a couple of instances on the column (XXI, 6; XXXVI, 7)⁵². The upstanding apex ring may have been based on the circular crest attachment on Imperial-Italic helmets, misunderstood and transformed from a horizontal to a vertical feature⁵³. Alternatively, they may be connected with the rosette crests on the Great Trajanic Frieze's cavalry helmets (see 5.18). Only the Toledo helmet forgery exhibits this ring feature⁵⁴ and the column is the first of many metropolitan monuments to depict it. In comparison with actual cheek-pieces, those on the column were drastically reduced in size in order, it may be assumed, not to obscure too much of the wearer's face.

The brow plate is a common feature of Roman sculptural depictions of helmets from the 1st century B.C. through to the 4th century A.D.⁵⁵. It stems, like the small, squared neck flange, from Attic Greek helmets dating back to the 6th century B.C.⁵⁶ The Corinthian helmets on two fragmentary reliefs, perhaps to be associated with the Arch of Claudius, are another facet of this Hellenistic influence on sculptural models⁵⁷. Highly decorated Attic helmets with brow plates appear on a number of 1st century A.D. works including another Arch of Claudius relief, depicting praetorians⁵⁸, on the Great Trajanic Frieze (Fig. No. 20, 22, 54-5, 58, 60-1, 63) and various other fragmentary reliefs now in Rome, Boston (U.S.A.), Berlin (East Germany), Pozzuoli and Mantova (Italy)⁵⁹. The laurel wreath round bowls on the Great Trajanic Frieze and a Vatican head⁶⁰ is reproduced on 13 helmets of Type 3 on the column in scene CVI, and one in XXXVII. It is also seen on Trajanic ivories from Ephesus (Turkey)⁶¹. Studded decoration appears on the cheek-pieces of 7 helmets of Type 14 in scene LXVI. Considering the appliqué crescents, aediculae and eagles on some Imperial-Italic helmets intended for field use⁶² and the dolphins on some Great Trajanic Frieze (Fig. No. 36) and Mainz pedestal reliefs bowls⁶³, the decoration of the column's helmets is not intrinsically implausible. No infantry helmets of Attic form dating to the imperial period have been found, but a number of ornate cavalry helmets, perhaps for sports displays, do have substantial brow-plates⁶⁴. There is a distinct possibility, especially in the light of the Great Trajanic Frieze's attention to small, verifiable details, that the praetorians had highly decorated parade helmets in the Attic form with which the column's sculptors were familiar (see 5.18)⁶⁵. These would most likely

P1(135-6,
 .(139,141

P1 100

P1 139

have been confined to ceremonial occasions and not designed for use on campaign.

Apart from ornate armour and clothing used by cavalry in hippika gymnasia exercises, there is no evidence for Roman troops having had 'parade' equipment in addition to their battlefield panoply. Decorated shields, shield-bosses, helmets, scabbards and belts were all functional and not restricted to officers⁶⁶. However, the praetorian guard may have been a special case as the emperor's ceremonial elite with higher pay and status than any other branch of the armed forces, and thus perhaps greater spending power for richly decorated equipment⁶⁷. The sculptural representations of praetorian Attic helmets inevitably include crests of feathers⁶⁸. On the column crests appear in two adlocutio (LXXIII, CIV) and two battle scenes (XCV-VI) worn by citizen troops, and in one march scene on an auxiliary helmet (CIX). These may be horse-hair crests rather than feathers. C. Valerius Crispus' stela shows a central crest whilst C. Castricius Victor has a crest flanked by a pair of feather side-plumes. Attachments for crests and plumes appear on Imperial helmet types but not on pieces with cross-bars⁶⁹. Helmets on the Adamklissi metopes lack crests and it may be that by the end of the 1st century A.D. such decorations were worn only on ceremonial occasions, such as pay parades⁷⁰. Their use in battle on the column and their appearance in only two adlocutiones is explicable by their clustering distribution on the shaft which may be ascribed to the sculptural process (see 3.2.4).

Pl 83,91

Helmets are not usually worn in construction scenes and often troops march bare-headed. When not in use helmets are seen slung from the shoulder and hanging down over the chest, suspended over

the front of a standing shield, on a pole, carried loose or on a pack animal⁷¹. One of the Flavian Mainz pedestal reliefs clearly shows the first suspension method whilst this and the shield-slinging are strikingly reproduced on an Antonine relief from Croy Hill (Strathclyde)⁷². Carrying handles attached to the neck-flanges of so many extant helmets clearly fulfilled this suspension function⁷³.

Accordingly, helmets on the column divide very broadly into two bodies with much overlapping between them. On the one hand are the citizen troops in some helmets approximately corresponding with the artifactual and depictional evidence, and in other helmets which were conceivably modelled on praetorian equipment. That is if the latter were not entirely explicable by the influence of Hellenistic models. On the other hand the majority of auxiliaries wear stylised and inaccurate pieces, the derivations of which may be guessed at. The question inevitably arises as to whether differences in this equipment reflect actual differences between citizen and auxiliary troops, or whether the helmets, like the 'lorica segmentata', are intended purely as a visual figure type identifier.

The problem is that there was no basic functional difference in the role of helmets for legionaries and auxiliaries. Robinson speculated that old patterns of helmets were handed down from the legiones to the auxilia when they were replaced by new models⁷⁴. Helmets of simple construction and decoration he pronounced to be auxiliary types. This would appear to be supported by a Mainz pedestal relief showing legionaries in Imperial-Gallic helmets and an auxiliary in an older, 'coolus' form⁷⁵. However, the small neck

flange of the latter may be affected by the position of the shield, making it unreliable evidence. The auxiliary infantry helmets on the Adamklissi metopes are too damaged to be diagnostic but they look to be similar to legionary examples (Inv. 14, 32, 36).

Pl 148

Nothing is really known about the mechanisms behind the introduction of new equipment forms but it must be imagined that the longevity of metal armour, especially helmets, meant that the equipment pools of regional armies held items of great pattern and age variety.

There is no reason why the 'simpler' helmets were not constructed for legionary use and value judgements as to the wearer's status are pure speculation. Neat helmet typologies do not serve the great variety of helmet forms or materials from which they were made as is demonstrated by some of the most recent finds⁷⁶.

Tacitus does mention the taking of helmets and shields meant for auxiliaries from an armoury in Rome at Otho's instigation in A.D. 69, but the passage has a rhetorical flourish to it intended to exaggerate indiscipline and may, in any case, refer to auxiliary cavalry equipment⁷⁷.

Whatever the realities of distinctions between legionary and auxiliary helmets on the frontiers, it is perhaps significant that it was the auxiliaries on the column who were given the less accurate form because it is precisely the citizen troops with whom the sculptors would have been most familiar. Perhaps the auxiliary models employed by the sculptors were wearing characteristic types of helmets but nothing in the helmet form applied on the column suggests this unequivocally. All the stylised features of helmets with rings, small neck-flanges, ribs and circular peaks could be de-stylised to form almost any form of known 1st century A.D. helmet.

For this reason it must again be concluded that the designers were manipulating their material with the purpose of clarifying their figure type framework.

5.2.3 Shields

The curved, 'rectangular' scuta vary in both size and shape. Fig 15-6

The majority fall into two length groups, either extending from the shoulder down to a point appreciably above the tunic hem⁷⁸, or from the shoulder to the hem level⁷⁹. Some of the former are particularly short⁸⁰ and extra-long examples occur outside the latter group⁸¹. When the shields are seen side-on, and when perspective rendering is allowed for, they also fall into two shape categories (see 3.2.4). The top and bottom ends of the first are angled to form a trapezoidal shape in such a way that if the shield were seen face-on it would be sub-oval or elongated hexagonal⁸². The second form has parallel top and bottom edges so that the shield is a true rectangle⁸³. Many of the shields resting on end and seen face-on in construction scenes are of the sub-oval type but logically they would have to be rectangular to stand up unaided⁸⁴. In scene XX two shafts topped with helmets appear to provide this support but close inspection reveals that they are placed further in the background, not touching the shields. Pl 4,44

Pl 5,66

Pl 51

Provincial shield depictions also have a variety of sizes and shapes. The Flavian Mainz pedestal reliefs have trapezoidal shields, some extending from eye to knee levels⁸⁵. C. Valerius Crispus' shield has a trapezoidal profile and it extends from his shoulder to his lower thigh. A similar shield appears on a legio XXII Primigenia stela from Mainz⁸⁶. Shields on the Adamklissi metopes are mainly depicted covering the body from shoulder to hem Pl 147,149,152

levels (Inv. 12-13, 18-22, 31). Many have curved or angled long edges and some are asymmetrical in profile. Metopes depicting marching troops in undress attire have very long, narrow shields with a true rectangular profile similar to those on reliefs from Lyon (France) and Parma (Italy) (Inv. 38, 43)⁸⁷. One metope shows a rectangular shield profile extending from the shoulder to just above the hem (Inv. 29). Others extend right down to below knee level (Inv. 16-17). A Domitianic or later period altar from Bonn (West Germany), dedicated to the Matrones, shows a rectangular shield with its curved top seen in perspective⁸⁸, whilst a centurion's funerary altar at Este (Italy) has a trapezoidal shield (late 1st century B.C.)⁸⁹. Rectangular shields appear on the Trajanic Ephesus ivory⁹⁰ and on the 2nd century Nawa helmet⁹¹. It is clear from this discussion of 'sub-oval', 'trapezoidal' and 'rectangular' shapes that the fact that these shields were curved and not flat caused the Roman sculptors great perspective depiction problems. Two stelae from Bonn with congeries armorum friezes and another Mainz pedestal relief demonstrate this further by depicting rectangular shields in perspective with their nearest side edges shorter than their far edges, the reverse of reality⁹². Significantly the Antonine Croy Hill relief depicts two rectangular shields seen from the front whilst the shield seen from the side has a trapezoidal profile⁹³. Thus different artists found different solutions dependent upon the angle from which the shield was viewed. A shield with a trapezoidal profile had the virtue of obscuring less of the man carrying it than would a truly rectangular shield.

The perspective problems and the distribution of shield forms on the column may be judged to be products of the sculptors rather than of an empirical observation of actual shield-shape variants. Moreover the uniform picture on the column of citizen troops with essentially 'rectangular' scuta does not seem to reflect contemporary military practice. Yet another Flavian Mainz pedestal relief shows a very worn figure of a soldier advancing behind a curved, oval shield⁹⁴. There are no depictions in Roman sculpture of curved shields carried by identifiably auxiliary soldiers so it is reasonable to suppose this man to be legionary. C. Castricius Victor of legio II Aduitrix likewise carries an oval shield but it is seen face-on so is not curved. Gnaeus Musius of legio XIV Gemina from Mainz (pre A.D. 43)⁹⁵ has a similar shield but because he is an aquilifer this shield, along with the 2nd century A.D. Graz centurion's oval shield⁹⁶, is not diagnostic. P. Flavoleius Cordus, also of legio XIV and from Mainz (pre A.D. 43), carries a large oval shield slung over his back⁹⁷.

The artifactual evidence suggests a similar diversity of forms. One complete, curved, true rectangular scutum and fragments of three others were found at Dura Europos (102 x 83 cm)⁹⁸. Only Vindonissa has produced leather covers for rectangular shields (c. 60-70 x 120-25 cm), identifiable as being legionary by the fortress context and by leather applique legionary titles⁹⁹. These belonged to legio XI Claudia and were probably deposited in A.D. 101. A 1st century A.D. leather piece from Caerleon (Gwent) comes from the upper part of a large, straight-sided, sub-oval shield cover (c. 76 x 120-25 cm)¹⁰⁰, similar to one of the variants from Valkenburg (Holland)¹⁰¹. Fragments from Bonn, dating to the

130s A.D., belong to sub-oval and true-oval shields which have applique panels identifying legio I Minervia.¹⁰²

Taken together, the sculptural and artifactual evidence for shields indicates neither a uniformity at any one time, nor a logical evolution of shapes over time. A very large, curved oval shield appears to have been current during the Republican period from an early date as seen on the Aemilius Paulus monument, the Domitius Ahenobarbus altar and the Equiline frescoes¹⁰³. A shield from the Egyptian Fayum is of this type¹⁰⁴. The form progressed with the cutting off of bottom and top horizontally to increase manoeuvrability and visibility, the earliest dated examples of curved, sub-oval or rectangular shields being represented on the Mausoleum of Munatius Plancus at Gaeta (c. 20-10 B.C.)¹⁰⁵ and perhaps on the Palestrina Nilotic mosaic (date unclear)¹⁰⁶. Thereafter they appear on the Tiberian arch at Orange (France)¹⁰⁷ and on Julio-Claudian adlocutio coins¹⁰⁸. Clearly, true-oval shapes also continued in contemporaneous use with the sub-oval and rectangular types. On the column this variety is ignored, exact shield-shapes varying with the sculptor's preferences. Ironically, the provision of two citizen troops with flat, oval shields (LXXII, 14, 15) must be interpreted as a sculptor's mistake in a very confused and disrupted scene (see 3.2.3).

All the shields on the column have edging which may either reflect the bronze edge-binding found on numerous sites¹⁰⁹, or be a tidy and decorative shield edge finish provided on the sculptors' initiative. Most of the shield bosses are hemispherical with a rectangular flange. This corresponds well with the iron and bronze bosses found at Vindonissa (Switzerland),

Aquincum (Hungary), Dura-Europos (Syria) and in the River Tyne (England)¹¹⁰. Other column bosses are oval or spindle-shaped of a type less common in the archaeological record¹¹¹ and paralleled by one of the Mainz pedestal reliefs¹¹². The curve of this type of shield hugs the side of the wearer's body and for carriage its length necessitates the use of a central, horizontal hand-grip within the umbo. This is the case with the Dura rectangular shield, the Fayum shield and in several sculptural rear-views of scuta¹¹³. With few exceptions (e.g. XXII, 11) the column sculptors realised this as may be seen whenever shields are glimpsed from behind and when they are held up horizontally in combat situations¹¹⁴. Both the central grip and the raised position are seen on the Arch at Orange and on one Mainz principia pedestal relief¹¹⁵. The suspension of a shield in a journey scene (XXXIII, 8) presupposes that a carrying strap was attached to the rear face. This is a perfectly reasonable provision for freeing the left hand when a soldier was on the march, or for slinging the shield from a pack animal¹¹⁶.

The majority of decorative patterns on the outer shield faces consist of eagles' wings and fulmen combinations with small motifs such as stars, crescents, studs and peltae (76 examples; 83%)¹¹⁷. P1 18,67

Another type of blazon consists of a large laurel wreath encircling the umbo, with or without small motifs (13; 14%)¹¹⁸. P1 4-5,24,78

A third type has curling tendril decoration filling the field (3; 3%)¹¹⁹. In P1 51

some scenes all the visible faces have the same blazons, notably in the siege testudo (LXXI)¹²⁰, but equally common is a random application, especially of the small motifs and of the non bolts-and-wings variants (see 3.2.4). P1 77

The bolts-and-wings with stars and crescents are exactly paralleled on a relief from Lyon¹²¹, on Cancellaria Relief A¹²² and the Adamklissi metopes (Inv. 21, 28)¹²³. Without the small motifs, bolts with or without the wings appear on the Arch at Orange¹²⁴; the Louvre praetorians relief¹²⁵; Köln and Parma congeries armorum reliefs¹²⁶; one Mainz pedestal relief¹²⁷; the stelae of C. Samius Crescens and Gnaeus Musius¹²⁸; the Nawa helmet¹²⁹ and the Great Trajanic Frieze (Fig. No. 20). The fulmen with eagle's wings clearly represents Rome's patron deity, Jupiter, and the generalised victorious significance of the motif is clear. By extension it was popularly used in funerary contexts together with the crescents and stars¹³⁰. The 'L' shaped motifs appearing with wreaths or bolts-and-wings appear in the corners of a shield on an Adamklissi metope (Inv. 17) and elsewhere on provincial sculptures¹³¹. This shape was also employed to decorate vexillum cloths and on clothing¹³². It is incorrectly applied in reverse in one shield on the column (XXXIII, 8) but this was an easy mistake to make and it is also seen on a Mainz pedestal relief.

Pl 135-6

Pl 149

Rather different forms of shield blazons appear on other provincial sculptures. C. Castricius Victor's shield has bolts, no wings and a gorgoneion umbo. Similarly C. Valerius Crispus sports a lion-head boss, although bolts-and-wings may have been painted onto the field, and to one side of the boss is an ansate panel. The latter feature also appears on five Adamklissi metope shields (Inv. 16, 19, 28-9) and superimposed on the bolts-and-wings Mainz pedestal shield¹³³. On the column some shields have a horizontal band running from the boss to the edge of the field which may represent a similar feature¹³⁴. Like the applique leather panels positioned above the umbones of extant shield-covers, these

tabulae may have carried an inscription naming the shield-owner's unit and perhaps his name, as Vegetius states¹³⁵. The whole field of another Mainz pedestal shield is taken up by a large eagle and it is very likely that legionary emblems were also employed as blazons¹³⁶. A figure of Minerva was used on shield-covers of legio I Minervia at Bonn¹³⁷ and two decorated bosses from the River Tyne and Vindonissa incorporate the bull emblem of legio VIII Augusta¹³⁸. The intact Dura scutum has a lion below the boss and unit emblems in this position continued in use into the Tetrarchic period and later¹³⁹. The scorpion badge of the praetorians also appears on sculpted shields (see 5.18). There is no evidence to suggest that these badges or the motifs seen in relief on the column were sheet metal appliques attached to the shield face, rather than just designs painted on. There are no small-finds identifiable as shield-blazons and conclusions drawn along these lines for the Doncaster shield's fittings are unconvincing¹⁴⁰. In sculpture such details were too large to be simply etched on the stone's surface and were rendered in relief to make them visible and, perhaps, easy to pick out with paint (see 3.3.3).

Pl 144

Various attempts have been made to use the column's shield patterns in conjunction with aquila variants to identify specific legiones (see 5.5.1). In particular, the wreath blazons of scene IV have figured largely in this discussion. Cichorius and Rossi postulated legiones I Adiutrix and XXX Ulpia respectively¹⁴¹.

Pl 4-5

However, if the wreath was intended for a specific legio it would be employed consistently throughout the spiral. Moreover, the standards associated with it in IV are not outstanding in the way that the ram imago of scene XLVIII may be. Wreaths appear elsewhere, usually singly and not in particularly prominent positions.

Pl 43

Pl 24,78

Its distribution is no more studied than that of other blazons and the victorious symbolism is only of the most generalised kind. A wreath appears on a shield in a congeries armorum frieze from Köln¹⁴², for example. The two oval Dura shields with paintings depicting the Trojan War and an Amazonomachy both have stylised wreaths painted around the boss openings¹⁴⁷. Wreaths also appear with varying degrees of stylisation on the Halmágy (Hungary), Mainz A and B, and the Kirkham (Yorkshire) circular bosses, and on the Tyne umbo. In addition a wreath appears on the Halmágy, Mainz A and Tyne bosses clutched in an eagle's beak in the manner of the painting above the boss of the Dura rectangular scutum¹⁴⁴. It seems very unlikely that such an unspecific motif would have been used to identify a specific legio and a modern search for such distinguishing features ignores much of the sculptors' frame of reference and objectives in employing figure types. There is little evidence for shield patterns having distinguished different units in actuality. Vegetius simply says that the different legionary cohortes had different coloured shields¹⁴⁵. Tacitus specifically says that weapons and equipment on both sides in the second Battle of Cremona were identical but that two Flavian soldiers were able to disguise themselves by taking up scuta belonging to fallen Vitellians¹⁴⁶. This could mean that different legionary badges were on the shields or even that the shapes of shields differed between regional army groups and these were recognisable in the darkness. In carving bolts-and-wings blazons, the sculptors of the column were clearly reproducing contemporary types of shield patterns, as reference to the Adamklissi metopes shows, but it is difficult to see how even these could distinguish legiones readily in the confusion of unit manoeuvring and rallying

on the battlefield. It will be noted also that the main concentration of wreath blazons occurs on the column in the first scene to depict citizen troops (IV), a scene unusually rich in detail and perhaps cut whilst figure types were still being worked out (see 3.2.4).

Lastly, Rossi employed the tendril blazons to weave an elaborate theory of legionary identification. These motifs are few in number and purely incidental in application. Their similarity to oval shield patterns allows their ascription to sculptors' mistaken divergences from specific figure type details. Similar tendrils appear on the shields on the Louvre and Pozzuoli praetorian reliefs, both representing space-filling decoration (see 5.3.2).

Pl 51

5.2.4 Cingulum and Apron

Cingulum and apron are present or absent according to the whims and diligence of the sculptors (see 3.2.6).

Fig 24

The single cingulum often appears over the second girdle plate up from the bottom of the lorica. Many examples are represented by a plain band, in higher relief than the girdle plates, but others are distinguishable only by added decorative detail (XI, CVI, CXV, CXXIII). Where this detail is absent it is logical to assume that the cingula were unfinished and these ephemeral features could easily have been overlooked. Some cingula have a single row of studs, with or without decorative edging to the belt (XV, XXI, LXII). Other belts have vertical lines between the studs, far apart (LVI) or closely spaced¹⁵⁰. Another variant has these lines dividing the belt up without the studs (IV). One cingulum has a cross-latticed framework within the rectangular

Pl 16,67

Pl 17

Pl 18

Pl 111

Pl 47

panels or 'plates' (LII, 5) and others have squared rosettes (LX, Pl 54,74 LXIX). Thus there are six main cingulum variants:

plain studded, plain plated, studded plated, lattice plated and rosette plated.

The apron hanging from the cingulum over the lower belly usually consists of four short, studded strips with tear-drop terminals. Sometimes the studs are omitted (XV) and the strips associated with the latticed cingulum have small, edged rectangular plates on them instead of studs (LII, 5). The aprons are too short to adequately cover the groin region. The four examples of aprons without cingula are clearly sculptors' errors¹⁵¹ as must be the small number of cingula without aprons¹⁵². Another departure from the normal arrangement is the occasional appearance of two cingula worn together (IV, 8; XXI, 6, 7). Four cingula even appear in the first scene to have citizen troops (IV, 3, 4, 14). This multiplicity in one case (IV, 4) results in the apron strips being lengthened, whilst the first apron to be seen on the column has only three strips, the middle one overlapping the other two (IV, 3). Evidently at this early stage the figure type details were still being formulated (see 3.2.3). In scene XXI there are several other mistakes in the depiction of shields and helmets (XXI, 6, 8).

There is a shortage of archaeological finds of cingulum fittings which may be securely dated to the later 1st century A.D. Sculptural representations are not plentiful or particularly helpful. Studs for leather attachments appear on sites in large numbers but their exact role is unclear unless they are found together in situ or in leather-preserving conditions¹⁵³. Cingula on the Claudian Louvre praetorians relief and on the Chatsworth debt-burning relief (Trajanic or Hadrianic) are simply studded.

Regrettably, the Adamklissi metopes' cingula are not rendered in much detail. Cingula on the Plutei Traiani, Pozzuoli praetorians relief and on Cancellaria Relief A are unfortunately obscured by drapery. There is nothing inherently unlikely about the studded belts on the column but artifactual and representational evidence from the provinces unanimously indicates the use of plated cingula in the 1st century A.D.

Rectangular copper-alloy belt plates are commonly found on military sites of Augustan to Flavian dates. The earlier types were silvered and niello-inlaid but as the century progressed they became less richly decorated. Plain, often hinged rectangular plates with raised central bosses appear in the Flavian period¹⁵⁴. The undated, hinged cingulum from Rheingönheim may be an early example because it was found with a Mainz type gladius (see below)¹⁵⁵. Similar plates were on the two cingula worn by the Herculaneum soldier (A.D. 79)¹⁵⁶. Bossed cingulum plates are well depicted on the fragmentary Cussacco (Italy) stela on the tombstone of Licaius from Wiesbaden (West Germany), and on the reliefs of a gladius and a pugio from Pula (Yugoslavia)¹⁵⁷. The column's studded plates may therefore reflect this type of cingulum. The plain, plated cingula of scene IV are paralleled by one cingulum worn by a signifer, one by a musician, and two worn by a praetorian (Fig. No. 20, 42, 33) on the Great Trajanic Frieze. C. Castricius Victor's belt is almost completely obscured by apron strips but plain plates appear by his pugio. C. Valerius Crispus, on the other hand, has a cingulum with squared-rosette decorated plates like those in scenes LX and LXIX on the column. This rosette motif commonly occurs on early to mid 1st century stelae on cingula, scabbards and sheaths¹⁵⁸. It was clearly the sculptor's

solution to the problem of sculpting the tiny, niello-inlaid floriate detail present on actual objects. Crispus' tombstone suggests that this schematic, space-filling motif continued in use after the nielloed plates went out of fashion. Those on the column appear with the Type 26 'lorica segmentata' which has rosette plates decorating the girdle and it may be concluded that these are more a product of a sculptor's predilection for fine detail than of his observation of contemporary equipment detail. The same may be said of the latticed cingulum of scene LII which was a product perhaps of the imagination despite a superficial resemblance to floriate, nielloed plates. Pl 74

The column's short aprons are well paralleled by later 1st century sculpture in Rome. The Great Trajanic Frieze has a signifer and a praetorian with aprons composed of five studded strips with teardrop terminals (Fig. No. 20, 42). The Plutei Traiani have aprons with four studded strips and teardrops¹⁵⁹ whilst Cancellaria Relief A¹⁶⁰ and the Chatsworth relief¹⁶¹ appear to have three studded strips. The Pozzuoli praetorians relief has a damaged apron with five studded strips¹⁶² and the triumphal frieze on the Arch at Benevento (Italy)¹⁶³ has a number of figures with short aprons. Likewise the aprons on the Claudian Louvre praetorians relief are short with three studded strips and teardrop pendants or fringed ends¹⁶⁴. A few stelae have short aprons of this kind¹⁶⁵ but most of the provincial depictions show up to eight long strips reaching down almost to the tunic hem. The earlier examples have the largest number of fittings making up to 180 studs, plates and hinged, lentoid pendants in one apron¹⁶⁶. The terminals appear as small-finds and a long, studded leather apron strip with this pendant form has been found at Mainz¹⁶⁷. Alternatively, teardrop Pl 135

or heart-shaped terminals are depicted on stelae with aprons of 4-6 strips, analogous with the pendants seen on the column¹⁶⁸. Again these occur as small-finds¹⁶⁹. A third terminal type was the lunula, best seen on the Claudian stela of Pintaius from Bonn and on the Flavian Camomile Street Soldier (London)¹⁷⁰. The Herculaneum soldier wore an apron of 8 studded strips with lunulae and finds from sites elsewhere suggest a wide currency of the crescent form¹⁷¹. It seems likely that the apron developed from long belt-end strips hanging down from the main buckle and in fact this feature instead of an apron persisted in use well into the 1st century A.D.¹⁷². Closer to the end of the century C. Valerius Crispus has four long strips with teardrop terminals and C. Castricius Victor has four long, studded strips and lunulae with small hanging pendants. From the pictorial evidence it may be concluded that the length and number of apron strips was reduced over time. Aprons on the column are consistent with this but there is always the proviso that a variety of types are likely to have been in contemporaneous use on the frontiers and in Rome.

Less than 5% of the men with cingula on the column wear more than one waist belt, and it is clear that one was considered by the sculptors to be the figure type norm. However, the multiplicity of cingula in scenes IV and XXI recalls the 1st century stelae which usually depict two belts worn together. Some examples have the belts parallel, one above the other¹⁷³, but more commonly the cingula are crossed, pulled down by the weight of a gladius on one hip and a pugio on the other¹⁷⁴. A single cingulum appears on the stela of Gnaeus Musius from Mainz but no pugio is worn, so a second belt is unnecessary¹⁷⁵. C. Valerius Crispus and C. Castricius Victor both have a pugio suspended from the single

cingulun but they carry the weight of the gladius on a baldric. The late Republican stela of Minucius Loranius from Padua (Italy) is eccentric in having the pugio suspended horizontally across the stomach¹⁷⁶. Legionarii on the Adamklissi metopes wear one cingulum and a baldric (Inv. 20,30,33) as does one man on a Mainz pedestal relief¹⁷⁷. The only sculptural combination of baldric and two cingula appears on one Great Trajanic Frieze praetorian (Fig. No. 20) and this is clearly an over-provision.

The latest representation of a pugio seems to be that worn by C. Castricius Victor. It occurs nowhere on the column, the Adamklissi metopes or on the reliefs of praetorians from Rome when the appropriate hip is visible. The only possible exception is a knife being used in a camp scene on the column (CIX, 5). Pugiones appear frequently on provincial stelae into the Flavian period¹⁷⁸. Their silvered and inlaid sheath plates are well-known site-finds¹⁷⁹. The absence of these from areas newly occupied by Flavian forces has led the latest comprehensive study of them to conclude that they went out of use in the Flavian period¹⁸⁰. However, it is clear that pugiones themselves continued to be worn. The Herculanum soldier¹ did have two cingula and one of these had the characteristic suspension frog seen on tombstones¹⁸¹. A sheath plate has in fact been found at Gelligaer (Mid Glamorgan), a fort of Trajanic foundation, and blades and grip assemblages of the Iberian pugio type come from 2nd century A.D. sites in Dacia, Germany, and on the Antonine Wall in Scotland¹⁸². Sheath-plates were replaced by bronze guttering and the knife blades increased in size, continuing in use into the 3rd century as finds from Künzing (West Germany) and other sites confirm¹⁸³. It is unclear why pugiones are absent from sculpture after the stela of Castricius.

Perhaps they were not used by the praetorians at the end of the 1st century A.D., although they certainly had been earlier as stelae from Siena, Aquileia and Assisi (Italy) demonstrate¹⁸⁴.

5.2.5 Baldric and Sword

Baldric and sword are present or absent according to the sculptors' attention to detail (see 3.2.6). Four swords unsupported by any belts are clearly ridiculous¹⁸⁵. The omission of 142 swords out of 240 visible cases (59%) means that more soldiers are unarmed than armed! The lack of blades does not correlate with particular scene genres such as building activities. Taking into account the mistaken omission of cingula there are 63 examples of sword suspension from a baldric and only 15 from the cingulum alone.

Fig 26

Baldrics are generally plain but occasionally a wavy line decoration is added to them¹⁸⁶. Studs appear rather more commonly¹⁸⁷ and to judge from studded baldrics on the stela of C. Castricius Victor and on the Great Trajanic Frieze (Fig. No. 56), these may be viewed as more than just incidental detail created solely for the sculptors' own pleasure.

Pl 67

Pl 28

Pl 142

Virtually all the swords on the column are recognisable as the short Roman gladius¹⁸⁸. When the weapon is drawn and rendered in stone the blade is ribbed and foreshortened (LXXII, 24; CXV, 14). The scabbard has parallel sides and the chape is triangular, often with edging and a bracing cross-piece. Some examples have lines indicating longitudinal guttering¹⁸⁹ and lines across the body for binding and mouth plates¹⁹⁰. A band below the mouth is also associated with suspension¹⁹¹. Very occasionally the scabbard is attached to the baldric by one or two rings at one or both ends

Pl 80

Pl(4,54,
(114-5

of this band¹⁹². Pommels are usually flattened spheres with, in the best preserved examples, small apex buttons (XXXVII, CXV). Pl 32,115
 Decoration occurs on only two scabbards (LXXXVI, 1, 3), one with Pl 88
 a latticed criss-cross pattern; the other with studs and a pair of tendrils on the upper face, and a field of tendrils on the lower. Recent rain erosion has almost obliterated these details.

One naked blade has the parallel sides and short, triangular point seen with the scabbard profiles (LXXII, 24). It has a medial Pl 80
 rib, a feature which also occurs on one Mainz principia pedestal relief¹⁹³ and on some Adamklissi metopes (Inv. 14, 16-7). The Pl 148-9
 profile identifies the weapon as belonging to the 'Pompeii' type of gladius which superceded the tapering 'Mainz' type during the Flavian period¹⁹⁴. Four examples were found at Pompeii and their scabbards had two mouth plates, a pair of suspension bands (each with two rings) and an open triangular chape with guttering, terminal knob and decorative appliqué metalwork. One example had two rows of flat studs down the body of the scabbard. Numerous scabbard fittings from Pompeii gladii occur along the frontiers¹⁹⁵ and the Herculaneum soldier wore a sword of this type which had guttering the whole length of its scabbard, connecting mouth plate to chape¹⁹⁶. This guttering is reproduced on the stelae of Q. Petilius Secundus (Bonn)¹⁹⁷ and C. Valerius Crispus (Wiesbaden), and on the Camomile Street Soldier (London)¹⁹⁸. The Chatsworth relief, the Pozzuoli praetorians relief, the Great Trajanic Frieze (Fig. No. 20, 36-7) and a small relief from Pula (Yugoslavia) provide additional representations.

Decorated scabbards like the two on the column appear on the Pozzuoli relief and on some Arch of Benevento triumphal register figures²⁰⁰. The Adamklissi metopes have scabbards decorated with

tendrils similar to those inlaid on some surviving pugio sheaths (Inv. 18, 28, 33, 43, 38)²⁰¹. This strongly suggests detailed observation of weapons by some column sculptors in addition to the generally correct features of grip assemblages, guttering and profile²⁰². Pommel buttons also occur on the Chatsworth relief and the Great Trajanic Frieze (Fig. No. 56) but the chape knobs seen on the former and which occur as site-finds are omitted from the column²⁰³. Pl 140,142

The column's scabbard ring attachments are very schematically rendered. The workings of the four-ring suspension method of both Mainz and Pompeii gladius types depended upon the presence or absence of a baldric. On the earlier tombstones the sword is attached to one cingulum, sometimes, but not always, with a pair of rings above and a pair below the belt²⁰⁴. Even here the sculptures are unclear as to whether there was a loop attached to the back of the scabbard through which the belt was passed.²⁰⁵ In any case the suspension from the cingulum necessitated the presence of a second belt for the pugio. With the attachment of the suspension rings to a baldric the pull on the belt could be relieved and the second belt disposed with, as seen on the stelae of C. Valerius Crispus and C. Castricius Victor, and on a cornicen on the Great Trajanic Frieze (Fig. No. 33). Pl 138

The single exception to this is the praetorian on the latter with baldric and two cingula (Fig. No. 20). Again the sculptures do not explain the use of four rings on the scabbard. Modern reconstructions favour splitting the baldric, as seen in Palmyrene sculpture, to fasten it to both rearward rings whilst only attaching it to the upper forward ring. The only advantage of this over-provision of rings would seem to be that the sword could be worn on either side

of the body²⁰⁶. The provision of only a single band with one pair of rings on the column may reflect a rationalisation of this equipment²⁰⁷.

On the column citizen troops were clearly intended to have all four elements: cingulum, apron, baldric and sword. Taking into account the mistaken omission of cingula, the predominant suspension method is by baldric rather than by cingulum alone (48 instances of cingulum and baldric, 15 of baldric alone). Both forms appear on the Adamklissi metopes (Inv. 18, 20, 26, 30-1, 33, 38, 40-1), whereas baldrics occur on the later 1st century stelae and cingula alone are represented on the metropolitan sculptures. It may be concluded that the column likewise reproduces both practices, or that, more probably, the cingulum-alone method was purely the result of sculptors' negligence within the parameters of the figure type. This may be classed with the other mistakes of aprons without cingula, baldrics without swords and swords without baldrics or cingula (see 3.2.7).

The suspension of the gladius on the wearer's right side, as seen on the column, is entirely in agreement with the comparative sculptural evidence²⁰⁸. The Herculaneum soldier fell face-downwards in death with his gladius suspended from a cingulum on his right hip²⁰⁹. Thus when swords appear on left hips on the column this is again a blunder on the part of the sculptors²¹⁰. Suspension on the right causes no problems for drawing, as modern reconstructions clearly demonstrate²¹¹. Indeed, it would have been preferable to carry the sword on the right when a large, curving scutum was in use. The split end of the baldric could also have the cingulum passed through it in order to anchor the

scabbard when the sword was drawn. This is a good practical reason for retaining a cingulum even if a pugio was not worn in addition, quite apart from the symbolic importance of the belt (see 5.3.3; 5.7).

5.2.6 Shafted Weapons

A shafted weapon carried by the citizen figure type was depicted only twice in stone on the whole shaft, rather than provided by a metal insert²¹². In the first case a camp sentry in the background holds a vertical shaft but this is obscured by the head of a dolabra (XIII, 4). A stone weapon appears in the siege review scene in the second war (CXIV, 10), its upper part visible as a narrow shaft with a very small, leaf-shaped head. The lower part should have been given a metal insert and other soldiers in the scene have open hands. To scale, the weapon would have been c. 2 m. long and its rendition in stone, like the earlier example, may be explained by the low relief, background position. Here it is overshadowed by an oval shield.

Pl 106

The proportions of this shaft do not differ greatly from the few stone auxiliary weapons (see 5.3.4). Nevertheless, it is very tempting to identify it as the legionary projectile par excellence, the pilum. The origins of the pilum are unclear but it was a high-impact missile, not a mêlée weapon, used to great effect by Republican legionary troops in the Macedonian, Punic and Gallic wars²¹³. Perhaps the earliest depiction of a weapon which matches the literary descriptions and finds from some Republican military sites is a relief on a Late Republican or Augustan exedra funerary monument from Rome which shows a narrow shank and a small triangular head²¹⁴. On the St Rémy mausoleum (France), Mainz principia

Pl 69,105

pedestal reliefs and 1st century stelae up to, and including, that of C. Valerius Crispus, a weapon appears consisting of a narrow upper shank for a third of the overall length, with a small triangular head and a wider, lower shaft²¹⁵. The two elements are spliced together in a wide triangular section of varying length. Finds from 1st century military sites of iron shanks, heads and splices, and wooden shafts explain the shank-shaft attachment and suggest that there was little modification of the weapon before the Domitianic period²¹⁶. The leaf-shaped head, instead of a triangular head, as seen on the column, is coincidentally paralleled by small-finds²¹⁷.

The stela of C. Castricius Victor is the first legionary depiction of a different form of pilum with an additional ball-like protrusion positioned below the splice, presumably increasing the weight and penetration of the weapon. A little later these appear in use by legionarii on the Adamklissi metopes (Inv. 12-13, 28, 31, 35(?), 38, 43). The ball-weight has not as yet occurred in the artifactual record. Meanwhile, the praetorian guard and cohortes urbanae seem to have been equipped identically to the legiones in this respect. Shanks and triangular heads appear on the Claudian Louvre and Trajanic Pozzuoli praetorian reliefs²¹⁸. Ball-less splices are represented on praetorian stelae at Aquileia and l'Aquila and an urban cohors funerary altar at Verona (Italy)²¹⁹. Pila with ball-weights first appear in metropolitan art on Cancellaria Relief A with shank, small triangular head, bound upper shaft and the unparalleled detail of an eagle engraved on the weight²²⁰. Decorated weights are later visible above and amongst helmeted heads on the Great Trajanic Frieze (Fig. No. 54-5, Pl 153

Pl 153

Pl 141

61, 63) and the Villa Borghese fragments (Fig. No. 9)²²¹. Ball-weights appear on praetorian and urban stelae in Rome and on cohors urbana tombstones at Modena and Reggio Emilia (Italy)²²².

Forms of shafted weapons other than pila were also certainly in use by citizen troops. A soldier on the Pozzuoli praetorian relief holds a spear (hasta)²²³, and one praetorian on Cancellaria Relief A has a spear with a broad-bladed head of a type usually associated with beneficiarii, speculatores and frumentarii²²⁴.

A number of metropolitan sculptures with undress soldiers, presumably praetorians, have spear shafts waving above the figures²²⁵.

Moreover, both Josephus and Arrian, writing in the Flavian and Hadrianic periods respectively, suggest that on the march legionary standards were escorted by bodies of legionarii armed differently from the majority, probably with hasta²²⁶. Given the ambiguity

of the shafted weapon in scene CXIV it is now impossible to say whether pila and hasta were used to distinguish citizen troops from auxiliary figures on the column. However, Tacitus was able to contrast, somewhat rhetorically, the pila of legionaries with the hasta of auxiliaries²²⁷ and it must be said that nowhere in

Roman sculpture does an indubitably auxiliary soldier carry a pilum. Pila and hasta clearly distinguish legionaries from auxiliaries on the Adamklissi metopes and the pila carried by praetorian infantry in contrast to the hasta of cavalry on the Great Trajanic Frieze (see 5.18) perhaps make it likely that the column's citizen troops were distinguished by pila.

5.2.7 Clothing

Under the armour is worn a short-sleeved tunic, the hem of which comes down to a point just above the knee. It is unclear whether the folds around the neck opening of the lorica represent a scarf (focale) or the gathering up of tunic material²²⁸. Sometimes a faint line around the edge of the tunic serves to indicate stitching of the material folded up to form the hem. This feature is also seen on the Chatsworth relief²²⁹. The legs are always bare on the column, without the knee-breeches (feminalia) worn by standard bearers, musicians, officers and auxiliaries (see 5.3.5; 5.4.6). It would seem that the absence of these breeches was another consciously employed distinguishing feature of the citizen figure type. They do not appear at all on 1st century infantry stelae or on the Mainz pedestal reliefs, nor do praetorians on the Great Trajanic Frieze wear them. However, legionarii along with all other infantry on the Adamklissi metopes clearly do wear feminalia in cases where greaves do not obscure the issue (Inv. 38, 43).

Pl 153

The feet of all the Roman infantry on the column, with the exception of officers, are clad in realistically depicted caligae. This footwear is seen on the Great Trajanic Frieze with the hob-nails appearing in profile below the sole (Fig. No. 20, 42-3, 60). Nails (clavi) are specifically commented upon by Josephus and Juvenal, the latter with reference to the praetorians²³⁰, and they appear in profusion on military sites²³¹.

The only remaining feature of citizen attire which requires comment is the appearance of animal skins worn in three instances

over the 'lorica segmentata' (L, 1, 2, 4). There is no evidence for the wearing of animal skins by any troops in the imperial period other than standard bearers and musicians and on the column the citizens with them are the result of a sculptor confusing figure type features (see 3.2.3; 5.5.2).

5.3

AUXILIARY INFANTRY

The 464 figures of this type wear a mail shirt (lorica hamata)¹ over the same form of tunic as that worn by citizen troops. Under the tunic is worn a pair of feminalia extending down to below the knees. A gladius is suspended on the wearer's right hip from a baldric and a helmet and an oval shield complete the defensive equipment. Sometimes a cloak is worn.

5.3.1 Body Armour

The armour worn over the tunic is plain with a round neck opening and short sleeves. The identification of this defence as mail is assured by its cut and by the tooling of its surface with vertically aligned, zig-zag chiselling. The latter feature, applied or not according to the sculptors' diligence, does not affect the interpretation of the armour type by its absence (see 3.2.6). The edges of the short sleeves and the hem of the 351 determinable loricae are finished off in one of five ways: 141 (40%) with a zig-zag or triangular series of lappets of any size; 165 (47%) ragged or with very small lappets forming a fringe; 5 (1.5%) with rounded tongue lappets; 32 (9%) with very shallow and rounded lappets; 8 (2.25%) featureless. These variants quite often cluster by scene. The last type may be interpreted as unfinished, one example being on a man holding an unfinished aquila (XXVI, 13), and the rounded tongue variety may be ineptly carved zig-zags. Likewise, the shallow rounded lappets are lazily

Fig 28

Pl(20,60
(80,115)

Fig 21

Pl(6,12,20,52,
(80,111,115)

Pl 24

rendered so that overall the majority of edges are either of the 'zig-zag' or 'fringe' types. The modelling of the mail shirts varies in the treatment of folds, whether it has a cloth drapery effect or it appears to be stiff. Sometimes the chest and thorax muscles of the wearer are suggested. If the mail chiselling was applied by a separate sculptor from the one who carved the figures (see 3.2.6) then it is indeed possible that some sculptors did think of the mail more in terms of a garment than as a form of armour.

Pl 104,113

In the past, scholars have interpreted the auxiliary armour on the column and armour depicted on figured tombstones as having been made of leather². The convention of mail representation by a large number of holes being drilled over the field of the armour of course made the mail identification unavoidable but this was only employed from the Trajanic period onwards, notably on the Adamklissi metopes. Thus, Eadie felt able to conclude with reference to cavalry that mail armour was not introduced before the reign of Trajan, and then only for selected units³. However, Robinson reasoned that to give any protection leather armour must have been boiled to make it hard and stiff (cuir bouillé)⁴. The integral sleeves seen on the column and the large shoulder-pieces overlapping the upper arms depicted on stelae would consequently have restricted movement of the arms, and the long skirts would have prevented torso-bending to an impractical extent. Whilst 17th century long-sleeved and long-skirted buff coats gave a small amount of protection, Roman soft leather shoulder-pieces would not have given the required protection⁵. Therefore, to combine flexibility with adequate defence garments of the cut seen on the

Pl 148,151-2

tombstones and the column must have been made of mail. It is likely that leather was never used for Roman body armour, except perhaps for the muscled cuirasses of high ranking officers and for backing scale armour⁶.

The lifelike depiction of mail has presented sculptors of all periods with a serious problem. The structure of interlocking rings is small and fine and many different methods have been employed⁷. Once the shape and folds of the armour had been carved the field could be left plain and smooth. The details of rings could then have been added in paint or moulded gesso as on most funerary stelae⁸. Alternatively, incised dashes or crescents could have been cut in rows to schematically suggest the structure⁹. Less ordered pecking lost much of the visual effect¹⁰.

Pl 162,167

Small drilled holes were in fact used on representations of Gallic warriors of late 1st century B.C. to early 1st century A.D. date¹¹ but this method was not taken up until the Adamklissi metopes had large holes randomly drilled over the loricae. Thereafter it was the favourite mail convention on metropolitan monuments and, although crude, it provided a good impression when seen at a distance¹². The very best approximations of mail used crescents carved in relief as seen on the Vachères (France) Gaul statue¹³.

Pl 148,151-2

Pl(166,168-9,
(171-5,178

On the Great Trajanic Frieze and on the column's pedestal reliefs the surfaces of loricae have crescentic channels carved with a running drill producing the effect of interlocking rings (Fig. No. 18, 28-9, 36-7, 47, 68). This method was presumably employed because of the unusually large scale of the work which made other conventions either too fine for visibility or too crude (see 5.18). Very similar mail depictions can be seen on the massive figures

Pl 120,140

in the Firuzābād and Tāq-i-Bustān (Iran) Sassanid rock-carvings¹⁴. This makes the finely drilled, small scale lorica hamata on the Great Ludovisi Sarcophagus even more impressive by comparison and it ranks as the most realistic mail depiction in Roman sculpture¹⁵. The chiselled vertical zig-zags on the column are commensurate with the general attention to very fine detail. Although not an accurate depiction of mail rings, seen at a short distance the effect is most effective. However, this convention was slow and painstaking to cut and this resulted both in its being mistakenly and incompletely applied (see 3.2.6) and in its lack of emulation on later monuments¹⁶.

No sculptural representations of mail armour dating to the 1st century A.D. or earlier depict anything but straight sleeve and hem edges. This includes Gallic warrior depictions, funerary stelae and metropolitan sculptures. All the edges of mail on the Adamklissi metopes are likewise straight (Inv. 1-2, 5, 11, 14, 18, 20-2, 26, 31, 34-5, 40-1). This leaves the Great Trajanic Frieze for comparison and this has mail with rounded tongue lappets, not triangular lappets (Fig. No. 18, 28, 36-7). Later monuments, such as the Column of Marcus, the Antonine battle sarcophagi and the Arch of Severus (Forum Romanum)¹⁷ display both forms and a figure on a 2nd century A.D. altar from Dacia has tongue lappets¹⁸. An undated copper alloy statuette in the British Museum depicts an auxiliary with triangular mail edging and this may be contemporary with the column, or it may even be derived from it¹⁹. Unfortunately, apart from the Romanian piece there are no other 2nd century provincial representations independent from the influence of the column except for a few crude rider figures with straight-edged

Pl 148,152

Pl 140

loricae²⁰. Functionally such lappets would have been more decorative than protective. Overlapping scallops on loricae squamatae provided an extension downwards whilst maintaining flexibility but, unlike scale, mail is perfectly flexible anyway²¹. Decorative triangular edging occurs on Medieval knightly effigies and on extant Renaissance period European and Asiatic armours so a Roman use is perfectly possible²². It is not too far fetched to imagine that the column, through the medium of antiquarian sketches, may have exerted some influence on armour design in later periods. On the evidence reviewed above it may be suggested either that the sculptors based the mail edging on armour styles confined largely to the guard units in Rome, or that on both the column and the Great Trajanic Frieze these edgings were applied purely for decorative effect. The former possibility might seem the more plausible.

Loricae hamatae are not depicted on the column with additional shoulder-pieces. Early representations of mail usually include pieces fastened on the chest with a cross-bridge, and the latter devices occur archaeologically²³. Two legionary signiferi from Mainz have very large pieces covering their upper arms²⁴ in a manner most commonly seen on cavalry tombstones (see 5.4.1). C. Valerius Crispus and a praetorian (?) on the Ephesus ivory have narrow shoulder-pieces and men on the Nawa helmet have exceptionally small ones²⁵. On the other hand an unknown auxiliary from Bonn (West Germany) has no extra provision, just plain short sleeves and a neck opening²⁶. This is also the case with C. Castricius Victor, with all of the loricae hamatae on the Adamklissi metopes and the Great Trajanic Frieze (Fig. No. 18, 47, 28, 36, 68). This is despite the fact that the last two monuments depict cavalry and

the Domitianic rider stela of T. Flavius Bassus from Köln (West Germany) still has large shoulder-pieces²⁷. It must be concluded, therefore, that the column is in agreement with a trend towards simplifying mail shirts with respect to the shoulder protection but not with regard to the edging.

A curious feature of a number of edgings is that the lappets are divided off from the rest of the shirt by a horizontal line. Pl 20,115
Often a stud appears within each lappet, whether or not the line is present²⁸. This is not the case on the Great Trajanic Frieze where mail drilling extends onto the lappets. In the light of the evidence already discussed it might be suggested that what the sculptors are reproducing in garbled fashion is a straight-edged mail shirt with a zig-zag-edged undergarment. They picked up the shape from their models and often ran the mail and undergarment together. The Great Trajanic Frieze and later monuments took the confusion further by drilling the lappet areas. On a number of Rhenish infantry stelae it would appear that three items are worn: a tunic, a fringed garment on top of this, and a mail shirt over both, each getting progressively shorter²⁹. Pteruges were attached to such 'arming doublets' worn under plate, scale or mail armour³⁰. Mail is inferior to plate, and perhaps scale, in protecting against thrusting blows, dependent upon the thickness of wire and diameter of rings used, but it is good against slashing blows. However, whatever punishment it receives, its flexibility makes the mail 'give' inwards until the blow is stopped by a concentric web of rings pulling taught. This causes bruising at best and internal trauma and bleeding if the rings do not actually 'burst' apart under the force of a heavy thrust. Thus a padded

under-garment would be very necessary to lessen such injuries. Such an explanation for the edging of hamatae on the column would also account for the smaller zig-zags and fringes which would have been too small and untidy if executed in rings. In only one case is an auxiliary depicted with pteruges protruding from mail (LXXII, 24) and in a very confused scene it is clear that they appear on one arm along with a split tunic as the result of a sculptor's confusion in figure-type details³¹. Auxiliaries on the Adamklissi metopes wear no extra protection of this kind (Inv. 14, 36). Pl 148

A contributory factor to the predilection for a leather identification amongst scholars was the expense and social status of mail armour in the Middle Ages. It was felt that the inferior status auxilia would not have been mail-equipped on a large scale³². This naturally raises the question of whether the column's uniform mail provision was purely a device to distinguish auxiliaries from citizen troops and Dacians, or whether it reflected actual equipment practice. The pictorial evidence is rather unhelpful because fewer auxiliaries occur than legionaries and because so many standing soldier stelae depict the deceased in 'undress' attire without helmet or body armour. However, amongst those depicting armoured infantrymen there are some auxiliaries of no high rank³³, an important point because it could be argued that standard-bearers on stelae might have been better protected and that their higher pay gave rise to a proportionally high number of them appearing on tombstones. Virtually all 1st century rider tombstones depict cavalrymen in metallic body armour and, significantly, all the auxiliaries, infantry and cavalry, on the Adamklissi metopes are Pl 148

armoured (Inv. 1-5, 7, 14, 32, 34, 36). Using small-finds of mail rings to support wide currency is difficult because very often site garrison histories are incompletely known and mail is a robust armour which seldom falls apart, so its archaeological presence is overshadowed by other defensive forms.

It must be said that the 'expense' of mail and hence its status is irrelevant to the Roman army context because the necessary skilled and unskilled labour, the ore and scrap-metal materials, and the fabrica facilities were available. There is no evidence of civilian production of military equipment in the western empire for the early imperial period so manufacture and supply in a market economy does not apply³⁴. The skill and time necessary to make mail has been greatly over-emphasised, especially when the constituent stages of wire-drawing, ring shaping and punching, and assembly are carried out separately on a mass-production basis as they would have been in a legionary fabrica³⁵. Once an auxiliary unit had been raised and equipped, additional mail shirts would seldom have been required to keep the equipment pool topped up. The rubbing together of rings when the armour is worn keeps it rust-free and mail is extremely robust and long-lasting, especially if the open rings are riveted. Accidental loss of such a large item as a mail shirt would have been unusual so that finds of large mail pieces are associated usually with funerary contexts, ritual contexts, scrap-metal hoards, site abandonment caches or the confusion of sieges³⁶. Accordingly, there are no practical or economic reasons why mail should not have been widely issued to auxiliary troops once the auxilia had been regularised under Augustus.

Mail was used on the column specifically to identify auxiliaries, standard bearers and musicians, and for this reason other armour forms such as scale and lamellar which were used by these troops were excluded³⁷. However, there is no good reason to doubt that this coincided with the reality of auxiliaries being armoured en masse. In the light of this conclusion it may be observed that the period from Augustus to the upheavals of the later 3rd century A.D. saw the widest geographical and social currency of metallic armour in warfare before the 15th century Burgundian and Italian Wars³⁸. Given the numerical strength of the Roman forces and the coincidence of declining armour use with rising army sizes in the Early Modern period, the first three centuries A.D. also saw the greatest quantity of metallic armour in existence in any period of human history.

5.3.2 Shields

The shields carried by auxiliary infantry and cavalry, and by bare-chested irregulars, are virtually all flat and oval with a round central boss. Most reach from the level of the shoulder down to the hip in the shorter cases, or down to the mid-thigh. A very few are longer than normal, reaching down to the lower thigh or the knee³⁹. In the five Roman cases, and the one Dacian example (XCIII, 10) all these shields are viewed from the rear face and the proportions may be ascribed to sculptural inconsistency rather than to a conscious depiction of different dimensions. However, it would appear from other evidence that the larger shields are in fact closer to reality. A flat, oval shield carried by Firmus from Bonn (West Germany) would reach from the shoulder to

Fig 18,20

below the knees, and similarly large ones are seen on a Mainz pedestal relief⁴⁰ and on the Adamklissi metopes (Inv. 14, 32, 34). No flat, oval shields have been recovered archaeologically and true oval, as opposed to sub-oval, shield covers only occur at Valkenburg (Holland)⁴¹. These are 130-35 x 64 cm reaching from the shoulder to below the knee. This meagre evidence strongly suggests that the oval shields on the column were drastically reduced in size by the sculptors. In the manner of helmet cheek-pieces, it is likely that this was done to prevent the shields obscuring the human figures, otherwise large shields would have dominated scenes, especially in confused battles.

The hemispherical umbones on the column are paralleled by frequent finds of round bosses with wide flanges on frontier sites⁴². Attachment to the shield board was commonly by four flat-headed rivets which are faithfully reproduced on an oval shield on one Mainz principia pedestal relief⁴³. In the 79 cases where oval shields on the column are seen from the rear and the carrying arm is visible they are held in one of two ways. Either they are held by an off-centre longitudinal hand-grip, often with a strap across the forearm for additional support ('Hellenistic' grip, 56 examples; 71%), or they are held by a lateral central hand-grip ('Roman' grip, 23; 29%). All the curving oval shields from Dura-Europos have horizontal wooden grips, lateral to the shields' long axes. A type of lateral iron bar with a folded-over central grip often occurs on military sites and it was intended to be riveted to the back of a flat shield board with the grip behind the boss⁴⁴. This is the case with the partially preserved Doncaster shield⁴⁵ and once on the column the curled end of such

a bar seems to be depicted (LXXII, 15). The function of the bar was to provide an adequately protected, balanced hand-hold on the shield's pivotal point. On scores of provincial funerary stelae, congeries armorum friezes and religious sculptures which depict shields from the rear the inside of a central dished boss is seen with a horizontal hand-grip across it⁴⁶. Vertical grips never appear and the same is true of surviving flat wooden Celtic or German shields from Clonoura (Ireland) and Hjörtspring (Denmark)⁴⁷. With long shields this is the best carriage method whereby the board is held so as to cover the length of the body and not angle in the manner of the Zulu ishilunga, for example, which had a vertical grip⁴⁸. The latter would cause problems in a close order troop formation and make it difficult to use the boss offensively. With circular shields the grip alignment is immaterial if the hand-hold is centrally placed⁴⁹. The central, horizontal grip was the carriage method used for all flat and curved shields in the Roman period (see 5.2.3).

The only exception to this assertion is apparently the Doncaster shield, but the grip has been reconstructed in a vertical position only because the bar's 80 cm length was thought to be too long for a lateral position⁵⁰. The relationship of boss and bar to the board is inconclusive because they were displaced. Mounted horizontally the bar would denote a shield some 20 cm wider than the Valkenburg oval shield covers but only some 14 cm wider than the sub-oval cover from the same site⁵¹. Oval shields from Dura, albeit ones slightly curving on two planes, were even wider (107-18 x 92-97 cm) than a revised Doncaster reconstruction with a horizontal bar (c. 125 x 84 cm)⁵². In any case there is no certainty that the latter is Roman, rather than native.

Thus, less than a third of the relevant oval shields on the column are correctly carried. The others reflect not contemporary practice but the method of carrying the classical Greek hoplite shield with a hand-grip near the rim and a central arm strap⁵³. This Hellenising influence is part of the sculptors' background training and milieu. These shield details are seen earlier in metropolitan sculpture on two Claudian (?) reliefs⁵⁴ but hardly ever do they appear in provincial sculpture where actual military practices were more unfluent⁵⁵. There is no evidence to suggest that Hellenising influence extended to real shields in Rome, in a way that they may have done to helmets with brow plates (see 5.2.2). However, for the column sculptors the shield carriage variants meant that, whatever the figure poses, shields could be prevented from obscuring human bodies by being kept near to vertical.

Out of 205 oval shields carried by auxiliary infantry and cavalry, slingers and bare-chested irregulars in Roman service, 27 (13%) have no blazon and may be considered to be negligently finished off (see 3.2.4). The remaining 178 Roman shields have blazons which fall into eight categories (Appendix 4)⁵⁶.

Thunderbolts and wings like those on citizen <u>scuta</u> appear on 11	P1 28-9,41
(6%) shields, and 60 (34%) have large laurel wreaths around or above and below the boss. A further 6 (3%) have an eagle clutching a <u>fulmen</u> above the <u>umbo</u> and a <u>lupercal</u> or thunderbolts below, or an eagle above a wreath encircling the boss. Some 25 (14%) shields have curling tendril decoration over the field and 11 (6%) have palmette sprays above and below the <u>umbo</u> . Concentric rings instead of wreaths surround the bosses of 5 (3%) boards and some of these probably represent unfinished wreaths. 42 (23.5%) have a symmetrical	P1 (18,41,57, (80,117
	P1 57,63,69
	P1 41,49,17
	P1 13
	P1 74

pair of triangular 'piles' extending up and down from the boss, P1 119
 whilst 19 (10.5%) fields are only decorated with small motifs
 such as stars, crescents, torques, peltae and hearts. These P1 76
 motifs also appear with the other shield patterns (see Appendix 4).

A proportional comparison of blazon types on Roman shields with those on Dacian boards reveals something of the sculptors' motives. The incidences of Dacian tendril (28; 15.5%), palmette (17; 9%), ring (9; 5%) and small motif (12; 6.5%) patterns are similar to the Roman classes. Patterns which are inherently 'Roman', as defined by the rectangular scuta, plus those with eagles and lupercalia, make up 43% of all Roman oval shield blazons but 3 shields with thunderbolts and 10 with wreaths only make up 7% of the Dacian complement. Numbers are made up by a much larger proportion of pile blazons (80; 44%) than on Roman shields. From these figures it would seem that 'Roman' blazons were used to distinguish Roman shields whilst those employed for the Dacians were more abstract (see 5.12.2). Quite likely those three Dacian thunderbolt patterns represent sculptural mistakes confusing specific details of figure types (XLI, 4; XCIII, 21; CXVI, 1).

The rather general use of blazons to distinguish Romans and Dacians was blurred overall by the purely decorative, and at times random application of shield patterns (see 3.2.4). This fact alone renders anachronistic all the attempts made by commentators to identify specific units by their shields⁵⁷. Rossi took this to extremes by suggesting that each shield pattern represents a distinct unit so that if a camp is defended by a garrison with nine patterns (XXXII) then there are nine cohortes

present. If the emperor's mounted escort has two shield patterns (XCVII) then he travels with two alae. Such suggestions are clearly ridiculous in the light of the foregoing discussion. If the patterns were so important to the sculptors they would hardly have depicted Dacians and bare-chested irregulars (XLII, 10) with thunderbolt patterns. In one scene a low-status irregular has exactly the same pattern of small motifs as the three auxiliaries lined up with him (LXX, 6, 9, 12, 14).

The question inevitably arises as to whether these oval shield patterns were purely decorative or whether they reproduced blazons in contemporary use. Thunderbolts and wings appear on flat, oval shields in congeries armorum reliefs from Autun and Vize (France) and on a battle scene from Rome but none of these are any more reliable than the column⁵⁸. In fact they undermine the accuracy of column blazons by their inconsequential use. The Domitianic Campidoglio trophies show a supposedly barbarian hexagonal shield with thunderbolts⁵⁹. On the Mainz pedestal reliefs no pattern appears on an oval shield whilst all the rectangular scuta do carry blazons⁶⁰. The fact that the Dacian shields on both the spiral and the pedestal reliefs of the column are indistinguishable from many of the Roman patterns, and that these enemy blazons are themselves probably not based directly on barbarian devices (see 5.12.2), forces the conclusion that the Roman patterns are purely abstract. This is fully supported by the appearance of rosettes, crescents, piles, palmettes, wings and tendrils on barbarian shields on the Domitianic congeries armorum pilasters, now in the Galleria Uffizi (Florence)⁶¹.

Likewise the Campidoglio trophies have tendrils, rosettes, stars,

wreaths, crescents and piles on hexagonal and oval German or Dacian shields⁶². These Domitianic works are the column's immediate predecessors in the triumphal art of the capital (see 5.17).

The column's thunderbolts and wreaths are too generalised in their triumphal imagery to have any specific identification role. This does not of course mean that a real unit's shields lacked a uniform colour or a common blazon, or both. Very little indeed is known about the existence and nature of auxiliary unit badges but totemic animals are perhaps quite likely to have been used by western auxiliaries on their shields, similar to those known to have been used on their standards⁶³. If barbarian burial and religious practices continued within auxiliary units then it is quite likely that shield-painting customs also pertained. However, there is no evidence for a proto-Notitia Dignitatum organisation of unit shield patterns⁶⁴.

Evidence is not lacking for shields of other forms in auxiliary use, besides the oval type. A flat, sub-oval shield shape is preserved by covers from Valkenburg and the Doncaster shield, if it is Roman, may represent a rectangular auxiliary shield⁶⁵. The Tiberio-Claudian auxiliary stela of Annaius Daverzus from Kreuznach (West Germany) depicts a large, flat, rectangular shield⁶⁶. A stela from Cherchel (Algeria) depicts an auxiliary with a sub-oval shield⁶⁷. There are a couple of divergences from the oval norm on the column. One auxiliary has a wreath-decorated, curved, rectangular shield (XXXVIII, 5) but despite modern attempts to identify this with a cohors entitled 'voluntariorum' or 'scutata'⁶⁸, its singularity marks it as a figure type contravention mistake

similar to the provision of two citizen troops with oval shields (see 3.2.3). Elsewhere two men in mail carry small round shields of a type usually associated with standard bearers and musicians (XVI. 7, 8). In the context of the column this variant is most likely to be another figure type confusion. However, small circular shields were also carried by some praetorians and they appear on the Pozzuoli praetorians relief and Cancelleria Relief A⁶⁹, so a sculptor may have picked up this detail from empirical observation. A group of tendril-decorated, hexagonal shields with umbones occur in scene XCI but it is unclear whether they are Roman or are barbarian trophies.

Pl 14

5.3.3 Swords and Baldrics

Auxiliaries are generally depicted with a gladius suspended from a baldric on the wearer's right hip. Twice, a narrow waist-belt was added mistakenly (LI, 17; CXII, 9) and once a man in tunic without mail has his sword on a waist-belt only (XXXIII, 1).

Fig 27

Pl 104

Pl 29

Drawing the sword with the right hand would not have caused problems (see 5.2.5) but without a cingulum to anchor the scabbard the latter would have ridden up when the sword was drawn. A simple tie from scabbard rings to mail could easily have solved this.

Two infantrymen have their swords suspended impossibly high on their sides and these swords are unusually long (see 5.4.4), but it should be noted that these occur early on the spiral (XI, 12, 13). The absence of cingula is interesting because a waist-belt is very useful in relieving some of the dragging weight of the

Pl 12

lorica from the shoulders. However, the Adamklissi metopes show baldrics and swords worn without cingula (Inv. 14, 36). Gladii

Pl 148

depicted on the wearers' left sides on the column are the result of sculptural carelessness, six out of the eight instances occurring in one scene⁷⁰. Auxiliary stelae confirm that infantry were armed with the gladius, not the longer spatha⁷¹.

5.3.4 Shafted Weapons

Two stone shafted weapons occur in the hands of auxiliary infantrymen. One is short and slim (approximately 75 cm long to scale), has a small, leaf-shaped head, and is being thrown as a javelin (LXVI, 32). The other is slim, about 2 m long to scale, with a triple-pointed head. It is being lent upon as a spear (CXIII, 2). The attitudes of sentries and the upraised hands with crooked fingers in battle scenes make it clear that both these weapons were supplied elsewhere by many metal inserts. It is possible that the slimness of the stone shafts may reflect the proportions of the latter.

Pl 69

Pl 105

Pl 104

An auxiliary on one of the Mainz pedestal reliefs carries two shafted weapons, perhaps shortened because of lack of space⁷². The stelae of Annaius Daverzus (Kreuznach), Licaius (Wiesbaden) and Firmus (Bonn) depict the deceased with a pair of weapons with leaf-bladed heads and shafts a little over 2 m in length to scale⁷³. A number of fragmentary tombstones have one or two shafts, usually missing their heads⁷⁴. These may be identified as the auxiliary hasta which Tacitus contrasts with legionary pila⁷⁵. However, this term simplifies the great variety of shafted weapons indicated by the common occurrence of heads as site-finds. These range from the lightest javelins for throwing, through spears equally suited for throwing or thrusting, to almost impractically large and heavy

heads⁷⁶. Some of these fit the javelin of scene LXVI but none parallel the triplehead of scene CXIII.

5.3.5 Clothing

Tunics of virtually the same cut as those worn by citizen troops are worn by auxiliaries under their mail. Knee-breeches (feminalia) are worn under the tunic and feet are shod with caligae. Sometimes a cloak, plain or fringed, is worn over the armour and fastened at the throat or on the wearer's right shoulder.

The great majority of tunics are plain but additional decoration is added in a number of cases in the form of a close-set fringe (25 examples), or a series of spaced tufts (27 cases). Both forms represent methods of tidying up the weft threads of a garment. There is very little comparative pictorial evidence for these hems. A scale-armoured cavalryman on the Mantova (Italy) battle frieze appears to have tufts protruding from under his armour⁷⁷. A bronze statuette in the British Museum reproduces the wavy tufts so closely that this feature and its zig-zag mail-edging may be directly influenced by the column and so useless for comparison⁷⁸. A fragmentary terracotta figure from Linz (Austria) has a tunic fringe of knotted tassels⁷⁹. On the column one tunic skirt is slit up the side but this is on the auxiliary with arm pteruges (LXXII, 24) and both tunic slits and pteruges are features of the cuirassed officer figure type, suggesting some confusion (see 3.2.3)⁸⁰. The man with two tunics under his lorica is another mistake (XL, 20). From around scene CXXVIII onwards auxiliary tunics, never quite as long as those worn by citizen troops, became progressively shorter exposing much of the wearers' buttocks.

Fig 22

Pl 49

Pl(115-6,
(119

In fact auxiliary tunics are short all over the spiral in comparison with those worn by citizen troops. Only those in scenes IV-V on standard bearers are a good length. Significantly, a dismounted cavalryman on the Great Trajanic Frieze has no tunic below his lorica squamata, although the mounted men do (Fig. No. 56), and this is another small feature linking together the column with its missing tunic skirts and the Frieze (see 5.18).

Pl 140,142

The breeches worn by auxiliaries, standard bearers, musicians, irregulars and officers are always present. These calf-length feminalia are presumably a Celtic and Germanic fashion because they appear as textile finds in Danish bogs and on the Gundestup Cauldron⁸¹. The column, the Frieze and the Adamklissi metopes are the earliest representations of the breeches on infantry because they appear on none of the 1st century infantry stelae. Thereafter breeches appear on all metropolitan monuments.

Pl 153

Cloaks worn by auxiliaries and cuirassed officers are of the rectangular sagum type and are identical to those worn by barbarians on the column⁸². Fringes appear randomly on the edges and there is no bias towards infantry or cavalry in this respect. Circular paenulae are confined to the unarmoured figure type on the column but both cloaks are worn on 1st century auxiliary stelae⁸³. On the column saga are most often worn by troops on the march, sentries and cavalry holding their horses, but there is no real consistency in this. Adlocutio and submission scenes follow no rule but cloaks are almost never worn in battle scenes. The one exception is scene CXII where, also uniquely, auxiliaries fight bare-headed.

Pl 52,112-3

To conclude the discussion of auxiliary infantry, two peculiar auxiliary variants must be examined. In scene XXXVI a group of eight auxiliaries balances a group of eight bare-chested irregulars. The former include men wearing very eccentric helmets of a type seen nowhere else on the column. These have cheek-straps and a framework of ribs, but no bowl, so the wearers' hair is exposed (XXXVI, 4, 9, 10, 11). The rest of the group have animal skins over their heads (XXXVI, 2, 5, 6, 8). In all other respects these eight men are identical to other auxiliary infantry. Like the skin-clad citizen troops in scene L, it is clear that the sculptor confused figure type features and invented a nonsensical helmet form in addition (see 3.2.3). The integral light troops of Republican legions (velites) wore animal skins but there is no evidence for the continuation of this practice by any troops other than standard bearers and musicians⁸⁴. The second type of auxiliary variant occurs in the first major battle of the spiral where an infantryman is depicted with a bow (XXVI, 38). This is the only example of an archer not in the 'archer' figure type. Curiously the man following him is in an identical pose except with a shield (XXIV, 35). The evidence of 1st century stelae indeed suggests that members of cohortes sagittariorum were not differently attired from other, non-archer auxiliaries⁸⁵. However, the archer figure type on the column was made so different in appearance from usual auxiliary infantry precisely in order to identify the archers, so it is probable that either the sculptor of scene XXIV made a mistake, or that this first occurrence of an

Pl 31

Pl 22

archer on the spiral came before the archer figure type had been formulated (see 3.2.3; 5.8.4; 5.17).

5.4

AUXILIARY CAVALRY

The 82 Roman cavalry on the column are distinguishable from auxiliary infantry by their association with held or ridden horses.

Pl (31,90,
(113-4

There was no attempt to use helmet forms, mail edging, shield blazons or the wearing of cloaks to separate the two auxiliary figure types.

5.4.1 Body Armour

First century depictions of cavalry generally show them wearing loricae with large shoulder-pieces covering the chest and upper arms¹. This is the case on the late Flavian stela of T. Flavius Bassus (Köln)². The vulnerability of a cavalryman's head and shoulders to slashing blows, especially when fighting other cavalry, was met by appropriate strengthening measures. However, the simple loricae hamatae of the column seem to be corroborated by the Flavian or Trajanic tombstone of Flavinus from Hexham (Northumberland)³ and the armour worn by cavalry on the Adamklissi metopes (Inv. 1-2, 4-5). Both mail and scale-armoured riders on the Great Trajanic Frieze also lack shoulder-pieces (Fig. No. 17-8, 28-9, 36, 56, 68).

Pl (140,
(142,144

The column may be criticised for depicting only one form of armour. Stelae from Britain, Germany and North Africa depict auxiliary cavalry in scale, as do two fragmentary 1st century reliefs from Rome⁴. Most telling because of their contemporaneity with the column are the cavalymen in loricae squamatae on one Adamklissi metope (Inv. 7) and the Great Trajanic Frieze (Fig. No.

Pl 142

17, 56, 65)⁵. Most scale finds from sites cannot be definitely attributed to cavalry because so many other types of troops also used scale armour. However, a folded lorica squamata dating to before A.D. 45 was found in a burial at Vize (Bulgaria), which also contained a cavalry sports helmet, a spatha and a folded lorica squamata⁶. Finds of lamellae from western sites raise the possibility of lamellar armour also being used by cavalry⁷. Mail was superior to scale or lamellar because it was much more flexible, easier to maintain and could be extended to cover more of the wearer's body and limbs. A problem with all cavalry body armours was to make them cover the rider's vulnerable thighs, yet ample enough to allow the man to sit astride a horse. One solution was simply to put more rings into the skirt of a lorica. Another was to slit the skirt. Mail skirts depicted on 1st century stelae are not very long, so instead of being slit up the front and back⁸, they had small slits made in the sides of the skirt, a feature frequently seen on stelae but not on the column⁹. The latter's exclusive use of mail seems to be a device to distinguish figure types as is clear when comparison is made with the Great Trajanic Frieze. Scale is reserved for the identification of other figure types, archers and Sarmatians (see 5.8.1; 5.14.1).

Pl 142

5.4.2 Helmets

Cavalry helmets of the 1st century were very different in design from infantry types¹⁰. The deeper neck-flanges and larger cheek-pieces gave the front and crown of the head, the ears, and the sides and back of the neck much more protection against slashing blows. Cavalry helmets perhaps adopted the cross-bar bowl reinforcements at the same time as did infantry helmets (see 5.2.2)

but cavalry on the column have a much smaller proportion of ribbed bowls than do auxiliary infantry (10% compared to 53%). Some extant helmets exhibit brow plates and bowl apex point features, and the deep neck protection is often squared off with only a narrow flange¹¹. These features are all present on the column and result more from stylisation than from the use of cavalry helmet models. Unfortunately, helmets on the Adamklissi metopes are mostly damaged, and those on the Great Trajanic Frieze are identical to the Attic helmets worn by the infantry in all respects but the form of the crest.

5.4.3 Shields

On rider stelae shield shapes and sizes are sometimes distorted because the man is usually seen from his right side with the shield in the background. However, recognisably flat, oval shields do appear, notably on the late Flavian gravestone of T. Flavius Bassus¹². These are in a minority, nevertheless, because most stelae depict straight-ended, sub-oval shields¹³. When these boards are unobscured in a view from the rider's left they are proportionally long and narrow. Similar shapes appear carried by cavalry on the Adamklissi metopes (Inv. 1-2, 4-5, 7) and the Great Trajanic Frieze (Fig. No. 28, 30, 56, 65, 68). It has been Pl 142,144 suggested that the straight-sided sub-oval shield form from Valkenburg (Holland) belonged to cavalry whilst the true oval shape was an infantry type, but there is no clear evidence to support such a distinction¹⁴.

A long, narrow shield would have served the rider in protecting himself from shoulder to calf (as on the Great Trajanic

Frieze) and in shielding his mount's neck, head and forequarters. To do this effectively, the shield must have been held by a central, lateral grip as suggested by stela poses (see 5.3.2). On the column, shields are often held in an awkward, even impossible, way above or to the right of the horse's neck. Although Arrian describes an exercise in which the rider passes his shield over the horse's neck onto the right side, it would seem that the sculptors were creating these poses specifically to expose the shield face¹⁵. Since the shield blazon was irrelevant to unit identification the likelihood is that some form of colour coding was employed to distinguish citizen, auxiliary and barbarian shields¹⁶. The last two were more often than not identical in form and decoration, and such a coding would greatly elucidate the action in crowded scenes such as battles (see 3.3.3; 5.20).

Pl 113-4

The comparative pictorial evidence shows a variety of shield types in contemporaneous use, but again the sculptors of the column simplified reality by providing only oval shields.

5.4.4 Sword and Baldric

Many of the cavalry happen to appear in scenes where few swords are depicted¹⁷. When cavalrymen do have them the weapons are mainly of gladius length, identical to those carried by the infantry¹⁸. Rather different are the longer swords in scene XXXVII which are depicted in meticulous detail with scabbard guttering, a mouth plate, and a triangular, open shape with cross-brace and tiny decorative palmettes. The grip assemblage includes grip ribs and an elliptical pommel with button. In one case a suspension ring is present (XXXVII, 5) and all the swords in this scene are carried

Pl 32

unusually high up on the body. Uniquely to the column they have a trefoil guard. Only the two auxiliary infantry swords in scene XI are comparable in length and suspension position.

Pl 12

All the 1st century rider tombstones depict equites with long swords suspended from a hip belt on the man's right side. The weight of the weapon pulls the belt downwards¹⁹. Suspension rings are never represented so some form of loop belt-fastener must have been employed on the rear of the scabbard. However, the Trajanic stela of T. Claudius Maximus shows a sword suspended on the right side from a baldric²⁰. All the cavalry on the Great Trajanic Frieze have ring-suspended long swords on baldrics on their right side (Fig. No. 18, 36-7, 47, 56), whilst the Adamsklissi metopes show swords hanging on the left from baldrics (Inv. 1-2, 4-5, 7). A sword being wielded on the Frieze has a parallel-edged, ribbed blade (Fig. No. 28). Long swords were essential for cavalry who needed a long reach forwards over the horse's neck to strike at other horsemen, or downwards to strike infantry who might be crouching to hamstring the horse. During the Late Republic and Early Empire it was celtic influence that was dominant on cavalry tactics and equipment²¹.

Pl 140,142

It is clear from the numerous finds of long swords that a variety of blade dimensions and proportions were in use²². These may be identified as the auxiliary spatha contrasted by Tacitus with the legionary gladius²³. The trefoil guards of scene XXXVII may be paralleled by some rider stelae²⁴ and are identical to a form of bone guard which occurs on some sites²⁵. Likewise the small palmettes survive on extant scabbard-fittings²⁶. The unusual position of the swords in this scene, virtually across the front of

the wearer's torso, suggests that the sculptor was proud of these empirically observed details and was anxious to present them in full view. In this position the swords would have been impossible to draw. As would be expected with long cavalry swords, those on the stelae and the Great Trajanic Frieze are fairly low slung. Recent reconstruction work based on the Rottweil (West Germany) spatha, the longest known blade (87 cm), has demonstrated the ease with which spathae could have been drawn with the right hand whilst suspended on the right side²⁷. The use of a baldric may have replaced hip-belt attachment in the later 1st century A.D. This was a peculiarly Roman suspension method for long cavalry swords which perhaps lasted until the late 3rd century before being superseded by waist-belt attachments²⁸. Mesopotamian and Asian methods always involved waist-belt suspension using scabbard slides or slings²⁹. Unlike infantry usage, a waist-belt or a baldric were mutually exclusive cavalry methods, thus, on the grounds of both practicality and figure type contravention, a waist-belt worn with a baldric by a cavalryman on the column (CXLII, 4) is a mistake.

5.4.5 Shafted Weapons

A stone spear shaft appears in the hand of one cavalryman and is approximately 2 m long to scale, but it has lost its head (XXXVI, 7). Five much longer weapons, c. 3 m long, appear with small, leaf-bladed heads above some marching cavalry in scene V. Unfortunately, at this point the second spiral overlies the beginning of the first creating some problems of relief height. Two cornicines in the same scene have cross-bars of unparalleled length on their cornua (see 5.6). It may, therefore, be concluded that the sculptor

inordinately lengthened both these and the spear shafts in order to fill up the widened space above the heads of the marching column³⁰.

In the manner of the auxiliary infantry, cavalry were primarily armed with hastae (2-2.5 m long), which are seen on the Adamklissi metopes (Inv. 1-2) and the Great Trajanic Frieze (Fig. No. 17-8, 24, 30, 36-7, 56, 58, 65, 67). The problem with the rider stelae is that aediculae may limit the proportions of shafted weapons and sculptors were often reluctant to have the deceased's body seriously obscured by a long spear shaft passing right across it. Some weapons appear to be short javelins³¹, others to be hastae³², and some are long enough to pin a fallen enemy to the ground³³. Those carried by calones on stelae, often in pairs, are usually javelin length³⁴. Josephus seems to describe cavalry armed with the equivalent of a hasta and three or more javelins in a quiver, although there are problems with his terminology³⁵. Arian distinguishes spear-armed cavalry from other types and he mentions the use of both spears and light javelins³⁶.

Roman auxiliary cavalry of the 1st to 2nd centuries A.D. are divisible into three types, based on their weaponry³⁷. The first was equipped with spear, javelins and shield and was supplied by Celtic, Germanic, Iberian and Thracian cavalry traditions. These are the troops on the stelae and the column, and these made up most of the imperial alae. The second type was lance (contus) armed and shieldless, following the Asiatic tradition learnt from the Iranian peoples of the trans-Danubian and Mesopotamian lands. An ala of contarii was raised by Trajan specifically for the Danubian Wars³⁸. Thirdly, alae of shieldless horse-

archers were recruited in the Levant, taking advantage of the indigenous composite archery tradition³⁹. A number of these units also took part in the Dacian Wars⁴⁰. Therefore, the absence of both contarii and equites sagittarii from the column's auxiliary forces must be a product of the simplified figure type framework. Archers were provided on foot only, and lancers might have caused confusion with Sarmatian cavalry figures (see 5.14.3).

5.4.6 Clothing

Only three cavalymen differ in their attire from auxiliary infantrymen (XXIX, 1, 6, 9). These may be identified as Roman by their actions but their shaggy hair is more Dacian in appearance. Their tunics are slit up the sides of the skirt and at the short sleeves. The former feature is specifically Dacian and the latter occurs most often on cuirassed officers. Some confusion of figure type details was clearly at work here.

The knee-breeches worn by the column's cavalry are commonly seen on 1st century rider stelae but not on infantry gravestones. Presumably the garment was necessary to protect the horseman's inner thighs from chafing against the saddlery. Occasionally, tight, long sleeves are seen on stelae with turned-over cuffs of a type on the Vachères (France) Gaul statue⁴¹. These and the breeches reflect the Celtic milieu of western cavalry. Spurs are never depicted on Roman sculpture but they were an important element of Celtic and Roman cavalry equipment⁴².

5.4.7 Horse Harness and Horses

Horse furniture on the head generally consists of head piece, brow band, throat lash, cheek strap, nose band and reins⁴³. A one-piece chest strap and a one-piece breacher strap cross the chest and the hind quarters below the tail respectively. Two or three ivy-leaf pendants are often suspended from the breacher, two or three from the chest strap. Commonly a lunula appears at the front of the chest⁴⁴. One horse has an unusually large number of pendants on its chest (LXXIX, 6). In one case a chest strap is studded (VII, 3) and quite often sculptors omit the pendants altogether⁴⁵. These fine details are prone to erosion damage (XLIX, LVII, LXXXIX). In one scene two horses are quite exceptionally depicted with a second strap running diagonally up over the hind quarters (LXXXIX, 5, 8) and another horse has a similar second strap over its shoulder (LXXXIX, 3). In other scenes a strap with a teardrop terminal hangs down vertically from the breacher or the chest strap, or both, to either side of the saddle cloth⁴⁶. The combination of vertical straps in scene CXLV is unusual because most of the horses lack ivy-leaves but have crescents, and in two cases they have more than one vertical strap on the chest (CXLV, 9, 12). One or more additional straps appear on horses' necks and sometimes these have vertical, hanging straps with tear-drop or ivy-leaf ends⁴⁷. However, the distribution of these features on the column shaft was a product of the sculptural process rather than of the sculptors' models (see 3.2.4).

The saddlery also exhibits a variety of features. The saddle itself is represented by a pair of front and rear pommels. From both of these sometimes hang one to three narrow straps⁴⁸.

Pl (31,90,
(113-4

Pl 90

Pl 113-4

Pl 90

Pl 31

Occasionally the latter have tear-drop terminals (XXXVII, 4, 7-8; CIV, 32) and, whilst these 'triplet straps' are quite common, with one exception, they do not occur above the eighth spiral (see 3.2.4). Either one or two saddle blankets are worn. One fringed, long cloth may occur alone⁴⁹ or, more commonly, this appears with a second, shorter blanket thrown over it. The latter usually has a scalloped edge but twice it is fringed (VII, 1; XLIX, 22) and once the sculptor has omitted the fringe of the longer blanket (XXXVII, 8). Shields are slung from the saddle either directly from one horn⁵⁰ or horizontally over the longer blanket and under the shorter⁵¹. This second method indicates that there are in fact two separate blankets involved. Triple straps appear with both one and two blanket combinations. When a horse is riderless no attempt was ever made to outline the saddle and its horns, so it may be assumed that with both cloth combinations the saddle is covered over.

No horse is depicted with all the elements described above but the fullest possible sculpted furniture would be as follows. On the head: head pieces, brow band, throat lash, cheek strap, nose band and reins. Two diagonal straps across the neck, each with a hanging strap with tear-drop or ivy-leaf terminal. Horned saddle with two sets of tear-drop-ended triplet straps overlain by a long, fringed blanket and a shorter, scalloped blanket.

The harness for the head requires little comment other than to note that it lacks the decorative pendants seen on a number of tombstones⁵². Additional, studded neck straps occur on the Great Trajanic Frieze with lunulae and vine-leaf pendants hanging from them (Fig. No. 17-8, 24, 28, 30, 37, 44, 65, 68) and there are

plain straps on the Adamklissi metopes (Inv. 1-2). A relief from Rome, clearly influenced by the column, or contemporary with it, has two neck straps and two hanging straps with ivy-leaf terminals⁵³. One of the latter hangs from a neck strap whilst the other is attached to the head piece in the manner of scene CIV on the column. The harness on the stela of T. Flavius Bassus (Köln) is highly decorated and one neck strap has round applique fittings whilst a hanging strap ends in a lunula. The neck straps are purely decorative harness, fulfilling no practical role.

The function of straps round the chest, shoulders and hind quarters of the horse was to prevent the saddle from shifting forwards or backwards along the back. A girth, a second shoulder strap and a second haunch strap acted to prevent the saddle from slipping over to either side. All these straps served to give the rider a stable seat and all had to be attached directly to the saddle⁵⁴. On the column the shoulder and haunch straps often correctly point diagonally up to the saddle but in a number of cases they are more horizontal and miss the saddle altogether⁵⁵. This was a common mistake made by sculptors of the poorer stelae, the Adamklissi metopes and some metropolitan sculpture, but not on the Great Trajanic Frieze⁵⁶. In this respect, and as regards the second haunch and shoulder straps in scene LXXXIX, the column sculptors were aware of these harness functions.

The ivy-leaf and lunula pendants hanging from straps on the column, Frieze and metopes may be closely paralleled on Rhenish stelae⁵⁷. Finds of harness fittings are numerous on military sites. The lunulae especially had apotropaic significance and perhaps links with the horsed Dioscuri⁵⁸. An important element missing

from the column, the Frieze and the metopes is the circular shoulder, chest and haunch phalerae which provided junctions for the various straps. In combination with the pendants, their weight also served to prevent the harness from moving too violently when the horse was in motion and they gave an additional element of display. They are frequently depicted on tombstones⁵⁹ and were clearly very widely employed, appearing, for example, on the Gundestrup cauldron⁶⁰ and in Palmyrene sculpture⁶¹. Hoards of horse-harness fittings from Fremington Hagg (Yorkshire), Xanten (West Germany), Doorwerth (Netherlands) and Nawa (Syria) all include phalerae which mask the junction fastenings⁶². On rider stelae they are shown to be weighing down the straps. Additional hanging straps with lunula or tear-drop pendants hang down from the phalerae adding to the weight and visual effect. Occasionally, open rings instead of phalerae are depicted, as on the Mantova battle frieze and other sculptures⁶³. It is the straps hanging from phalerae which are echoed on the column by the vertical straps with tear-drop terminals. Poorly executed stelae often omit the phalerae but, likewise, they retain the consequently superfluous vertical straps⁶⁴. Strap junctions may have been necessary so that shorter lengths of leather could be used. There was always a practical limit to the length of strap obtainable from a single hide⁶⁵. Moreover, the provision of many shorter sections would have facilitated maintenance and limited replacement. Saddle stability would have been further increased by the addition of a martingale strap linking the chest phalera with the girth, as seen, for example, on the stela of C. Romanius from Mainz (West Germany)⁶⁶.

Four-horned saddles are clearly depicted on the Mausoleum at St. Rémy, the Arch at Orange (France), and on rider and funerary banquet stelae⁶⁷. These correspond exactly with leather saddle covers from Valkenburg (Holland) and with numerous finds of copper alloy horn plates⁶⁸. Recent reconstruction work has produced a wooden replica employing this pattern of cover⁶⁹. The result is such a remarkably firm seat, with horns supporting the base of the back and the thighs, that the views that the Romans did not use 'real' saddles and that because of their lack of stirrups they were unable to field 'real' cavalry, have been superceded⁷⁰. When the saddle cover was laced up narrow straps hung down from the pommels and these triplet straps are depicted on stelae as well as the Grundestrup Cauldron and a number of terracotta horses⁷¹. On these stelae they were used for suspending series of rectangular plates of a type which occurs as embossed, copper alloy small-finds⁷². All of these features appear on barbarian spolia saddles on the Arch of Orange⁷³.

The appearance of triplets on the column is very curious because all the saddles are covered with blankets. This can only be explained as sculptors' misunderstandings. When horses are ridden on stelae they usually have a short, sometimes fringed, saddle blanket. The haunch and shoulder straps pass over this to the saddle, as on the Mantova frieze. When the girth is depicted it also overlies the blanket⁷⁴, but at times even the stela sculptors became confused⁷⁵. A long saddle blanket of the type seen on the column occurs on funerary banquet stelae with a horse and calo panel. It underlies the saddle and a short blanket⁷⁶. This would, of course, have caused problems of access for the girth to the

saddle unless a hole was cut in the blanket in the manner of the Dura scale trappers⁷⁷. Yet a third permutation on the stelae is a short blanket thrown over a long blanket. The covered saddle's presence is indicated by very lengthy triplets hanging down between the two blankets⁷⁸. Many equites singulares Augusti tombstones from Rome seem to have a long blanket thrown over the saddle⁷⁹. Folds on the saddle pommels on the Great Trajanic Frieze make it clear that the men ride on a cloth over the saddle (Fig. No. 18, 65). Such overlying cloths were not functional but were presumably decorative, probably being brightly coloured and richly embroidered. It cannot be assumed that when the long blanket alone is present on the column it is simply thrown over the saddle, the straps and the short saddle cloth, because the triplets are present. Likewise, a long blanket could have a hole for saddle and straps, then a short blanket put over the lot, but again the triplets confound this solution. In any event a third blanket would presumably have to sit between the saddle and the horse's back.

Evidently some sculptors were more knowledgeable than others and they had carefully observed contemporary horse harness. They knew some accurate details of triplet straps, vertical pendant straps and of pendant forms. However, straps were often incompletely and impractically applied, and the uses of saddle blankets and phalerae were misunderstood.

The horses themselves were scaled down in size so as not to dwarf the human figures. Like the horses on stelae shrunken to fit into aediculae, the column's horses cannot be used in any discussion of actual horse sizes and breeds⁸⁰. Richmond noticed that many of the horses are stallions and not geldings⁸¹, contrary

to modern cavalry practice, and this is corroborated by horses
on funerary stelae⁸².

5.5

STANDARD BEARERS

The study of the 109 standard bearers on the column must also identify and discuss the standards they carry. This is also the appropriate point at which to examine in detail the role of standards on the spiral because this determines the incidence of the figure type.

5.5.1 Standards

Five types of standards appear on the column: aquila, imago, two signa and vexillum. There are 126 standards in total.

Legionary aquilae consist of an eagle statuette clutching a fulmen, positioned on top of a staff. Both the stelae of Gnaeus Musius (Mainz) and of L. Sertorius Festus (Verona) depict an eagle identical to those on the column and give the deceased the title 'aquilifer'. Numerous sculptural depictions represent the bird in a variety of poses¹ and literary allusions to it as the primary legionary emblem are common². No aquilae occur in the archaeological record. On the column the 14 aquilae differ in detail with wings folded, extended or upright and with or without a mural crown, making four variants³. Scenes IV and XXVI have the pedestal on which the eagle usually stands, but no bird. The former example has been damaged but the latter never had anything carved on the pedestal because its upper surface is smooth and featureless.

Pl (25,43,46,
(48,56,59,
(101

Pl 24

Scene XLVIII has a standard with a ram standing on a pedestal identical to the aquila type. This is most likely a legionary imago

Pl 43

similar to those with a bull and a capricorn seen on a ballista panel from Cremona (Italy) belonging to legio IV Macedonica⁴.

A bull standard very similar to the column's ram occurs on a 3rd century A.D. tombstone from Carrawburgh on Hadrian's Wall⁵.

Statuettes of a horse from Chesterholm (Northumberland) and a Capricorn from Wiesbaden (West Germany) have been claimed as standard imagines but they are too small for this function and are probably cart fittings⁶.

The 32 standards on the column consisting of a series of phalerae and a cross-bar attached to a staff may be identified as legionary signa because of their appearance on stelae from Sucidava (Romania) and York (Yorkshire) which identify figures of legionaries as 'signiferi'⁷. Legionary coin issues and depictions in other media, such as on the River Tyne shield boss and the Niedermörmter (West Germany) helmet, support this⁸. Signa with phalerae and cross-bars occur with legionaries on the Adamklissi metopes (Inv. 12-13). A large number of incidental sculptural depictions of standards may also be classed as legionary⁹. The column's signa vary in small details of phalerae numbers and the presence or absence of a small cloth flag, a cross-bar with hanging ribbons and tear-drop terminals, a wreath, a manus, a small oval shield and a spear-head¹⁰. Standards in scenes X, XLVI and perhaps LXI exhibit the same combination of these elements, but the other signa are dissimilar. This is with the important exceptions of those in the vertically adjacent scenes XXII and XXVII. Overall, there are 10 legionary signum variants.

A second type of signum is marked by a staff with a larger number of closely-set elements than is seen on legionary signa.

P1(5,9,20,
(24-5,42,56

P1(6,41,46,
(48-9,59,
(89,94

The 60 examples on the column may be identified as praetorian with reference to the funerary panel of M. Pompeius Asper from Tusculum¹¹ (Italy). This records service in three legiones and in cohors III praetoria. For the former a fine aquila is depicted. For the latter a pair of signa with coronae, imagines clipeati, and tabulae with scorpion badges and COH. III. PR inscriptions. The scorpion was a praetorian emblem. Signa of this type appear on funerary altars, the Great Trajanic Frieze (Fig. No. 41-3), the Severan Arcus Argentariorum and fragmentary reliefs in the Vatican and Capitoline Museums¹². Elements on the column include small flags hanging from cross-bars, imagines, oval shields, cross-bars, coronae, eagles in wreaths and victories¹³. The examples in scenes CXIII and CXXIII are similar in their foreshortened state but are otherwise dissimilar in detail. Signa are identical when grouped together but never the same from one scene to the next, with those in adjacent scenes differing widely. The richest occur in scene V and they are the only ones with crowning victory statuettes. Overall there are 22 variants.

The fifth standard type consists of a pole with a cross-bar from which hangs a large cloth banner. This is the vexillum used by legionary detachments (vexillationes) as seen on sculptures from Hadrian's Wall and the Antonine Wall¹⁴. It also served bodies of veterani, discharged but still acting as a reserve¹⁵. Vexilla were used as cavalry turma standards in auxiliary units and for legionary and praetorian cavalry¹⁶. Auxiliary cohortes had vexilla as regimental standards¹⁷. The imperial praecones, commercial collegia and religious organisations carried vexilla in processions¹⁸. Religious vexilla appear particularly in the east alongside standards

Pl (6,46,49,
(90,99

very similar to legionary signa (semeia)¹⁹. Vexilla appear with a praetorian signum on a pedestal relief in the Capitoline Museum and on a hexagonal altar in the Villa Medici (Rome), perhaps indicating the use of this standard by the cohortes praetorae²⁰. A banner from a vexillum with a painted Victory and 'L' shaped motifs like those seen on shields is preserved in the Museum of Fine Arts, Moscow²¹. An iron shaft-head with a cross-bar from Zugmantel (West Germany) has also been identified as a vexillum²². In detail the column's vexilla vary in the addition of hanging ribbons with ivy-leaf terminals (IV, V, VII, VIII), the presence or absence of a banner fringe²³ or the depiction of a spear-head atop the staff²⁴. One has a wreath (CII), one has the cross-bar supported by strings (LXXXIX), and one has a victory statuette (V). The last is seen on one of the Antonine Arch of Constantine panels²⁵. There are 17 examples of which three or four are carried by cavalry (VII, LXXXIX, CV?), forming eight variants.

Pl 162

Pl 6

With five types of standards there are in total no less than 46 variants. This variety gives the impression either of careful empirical observation or of random application of detail. The latter may be the case with the legionary signa but some of the praetorian standards are depicted in meticulous detail, especially those in scene V. This is unsurprising considering that praetorian signa were present in Rome whilst legionary standards would only have been available as models around the time of the Dacian triumphs (see 4.4). The ram imago of scene XLVIII has been interpreted by some commentators as belonging to legio I Minervia and aquila and signum variants have been linked with certain shield blazons in an attempt to identify specific legiones²⁶. This is certainly

Pl 6

Pl 43

anachronistic (see 5.2.3). The ram identification could be correct but the discovery of near-contemporary Minerva figures on the I Minervia shield covers from Bonn (West Germany) might suggest that standards would have carried this emblem²⁷. Whatever its identity the ram may come from the Dacian triumphs. If the sculptors were using it to identify a specific legio then more emblems might be expected to have been used. The supposed importance of Hadrian's own legio I Minervia on the spiral is purely speculative, considering also the lack of recognisable portraits apart from the emperor's (see 3.2.2).

Several classes of standards are missing from the spiral. There are no legionary imperial imagines which consisted of a bust mounted on a pole as seen on stelae from Chester (Cheshire), Mainz (West Germany) and Enns (Austria)²⁸. Apart from the vexilla borne by cavalry there are no characteristically auxiliary standards. Those carried by auxiliary infantry were signa with a more diverse series of elements than those seen on legionary standards, to judge from tombstone representations. Bull, lion and cockeral imagines are also attested²⁹. Animal totems may have continued Gallic and Germanic religious beliefs and military traditions³⁰. Cavalry also carried imperial imagines and more abstract devices³¹. These omissions from the column represent a further simplification for the sake of the figure type framework, and, perhaps, also underline the low status of auxiliary troops.

A study of the occurrence of standards reveals much of their role as conceived by the sculptors. Sometimes standards were depicted in camp scenes purely to emphasise the military character of the picture or to link the camp with nearby events³². They also

appear in sacrificial scenes, whatever the location, and they would P1 48
 have been paraded on such occasions in real life³³. Columns of
 march are often headed by standard-bearers in combination with P1(5-6,42,
 (89,101
 musicians, but standards never appear actually in battle except
 nearby with citizen reserve groups³⁴. In scenes XXIV and XL P1 20
 marching standards are positioned behind imperial command groups.
 Here they fulfill the double function of indicating march movement
 and, most importantly, locating the emperor. The latter role is
 the primary dictator of standard location on the column. In
adlocutiones standards define the audience opposing the imperial P1(25,41,
 (46,49
 group³⁵. More specific to Trajan's location are those scenes where
 standards congregate at the front of the audience near the speaker
 whose gaze and stance sometimes even give the appearance that he is
 addressing the standards rather than the men³⁶. In various types P1 49
 of scenes standards appear behind the imperial group, often when
 Trajan is reviewing actions in front of him or when he is in transit P1(20,59
 (90
 himself. When this is combined with the frontal adlocutio standards
 the emperor is framed and there is absolutely no doubt as to his P1 46
 position³⁷. The presence of standards in audiences is seen earlier
 on numerous coin issues and it was to have a long future development
 in metropolitan art with increasing unsubtlety (see 6.2-3)³⁸. On
 the column no other objects match the abrupt, visually arresting
 verticality of standard staffs. If these standards were gilded
 and, in addition, the emperor's cuirass was gilded and his cloak
 picked out in a distinctive colour, then the viewer on the ground
 would have had no difficulty at all in locating Trajan, even on the
 highest spirals (see 3.3.2).

Some genre scenes are bereft of standards when their presence might be expected. Scene XXXVI could, perhaps, have profited from a vexillum with the cavalry to locate the emperor. Scene L might require standards because it is at the head of a long marching column, comparable to those in CVI and CVIII. In fact it is here that the citizen troops wearing animal skins appear and it is possible that this figure type contravention resulted from an original intention to depict standard bearers being changed in the course of work. There is a small area of rocky ground above the men's heads which could have accommodated standards (see 3.2.3). The marching column in scene LV is clearly a filler squeezed into a restricted space. A citizen reserve group behind the emperor in scene LXVI lacks standards and the similar group in the scene above (LXXII) propounds the omission through its vertical correspondence of details between spirals. An adlocutio in the next scene is raised up high by a camp wall so there is insufficient space for the usual combination of standards. P1 44 P1 83

In a very crowded series of scenes a vexillum would have helped to locate the mounted Trajan in scene XCVII and the existence of the dismounted auxiliary vexillarius of scene CV serves specifically to pinpoint Trajan who would otherwise be fairly anonymous. The lack of standards in the bridge-crossing offensive of the Second War (CI) is very surprising considering the mass of them in the corresponding crossings below (IV-V, XLVIII). However, the bridge is short and the column of men merges into the next scene which does have standards in a sacrificial parade. When Trajan inspects the fortifications of the Dacian capital he is almost anonymous amongst the other soldiers (CXIV) but the sinuous P1 99 P1 98 P1 5-6,42

fortress wall and the inexplicable war machine (see 4.7.4) fill up the space above. These are all logical, and in some cases accidental, reasons for standards to have been omitted. With the exception of scenes LXI, and LXXV, it appears that the sculptors considered standards to have been inappropriate in prisoner presentation and submission scenes³⁹.

Some commentators have sought not only to identify specific units using the standards but also to elucidate 'historical' events, in particular the division and junction of armies⁴⁰. This is an anachronism in the light of the role of standards discussed above. The distinguishing of legionaries from praetorians on the basis of their standards, although more realistic, is also thrown into confusion by an examination of standard combinations.

Aquilae appear in the company of legionary signa on eight, possibly nine occasions⁴¹ and with praetorian signa six times⁴². The latter combination is also seen on the Louvre praetorians relief⁴³ and the former occurs on two Adamklissi metopes (Inv. 12-3). Legionary signa appear twice with praetorian standards (VIII, XXIV) whilst the latter occur with every other standard type except the ram imago⁴⁴. Vexilla accompany praetorian signa in eight scenes⁴⁵ and in scene V the Victory statuette on a vexillum identifies it with the three praetorian signa which have identical figures. Only once does a vexillum occur with a legionary signum (VIII) and twice with an aquila (VIII, CVI). Even in CVI a third standard present is a praetorian signum. Only in scene LXXVII does a group of soldiers entirely made up of auxiliaries carry infantry standards and in this case the signa are all legionary⁴⁶. However, in scene CXXXVII the part of the audience

Pl 107

Pl 25,56

Pl 46,48

Pl 147

Pl 20

Pl 46,49

Pl 6

carrying two praetorian signa is also made up entirely of auxiliaries and, despite the appearance of a lorica segmentata behind the emperor, scenes LXXVII and CXXXVII, representing the last adlocutiones of the two wars, may be related because of their vertical correspondance⁴⁷. They are mistaken departures from figure type conventions, perhaps resulting from a sculptor's desire for variety within the adlocutio genre. As such, they may be compared with the scenes of citizen troops in battle (LXXII) and auxiliaries engaged in construction work (XII, CXXIX). It may be significant that scene CXXIX with its auxiliary builders is directly below CXXXVII (see 3.2.3).

Pl 79

Pl 13,111

The standards were present primarily to locate the emperor and fulfill a clarification function in certain scene genres. No actions or details of armour, helmet crests or shield blazons make any distinctions between praetoriani and legionarii within the citizen figure type. This fact, together with the mixing together of standard types and the rich detailed variations within each class of standard, suggests that the sculptors were not in general concerned with such a distinction. The choice of standard types in specific situations was not entirely random because praetorian signa more often accompany the emperor in transit than other types, and details of the unarmoured soldiers sometimes with him identify these men specifically as praetoriani (see 5.7). However, the numerical preponderance of praetorian signa on the spiral may firstly be explained simply by the fact that they most often appear in threes whilst legionary signa come in twos. Secondly, the sculptors will have been familiar with praetorian standards from parades in the capital and from the emperor's appearance with signa in public, and

so they may have been less inclined to depict legionary standards⁴⁸.

If the infantry vexilla are assumed to be praetorian, as seems reasonable on the basis of the combinations discussed above, then out of 126 standards on the column 73 (59%) belong to praetoriani, and 49 (39%) to legionarii. This of course bears no relation at all to the composition of the campaign armies in Dacia. These included large numbers of full legiones and legionary vexillationes, compared with which the praetorian element would have been proportionally small⁴⁹.

5.5.2 Standard Bearers

This figure type is generally similar to auxiliary infantry in dress with caligae, lorica hamata, baldric and gladius on the wearer's right hip. On five occasions a tied belt appears around a standard bearer's waist over the lorica but like belts on auxiliaries these may be dismissed as sculptors' mistakes (V, 3, 4; LIV, 9; LXXV, 23, 25). Along with musicians, standard bearers differ from auxiliaries in having an animal skin over their head and shoulders. With few exceptions (X, CV) no helmet is worn, an omission, incidentally, that the auxiliary (XXXVI) and citizen (L) groups with skins share. Up until scene LI aquiliferi are always bare-headed, thereafter they wear animal skins. Vexillarii are bare-headed in scenes IV and VII but have skins for the rest of the spiral. Exceptions to this zoning are seen only in scenes CVI and CVIII where an aquilifer and a vexillarius have bare heads. In only one case does a standard bearer wear a skin whilst in undress attire (LXXXVII, 13). Saga are worn by bare-headed men and randomly by others. Standard bearers generally carry a small, round shield,

Pl 6,49

Pl (5-6,9,20,25
(41-2,46,
(48-9,56,59,
(94,101

Pl 31,44

Pl 101

Pl 89

with or without a central umbo and wreath blazon, but not in scenes XLII, LIV, LXIII and LXXV. P1(42,46,
(48,56

A variation of the type occurs in scenes XXVI and CVI-CVIII.

In the first case two signiferi wear belted, slipped tunics over their mail (XXVI, 10, 11). A third figure with animal skin and round shield wears a paenula (XXVI, 9) but this man, whether or not he is intended to be a standard bearer or a musician, seems to be a sculptor's figure type mistake (see 5.7). In the lower marching column of scene CVI three bearers form a group wearing, from left to right: an animal skin; a cloak and a bare head; animal skin, overtunic, cingulum and apron. They carry aquila, vexillum and signum respectively (CVI, 29, 31, 32). In the upper column of scene CVIII the same combination of three men appears except that the two in skins have lost bronze insert standards, or were never given them originally, and the bare-headed individual carries an aquila (CVIII, 21, 23, 25). Curiously, the two officers in the upper column of CVI join the upper column of the next march which as a result is led by three officers (CVIII, 27, 29; CIX, 3). Scenes CVI-CIX form a pendant string of marching and camping activities and the figures are grouped for visual effect (see 3.2.3). P1 24

Mounted standard bearers never wear skins and their dress conforms with the other cavalry around them (VII, 1, 3; LXXXIX, 5) except for one dismounted vexillarius who wears a helmet and carries an oval shield in a camp scene (CV, 2). P1 90

Much of the comparative pictorial evidence for standard bearers is provided by a small number of funerary stelae. Those of Q. Luccius and C. Valerius, Julio-Claudian signiferi of legio XIII Gemina from Mainz, depict the men in mail, pteruges, cingulum, P1 99

and apron, pugio on the left hip and gladius on the right⁵⁰. An animal skin over a helmet is portrayed in the background and each man carries a small circular shield with boss and central grip. Similarly, the Claudian stela of the auxiliary signifer Pintaius from Bonn depicts mail, an animal skin worn over a helmet, two cingula and a gladius on the man's left hip⁵¹. The contemporary auxiliary signifer Tiberius Iulius Pancunius from Neuss (West Germany) is bare-headed and wears mail with pteruges⁵². An undated stela from Ragusa (Yugoslavia) has a signifer with cingulum, gladius on left hip, a small round shield and an animal skin⁵³. Rather different is the equipment of the Claudian L. Sertorius Festus, aquilifer of lego XI Claudia from Verona (Italy)⁵⁴. He wears scale armour with pteruges and a gladius on his left hip, but no skin or helmet are included. The pre-Claudian aquilifer Gnaius Musius, from Mainz, does not wear mail, but has a fringed overtunic with pteruges, a gladius on his left hip, and a large oval shield⁵⁵. Likewise, no helmet or animal skin are shown. Lastly, a funerary altar at Verona has the figure of an unarmoured man with a gladius on his left hip and a bare head. He is flanked by an aquila and a signum⁵⁶.

In addition to stelae, the Adanklissi metopes show signiferi, vexillarii and aquiliferi with bare heads, saga, scale or mail armour and gladii on their right hips (Inv. 12-3, 26, 40). Amongst metropolitan reliefs, a fragmentary relief, now in Boston, depicts the head of a standard bearer wearing a decorated helmet with an animal skin over it, whereas the Claudian Louvre praetorians relief has an aquilifer with skin but no helmet⁵⁷. On the Great Trajanic Frieze (Fig. No. 42) and a fragment of the same work in the Villa Borghese (Rome)⁵⁸, praetorian signiferi wear fringed over-tunics

girt with cingula and aprons. They have animal skins but no helmets. This attire recalls a small bronze statuette in the Kunsthistorische Museum, Vienna, which depicts an aquilifer in animal skin and a slipped tunic girt with a cingulum over armour⁵⁹. Standard bearers on fragmentary reliefs in the Museo Gregoriano Profano (Vatican) and at Turin (Italy) wear skins alone⁶⁰, as does a man on the Arch of Benevento (Italy) who is unarmoured⁶¹. Vexillarii on the Villa Medici (Rome) hexagonal altar wear a helmet alone or a helmet with a skin over it⁶².

Pl 162

The foregoing evidence suggests a variety of sword-suspension and helmet-wearing practices which do not seriously conflict with the column's details. The incidence of helmetless standard bearers surely arises from the sculptors' desire to expose the subject's face as is evident from the two Mainz imaginiferi. Retention of the skin clarified the deceased man's rank and made it even easier to dispense with the potentially concealing cheek-pieces. In battle, bearers must have worn helmets because of the important signalling, unit cohesion and rallying roles of the standards. The bearers would have been the vulnerable special targets for enemy missiles and attempts to capture the standards⁶³. This probably also dictated the use of more complete armour coverage by standard bearers (and officers) than was provided by the 'lorica segmentata'. The comparative evidence suggests the use of alternative armour forms to the simple mail skirt of the column, but the frieze's small round shields are well supported. These were of restricted size because one hand was always holding the standard. A large shield would have been too cumbersome whilst a small one could be slung on the back if swordplay was necessary. The lack

of body armour worn by Gnaeus Musius and the overtunics of the Vienna statuette and the Great Trajanic Frieze suggest a parade element rather than battlefield equipment. The overtunics in scenes XXVI, CVI and CVIII of the column and on the statuette reveal armour which may also be worn on the Frieze in conjunction with the visible pteruges. In any case these column deviations from the normal figure type pattern are too close to the Frieze to be coincidental, again revealing knowledge some sculptors must have gleaned from direct observation, probably involving praetorian models (see 4.4).

On the column it is often difficult to be precise about the zoological identification of animal skins, but in some cases it is definitely lion skin because of a thick mane (CXIII, 3, 4). The small round ears might be taken for lion or bear but would exclude wolf pelts. The teeth on the Louvre praetorians relief are decidedly leonine as are those on the Great Trajanic Frieze. Vegetius mentions bear skins worn by standard bearers⁶⁴ and, whatever the source, skins would have imparted additional visual identity on the battlefield.

MUSICIANS

The 23 musicians on the column fall into two categories. The first is dressed in exactly the same way as the standard bearers with animal skins and they carry large, curved musical instruments instead of standards. The second type is in unarmoured attire with either the curved horn or a long, straight instrument.

The curved horn may be identified as the cornu by comparison with four funerary stelae naming cornicines and depicting the horn¹. Speidel has cleared up a confusion in Vegetius' description of musical instruments so that this writer also assigns 'cornu' to the curved horn and 'bucina' to the straight one². The cornu was probably an instrument of Etruscan origin used in funerary ceremonies and gladiatorial games³. Surviving copper alloy cornua from Pompeii were for use in the latter context⁴. It was used at least until the 4th century A.D. by the Roman army and it is represented on the Augustan Arch at Susa, the Arch at Benevento, the Great Trajanic Frieze (Fig. No. 31-3), the Adamklissi metopes (Inv. 11, 41), the Marcus Column, and the Antonine and Constantinian reliefs of the Arch of Constantine⁵. Cornua appear on one Antonine battle sarcophagus and on the 3rd century Ludovisi Sarcophagus⁶. From the stelae it is clear that cornua were used by both cavalry and infantry⁷. The usual form was of a horn curled around on itself and braced by a cross-bar which often had a short, pointed extension above the horn. On the column these extensions appear on most instruments and two cornua early on the spiral have exceptionally long and

Pl 7,56

Pl 7

slender ones with peltaform terminals (V, 8, 9). This feature is closely paralleled by a mosaic representation from the Villa at Nennig (West Germany)⁸. Despite this it is not merely coincidence that long spears also serve to fill space above the human heads in this column scene (see 5.4.5).

The straight horn on the spiral is depicted elsewhere and named as 'bucina' on a 3rd century tombstone from Istanbul (Turkey)⁹. It also appears on the Great Trajanic Frieze (Inv. No. 35, 38), Antonine reliefs on the Arch of Constantine and on other processional reliefs¹⁰. A third variant of horn seen and named on stelae, and mentioned by Vegetius, was the tuba¹¹. This may have had a tapering profile rather than the parallel sides of the column's instrument. Whatever the differences in appearance between tubae and bucinae it seems that the cornua and tubae were used in conjunction with the standards to convey audio-visual signals on the battlefield whilst the bucina was primarily for ceremonial occasions or camp signals.

On the column the cornua attend at sacrifices (VIII, CII, CIII) but appear most frequently with troops on the march (V, XXVI, CVI, CVIII). In scene XL they are with a battle reserve whilst in two scenes they are formed up with standards to witness barbarian submissions (LXI, CXXIII). Their role is compatible with the field use mentioned above and they always appear with standards. In contrast the bucinae only ever occur in suovetaurilia scenes (VIII, LIII, CIII) corresponding well with their known ceremonial role.

The column and the Great Trajanic Frieze are the only representations of musicians wearing animal skins apart from a battle sarcophagus in the Galleria Iustiniani (Rome) which is clearly copied

from the Frieze¹². Helmets are not worn under the skins. All the stelae depict musicians in undress attire and those on the Adamklissi metopes are bare-headed like the standard bearers. The metopes depict cornicines in lorica hamata, sagum, cingulum, pteruges and with a gladius on the wearer's right side. On the Frieze musicians wear a lorica squamata. Yet again the column is depicting only one form of body armour. The small shields of scene LXI are paralleled by one carried on a 3rd century cornicen's stela from Aquincum (Hungary)¹³.

Pl 138

5.7

UNARMoured SOLDIERS

The term 'unarmoured' is employed throughout this study to denote soldiers who are not wearing helmets or body armour but who may be armed and carry shields.

All tunics on the column are belted. Figures wearing only a sleeveless tunic are associated with ships (XXXIII-XXXIV, LXXIX-XXX, LXXXII) or appear in just two construction scenes (XCII, XCVII). P1 87,93

Circular protrusions appear on one or both shoulders and sometimes the tunic is slipped off one shoulder. A tunic of a different cut but with the protrusion is seen only in suovetaurilia scenes (VIII, LIII, CIII). P1 48

This has wide, three-quarter length sleeves reaching down past the elbows and it is seen whenever any type of cloak is worn by unarmoured men. Figures with saga also appear in sacrificial scenes and cloaks are worn by bystanders and imperial command groups on journeys¹. Entirely unarmoured command groups view the army's advance (VI), and receive submissions (XLVI) and emissaries P1 96

(C). Twice Trajan sacrifices wearing tunic and cloak (XCI, XCIX), and twice he travels on horseback unarmoured (LXXXIX, CII). These P1 90,94

are the equivalent of the cuirassed officer figure type. Cavalrymen with short-sleeved tunics in scene LXXXIX and a porter with a gladius in scene XXXIII appear to be unarmoured auxiliaries. P1 29,90

Trajan wears a paenula in one submission scene (XLVI) and one sacrificial ceremony (XCIX). Otherwise this form of cloak is P1 94

worn by groups in attendance during imperial journeys. In scenes XXXIII, LXXXVI and LXXXVII praetorian signa are carried whilst P1 30,89

legionary signa appear in scene LXXXV. A paenula-wearer carries a rectangular shield in scene XXXIII and a number of men in LXXXVI-VII carry curved, oval shields and helmets slung over their right chests in the manner of marching columns (IV, XLVIII, CI). Three men also wear gladii suspended from a cingulum with an apron (LXXXVI, 1, 3, 4). All the standard bearers in these scenes are indistinguishable from other unarmoured soldiers except for one who wears an animal skin (LXXXVII, 13).

P1 30

P1 88-9

P1 89

5.7.1 Tunics

A close examination of protrusions on the shoulders of some tunics suggests that they are knots of gathered material, perhaps caught up in a ring. A similar feature is visible on the Chatsworth debt-burning relief, and elsewhere². It is possible that a large neck-opening enabled the tunic to be dropped off one or both shoulders for free movement during heavy work such as rowing or tree-felling. This could have been adjusted by gathering up the material in a knot or by folding it over in front of the neck to form a comfortable pad for armour³. On the Plutei Traiani and the Chatsworth relief narrow straps across the torso keep the baggy folds in order and away from the sword⁴. The length of the tunic skirt would have varied with how much was pulled up through the waist belt.

P1 93

Where sleeves are not obscured by cloaks or pteruges, stelae and other reliefs depict the two cuts of tunic seen on the column. Short-sleeves are seen on both armoured and unarmoured soldiers⁵. This is also true of the Adamklissi metopes (Inv. 27-8, 42-3) and two unarmoured soldiers reaping corn on a relief in the Museo delle

P1 153

Terme (Rome) have short-sleeves and carry swords⁶. Longer and fuller sleeves occur on the triumphal register of the Arch of Benevento, the Pozzuoli praetorians relief, Cancelleria Relief A, and the Chatsworth relief⁷. The longer sleeves also appear on stelae of praetoriani and urbani from Italy and a small number of funerary reliefs from around the Empire⁸. A simple explanation of the knotted or folded neck, opening up the sleeves and making them short, cannot be correct because knotted, long-sleeved tunics appear on the column and the Chatsworth relief.

5.7.2 Cloaks

The sagum was a rectangular cloak which is worn by auxiliaries on a number of provincial tombstones (see 5:3.5), by legionaries on a Mainz pedestal relief and the stela of P. Flavoleius Cordus (Mainz)⁹, and by officers on the Adamklissi metopes (Inv. 39, 44). Paenulae, on the other hand, are much more common on stelae of all classes of troops in Rome and throughout the provinces¹⁰. Monumental reliefs include some large-scale and clear representations, notably Cancelleria Relief A, the Arch of Benevento, the Chatsworth and Pozzuoli praetorians reliefs¹¹ and on some Adamklissi metopes (Inv. 27-8, 38, 43, 45-7). This was a circular cloak worn with the open seam, which formed the circle's radius, on the front of the body¹². It was fastened together on the chest with studs or fibulae as seen on tombstones from Gloucester, London and Strassburg¹³. One or both sides could be folded up onto the shoulders in order to free the arms and this resulted in the front seam parting below the fastenings to create the characteristic 'W' frontal profile. The paenula appears on

some stelae worn over armour as well as over a tunic alone. The absence of paenulae on armoured troops on the column may be explained by its undesirable covering up and obscuring of the type of body armour. In contrast the sagum was fastened at one shoulder and naturally fell open to reveal much of the torso. Perhaps for this reason the armoured citizen troops on the column never wear cloaks.

Body armour would have been worn for training exercises and battles in the field, but it is uncertain whether long route-marches in secure territory would have involved columns of armoured troops¹⁴. Helmets are removed for marching on the column but heavy and hot body armour is retained. However, it is quite likely that cavalry moved unarmoured, the horse being spared the extra weight of the armour which could have been carried on pack animals, wagons or by porters¹⁵. For infantry the lorica could have been worn, effectively distributing the weight over the body, or it could have been rolled up and carried separately. Scale armour on the other hand would have had to be carried flat or folded once over because of its stiffness. The 'lorica segmentata' would collapse in on itself and make a handy, if heavy, bundle. In hostile country troops would presumably have marched fully armoured.

In other contexts the wearing of body armour may have been unusual and the unarmoured attire of most funerary stelae may reflect this faithfully. In camp, time would have been spent by soldiers and their servants cleaning equipment. Mail was self-cleaning and did not need oiling or sanding, but other body armours, helmets and weaponry needed constant attention to arrest corrosion. The work of specialist immunes and daily fatigues would

presumably have been performed in undress attire. Detachments of soldiers away from their units on clerical, customs and policing duties may have been unarmoured and time off-duty or on leave would have been spent without armour. Whether on or off duty the Herculaneum soldier was certainly unarmoured¹⁶. The troops present in Rome will presumably have been a familiar sight off-duty in the street and wine bars. The Arch of Benevento depicts undress soldiers in triumphal procession suggesting that troops marched unarmoured in triumphs¹⁷. Tacitus' description of Galba's entry into Rome mentions the white tunics of centuriones in particular. These would have been hardly visible if the usual armour forms with pteruges were worn over them and there are no rhetorical references to gleaming armour¹⁸. This might exclude the Dacian triumph of A.D. 107 as a source of information for the armour represented on the column (see 4.5).

The pictorial evidence also suggests that the praetoriani carried out their escort and other duties unarmoured. Cancelleria Relief A, the Chatsworth relief and the Plutei Traiani all have soldiers without armour escorting the emperor or burning debt records. Emperors moving around the capital, hearing legal cases, attending the games or simply in residence on the Palatine, or in any of the numerous horti, were constantly guarded by soldiers where the social contexts would have made armour quite inappropriate¹⁹. Tacitus specifically refers to the cohors on the Palatine guarding Galba, as being unarmoured, and on another occasion, soldiers escorting an emperor in the forum without armour carry gladii²⁰. There were always praetorian troops accompanying the emperor on journeys and when he stayed away from Rome in his various villae²¹.

The most important element of the undress attire was the retention of the cingulum. The Roman soldier was visually distinguished from the civilian specifically by his cingulum militare, and to a similar extent by his caligae, and this explains the prominence of the belt on stelae²². It was particularly humiliating for soldiers to have their belts cut away by civilians from Ticinum during the Civil War of A.D. 69, and when Severus cashiered the praetorians he confiscated their cingula²³. The apron worn in the 1st to 2nd centuries was decorative rather than functional²⁴. It provided no protection for the groin, especially in the shortened form used from the late 1st century. In fact, running whilst wearing a reconstructed apron can be very painful. Its value lay in the noise it made together with that of hobnails as the soldier walked²⁵. Thus it was an audio-visual identifier for the soldier and it has been psychologically important in many cultures for soldiers to form their own separate and easily recognisable society²⁶.

Generally the appearance of standards on the column does not refer to the identity of the troops associated with them (see 5.5.1) but it seems that scenes LXXXV-VIII are exceptional. On his journey to the battle front, Trajan is accompanied by troops with praetorian signa and curved, oval shields. The latter appear nowhere else on the spiral²⁷. One shield has a bolts-and-wings blazon (LXXXVI, 4). Although there is evidence for oval scuta in use by contemporary legionary troops (see 5.2.3), this shield form is closely associated with praetoriani. On Cancelleria Relief A two soldiers carry such scuta richly decorated with bolts, wings, stars and crescents²⁸. On the Pozzuoli relief fragment in Philadelphia a

curved, oval shield has tendril and scorpion blazons²⁹. On the Great Trajanic Frieze, two praetorian infantry may have oval, curved shields (Fig. No. 20, 22), and a fragment of the Frieze, now at Mantova, seems to show the rim of an oval shield³⁰. A relief from Cumae (Italy) of both armoured and unarmoured soldiers with oval shields may represent praetoriani judging from their crested helmets³¹. The pediment of the praetorian Firmidius' stela at Aquileia (Italy) shows a curved, oval scutum in profile³². Thus, it may be concluded that the column sculptors depicted groups of praetorians escorting the emperor and closely following models seen frequently in Rome.

Pl 136

The other class of unarmoured soldiers which requires comment is the one with knotted, sleeveless tunics seen rowing ships or felling trees. Logically, the rowers should be identified as classiarii belonging to the two Mediterranean fleets or to Danubian flotillas³³. A number of 1st to 2nd century stelae depict sailors in undress attire indistinguishable from that seen on praetorian, legionary and auxiliary tombstones³⁴. Moreover, the fleet stelae show both three-quarter length and short-sleeved tunics. Marines presumably wore body armour for boarding and protection against the missiles inherent to naval warfare³⁵. Marines were used to form legiones I and II Adiutrix and detachments of classiarii fought on land during the Civil War³⁶. Sailors were permanently present in Rome to manage the amphitheatre awnings and to help with marine spectacles³⁷. They were also responsible for the sea travel of the imperial family³⁸. The problem is whether or not the men clearing trees in scenes XCII and XCVII were specifically intended to be marines or just unarmoured troops. Detachments of classiarii

Pl 87,93

certainly undertook construction work in Britain and controlled the Weald iron industry, presumably to supply raw materials for ships' fittings³⁹. These scenes may be intended as taking place along the Danube but this is far from assured⁴⁰. The two scenes form a pendant in a balancing run of scenes (XCII-XCVII) and employment of these figures may just be for artistic effect (see 3.2.10). Moreover, they come at the end of a very long series of scenes, reaching back to LXXIX, which have no armoured figures, with the exception of two ineptly rendered citizen troops (LXXXV, 24, 28). Thus, a combination of scene-balancing and perhaps a mistaken figure type use might explain the occurrence of these figures in an unparalleled context.

The 17 archers appear in five scenes on the column, three times in battle (XXIV, LXVI, LXX), once in a siege (CXV) and once on the march (CVIII).

In the first battle of the spiral an archer is seen shooting a short, segmental bow with a curled-over upper ear, a normal Roman helmet and mail armour (XXIV, 38)¹. Four archers in scene LXVI (25, 26, 27, 29) shoot from a wood and are all clad in loricae hamatae and ribbed, flat-topped, conical helmets. The latter have horizontal bands and a chin strap, but no cheek-pieces or neck flange. No bows are visible. The next group of men (LXX, 1, 3, 7, 10, 15, 16) shoots segmental bows with curled-over ears. They have loricae hamatae and cylindrical quivers with conical caps suspended on their backs from baldrics. The left-most archer's lower body is clad in an ankle-length skirt. Each man wears a multi-strapped bracer on his left wrist. The helmets are conical with many ribs, a narrow peak, cheek-pieces and a widely curving neck-piece. The latter may be made of scales but the relief is badly eroded. In the advance on the Dacian capital a group of three archers march along with slingers and bare-chested irregulers (CVIII, 28, 30, 31). They wear loricae hamatae and ankle-length skirts. On the right hip they have a gladius suspended from a baldric and a quiver is strapped to the back. These quivers have no lids and the fletchings on the arrows of the middle example are delineated. The archers' helmets are conical with ribs quartering the bowl, a narrow peak,

Pl 22

Pl 69

Pl 75

Pl 102-3

cheek-pieces and a small, square neck-piece. Two bows are visible, one seen face-on, the other from the side. The former is curved and short with little detail, whilst the latter has a set-back handle, recurved limbs and parallel lines following the curve of the stave. The middle archer's bow was provided by a metal insert. Lastly, three archers give missile support to the assaults on the walls of the great Dacian fortress (CXV, 2, 4, 5). They have loricae squamatae, with fringed undergarments appearing below them, and gladii on baldrics. One man clearly wears a long skirt (CXV, 2). The helmets have more ribs than those on the last archers, and cheek-pieces, prominent bowl finials and widely curving, solid neck-flanges. Their bows are seen side-on, and have narrow staves, re-curving limbs with little curls on the ears, and set-back handles. All of the archers described have short sleeves.

Pl 108

Excepting scene XXIV, all of the archers have been consistently identified by modern commentators as easterners, 'Syrians', 'Palmyrenes' or 'Levantine'². This has been done on the knowledge that eastern archers in auxiliary units and irregular bodies were often employed in the Danubian field armies³. Moreover, their long skirts and conical helmets have been interpreted as inherently oriental features. Cichorius diversified slightly by pointing out that the helmets in scene LXVI closely resemble those worn by Sarmatian cavalry in scenes XXXI and XXXVII⁴. Thus, he favoured the dual identification of the archers as members of oriental units with, in addition, some sagittarii supplied by Trajan's Sarmatian allies. All of these conclusions are unsatisfactory and the supposed oriental details must be re-examined.

Pl 27,33-5

5.8.1 Body Armour

The archers in scenes LXVI and CXV are the only members of the Roman forces to wear scale armour despite the evidence that scale was widely used in the Roman army (see 5.1.1; 5.3.1; 5.4.1; 5.5.1; 5.6). Amongst the barbarian enemies only the armoured cavalry in scenes XXXI and XXXVII wear scale. This armour form also appears on the pedestal reliefs and on the trophy in scene LXXVIII. Moreover, long mail shirts on the pedestal are comparable with the tunic-length Roman loricae hamatae worn by archers on the spiral. Other pictorial and literary sources indicate the use of both mail and scale by Sarmatian warriors (see 5.14.1).

Pl 84,125,127
Pl 123

5.8.2 Helmets

Most of the conical helmets in scenes LXX and CXV are closely paralleled by barbarian spolia on the pedestal reliefs and by a few examples on the spiral (LXXV, LXXVIII). The Roman helmets differ from these in having reinforcing peaks which are a feature of other Roman helmet forms on the column. The archers' helmets are of spangenhelm type construction which was developed by asiatic nomads lacking plentiful metal resources but with supplies of leather and horn⁵. Curtains of mail or scale were suspended from the rim to protect the back and sides of the neck. It was not until the late 3rd century A.D. that the influence of this type of construction may be seen on mainstream Roman helmet forms⁶. On the other hand, conical helmets with one-piece iron or copper alloy bowls definitely were in Roman use. Examples have been found at Bumbeşti (Romania)⁷, Intercisa (Hungary)⁸, Dakovo (or Bosna, Yugoslavia)⁹ and Karagaach (or Bryastovets, Bulgaria)¹⁰. Significantly,

Pl 84-5,127

all are from the Danubian theatre. The first must be post-Trajanic but the others are undated. None has integral neck-guard, reinforcing peak or bowl cross-bars. Of all the helmets on the column those in scene CVIII are most like this type, although with the addition of the three Roman features the correspondence is in bowl shape alone.

One-piece conical helmets were in use in Mesopotamia in the 8th to 2nd centuries B.C. and Celtic examples date down to the 1st century B.C.¹¹. There is a 3rd to 1st centuries B.C. Sarmatian example from Staniza Ladoshkaja (Russia) but it is too early to act as a bridging example of influence from Mesopotamia via the Sarmatians to the Roman empire¹². Meanwhile, the Mesopotamian helmets moved into multi-piece bowl construction without such a conical profile, perhaps under new asiatic influences following the Parni invasions¹³. There is no evidence of one-piece, pointed conical helmet bowls amongst the many helmet fragments from Roman period Palestine, the Syrian Hauran and Dura-Europos¹⁴.

A tombstone from Housesteads (Northumberland), probably depicting an archer from cohors I Hamiorum, has a helmet which may be of the Roman conical type but the weathering of the stone and the crudeness of the helmet's delineation allows for the possibility that the shape is produced by a crest¹⁵. The stela of a horse-archer from the ala Scubulorum from Walberdorf (Austria) depicts a helmet with a normal low bowl and neck flange¹⁶. The existing conical helmets from the Danubian region exhibit a blend of influences. Figural decoration on the Dakovo and Karagaach helmets is purely classical and comparable with that on embossed cavalry sports helmets. The one-piece bowl was a Roman construction method but

the conical shape and the provision of a neck curtain links them with either the Mesopotamian or the Asiatic helmet traditions. The connection of Intercisa and Bumbesti with units of oriental archers¹⁷ and the location of these finds in the Danubian theatre makes a connection with either tradition equally likely.

Whatever equipment forms were in use on the frontiers, the helmets on the column were clearly modelled on barbarian spolia.

5.8.3 Archery Equipment

Tubular quivers are seen in Roman use on the Housesteads archer's tombstone and on horse-archer stelae from Győr and Mainz¹⁸. The first two examples have conical lids as seen in scene LXX, whilst the third example is open with visible fletchings. Quiver suspension on the back was a usage specifically of infantry, whereas cavalry almost invariably had quivers hanging from the saddle or a waist belt on the right side¹⁹. However, a note of caution must be added with regard to the column because cylindrical quivers with conical lids were a form commonly employed in Roman art for deities with toxophilical attributes and for stylised trophies²⁰. All the closed quivers on the pedestal reliefs have fold-over flaps to protect the arrows from the damp. Open examples just have the fletchings visible and, with the exception of scene LXX, they are indistinguishable from those on the spiral.

Pl 75

Pl 120-3

Bows depicted on the spiral have either a segmental profile (XXIV, LXX) or are reflexed with a set-back handle (CVIII, CVX). The ears either curl over (XXIV, LXX) or curve gently (CVIII, CXV). Virtually all the comparative pictorial and artifactual evidence suggests that the segmental profile is incorrect for the bows used

by Sarmatian, Parthian or Syrian archers and that all the war-bows were of composite construction with set-back handles²¹. Curling ears may have been a feature of some Sarmatian bows, to judge from Panticapaeum stelae and frescoes and from the lack of ear laths in Sarmatian archaeological contexts predating the 4th century A.D.²². However, all the bows on the pedestal reliefs have gently curving ears as well as recurved profiles and set-back handles. The finds of ear laths within the Roman empire demonstrate the widespread use by Roman forces of composite bows with stiff ears²³. On the other hand, short, segmental bows with curled ears are often depicted in Roman art as attributes of deities and they represent a traditional genre followed without reference to contemporary bow features²⁴.

Pl 132

It would, therefore, appear that Roman bows on the spiral were either based on a traditional artistic motif or on contemporary stave reality. The similarity of the realistically depicted bows to those seen on the pedestal reliefs again makes it likely that barbarian spolia were used as sculptors' models.

Pl 132

5.8.4 Clothing

Contrary to general opinion, the long skirt is in fact a major obstacle to the Levantine identification of the archers because it does not commonly occur as male dress in Syrian, Palmyrene, Nabataean or Parthian art. In Parthian and Palmyrene representations of the 1st to 3rd centuries A.D. and in mosaic and fresco depictions from Syria of both the Roman and Early Byzantine periods, men wear long-sleeved, hip, mid-thigh or knee-length tunics. Their legs are bare or long, baggy trousers (anaxyrides) are worn²⁵.

If the latter were made of cotton or silk they would have been cool and in any case comfortable for riding. In the hot regions of North Africa short tunics seem to have been current (see 5.11). Textile finds also support the currency of short tunics and there is little pre-Islamic evidence for ankle-length garments similar to the earlier, Assyrian cut²⁶. 'Sarongs' worn by some Palmyrene rider deities were shorter than the skirts on the column and were most likely for mounted use²⁷. A long-skirted garment on the Priest Conon fresco from Dura-Europos is the closest parallel to the one-piece column dress but this represents ceremonial, sacerdotal attire²⁸.

On the other hand, barbarian emissaries in scene C wear ankle-length garments of a type also seen on the Adamklissi crenellation reliefs (Crenellation Inv. 7-11, 13). These may be readily identified as Asiatic kaftans, the long-skirted garments which covered horsemen's legs whilst in the saddle (see 5.14.4). Thus an Asiatic element is again present.

It appears that the identification of the archers on the column is not as straightforward as commentators have suggested in the past. Details of armour, clothing and archery equipment are likely to have been taken from barbarian spolia to construct a composite figure type clearly distinguishable from other Roman types. The question is whether regular and irregular archers were in reality distinguishable from other Roman auxiliaries apart from in their replacement of shafted weapons and shield with bow and quiver. Two Tiberian stelae depict archers from cohors I

Pl 95

Pl 154

sagittariorum in tunic, cingula, pugio and gladius identical to those worn on other non-archer auxiliary tombstones²⁹. The Housesteads archer has no oriental features in his appearance if the helmet is not conical and his long sleeves are a late 2nd or 3rd century A.D. attribute³⁰. The Mainz equus singularis Augusti and horse-archers on stelae from Győr (Hungary) and Tipasa (Algeria) all wear normal tunics and breeches³¹. Officers and men of cohors XX Palmyrenorum depicted on the Tribune Terentius Fresco at Dura all wear normal 3rd century military clothing and equipment³². In contrast the Mainz horse-archer from the ala Parthorum et Araborum has an oriental form of quiver and wears a short tunic and anaxyrides whilst his calo has the normal short tunic and bare legs³³. The finds of conical helmets represent a very stylised oriental or asiatic element which may have been a distinguishing feature of some regular sagittarii. The Intercisa helmet is possibly attributable by a punched inscription to an equus cohortalis making it cavalry, not infantry equipment³⁴. Cavalry helmets had a separate development from infantry types because of different functions and it is not impossible that the equites of a cohors sagittariorum equitata had orientalising equipment whilst the larger body of pedites wore normal auxiliary armour, dress and accoutrements. Irregular bodies of archers employed for their specialist skills in campaigns presumably wore native dress and equipment which they perhaps lost if subsequently constituted as standing numeri³⁵.

Numeri of Suri and Palmyreni were present in Dacia after its annexation and scholars have suggested that the early provincial garrison reflected the composition of the army of conquest³⁶. Moreover, there was a long history, before and after the Dacian

Wars, of using archers in the Danubian theatre. They appeared in the region during the Civil War of A.D. 69, and are in Hyginus' field army. Several later 2nd and 3rd century emperors used them³⁷. Their tactical importance lay in countering the archery of Sarmatian cavalry and they were particularly effective shooting at close-order, poorly armoured barbarian infantry³⁸. There is evidence to suggest that Trajan's army did include an appreciable proportion of cohortes and numeri sagittariorum and it would be reasonable to interpret the archers on the column as firm additional evidence for this in the way that other irregular figure types provide information of troop presence³⁹. The depiction of barbarian equipment on column archers is an eclectic method of constructing the figure type partly for clarity and, presumably, partly for want of other information.

Spolia details may have combined with verbal descriptions as seems to be the case with the Sarmatian cavalry. The fact that no two groups of archers are identical indicates that this was an ad hoc process applied when appropriate without reference to previous scenes. This striving for visually distinguishable figures suggests that the auxiliary archer in scene XXIV, who is the first archer to appear on the spiral, was either a sculptural mistake or was carved before the problem of archer distinction was recognised (see 3.2.3; 4.5; 5.3; 5.17).

Sarmatian dediticii or allied forces were incorporated in Roman armies at other times but by the nature of nomadic warfare they would all have been mounted⁴⁰. There is no direct evidence that Sarmatians supplied troops for Trajan's Dacian Wars, although the Iazyges were at least passive Roman allies because of Dacian

depredations on their territories⁴¹. The column's archers cannot be said to provide this evidence on the strength of their appearance in barbarian equipment because of the process by which the figure type was formulated. The archers in scene LXVI are the first to appear on the spiral in this form, ignoring XXIV, and they occur after the sculpting of Sarmatian cavalry (XXXI, XXXVII) who have helmets and scale armour identical only with equipment worn by these particular archers. Moreover, there is some vertical correspondence between the archers and the Sarmatian cavalry, perhaps suggesting that the same sculptor was responsible for both sets of figures (see 4.5).

5.9

SLINGERS

The 10 slingers on the column occur in very similar contexts to, and often in company with the archers. In scene LXVI two slingers (28, 31) with tunic, sagum, bare legs, bare head, caligae and waist-belts support the auxiliaries and bare-chested irregulars. One man has a gladius on his right hip attached to a waist-belt and he carries the normal, if slightly small form of oval shield. His sling holds a stone the size of an orange. He uses his sagum which is wrapped over his left forearm to carry approximately eleven sling-stones. In the next battle scene one slinger appears with the archers (LXX, 2) and he differs from the other men in lacking a shield or a sword. His sling has broken away. In scene LXXII another lone slinger (17) lacking sword and shield also carries his shot in his cloak but he throws a stone with his hand, not with a sling. A group of three slingers marches towards the main Dacian fortress (CVIII, 15, 18, 20) with lost metal slings, no swords and small oval shields. Three slingers in the main assault on the fortress lack swords and shields and one has a very short surviving sling (CXIII, 10. 12. 23).

Pl 69

Pl 79

Pl 102

Quite who these slingers are meant to represent is unclear. Commentators have suggested that they are Balearic Islanders on the strength of the prominence of these people as slingers in the Punic Wars¹. Irregular specialist units of slingers appear as late as the civil wars at the end of the Republic but there is little trace of them thereafter². The dress and oval shields of the

column's slingers are no help in identification. No regular auxiliary units of funditores are known for the principate. This is in stark contrast to the widespread distribution of sling bullets of clay or lead from 1st to 3rd century A.D. limes sites³. Stone-throwing by sling or hand, to judge from Arrian and the Hadrianic adlocutio inscription at Lambaesis, was part of general training and field exercise for auxiliaries⁴. Baatz suggested that the shaped stone balls of orange size from numerous forts were for throwing by hand in mural defence rather than for shooting by artillery⁵. However, to judge by the column's standards the hand-throwing in scene LXXII may be a sculptural mistake, occurring as it does in a very confused scene. In the Late Empire sling units re-emerged, one appearing in the eastern Notitia Dignitatum lists, others gaining mention by Vegetius⁶. It is possible that sling-use declined after the Republic because of a lack of armoured enemies but revived in the east for use against enemy cataphracts because sling bullets were a particularly effective weapon against metallic armour⁷.

Like archery, slinging had to be learnt and practised from boyhood. It developed in mountainous terrain for use in herding, for redirecting straying animals or for warning off predators and its geographical longevity is notable⁸. Two possibilities arise for the identity of the column's slingers. Firstly, slinging was a feature of Celt-Iberian warfare and, whilst there is no evidence for Balearic slingers in the imperial period, there were numeri of Astures⁹. These occur in Hyginus' field army and are recorded in a Dacian War inscription which probably dates to the reign of Commodus, rather than to that of Trajan¹⁰. Unfortunately, nothing

is known about the role of these troops. They may have been slingers, but equally likely they may just have been skilled in mountain warfare like the Raeti probably were¹¹.

The second possibility is that the slingers represent armed calones. It is often forgotten by scholars that all armies up until modern times employed large numbers of servants, and cavalry especially needed sutlers, grooms and bearers¹². Epigraphic evidence for soldiers' slaves and freedmen is plentiful and calones are often depicted on funerary stelae¹³. According to Josephus and Tacitus this pool of manpower was so large on occasions that it outnumbered the soldiers and it could be armed in special circumstances to guard a camp or provide missile support with slings¹⁴.

The figure type is unspecific in that no attempt to show ethnic characteristics was made and it might be a purely artificial creation. It could be taken as evidence for the employment of irregular slingers in the Dacian Wars, or it might be based on a verbal account of the role of army servants.

5.10

BARE-CHESTED IRREGULARS

The 25 soldiers of this figure type appear in virtually every major battle on the frieze, in a march scene and in one adlocutio¹. The type is characterised as bare-headed and carrying the usual oval shield. Hair is quite short compared with Dacian styles. In scene XXVI (40) one man appears in trousers with a sword on his left hip and swinging a knotted club in his right hand. Next, a group of eight men balances a group of auxiliary infantry in animal skins (XXXVI, 12-4, 16-20). One man (13) wears a gladius suspended from a baldric on his right hip and carries a club, whilst another (17) wears a slipped tunic. The first two men in scene XXXVIII (1, 3) wield clubs but have no swords whilst the third (12) uses a sword which has been curved like a sickle to avoid obscuring the head of a kneeling Dacian. They wear long trousers. Two unsheathed swords are seen again in scene XL (55, 61), one empty scabbard with a baldric, the other without. Both men wear breeches instead of trousers. In an adlocutio two irregulars wear breeches (XLII, 10, 16) and one displays a bolts-and-wings blazon on his shield. Of the two men in scene LXVI (33, 35), one has a baldric, the other does not. The man in the next battle scene (LXX, 6) has trousers and a club but no sword, and his shield pattern of a crescent and a star is identical to those of three auxiliaries alongside him. The last bare-chested irregular in the First War has trousers and the added detail of a head-band (LXXII, 20). In the Second War, three irregulars balance the groups of

Pl 31

Pl 36

Pl 41

Pl 79

Pl 102

three archers and three slingers marching to the Dacian fortress (CVIII, 22, 24, 26). They have gladii on baldrics and the legs of two men have a horizontal line at calf level suggesting that both breeches and trousers are worn together. In the main siege one irregular has no sword or baldric and his shield has two interlocking rings on it, whilst another man has a star blazon (CXV, 13, 15).

These figures have been identified generally as Germans and specifically as Aestii on the flimsy pretext that their clubs concur with Tacitus's mention of that tribe's armament. However, the known position of the Aestii near the Baltic disqualifies them from consideration. Strobel suggested that these men are Suebi and Marcomanni on no better ground than a putative strategic role of these people in covering the left flank of Trajan's advance². The general Germanic interpretation may be correct because Germans in Roman art were principally identified by long trousers and bare torsoes, with or without a cloak (see 5.13). Whether or not they were Suebian, the sculptors distinguished them from other Germans on the spiral by omitting the cloak and the suebian knot (nodus). Their oval shields are of the same form as those carried by both sides but twice their blazons put them firmly in the Roman camp (XLII, 16; LXX, 6). Some similar idea might have been behind the choice of breeches instead of trousers but this was late in implementation, unevenly applied and in CVIII they caused some confusion. The gladii are short like all other swords used on the spiral and both sides employ the club as a primitive concussive weapon (see 5.12.3)³.

5.11

MOORISH CAVALRY

In one scene on the column, 14 unarmoured cavalrymen appear wearing nothing but knotted tunics (LXIV). These garments are fastened at a single point on each shoulder and have a waist-belt. No weapons appear or survive and the men carry circular shields without blazons or bosses (LXIV, 14). Their hair is fashioned with cork-screw curls and the fact that index fingers of three upraised hands are crooked suggests that metal shafted weapons are missing. The men ride horses without saddlery or harness except for rope reins.

Pl 61-2

These cavalry may confidently be identified as Moors because of their hair-style. This appears on coins, cameos and portrait busts of the Moorish kings Masinissa, Macipsa and Juba I, and may be traced back into Pharoanic Egyptian depictions of Libyans¹. It may be seen on late 3rd to early 2nd century B.C. terracotta Numidian horsemen from Canosa (Italy)² and on a series of 3rd century A.D. lion-hunt sarcophagi from Rome³. Prisoners being fed to wild beasts on a Zliten (Libya) mosaic wearing a similar hair-style have been identified as Berber tribesmen⁴. The style was adopted for the depiction of personified North African Roman provinces and regions, for example, on the Hadrianeum reliefs⁵.

Pl 61

The tunics on the column are of the same type as those worn by ship-rowers and may not be based specifically on Moorish models. The Canosa terracottas show a short-sleeved, fringed tunic whilst the sarcophagi have unfringed tunics of similar cut. A Moorish

rider stela from Nablus (Palestine) shows a belted tunic but the sleeve details are indeterminable⁶. This meagre evidence does suggest the use of light, unrestrictive clothing, at least in battle. The use of long garments like the jellabiyeh is unsupported, although cloaks for winter warmth might be expected.

One of the Canosa terracottas has a small, round shield and the funerary stelae from Abizar, Thinesouina and Cherfa (Algeria) show small, round shields with an incised circle representing either a boss or decoration⁷. Similar shields appear on mausoleum reliefs from Ghirza (Libya)⁸. One Rome sarcophagus has bossed, oval shields reflecting the hunting equipment usual for the genre⁹. Round cavalry shields appear on the St. Rémy (France) mausoleum and the Mantova battle frieze but do not occur on auxiliary tombstones until the later 3rd century A.D.¹⁰.

The crooked fingers on the column comply with the representations of Moorish cavalry with short javelins. The Algerian funerary stelae depict three carried in a bunch behind the shield and javelins appear singly on sarcophagi and the Nablus tombstone.

Pl 62

The lack of horse-harness on the column likewise concurs with the Algerian stelae, the terracottas, the Ghirza reliefs and the Nablus tombstone which also shows bare-back riding.

The appearance of Moorish cavalry on the spiral forms a contact point with Dio's account of the Wars¹¹. With the possible exception of the tunic, their depiction is accurate and this may be accounted for by the presence of African slaves in Rome as a result of the campaigns of Festus in A.D. 70 and Flaccus in c. 85-87 against the Garamantes and Nasamones¹². There is also some possibility that Moorish cavalry might have been included in Trajan's

triumph because of their exotic interest-value and because of the prominent position of their leader, Lusius Quietus. The latter will have been present in Rome at various times, and as a Moorish leader in his own right, he would have had an entourage which included men wearing the distinctive hairstyle¹³. The frequent use of Moorish irregular cavalry in campaigns would also have made them familiar to soldiers in Rome.

The tactical role of the Moors was as light, javelin-armed cavalry, although some infantry archers served during the Republic¹⁴. The importance of the cavalry is underlined by the appearance of horses and cavalrymen on Numidian coinage¹⁵. Moorish cavalry were specialists in skirmishing, harassment, ambush and pursuit tactics, and were greatly valued from the Punic Wars right through into post-Roman times¹⁶. They were particularly useful to Hannibal in the Second Punic War¹⁷ and caused difficulties for Roman troops in numerous North African wars and revolts. Conversely, Moorish cavalry were employed whenever possible by Roman armies campaigning in North Africa, Spain, Italy or Gaul during the Republic¹⁸. Under the Empire they served during the Civil War of A.D. 69-70¹⁹. Following the part they played in Trajan's Dacian Wars, numeri of Moors appeared in Dacia²⁰ and they were included in Hyginus' field army²¹. Light cavalry mobility was important for countering the skirmishing techniques of horse-archers. Some exchange of personnel versed in cavalry warfare was made between the African and Danubian frontiers whereby specialist horse-archers and contarii joined reinforcements for Mauretania under Pius, whilst numeri Maurorum were stationed along the Danube facing the Jazyges²².

In Trajan's Danubian Wars all their skills would have been useful although, despite the column's depiction of Moors in the mountains, their role may have been limited by broken terrain in Dacia²³.

5.12

DACIANS

The basic figure type representing the Dacians wears long trousers and a sagum. A belted, long-sleeved tunic covers the torso and extends down to the knees. At both hips the tunic skirt is slit up to a point just below the waist. Of the 635 Dacians on the spiral, 121 wear a Phrygian cap (pilleus), whilst the majority are bare-headed. Their hair style is more shaggy than that seen on the bare heads of Roman troops. Fringes appear on 146 cloaks.

There are inevitably some variations of this model. The cloak is missing from 13 men¹. In scene XXIV two figures have short-sleeved tunics and mail zig-zag edging on the sleeves (XXIV, 52, 56). The left-most Dacian has a slipped tunic over his 'mail' and where the material is parted at the hip-slit the 'tunic' underneath is fringed. A third figure in the scene (XXIV, 53) has long and short sleeves on the same arm. Short sleeves appear once more (XXXIX, 13) and in scene LXXII a Dacian has both long and short sleeves and an uncharacteristically pointed pilleus. The last man may be explained as an auxiliary changed into a Dacian during the course of work (see 3.2.3). Another Dacian in scene XXIV is bare-chested (49), and almost at the top of the spiral two men lack cloaks and tunics (CL, 7, 8). These variations may be ascribed to sculptors' negligence but otherwise the figure type is incredibly uniform and comparatively free of mistakes because it is so uncomplicated.

According to Dio, the Phrygian cap was a mark of rank amongst the Dacians². On the column this detail is applied without close attention to this consideration. Where a standard is clearly associated with a particular man he invariably wears a pilleus³.

Pl 23

However, these amount to five instances and they may just be coincidental considering that there are also 14 other Dacian standards on the spiral not clearly attended. The sculptors randomly applied the cap in large groups of Dacians at visually even intervals⁴, or produced small groupings of figures with a noticeably high proportion of pilleati⁵. Alternatively, there are runs of scenes where pilleati are virtually absent⁶. One group of emissaries is composed entirely of cap-wearers (XXXIX), whilst others have none

(XXVII, XXVIII). Whenever Decebalus is identifiable he wears a

Pl 114

cap⁷. There is little distinction that can be made between the actions of pilleati and bare-headed Dacians (comati). Likewise, 28 (19%) out of the 146 cloak-fringes occur on pilleati, the same proportion as the number of Dacians overall who are pilleati. Thus, there is no use of cloak fringes to denote status.

The bossed, oval shields used by the figure type is of exactly the same form as that carried by Roman auxiliaries. The blazons on them are largely interchangeable with Roman patterns. However, the balance of types is very different, there being fewer 'Roman' patterns and a larger proportion of abstract designs. The 'pile' pattern is especially numerous with 80 examples out of 159 visible shields, representing 50.5%. This contrasts with the 23.5% of Roman shields having 'piles' (see 3.2.4; 5.3.2; Appendix 4).

Fig 19

Pl (79,81,
(84-5,104,
(114,118

In open battle or sieges the Dacians shoot with bows which are always impractically small, with straight or curled ears, and

Pl 28

sometimes recurving, sometimes segmental limbs⁸. Three men have cylindrical quivers, with or without conical caps (XXIV, 53, 56; XCIII, 2) and overall the 14 archers make up only 2% of the Dacian forces. Offensive weaponry includes short, straight swords and clubs⁹. Two types of curved sword appear, one with a grip, guard and curved blade, the other with a straight haft and curved blade¹⁰. From the method by which these weapons are wielded it is clear that the blades have a single cutting edge on the inside of the curve. Where stone weapons have broken away leaving only a guard, it is unclear whether straight or curved swords were intended. The attitudes of empty hands designed to take metal inserts suggests the use of shafted weapons in addition to blades. One artillery piece is used in scene LXVI (see 4.7), and a battering ram appears in scene XXXII. Dolabrae are also wielded in tree-felling operations (LXVII, 4, 6, 9). Two types of standards are associated with Dacian troops, vexilla of the Roman type and canine-headed windsock standards (dracones)¹¹.

An intended variant of the Dacian figure type appears in two instances. In scene C the group of emissaries includes two figures with unusually long tunics and ribbed, conical, flat-topped headgear (C, 1, 2). One man has a quiver with a conical lid and both have a long sword in a scabbard. Where visible the latter has a rectangular chape and is suspended on a scabbard slide. A third figure has the ribbed cap or helmet (C, 8) but he wears a normal-length tunic. In common with two men in kaftans, two Dacians wear headbands (C, 7, 9; also XXIV, 53) but a third conforms to the general figure type (C, 11). In scene CLI two figures also wear long

Pl 36

Pl (70,82,
(91,118

Pl 29,72

Pl 23

Pl 95-6

Pl 118

tunics and both have the ribbed head-gear (8, 9). Dacian tunics are generally longer from scene CXLVI onwards, paradoxically coinciding with the shortening of Roman tunics.

5.12.1 Clothing

From the context of the monument and from the actions on the spiral it is evident that the majority barbarian figure type represents the Dacians. These protagonists correspond with the colossal statues of captive Dacians which adorned Trajan's Forum, many of which survive, executed in a variety of white and coloured stones¹². Some of these also wear the pilleus. Barbarians on the Great Trajanic Frieze wear exactly the same attire as the column Dacians (Fig. No. 21, 23, 25-7, 29, 39-40, 46, 48-53, 59, 62, 64, 66). The figure type also appears on Trajanic and Hadrianic coins and it is clear that it was influential after the column had been carved¹³. A similar type of barbarian appears on some of the Adamklissi crenellation reliefs (Inv. 14-22, 25) and three metopes (Inv. 23, 45-6). They have trousers, no cloak and a tunic with slits up the sides of the skirt. The tunics are closest in length to those on the column in scenes C and CLI and to the Forum statues with very long tunics. The column pedestal tunics are short-sleeved but are of indeterminate length. Some Adamklissi crenellations display a tight cap.

Pl 150

Pl 122

Tunics on the column may have been cut down in length in accordance with the sculptors' aesthetic taste but some escaped this and were depicted closer to the model. On the other hand, it is precisely in scenes C and CLI that the flat-topped, conical head-gear appears to distinguish a figure sub-type. In C, they

are part of a carefully observed and depicted series of ethnic types forming a mixed barbarian embassy comparable to scene XXVII. Pl 25,118

In CLI they are some of the very last barbarians to be fought on the spiral. Both scenes may be interpreted as forming an important part of the propaganda programme which advertises the contact with new peoples (see 2.3). Scene C, in particular, was probably composed using live barbarian models. As such it was inserted en bloc into the figure type framework in the manner, for example, of the unarmoured praetorians (see 5.7).

5.12.2 Armour

Armoured barbarians are almost never depicted in Roman art, Pl 84,123-7 yet the pedestal reliefs and scene LXXVIII depict mail, scale and banded cuirasses. Several types of helmet also appear on the spiral, the pedestal and on the Great Trajanic Frieze (see 5.14.2)¹⁴. Pl 144,156

Scale cuirasses are depicted on the Domitianic Campidoglio trophies¹⁵. Some of this armour may be ascribed to Sarmatians but not all of it, and it is likely that at least the Dacian social elite wore armour in battle. Celtic mail and helmets of an earlier date occur in the Carpathian region and mail generally played an important part in Celtic warfare. Indeed, mail itself was most likely a Celtic creation¹⁶. For the triumphal processions in Rome it must be assumed that barbarians were stripped of their arms and armour, both for security and to supply trophies on ferculi (see 4.5). On the spiral armour is used specifically to distinguish Roman figure types, cuirassed officers, citizen troops, auxiliaries and archers. The Dacians had to be unarmoured to prevent them from being visually confused with these troops.

5.12.3 Shields

The Dacian oval shields are governed in scale and carriage by the same stylising forces as are the Roman shields, thus their actual size is open to question. The pedestal shields are oval with circular bosses and, in comparison with tunics and body armour, they are massive, reaching from the equivalent of a man's ankles up to his shoulders. Here it may be suspected that size has been exaggerated in order to fill up space on the faces of the pedestal (see 5.17).. Some Celtic oval shields were very large, for example those seen on the Arch of Orange, the Gundestrup Cauldron and the Mondragon (France) Gaul statue, but even these are not as large as the pedestal shields¹⁷. On the Great Trajanic Frieze shields do not seem to have been adjusted and these reach from the knee to the shoulder (Fig. No. 23, 27, 46, 62). Oval shields occur in probable association with Dacians on two Adamklissi metopes (Inv. 31, 37). Hexagonal shield shapes are represented on the Frieze (Fig. No. 62). These also occur on the Adamklissi trophy statue and on the congeries armorum frieze¹⁸. There is a hint of a hexagonal shield's corner on Side 1 of the column's pedestal. This shape appears with Dacians on Roman coins and on a bronze artifact from Romania, now in the Louvre, depicting barbarians¹⁹. Oval and hexagonal shields are paralleled in Celtic and German contexts (see 5.13)²⁰.

The shield blazons on the spiral are exactly reproduced on the pedestal with piles, tendrils, wreaths, stars, crescents, rings and peltae. Often the basic pile pattern has the smaller motifs incorporated, an option made possible by the greater space available on the pedestal than on the spiral. The problem is whether or not these blazons accurately reflect the types of shield decoration

Pl 128

Pl 137

Pl (120-2,124,
(127-8,130,
(132,134

painted on actual shields left over from the Dacian triumph and used as models for the pedestal reliefs. Suspicion is aroused that this may not be the case because many designs are Greco-Roman in form. Three solutions may be advanced. Firstly, the blazons were completely accurate, reflecting the deep Mediterranean acculturation of Dacian society through economic links²¹. Secondly, the paintings on the actual shields may have been totally 'native' with geometric patterns, totemic animals and asiatic 'animal style' motifs²².

Faced with these alien art forms the Roman sculptors may have preferred to cover the shields of the pedestal and the spiral with familiar motifs of their own device. Torques, palmettes and piles appear on the fantastically stylised spolia of the Domitianic pilaster reliefs in the Uffizi (Florence)²³ and torques occur on a trophy relief from Parma (Italy)²⁴. The overlapping scale pattern seen on the pedestal shields occurs on Cancellaria Relief A and on a Hadrianeum panel²⁵. In any event these patterns are called deeply into question because of their use of Roman shields on the spiral (see 5.3.2). It is particularly surprising that no animals are applied, except for a lion-head on Side 1. On the Great Trajanic Frieze one Dacian shield has a bull and a lioness, another has four lionesses, and two have boar-headed musical instruments (Fig. No. 23, 27, 50, 53). Surviving or sculpted Celtic shields frequently have incised animal decorations, such as boars and storks, wooden shields from Simris (Denmark) have paint adhering, and there are literary references to this practice of shield painting²⁶. The third solution is that the actual shields were unpainted and on the pedestal their more-than-lifesize scale make it unthinkable that they be left blank. Thus the sculptors added familiar motifs to

Pl 127,129

Pl 137

fill in large expanses of empty space. The shield on the Mondragon Gaul statue, for example, may be undecorated, the lines on the face perhaps representing laminar wood construction²⁷. However, in the light of the tendency of many peoples to paint their shields, if only to help waterproof them, the third solution seems to be the least likely²⁸. The bland application on shields on the column of motifs commonly seen in Roman triumphal art best supports the hypothesis of the replacement of Dacian art styles with Roman.

5.12.4 Weapons

The curved Dacian sword on the spiral with a grip and guard, also occurs in the upper right of Side 3 and the upper left of Side 4 of the pedestal. It is seen twice on the Great Trajanic Frieze (Fig. No. 39, 62). A short, curved sword is seen on coin issues with a seated Dacian warrior and one is dropped by Decebalus in the scene on Tiberius Claudius Maximus' stela²⁹. A short, curving sword with a guard appears on an arms frieze below the trophy on the Adamklissi tropaeum³⁰ and exactly the same weapon is seen on two Severan building inscriptions from Birdoswald on Hadrian's Wall, erected by cohors I Dacorum³¹. A good number of these single-handed weapons with a grip have been found in Dacian archaeological contexts³².

A different form of weapon, also with the cutting edge on the blade's inner curve, occurs on the pedestal reliefs and, to judge by length, on the trophies in scene LXXVIII. This is a longer weapon altogether with a moulded grip for wielding two-handedly. The scale and method of use is most vividly portrayed on the Adamklissi metopes where they are wielded by men clad only in caps and

Pl(82,129-
(30,143

Pl 155

Pl 85,128

Pl(149-50,
(152

trousers (Inv. 5, 18-20, 22-3, 33-5) and once by a man in a tunic (Inv. 17). On a Domitianic or Trajanic statue base set up at Amastris (Turkey) two Dacians wearing nothing but trousers have dropped swords of the same form³³. Examples in Rome occur on a ferculum relief³⁴, on Corinthian capitals with trophies³⁵, and on the lids of the Antonine Portonaccio and Amendola sarcophagi³⁶. They are held by 'Dacia' on Trajanic and Hadrianic coins³⁷. Large blades from these weapons are found on Dacian sites, notably from Gradiştea Muncelului (Romania). The most complete example, from Cohalme (Romania) has a 50 cm long blade with a 40 cm tang³⁸.

The smaller weapon is similar to the machaira or kopis used by cavalry and Thracian troops in the Hellenistic period³⁹ and to the Celt-Iberian falcata because of its single edge on the inside of the curve⁴⁰. However, the Dacian blades either curve along their whole length over a greater arc than these weapons, or they are straight with a sharp curve at the pointed end. The Dacian curved swords are in a class of their own and are quite unknown from Celtic contexts. The edge of the single-handed weapon is like a sickle, the double is like a scythe, both conveniently implied by Statius' use of the word 'falx' for the characteristically Getic (Dacian) weapon and these swords are surely what he had in mind⁴¹.

Tacitus mentions a sword wielded with both hands when he describes the weaponry of the Sarmatian Roxolani and this may also have been an Adamklissi type of falx⁴². Whilst the falx was used by Dacians, and perhaps by Sarmatians, there is no evidence for its use earlier by the Thracians. Two misleading weapon forms obscure this fact. One was the two-handed cutting weapon (rhomphaia) used

by Thracian peltastoi in the Hellenistic period. However, Sekunda has convincingly demonstrated that this was a shafted, cut-and-thrust weapon, with an attached blade⁴³. The second weapon was a curved, two-edged short sword (sica). This was characteristically used by the Thracian type of gladiators, and the occurrence of a wooden sica at the Augustan fortress of Oberaden (West Germany) has led von Schnurbein to mistakenly compare it with the falx⁴⁴. The term 'sica' is also attached by some scholars to the single-handed falx⁴⁵. However, the similarity is superficial precisely because the falx's cutting-edge is not on the outside of the blade in contrast to the Thracian sica. The rider stela of Andes from Mainz has a falling German with a curved sword which may either be a sica or, more likely, the blade was bent in this rather cramped representation in order to avoid it sticking into the horse⁴⁶.

The straight, short swords used by Dacians on the spiral are really of the Roman gladius type and may actually be of little direct relevance to Dacian usage. However, it is quite likely that short swords were used under the influence of Sarmatian weapons although none appear on the pedestal reliefs⁴⁷. The short sword on the right-hand trophy in scene LXXVIII with its Roman form of grip and pommel is closely paralleled on the Adamklissi trophy statue hanging around a Roman muscled cuirass⁴⁸. All the swords on the column pedestal reliefs are in long and proportionally very narrow scabbards with palmette-decorated, semi-circular chapes. Many have scabbard slides for suspension and some have rings in addition. Where the swords are not too damaged three forms of grip assemblage can be recognised. Most have a long grip, a small, flat, ovoid pommel and a blocky, rectangular guard. One example

has an elliptical guard (upper left, Side 4) and one, possibly two, have guards with short curled quillons (upper left, Side 1; upper right, Side 4?). The elliptical guard example has both ring and slide suspension. The clearest example with quillons is of a well-known La Tène hilt form which developed from the arched, or 'campanulate' type, and this strongly suggests a Celtic element in the pedestal weaponry⁴⁹. P1 125

The pedestal reliefs and scene LXXVIII also depict a number of single-bladed, single-headed axes. These could be Dacian or a Sarmatian cavalry weapon. Single-handed, they could have been used on horseback and axes, especially those with a point counterbalancing the blade, were one of a variety of concussive or penetrative weapons developed for armoured cavalry warfare⁵⁰. P1 85,129

The shafted weapons on the pedestal have medium sized heads and slim shafts which are not very long, suggesting use as a missile rather than a *mêlée* role. One 'Dacian' on an Adamklissi metope (Inv. 23) has a short, shafted weapon and examples of these appear on the trophies in column scene LXXVIII. Metal insert javelins probably filled many Dacian hands on the spiral. Various sizes of javelin and spear-heads are found on native sites in Dacia⁵¹. P1 127,139

The battering-ram in scene XXXII is reproduced on Side 1 of the pedestal low down to the left of the door. This very classical form of the weapon with an actual ram's head may or may not have actually been used by the Dacians, but the appearance of one on a stylised Domitianic Campidoglio trophy adds caution⁵². The Dacian ballista in scene LXVI calls to mind the Roman technicians supplied to Decebalus by Domitian, the engines captured from Roman armies, and the same engines recaptured by Trajan⁵³. P1 150
P1 84-5
P1 28,128
P1 72

5.12.5 Standards

Little comment may be made concerning the Dacian vexilla on the spiral, trophies and pedestal reliefs other than to say that vexilla were often used with other 'Roman' items in congeries armorum reliefs (see 5.17)⁵⁴. On the other hand, there is a great deal of evidence for the pedigree and currency of the dracones. Arrian specifically attributed them to the Sarmatians from whom the Dacians presumably adopted them⁵⁵. In Arrian's tactical treatise they were used by Roman cavalry in sports manoeuvres and dracones are carried in battle scenes on the Portonaccio and Great Ludovisi Sarcophagi (Rome)⁵⁶. It is most likely that the Roman army adopted this form of standard as a result of its mid to late 1st century A.D. contacts with Sarmatians on the Danube and snake-headed examples first appear on Roman art on the Domitianic Aventine spolia pilasters⁵⁷. Dracones would have been brought to Rome in Domitian's and Trajan's reigns and they also appear on the Townley Collection (British Museum) spolia panel⁵⁸ and a Hadrianium relief⁵⁹. A 2nd or 3rd century relief from Chester (Cheshire) depicts either a soldier or a Danubian Rider God carrying a draco⁶⁰. Snake attributes on Rider God plaques confuse the issue but it is clear that some representations do depict these deities with this form of standard⁶¹.

Pl(23,85,
(122Pl(84-5,
(134

Pl 158,160

On the column dracones are wolf-headed, to judge from the teeth and pointed ears, and the body was presumably made of light material, such as silk, to allow it to bellow out like a wind-sock as Arrian describes. A Chinese description of the Turks dating to A.D. 581 mentions standards with golden wolf-heads⁶² and Central Asiatic frescoes depict such dracones up until the 8th century A.D.⁶³.

However, the gilded copper alloy draco-head from Niederbieber (West Germany) dating to the 3rd quarter of the 3rd century, has a stylised snake's head with crest, scales and flaring nostrils⁶⁴. A 7th century A.D. silver draco head in the Hermitage Museum (Leningrad) is based on the mythical Iranian Senmurv or dog-bird hybrid⁶⁵. Thus the dracones on the column are a definitely Asiatic element of the Dacian equipment. There is evidence to suggest that the Sassanids adopted the draco, perhaps also because of Asiatic contacts⁶⁶, and the steppe influences on the sedentary Dacians and Romans in the West is later directly paralleled by the Carolingian Frankish adoption of draco standards from either the Avars or the Magyars⁶⁷.

5.12.6 Musical Instruments

Two types of barbarian musical instruments appear on the pedestal reliefs. The first is a long, straight horn like the Roman bucina or tuba. The second is a long, straight tube with a curved-over bear's head forming the mouth. The animal is identifiable by its stylised comb of bristles. The horn is a Celtic carnyx of a type seen on Roman trophies and coins and represented in profusion on the Tiberian Arch of Orange⁶³. Boar-headed carnyces identical to those on the pedestal reliefs are seen being blown on the Gundestrup Cauldron⁶⁹ and a feature of Celtic warfare noted repeatedly by classical writers was the cacophony of the horns⁷⁰. Carnyces appear on the Domitianic Aventine pilasters⁷¹ and as a Dacian shield blazon on the Great Trajanic Frieze (Fig. No. 23, 53). On the Hellenistic Athena Polias reliefs from Pergamon (Turkey) a Galatian carnyx is depicted with a cow's head⁷². A copper alloy

Pl 122

Pl 133

boar head from Deskford (Banffshire) has been identified as a carnyx mouth and a trumpet tube from Tattershall Bridge (Lincolnshire) has the boar's bristles but the mouth is lost⁷³. Alongside the arch-hilted long sword, these horns are a reflection of the Celtic element in Dacian culture and amongst the congeries armorum they are attributable to the Dacians alone, rather than to their Sarmatian allies⁷⁴.

5.12.7 Cavalry

The 21 Dacian cavalry are no different in appearance from the infantry. Their horse furniture is more simple than that seen on Roman mounts, consisting of a breacher and chest straps with a crescent pendant in the middle of the chest. The latter is seen on the Great Trajanic Frieze (Fig. No. 53). In scenes CXLIII-IV five horses have ivy-leaf pendants in addition to lunulae. One has a hanging strap with teardrop terminal attached to the chest strap in front of the saddle cloth (CXLIV, 3). This is similar to those seen on Roman horses in scene XXI (see 5.4.7). Another horse has a girth strap visible because of the very short saddle cloth (CXLIII, 3). The breachers in particular do not point towards the saddles although the one riderless Dacian horse on the spiral appears to be depicted with only a fringed saddle cloth and no saddle (CXXXIX, 1). Saddle cloths are generally short and saddle horns are not visible except in two cases (CXLV, 3, 4). Sometimes mounts are bare-backed (XXXI, 2, 9). Dacian cavalry only appear thrice, crossing a river (XXXI), in Decebalus' adlocutio scene (CXXXIX) and at the end escorting the king in flight (CXLIII-V).

The tunic-clad figures on the column do appear on the Adamklissi metopes and crenellations, making up almost half of the latter (11 out of 23). The topless metope falx-men are not on the crenellations but do appear on the Amastris statue base⁷⁵. They occur on only some of the Trajanic coin issues depicting a horseman riding down a barbarian⁷⁶. The Decebalus figure on the stela of Tiberius Claudius Maximus wears only trousers and a pilleus⁷⁷. According to scholars who would see two Dacian Wars depicted on the metopes, one relief (Inv. 6) has Decebalus, again in only trousers and pilleus, specifically reproducing the coin motif⁷⁸. Patsch identified the metope figures as Roxolani because they accompany wagons which often appear in classical sources as a normal feature, and because of Tacitus' description of Sarmatians with two-handed swords⁷⁹. Florescu disagreed because the armoured Sarmatians on the column have short swords, and he preferred to see the metope figures as Decebalus' Dacians⁸⁰. Vulpe viewed the double-handed falx as an eastern Carpathian weapon because it is not wielded on the spiral, and he identified the metope figures as eastern Dacians independent of Decebalus⁸¹. However, the artifactual and pictorial evidence for falces reviewed here suggests a coexistence of both types of falx in the Dacian heartland. An identification with Roxolani fails to explain why the falx-men are not wearing kaftans (see 5.14.4). Another identification put forward by Furtwängler, Richmond and Syme suggested that the wagon people are Transdanubian lowlanders⁸². These Getic tribes were militarily strong and independent in the 3rd to 1st century B.C. but by the 1st century A.D., under the domination of Dacians, Bastarnae or Roxolani, they had no political identity and thus no

Pl 150

Pl 152

role in Roman literary sources⁸³. Vague references to 'transdanuviani' seem to include them⁸⁴.

The wagons on the metopes might suggest that the associated figures did not belong to a mountain people and the presence of women, children and livestock perhaps denotes migration rather than simply a barbarian raiding scenario. The appearance of wagons only in scene XXXVIII on the column has contributed to the 'Moesian Invasion' theory whereby Decebalus is supposed somehow to have set in motion a mixed-force invasion across the Danube to divert Trajan away from the Dacian kingdom (see 2.2)⁸⁵.

Pl 36

The link between the falx and Tacitus' two-handed swords is problematical because such a sword does not belong in a description of Asiatic cavalry which in other respects accords very well with other sources (see 5.14). Whilst a bow or a contus is a weapon used with both hands on horseback, in almost the entire history of mounted warfare swords have never been used two-handedly⁸⁶. To do so would be to considerably reduce a bladed-weapon's reach and would also cause the horseman to be in serious danger of overbalancing during a swing and losing his seat. Tacitus specifically states that the Roxolani were useless in fighting dismounted⁸⁷ and in any case steppe cavalry would not have carried weapons designed for foot combat. Asiatic long swords of the period did have long grips⁸⁸ so Tacitus' description may be explained in three ways. Perhaps he saw barbarian spolia in Rome from Flavian-Trajanic Danubian wars and assumed that these Asiatic swords were for use in two hands, thus he was in fact describing swords rather than falces. Alternatively, his description may have been drawn from contemporary accounts of Danubian conflicts, literary or verbal,

and not necessarily exclusively applicable to the 9,000 Roxolani of the A.D. 69 incursion⁸⁹. The dynamics of steppe horde expansion in many periods often meant that a horde took its name from the dominant tribal or ethnic element⁹⁰. Thus Tacitus' Roxolani description could incorporate features of subject peoples such as Getic, falx-wielding wagon-folk. Identifying the falx with his two-handed sword does not therefore necessitate identifying the wagon people of the metopes as Roxolani. Thirdly, in writing his description Tacitus may have carelessly extended the two-handed use of the contus to include the sword as well (see 5.14.3).

The differences between the column Dacians and the metope figures may conceivably be explained by the two monuments depicting different 'historical' events, thus different groups of barbarians. Assuming, for the sake of discussion, that they both depict the two Dacian Wars, then the differences might be ascribed to two factors, one practical, one artistic. The former is perhaps that the Dacians habitually stripped to the waist to keep cool whilst exerting themselves with the double-handed falx. This recalls Polybius' naked Celtic gaesatae who stripped to stop vegetation entangling their clothing in battle⁹¹. The artistic reason may have been that to have all the Dacians using the two-handed falx on the column would have entailed the sculpting of many clumsy figure poses alien to compositional practice for battle scenes. A few Dacian figures wield dolabrae or throw stones with two hands⁹² but double-handed falx-men would have caused the battle-scenes to lose their traditional Amazonomachy-like aspect. To avoid this the sculptors either depicted the single-handed falx variant with a guard, or they simply scaled down the double-handed falx and showed it used in

one hand. This explains the small falces with hafts instead of hilts which do not occur archaeologically and which are only seen elsewhere in the hands of two provincial personifications on Hadrianeum panels⁹³.

Following on from this, the overriding reason for the differences in costume between the two monuments must be that the column designers chose one particular barbarian model for figure type classification and stuck with it. As it happens, this solution reflected some of the realities of Dacian attire as illustrated by the Adamklissi crenellation reliefs. The Dacian triumph and the presence of barbarian slaves in Rome would have been adequate sources of information available to the sculptors (see 4.5). Divergences were made from the figure type through negligence or design but it is unclear whether the latter (C, CLI) hold any real 'historical' significance for developments in the Danubian theatre. More attention was being paid to the propaganda message for public consumption in Rome.

5.13

GERMANS

On three occasions 9 members of a barbarian figure type are distinguished by a hair-knot on the side or front of their heads. In two emissary scenes, seven men have long trousers, bare torsoes and cloaks (XXVII, 6, 9; C, 6, 10, 12-14). In a battle scene one man has the knot but wears a tunic and a second has a very un-Dacian hairstyle and facial features (XXXVIII, 22, 24). This figure type also relates to the fallen 'messenger' in scene IX.

Pl 25-6,96

Pl 8

A large number of bronze statuettes, marble heads, reliefs and terracottas depict the hair-knot and a series of classical literary references calling it the nodus identify it as an unequivocally German feature¹. Two rider stelae from the Rhineland depict fallen Germans with knots² and on six Adamklissi crenellations (Crenellation Inv. 1-6) and six metopes (Inv. 16-7, 20, 23, 29, 47) barbarians wear the nodus. Surviving hair on some Danish bog corpses is dressed in this fashion³ and although the nodus is referred to as 'Suebian' it was not confined to people of 'Suebian' culture. Equally, not all Germans wore the nodus⁴. The bare torso with cloak and trousers seen on the column is a clothing convention often, but not exclusively, used in Roman art to represent Germans⁵. The oval shields on the column carried by Germans are identical to Roman auxiliary and Dacian shields. Bossed, oval shields also appear with Germans on the Adamklissi metopes (Inv. 16, 21) and trophy frieze⁶. Elsewhere, representations of German shields and surviving artifacts suggest a great variety of Celtic-inspired

Pl 149-50

forms: bossed rectangular, ribbed oval, ribbed sub-oval or ribbed rectangular⁷. Short shafted weapons (Inv. 16-7, 21), not swords are used on the metopes, corresponding perhaps with Tacitus' description of Germanic frameae⁸. Swords do appear on tombstones and in Free German funerary assemblages⁹.

The appearance of a German in scene XXXVIII was a linchpin of Vulpe's theory that alongside the wagons, this identifies the Adamklissi metopes with the events of scenes XXXI-XLV¹⁰. Nowhere else on the column do Germans appear in combat. He labelled them as Buri following Dio's reference to 'Buri and other allies' who sent a warning to Trajan written on a mushroom (scene IX)¹¹. Vulpe suggested that the Byzantine epitomiser of Dio excluded an account of the putative Moesian incursion of A.D. 101-2 for stylistic reasons but left in the reference to the Buri elsewhere because they played a large part in the full account as allies of Decebalus. The 'arrogance' of their warning was used to argue for their alliance with Dacia, not with Rome¹². Moreover, Tacitus associated the Buri with the Marcomanni and Quadi and says that they were Suebic in language and culture¹³, thus they wore the nodus and appear on the column and the metopes.

Vulpe's theory suffers from the fact that the Buri were not geographically well placed for an incursion into Moesia. Tacitus locates them with the Marcomanni and Quadi. The Historia Augusta lists the tribes which conspired against the Empire during the reign of Marcus in eastern and western groups, and the Buri appear in the west with Quadi, Suebi, Marcomanni and Sarmatae (Iazyges)¹⁴. Commodus required the Marcomanni and Quadi by treaty not to attack the Buri and Iazyges. This would place them somewhere west, north

or north-west of Dacia. Buri prefixes in Wallachian place-names may be ascribed to Ptolemy's Buridavenses rather than to the Buri¹⁵. The warning sent to Trajan may of course have been friendly and, significantly, the meagre evidence available suggests that the Marcomanni, Quadi and Iazyges in the west were at least neutral during Trajan's Dacian Wars¹⁶. The Germans in the emissary scenes (XXVII, C) could be Roman allies, Buri or others, but for sound geographical and political reasons the Germanic Adamklissi and column protagonists were not Buri.

Furtwängler was the first to identify the Adamklissi Germans as Bastarnae thinking that the tropaeum Traiani was Augustan in date, built to commemorate the campaign of M. Licinius Crassus Frugi in 29 B.C. The Trajanic inscription of the monument was mistakenly judged to be secondary¹⁷. This dating has been disproved but the Germans-Bastarnae identification has retained its currency¹⁸. Vulpe excluded the Bastarnae from the scenario because he believed there to be no recorded diplomatic or military contact between them and the Empire from the time of Augustus to the wars of Marcus¹⁹. However, the Neronian diplomatic activities of Tiberius Plautius Silvanus Aelianus included the return of sons to the kings of the Bastarnae and Roxolani, significantly mentioned together on an inscription²⁰. The transdanubian activities of L. Tampus Flavianus in A.D. 69 were likely not to have involved the Bastarnae²¹.

When the Bastarnae crossed the Danube in 179 B.C., according to Livy they were culturally similar to the Celtic Scordisci²². Appian identified them as 'Getae' and Dio called them 'Scythians' with wagons in the Augustan conflicts²³. The presence of wagons may have been a Sarmaticizing feature, as Tacitus suggests, but this

is not necessarily the case²⁴. It cannot reasonably be used to identify the wagon and falx people on the metopes with the Bastarnae because Tacitus also said that the Bastarnae of his time were Germanic in culture, language and, most significantly, form of settlement²⁵. Strabo writing in the Augustan period agrees with this²⁶. These changing cultural labels may be symptomatic of the Bastarnae evolving under changing influences in different periods. In the Trajanic period they were Germanic and permit an identification with the Adamklissi nodus wearers. Whether or not their culture was specifically 'Suebic' is unknown but most likely because all the German tribes to the west seem to have been so designated.

Despite their defeat at the hands of Burebista, the Bastarnae were traditionally Dacian allies²⁷. They were associated with the Roxolani in the Neronian Silvanus inscription and were placed in the eastern group of Marcus' barbarian enemies with Alani and Roxolani²⁸. Together with their involvement in Danubian and Balkan events and their cross-river invasions a general location in the Wallachia-Moldavia-Besserabia region is assured. In the Trajanic period the archaeological record suggests that Moravia and Besserabia were occupied by the Germanic Poienesti Group²⁹. Such a position for the Bastarnae fits the general political alignment of peoples west and east of Dacia and explains the prominence of Germans on the Adamklissi reliefs.

The identification of the falling figure in scene IX as a Burus is problematic because this person displays no ethnic characteristics of dress or hair-style³⁰. He has short hair of Roman cut and one of the slipped tunics (see 5.7.1), yet he carries a pocked, round object which is clearly not a shield and which is

most likely the mushroom mentioned by Dio³¹. The solution to this problem may lie in the fact that this is the first barbarian to appear on the spiral (the next is in XVIII) and, as with scene VI, there may have been early indecision in the delineation of figure types (see 3.2.3). The tunic is of a very generalised form used throughout the spiral for want of diagnostic features, a want arising perhaps from lack of information.

5.14

SARMATIANS

Two very different types of figures may be identified as belonging to a single ethnic group. In two scenes armoured barbarian cavalry appear (XXXI, 18, 19, 22; XXXVII, 9-14). They are P1 27,33-5 uniformly clad in ankle and wrist-length scale armour, a narrow waist-belt and a conical, banded and ribbed, flat-topped or pointed helmet. Their horses are likewise covered in scale armour down to their hooves and have pierced eye-guards. Muzzles, ears and docked tails are visible and reins are the only form of harness depicted. A ridge of vertical scales appears on the horses' necks. The armour of man and horse fits the body and limbs very tightly. One man shoots a bow over the hind-quarters of his mount (XXXVII, 12), one has a scabbarded short sword with a semi-circular chape (XXXVII, 13) and two appear to have lost shafted weapons (XXXI, 18, 19). In scene C three barbarian ambassadors each wear a long-sleeved garment P1 95 with horizontal seams across the torso and an ankle-length skirt (C, 3-5).

5.14.1 Body Armour

This depiction of armoured barbarian figures on the column is almost unique in Roman art. Roman literary sources only referred commonly to Sarmatian tribes amongst Rome's contemporary barbarian enemies in Europe as having armoured cavalry. Tacitus described the Roxolani as armoured lancers and Pausanias saw captured Sarmatian horn scales at Olympia (Greece). Ammianus Marcellinus specifically

referred to Sarmatian horn scale armour in the 4th century A.D.¹. Reliefs and tomb paintings in the Sarmaticized Bosphoran city states, many of 1st century A.D. date, depict horsemen in mail or scale body armour and horses with scale trappers. Roman literary references to Trajanic conflicts with Sarmatians further support the identification of the column's armoured barbarian cavalry with these Iranian nomads².

The stela of Tryphon from Kertsch-Panticapaeum (U.S.S.R.) depicts a rider on an unarmoured horse³. He wears a scale cuirass reaching down to his elbows and mid-thighs. A cap or helmet sits on his head and he wields a lance with both hands. No other weapons are visible. Charging lancers appear on frescoes with the two-handed contus, conical, ribbed helmets and mail cuirasses extending to elbows and thighs⁴. Another Panticapaeum stela depicts a horse wearing a scale trapper which hangs down on either side of its body⁵. Depictions of heavily armoured horsemen in the Partho-Sassanid sphere include various forms of scale, mail, segmental plate or fabric armour for the rider and partial or complete scale, lamellar or fabric armour for the horse⁶. Two trappers of iron and copper alloy scales stitched to a fabric backing were found in Tower 19 at Dura-Europos⁷. When worn these hung down freely on either side of the horse. Elsewhere at Dura two graffiti depict horses wearing a trapper with a separate neck-piece and chamfron. One has a separate peytral⁸. The last three items without a trapper are seen on the 7th century A.D. Tāq-i-Bustān horseman relief⁹. These pieces were presumably tied by lacing or strapping around the horse but all the depictions and artifacts, Bosphoran and Partho-Sassanid, make it clear that they hung down freely from the body. They were

not strapped up closely underneath the horse and there is no evidence that in any historical period horses have had their legs armoured in the manner of the column¹⁰.

It may be concluded that the close-fitting nature of the column's scale armour is inaccurate and also that the visible torso musculature of the riders results from the same stylising influence as was at work on mail depiction (see 5.3.1). Scale armour was inflexible and could not be so closely tailored to the body if either rider or horse were to move. A form of scale leg armour was employed in the Achaemenid period, perhaps as a result of Persian contacts with the Massagetae who seem to have developed heavy cavalry armour first. However, this armour was a wide leg-guard or chap, not a close-fitting trouser¹¹. The horses' eye-guards depicted on the column as small domes with drilled holes are paralleled by the many eye-protectors from Roman cavalry sports chamfrons¹². The possibility cannot be ruled out that the sculptors had seen such chamfrons rather than horse-armour proper¹³. Unfortunately, there is no horse-armour on the pedestal reliefs which could be used for comparison with the spiral scenes. Despite the size of horse-armour panoply it could have been divided up into its constituent elements for display on the pedestal in the manner of the chamfrons and peytrals on the Hellenistic Athena Polias frieze from Pergamon (Turkey)¹⁴, or the chamfron on the 1st century B.C. S. Omobono (Rome) frieze¹⁵. Horse-armour may not of course have been captured and taken to Rome for the triumph. More likely the horse-armour may have been difficult to place on a conventional Roman trophy, whereas scene LXXVIII demonstrates that everything else on the pedestal reliefs could have been so displayed.

Pl 27,35

Pl 84-5

Three forms of armour appear on the pedestal: mail, scale and 'banded'. The mail is not zig-zag edged in the manner of the loricae hamatae on the spiral but it is of the same short-sleeved and short-skirted cut. Its ring structure is superbly depicted in the manner of the Great Trajanic Frieze, presumably because of the larger than lifesize scale of the work (see 5.1.7). The Panticapaeum fresco mail may result from the Sarmaticised Bosphoran nobility having had access in their towns to sedentary workshops which could produce this form of armour¹⁶. It might, therefore, be considered just as likely that the pedestal mail belonged to the sedentary Dacians as to the Sarmatians. Mail will have been acquired through trade and raid by nomads on the fringes of settled cultures, as the Roxolani were on the edge of the Roman Empire and in contact with other, non-nomadic barbarian cultures. The scale armour on the pedestal is either short-sleeved or with elbow-length sleeves like the scale on the Tryphon stela. The spiral's wrist-length scale would have been quite inflexible. Scale may be manufactured from organic materials such as bone, horn, leather and wood, laced to a leather or fabric backing. In steppe societies poor in metal resources the organic forms would have been readily available as described by Pausanias and Ammianus. Tacitus on the other hand may refer to metallic scale¹⁷.

Pl 123

Pl 140,144

Pl (120-1,
(125

The third form of armour on the pedestal is composed of horizontal bands and reaches down to mid-thigh level. It is fastened with buckles down the front. This may represent thick felt bands used for protection. Leather would have necessitated boiling to render it hard and protective which would have made this armour impractically inflexible. Felt armour was used specifically by

Pl 124

the Avars as another non-metallic solution for horse-armour¹⁸. Alternatively, the banded cuirasses may represent lamellar armour, as Gamber suggested¹⁹. Lamellar consisted of small, rectangular plates laced to each other, rather than to a backing, to form a protection which was more flexible than scale and which could be worn with other armours, for example, over mail²⁰. It had a dual tradition, partly Mesopotamian using copper alloy lamellae, partly Asiatic employing organic materials. The steppe tradition became prevalent in influencing Medieval Byzantine and European armour forms, and lamellar armour, often with long leg-covering skirts for horsemen, appears repeatedly on Central Asiatic frescoes and terracottas²¹. It also occurs in the representations of steppe nomads in the arts of sedentary societies (Chinese, Indian, Persian etc.)²². A significant trait of these art works is that the horizontal lines of lamellar lacing catch the artist's eye. A shorthand depiction often used horizontal coloured lines for this lacing and thin, dark vertical lines for the edges of lamellae. Going one stage further, artists sometimes omitted the vertical lines, as, for example, on the Gora Mug (U.S.S.R.) shield painting. This created the effect of a banded cuirass very similar to the column pedestal's armour²³. Lamellar was used in the Roman army and its application alongside other pieces of defensive equipment in a composite panoply is well indicated by the lamellar tassets from Dura-Europos²⁴. Steppe contacts may have played a part in this currency.

5.14.2 Helmets

The ribbed and banded, flat-topped conical helmets on the

spiral's armoured Sarmatians (XXXI, XXXVII) do not appear anywhere on the pedestal reliefs, nor are there clear artifactual or pictorial parallels for this form. It is used to clearly distinguish a Dacian figure sub-type (C, CLI) and appears with one group of Roman archers (LXVI). The pedestal helmets fall into three very different categories. The first has a conical, rounded bowl with ribs and tendril decoration. One variant of this has a small, pointed nasal at the front and some helmets have a spike on top of the bowl. All have a neck-protecting scale or mail curtain suspended from the back. Many have cheek-pieces although often these were heavily undercut and have suffered damage. These helmets closely parallel those worn by some Roman archers (LXX, CVIII, CXV) and are of the type seen in scenes LXXV and LXXVIII. It is likely that ribbed helmets were also a steppe innovation whereby plates of wood or horn with a minimum of metal could form a bowl for the cranium and be supplemented by mail, scale or felt to protect the neck. They are seen on the Panticapaeum tomb frescoes²⁵. This low-technology 'spangenhelm' form affected the Mesopotamian bowls composed of two or more metal pieces and it continued in Western barbarian use into the Medieval period²⁶. The small, pointed nasal on the pedestal helmets is a significant feature which looks forward to the pointed brow-bands of 3rd century A.D. Roman cavalry helmets and to the fully developed nasals of 4th century helmets as Roman helmet design was increasingly influenced by Asiatic models²⁷. The two-part bowl in the upper left of Side 4 of the pedestal is remarkably similar to Partho-Sassanid helmet finds, sculptures and coin representations of helmeted kings²⁸.

Pl(69, 95-
(6,118

Pl 127

Pl 84-5,108

Pl 134

The third type of helmet on the pedestal has the curtain, cheek-pieces and pointed nasal of other models but the bowl has the profile of a pointed, upstanding Phrygian cap. The exterior often has fluted decoration and griffins in relief. A comb sometimes has pelta decoration. Roman 'Phrygian' helmets appear on the Arch of Severus (Forum Romanum) and on some 3rd century A.D. sarcophagi but there is little in the Roman, Mesopotamian or Asiatic artifactual record to parallel the pedestal helmets²⁹. Like the Dacian shields the decoration on them is classical and it is tempting to link them with Dacian pilleati. They do not appear on the spiral at all.

The flat-topped helmets on the spiral remain to be examined. Conceivably they were a type of helmet which was available for the sculptors to use as a model but not incorporated in the pedestal reliefs. Alternatively, they were invented by the sculptors for the fancifully armoured Sarmatians and used thereafter when a barbarian helmet was required. One Panticapaeum fresco depicts helmets with horizontal as well as vertical bands but the bowls are pointed, not flat-topped³⁰. The form appears as a hat on a 2nd century A.D. relief in the Museo Gregoriano Profano (Vatican)³¹, on the Townley Collection (British Museum) spolia panel³², and on the Marcus Column³³, but all of these are clearly derivative from Trajan's column, so cannot be employed as independent comparative evidence.

Pl 160-1

Pl 174

5.14.3 Weapons

The short sword in scene XXXVII may reflect short sword forms in Sarmatian use. However, the latter are distinguished by a

prominent ring-pommel and they are not found with chapes of the semi-circular form depicted on the column³⁴. There is some possibility that small, single-handed falces were used by some Sarmatians³⁵. The long swords in scene C, one with a scabbard slide visible, and the majority of swords on the pedestal reliefs, are paralleled by the Asiatic long swords in Sarmatian use from the 1st century B.C. onwards. The long, narrow blade, the small pommel and the rectangular guard are all seen on artifacts and on Bosphoran frescoes and stelae³⁶. The scabbard slide in particular was a central Asiatic feature spread to sedentary cultures through their nomadic contacts³⁷. Long, narrow swords occur in Celtic La Tène contexts and some belt attachments do resemble slides³⁸. However, the attachment is usually closer to the scabbard mouth than is the case on Asiatic and pedestal relief weapons. Moreover, the most important feature of the Asiatic slide was that it was worn outermost whereas the available evidence suggests that Celtic scabbard attachments were positioned against the wearer's body³⁹. The slide spread into India and Iran and, by the late 2nd century A.D., into Roman usage probably as a result of Iranian influence in the Danubian theatre⁴⁰. The long sword was an equestrian weapon designed to increase a rider's offensive reach whilst the slide developed as the most efficient form of scabbard attachment to a waist belt. On the column the swords in scene C are clearly influenced by the observation of barbarian spolia. These and the swords on the pedestal may have been taken from Sarmatians but, equally, Dacian sword forms and furniture may have been heavily Sarmaticised. These straight long swords continued in Asiatic use until their supercession in the 8th-9th centuries by curved sabre forms⁴¹.

Pl 95

Pl 127,131

Only one Sarmatian on the spiral is depicted with a bow (XXXVII, 12). This has a small, segmental stave with curled ears and it is indistinguishable from bows shot by Dacians. Bows on the pedestal are all longer and have gently curving limbs and ears, and a set back handle. It would appear that notice of barbarian spolia was taken by the spiral sculptors for some bows used by Roman archers, but not for the barbarians themselves. Whip-ended bows were used by Sarmatians and Sarmaticised Bosphorani, to judge from frescoes and stelae, and from the lack of ear latks from middle Sarmatian funerary contexts⁴². However, these representations suit the size of the pedestal bows and not those on the spiral. A naked barbarian archer appears on an Adamklissi metope (Inv. 31) with a poorly depicted segmental bow but on another metope (Inv. 37) a long unstrung bow is shown in its case hanging from the side of a wagon. The case is an open ended sheath of a type seen on some Bosphoran stelae⁴³. The Sarmatian archer on the spiral is performing the 'Parthian Shot', a method of retreating whilst continuing to shoot, employed by horse-archers of all periods⁴⁴.

Most of the quivers on the pedestal are of the same tubular form as those carried by Dacians on the spiral. This is principally an infantry form carried on the archer's back (see 5.8.3)⁴⁵. They do not have conical caps but some have fold-over weather proofing flaps, a more convincing detail than the caps seen so often on the quivers of classical deities. The Campidoglio trophies have cylindrical quivers with conical caps as do the Domitianic Aventine pilasters⁴⁶. One Adamklissi metope has a tapering, open quiver (Inv. 57). Another type appears once on each side of the pedestal down in each bottom left-hand corner. These consist of a combined

Pl 133

Pl 132

Pl 120-2

bow-case and quiver similar to the Scythian gorytus and they are a specifically equestrian form designed to be suspended from a waist-belt on the rider's left side⁴⁷. Numerous Bosphoran stelae and frescoes depict this combination form which took a strung, rather than an unstrung bow-stave⁴⁸. For once a clear distinction may be made between Dacian and Sarmatian equipment on the pedestal, tubular quivers for the Dacians, gorytus form for the Sarmatians.

The Sarmatian offensive weapon which made the most impression on Roman writers and which is often depicted in Bosphoran art was the long lance⁴⁹. This contus was wielded two-handedly by all armoured cavalry in steppe and Partho-Sassanid armies and so a shield was an unnecessary addition⁵⁰. Some of the Sarmatians in scenes XXXI and XXXVII appear from their stances to carry shafted weapons but it is doubtful whether full-length lances would have been inserted. No long lances could be depicted in the limited space of the pedestal reliefs. The short spears or javelins on the latter may confidently be ascribed to the Dacians because Sarmatian cavalry primarily worked with the bow and lance combination of missile and impact weapons⁵¹. At least one Roman cavalry unit was lance-armed under Sarmatian influence on the Danube (see 5.4.5)⁵².

5.14.4 Clothing

The ankle-length garment worn by three men in scene C corresponds with the over-garment on some of the Adamklissi crenellations (Crenellation Inv. 7-11, 13) which have an open, vertical seam up the front. A barbarian cavalryman on one metope (Inv. 30) also displays this seam and is unarmoured. In addition, the crenellations show shin-boots which commonly appear on Bosphoran stelae

Pl 95,154

Pl 151

and frescoes. Both the long garment and the boots may be paralleled by numerous medieval Asiatic frescoes and it is clear that they formed part of the attire of steppe cavalry right up to the present day⁵³. The figures in scene C and on the Adamklissi reliefs may, therefore, be identified as unarmoured Sarmatians, the only steppe people relevant to the Trajanic context. Kaftans do not appear in Scythian or Bosphoran art but their omission may in part be explained for armoured cavalry depictions because artists wanted to show the armour and because kaftans were often worn over armour, thus obscuring it⁵⁴. Asiatic frescoes depict kaftans on unarmoured men or armoured men without kaftans⁵⁵. The Trajanic sculptures do likewise and they are the earliest representations of Asiatic kaftans in western art.

The figures of ambassadors in scene C are a careful study of ethnic characteristics. The armoured Sarmatians in complete contrast are depicted without the slightest knowledge of horse-armour or Sarmatian equipment. The cavalry may represent the sculptors' translation into stone of a verbal description, certainly without the benefit of barbarian spolia for models.

The Sarmatians were of Iranian ethnic type and they had moved westwards and southwards into the plains on either side of the Carpathian massif⁵⁶. Like all steppe hordes their tactics were based on mounted archery which in conflicts between nomad peoples necessitated the development of armour to protect men and horses from arrows⁵⁷. The Sarmatians were the first western Asiatic people to employ lances and long, heavy swords and these weapons distinguished them from their Scythian predecessors on the western steppes⁵⁸. The Iazyges on the western side of Dacia

in the Hungarian Puszta were hostile to the Dacians because of Decebalus' encroachment into their territory⁵⁹ and the various western Germanic barbarians remained neutral during the Dacian Wars (see 5.13). The withholding of this territory by Trajan after he had conquered Dacia changed the situation so that Hadrian had to fight the Iazyges early in his reign⁶⁰. To explain the ancient references to Trajanic Sarmatian victories scholars have assumed that the Roxolani living to the east of Dacia must have been hostile to Rome during the Dacian Wars, as they were again in Hadrian's reign⁶¹.

Unlike the sedentary Germanic and Dacian tribes, the nomadic Sarmatians were difficult to negotiate with and to establish long-term treaties with because of their social organisation. An important feature of steppe nomad cultures was the usual lack of marked social differentiation or of strong, centralised leadership. If this leadership arose over a large enough grouping of peoples then a short-lived 'steppe empire' would be created by war, usually at the expense of sedentary cultures on the steppe fringes⁶². Sarmatian tribes along the Danube seldom missed the opportunities created by civil war or change of emperor to raid across the river without warning. Such incursions were swift and, in the short term, deadly, costing the Romans dear in military units and unprepared army commanders⁶³. On the other hand such raids in isolation rarely carried with them the threat of nomadic occupation of Roman provinces, particularly because they involved nomads moving out of a favourable ecological zone. They could be easily contained once Roman forces regained their balance⁶⁴. The second phase of the First War on the column (XXXI-XLVII) seems to depict just

such an incursion but one carried out in the company of migrating sedentary or semi-nomadic peoples.

5.15

SACRIFICIAL ATTENDANTS AND LICTORES

Some 43 figures appear in sacrificial scenes as helpers in the ceremonies. Some fall within the unarmoured soldier figure type (see 5.7) attending to sacrificial rams and pigs in suovetaurilia scenes¹. Sacrificial bulls are always held by figures with bare torsos, wearing a wrap-around, shin-length skirt held up by a broad belt. On one hip they carry a short, wide single-edged knife, and often resting on one shoulder is a pole-axe². Two of these men hold a pig and a ram (VIII, 24; LIII, 17). The pole-axe for slaughtering bulls and the knife for disemboweling and throat-cutting marks these men as victimarii. These tools and the characteristic garb are often seen in sculptural depictions of sacrifices and the column figures in no way diverge from this figure type³.

Pl 94

Young boys appear when the emperor sacrifices on altars and they attend holding a box (acerra) of incense or a jug (guttus) for libations⁴. Their characteristically combed hairstyle (corona) identifies them as camilli⁵. Older boys provide musical accompaniment on pan-pipes⁶. Both types of attendants appear in sacrificial scenes on other monuments in Rome and in the provinces⁷.

Pl 48

Three lictors appear carrying fascēs twice when the emperor is on a journey (LXXXIV, 6, 8) and once in an adlocutio (CIV, 2). Whilst the former, essentially civilian, situation is quite predictable, the choice of just one military scene is less explicable. Lictores appear in metropolitan sculpture in adventus, profectio

and triumph scenes wearing tunic and sagum as on the column⁸.

On the spiral they act with standards to locate the emperor (see 5.5.1).

5.16

CIVILIANS

Togate Roman men, women and children appear in large numbers in the emperor's journey between the wars¹. They present no unusual features in comparison with other reliefs although the female hairstyles are of interest. These have a comb of hair around the head with a small bun at the back².

Barbarian civilians mainly appear in submission scenes. Non-combatant men wear normal Dacian figure type clothing. The women wear larger hair buns than those seen on Roman women³. However, problems of identification always arise where there is a possibility that Roman peregrini within the Empire are depicted, rather than barbarians outside the frontiers (XXX, XXXIX, XLV). For example, the female torturers in scene XLV have been identified by some scholars as vengeful Roman provincials with captured Dacians, by others as Dacian women with Roman captives⁴. The vertical correspondence of scenes XXXIX and XLV plays some part in this confusion and no sure identification may now be made (see 3.2.10).

Pl '37

The civilians in scene CLV presumably represent colonists, rather than barbarians fleeing the new Roman province, because of the auxiliaries walking behind them in scene CLIV.

5.17

THE PEDESTAL RELIEFS

Constant reference has been made during the discussion of the barbarian figure types to the reliefs on the four sides of the column's pedestal. Many elements in these reliefs which do not appear on the spiral may be exactly paralleled by other artworks and by artifacts. The style and scale of the reliefs are very different from the spiral, although some features, like shield-blazons, are held in common. It is clear that the pedestal decoration was a still-life study in stone of barbarian spolia which to some extent may be employed as a comparative source of evidence distinct from the spiral. A brief examination of the content allows some further conclusions to be formed concerning the relationships between pedestal reliefs and spiral.

On first inspection, the congeries armorum appear to be a disordered mass of equipment. Closer examination reveals a more ordered layout. The line separating the inscribed panel from the arms on Side 1¹ continues round the other three sides on the same level. This distribution of types of equipment above, below and occasionally across this line is similar on all three sides, but Sides 2 and 3 are the most alike.

Pl 120-2

In the bottom halves of Sides 2 to 4 three shields appear resting on one rim. Flanking these is a pair of tunics and off-centre above there is a suit of armour bending sideways at the waist. On Sides 2 and 3 a cloak is draped over an upper shield in exactly the same way. On these two sides five helmets appear

in corresponding positions. On Side 4 one helmet is missing, but the other four being in the correct places. Quivers, bow-cases, bows, axes, swords, carnyces and falces mostly appear in identical locations.

In the upper panels the helmet pattern appears again with a fine 'Phrygian' example occurring on its back in the top right on all three sides. Weapons occur again in approximately the same positions, especially in the right-hand part of the field. In this area three shields occur together in identical combinations. A pair of dracones is used to frame the mass of equipment, one at the extreme right and the other set in from the left end. On Sides 2 and 3 a cuirass is positioned to the left of the left draco. Side 4 breaks away from this arrangement by positioning its corresponding cuirass to the right of the draco thus upsetting the whole left half of the field in relation to the other two sides. Nevertheless, the vexillum appearing behind the cuirasses of Sides 2 and 3 is present on Side 4 where the left-hand cuirass should have been. The distribution of helmet types seems to correspond on all sides although the degree of damage makes it difficult to be sure of this. The upper left and central armours on Side 2 are scale and 'banded' respectively, whilst those on Side 3 reverse these armour types. The upper right armour on both is mail. On Side 4 the upper left is scale, the central is mail and the upper right is replaced by a tunic. There is little correspondence in shield blazons between the sides.

On Side 1 the presence of the door ensures that the layout of the lower panels does not follow that of the other three sides. Vexilla flank the door with carnyces above it and a pair of scale

cuirasses balance each other. Both armours curve over sideways to a great degree. The only unusual object in comparison with the equipment on the other sides is a battering-ram to the left of the door.

The close correspondence in the balance, distribution and layout of items suggests a common plan governing Sides 2 to 4. This may have been a sketch made beforehand in front of the actual equipment then marked up on the faces of the pedestal. The disruptive details of Side 4 may represent carelessness towards the end of the work. On the other hand the layout may have been initiated directly on the stone of each face, building on the work done on the last, resulting in increasing correspondence, but ending with the inscription side (in the order 4-3-2-1). The style and decoration of the sides is very uniform, suggesting a single group of sculptors at work, perhaps under the direction of a master. The layout of objects forms a plan but the decorative details were applied purely at the sculptors' innovative discretion in the manner of the spiral. Therefore, no very detailed sketches were being followed and it is perhaps more likely that the whole project, spiral and pedestal, were carved by the taille directe method (see 3.3.2).

The scale of the work is over life-size, twice that of the spiral and approximately the same as the Great Trajanic Frieze (foreground figures 2.15 m high). This explains why the mail rings are so realistically rendered and why the detail is so crisply executed. The need to fill the large space available may have led to the invention of some details of shield, helmet and scabbard decoration (see 5.12.2-4). Even with this qualification the pedestal reliefs stand alone as a largely accurate congeries armorum sculpture.

The closest predecessors in time are the two Domitianic trophy statues on the Campidoglio in Rome, the armilustrum pilasters Pl 156-7 from the Aventine, and the altar reliefs from Ephesus (Turkey)². All the helmets on the trophies are definitely Roman and the remainder of the arms display no unequivocally barbarian ethnic features. Stock barbarian motifs (Gallic animal standards, wheels, carnyces, shield shapes) appear on the pilasters in a jumble with a sprinkling of Roman pieces (ships' prows, artillery-pieces, helmets, muscled cuirasses, peltaform shields). The only objects of contemporary relevance are a few very poorly depicted dracones but there are, for example, no falces or long swords. The Hellenistic muscled cuirasses were worn in the Roman period only by senior officers and by none of Rome's barbarian adversaries. Thus, its appearance amongst supposedly barbarian spolia makes it clear that reliefs of congeries armorum which include them were part of a highly stylised genre. Little attention was given to shield shapes or forms as a relief from Cumae (Italy) also demonstrates with its Gallic animal standards, muscled cuirasses and peltaform shields³. The relief belonging to the altar in front of the Temple of Domitian at Ephesus likewise displays congeries armorum of Roman form, but one sword with a curiously wavy blade may be a badly depicted falx.

The pedestal reliefs of Trajan's column represent a unique injection of reality into this genre which had some influence on other works. A square panel from Rome, now in the British Museum's Townley Collection, is undoubtedly modelled directly on the pedestal equipment⁴. It has oval shields, one with a scale pattern seen on Sides 2 to 4, a tunic, a long sword with Celtic campanulate guard and a scabbard slide, a quiver with fabric mouth flap, a draco and

a ribbed helmet with pointed brow band. An axe and a battering-ram in the bottom left corner were also very likely from the pedestal. Interestingly, the panel also has a flat-topped conical helmet similar to those worn by Sarmatian cavalry on the spiral but not depicted on the pedestal (see 5.14.2). A scale cuirass appears in the top right corner folded over exactly in the manner of the right-hand cuirass of pedestal Side 1. However, it has Roman arm and thigh pteruges in addition. Thereafter the details slip right into the congeries armorum genre with a muscled cuirass with pteruges and a helmet with a solid metal crest. The latter may perhaps even represent a misunderstood 'Phrygian' helmet. A tubular quiver on the panel has a conical cap which does not appear on the pedestal, but which is a common feature of Greco-Roman depictions of deities (see 5.8.3). A relief on one side of an Antonine pedestal from Rome, now at Frascati (Italy), has oval shields with blazons from the column's pedestal and board has a cloak draped over it in the manner of Sides 2 and 3⁵. There is a vexillum and a sword has a small pommel and a suspension ring. In the bottom left corner an axe and a battering-ram exactly parallel details on the Townley relief. In the bottom right is a quiver with conical cap and across the middle of the relief is a muscled cuirass with pteruges. These two reliefs represent a blend of the pedestal equipment with traditional items. It is notable that neither have mail or falces. Later pieces such as figured capitals and the Hadrianeum provincial reliefs with falces and dracones also include Roman helmets and muscled cuirasses⁶.

Pl 159

Pl 158,161

Many congeries armorum friezes represent a spread of equipment with an essentially two-dimensional distribution. Likewise,

the column pedestal reliefs are laid out with little depth and falces, carnyces and helmets in particular are floating without logical support. The pieces are marshalled purely for display and do not represent an assemblage such as might have been mounted on a trophy, a ferculum, or even nailed onto a wall.

The unusual accuracy of these reliefs allows some ethnic equipment attributions based on comparative pictorial and artifactual evidence. This can be done with few Roman sculptures, not even wholly including the Tiberian Arch of Orange (France) which occurs early in the development of the genre⁷. The pedestal is remarkable also for its omission of stock motifs such as muscled cuirasses, peltaform shields, ships' prows and Gallic animal standards. Some pedestal items may be identified as 'Dacian'. These include the Celtic long sword with campanulate guard, falces, carnyces, javelins, tubular quivers, shields, the battering-ram and, perhaps, the tunics and vexilla. The Sarmatians may be credited with the 'banded' or lamellar armour, the combined quivers and bow-cases and perhaps the straight horns. Many other items could belong to either or both groups: dracones, scale and mail armour, bows, arrows, Asiatic long swords, helmets, axes and cloaks. It is possible that the majority of pieces were Dacian with Celtic and Asiatic elements reflecting the cultural influences exerted on the Carpathian region. A similar cultural mix was also potentially affecting the eastern Germans. Therefore, it is difficult to imagine what items of equipment would have been available for depiction that were characteristically Germanic.

It is unlikely that the pedestal reliefs were sculpted before the column was erected because of the danger of damage during the

assembly process. In the course of work on the shaft the base would have been obscured by scaffolding and it is not unreasonable to suppose that the congeries armorum were carved at the same time as the inscribed panel, after the spiral work was completed and the scaffolding had been removed (see 3.3.1). In other words, it is likely that the pedestal reliefs were not themselves a direct influence on the spiral. The fabricated Sarmatian cavalry of scenes XXXI and XXXVII and the Roman archers in similar armour (LXVI) do not correspond with pedestal equipment. Moreover, the first indication that barbarian spolia were being employed as a source of information for the spiral occurs with the ribbed helmets in scene LXX, almost half-way through the work (see 4.5; 5.8).

5.18 TRAJAN'S COLUMN AND THE GREAT TRAJANIC FRIEZE

The term 'Great Trajanic Frieze' is employed to include two attic and two passageway reliefs on the Arch of Constantine; a head now in Berlin; fragmentary reliefs in the Louvre, at Turin and on the Villa Medici facade in Rome; three pieces in the Villa Borghese (Rome); seven small fragments in the Antiquario Forense (Rome)¹. Additionally, a relief of two soldiers reaping in the Museo Nazionale (Rome) may also belong to this series².

Pl 134

In this study the traditionally Trajanic date has been accepted without reservation. E. Strong attributed the Frieze to Domitian and this has recently been revived by Gauer³. The latter's argument is based on the offensive role of the emperor on one Arch of Constantine relief which is in complete contrast to Trajan's passive 'overseeing' actions on the column. Moreover, the details of military equipment differ between the two monuments and Gauer saw no possible place for a Constantinian use of stone spolia from the Forum of Trajan, an architectural complex supposedly intact when it was later visited by Constantius II⁴. The last point is problematic but most scholars continue to accept a Trajanic date for the Frieze because fragmentary reliefs which suggest a 'historical' sculptural scheme have been found in the Forum⁵. Moreover, the Frieze as reconstructed is the third longest antique frieze known, quite unsuitable for the context of a triumphal arch⁶. The emperor's role need not have been uniform in all the sculpture of the Forum. Gauer ignored Trajanic coin issues which depict the emperor riding

down a barbarian in the same manner as on the Frieze and on one Adamklissi metope (Inv. 6)⁷. These representations indicate the presence of an 'Alexandrian' element in Trajan's propaganda, a motif which was not confined to Domitian's reign and which indeed represents one of many features common to the two emperors⁸. The differences between the military equipment depicted on the column and the Frieze are not solely explicable in terms of different dates.

An important factor is the large scale of the Frieze. Like the column pedestal reliefs this is larger than life, the foreground figures measuring approximately 2.15 m in height. The amount of detail present on the spiral reliefs has been extolled in this study but the size of the Frieze allowed and even necessitated more decorative sculpting. Helmets in particular are covered in laurel wreath, figural, spolia and fulmen decoration over the bowl and cheek-pieces in the manner of a number of fragmentary heads from Rome⁹. Bowls on the column are largely undecorated with the notable exception of the few with laurel wreaths (see 5.2.2). Clearly, mail zig-zag chiselling was too fine to be applied to the Frieze so an attempt was made to depict the individual rings of the mail structure (Fig. No. 18, 28, 36, 37, 47, 55, 57, 68). Together with the armour on the column pedestal, and a figure on the Great Ludovisi Sarcophagus, this is the best representation of mail in Roman art (see 5.3.1)¹⁰.

Belts on the Frieze have rectangular plates with borders and good apron fittings (Fig. No. 20, 33). A pair of suspension rings is usually represented on scabbards and a logical relationship between cingulum and baldric has been worked out (Fig. No. 33).

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(141

P1 100

P1 140,144

P1 135,138

P1(138,140,
(142

Several scabbard faces have decorative applique roundels (Fig. No. 36, 42, 47, 56) of a form seen on some rider stelae¹¹. Baldrics usually have borders and studs. The shields follow the unusual practice of have their umbo provided by a separate stone (Fig. No. 27, 50) or metal plug¹². Most of these have fallen out over time. Perhaps it was considered that bosses made of copper alloy would realistically and impressively depict the real metal umbones.

The size of the figures allowed some of the shafted weapons to be depicted in stone, thus the forms of hastae and pila survive to provide important information lacking on the column¹³. Those in the foreground were heavily undercut and have suffered damage accordingly. Two shafts were bronze inserts (Fig. No. 30, 44) and both are wielded overarm and across the horses' necks necessitating too much undercutting to be rendered in stone. One Roman spatha (Fig. No. 49) and two Dacian falces (Fig. No. 27, 46) were provided as inserts. Others were executed in stone (Fig. No. 28, 39, 40, 62). Horse-harness is both more plentiful and more decorated with pendants and studs than on the column. The small details of studs (clavi) beneath the caligae also appear on Cancellaria Relief A¹⁴ and those were specifically satired by Juvenal in connection with the praetorians¹⁵.

Details on the Frieze to some extent amplify those present on the column. However, as Gauer pointed out, there are definite differences between the equipment on the two works¹⁶. One type of figure on the Frieze wears the 'lorica segmentata' and is clearly the equivalent of the column's citizen troops. The main difference is that all the crests on the column are comparatively short and may represent horse-hair (LXXIII, XCV-VI, CIV)¹⁷,

whereas those on the Frieze are composed of feathers. The latter are paralleled by the Claudian praetorians relief (Louvre) and by fragmentary helmeted heads at Pozzuoli, Mantova and Florence¹⁸.

More splayed feather crests are seen on ivories from Aosta (Italy) and Ephesus (Turkey)¹⁹, and on bronze reliefs or figurines of soldiers²⁰. Some crests on centurial stelae are also composed of feathers²¹. No fittings for this form of 'box' crest can be recognised on extant Roman helmets²².

Other figures on the Frieze, mounted or on foot, wear mail or scale, carry a hexagonal shield and a long sword on a baldric. They wear an Attic helmet with a double rosette crest, pointing to front and back, flanked by two feather plumes. These would all appear to be cavalymen because their swords are spathae. Their shields may be seen on cavalry stelae with hastae (see 5.4.3; 5.4.5). In addition to shield shape the shield with a blazon of four large scorpions (Fig. No. 68) is at variance with the column. However, the most important differences from column cavalry are the loricae squamatae and the helmet crests and plumes. The last are seen on surviving 1st century A.D. helmets but on either side of the bowl, not on top of it²³. In this top position plumes appear on some reliefs of Mars in the north-west provinces and on representations of gladiatorial helmets, but even on the latter plumes most often occur on the sides²⁴. There are no really independent parallels for the rosette crests which are seen twelve times on the Frieze from front and side. Related examples occur on a fragment in the Antiquario Forense, on a fragment at Turin (Italy), and on a helmet depicted on a cheek-piece on a marble head in the Metropolitan Museum, New York (U.S.A.)²⁵.

Pl (139-40.
(142,144

Pl 144

Standard bearers and musicians do not wear helmets under their animal skins in agreement with those on the column. However, Pl 138 unlike the latter, they wear loricae squamatae. The foreground signifer (Fig. No. 42) wears a normal tunic with an overtunic exposing fringed pteruges on the upper arms and fringes of pteruges below the hem. Thus, three items are worn: two tunics and an 'arming doublet' with pteruges. Over these is fastened a cingulum, apron and sword. Concealed mail or scale worn with the pteruges is likely because all the other Roman figures are armoured. Similar uses of pteruges appear on the Louvre praetorians relief and on the stela of Gnaeus Musius (Mainz)²⁶ but the closest correspondence with the over-tunic arrangement is seen in the column scenes XXVII, CVI and CVIII (see 5.5.2).

The reconciliation of the Frieze and column differences hinges on the identity of the troops on the former. The three signa on the Frieze are praetorian (see 5.5.1) and vexillarii are attested in the praetorian guard²⁷. The cheek-pieces of three 'lorica segmentata' wearers (Fig. No. 20, 60, 61) and three cavalrymen (Fig. Pl 139 No. 17, 26, 36) are decorated with a scorpion motif as is the head in Berlin. One cavalryman's shield on the Frieze is emblazoned Pl 144 with four large scorpions. The Trajanic Pozzuoli relief of three soldiers has a scorpion on one of the curved, oval shields²⁸. The identification of the scorpion as the special praetorian badge may be made with reference to the pair of praetorian signa on the inscription of M. Pompeius Asper from Tusculum (Italy)²⁹. The scorpion was Tiberius' star sign and it was he who effectively acted as the guard's founding father by concentrating it in the newly constructed castra praetoria³⁰. For this reason it is

unlikely that the cavalry on the Frieze are to be identified as equites singulares Augusti. Although the latter were possibly first formed under Trajan and therefore might be expected to appear with him in this context³¹, the scorpions make it most probable that the cavalrymen are equites praetoriani³². The latter were attached to praetorian infantry cohortes and they definitely served with distinction in the Dacian Wars³³. The musicians on the Frieze also fit in with an entirely praetorian interpretation³⁴.

None of the members of infantry or cavalry guard units is distinguished from legionaries or auxiliaries on the column by their role or equipment despite the large proportion of praetorian standards depicted. On the other hand the Frieze sculptors were not rationalising 2,639 humans into figure types. On the Frieze the appearance of scale armour caused no potential confusion with armoured barbarians or Roman archers as it would have done on the column. The pictorial and artifactual evidence suggests a variety of armour forms in contemporaneous use by auxiliaries and, insofar as the Frieze reflects this and the use of spathae by cavalry, it can be said to be more accurate and less stylised than the column (see 5.3.1; 5.4.1; 5.4.4). The Attic helmets are well paralleled by other praetorian depictions and the existence of these highly decorated forms for high status troops is not unlikely, despite their almost complete absence from the archaeological record. The signifier's overtunic may reflect parade usage. The only idiosyncratic element of the cavalry equipment is the rosette crest-form. All the differences between the Frieze and column equipment may be attributed to the fact that praetorians are being specifically

depicted on the former whilst on the latter they are not. Therefore a Trajanic date for the Frieze is not obstructed by these differences.

A number of features actually place the Frieze securely in the Trajanic programme. The role and positioning of standards on the Frieze was intended to pinpoint the emperor's position just as it was on the column. The musicians are located with the standards to back a vigorous advance on the Frieze as in scene XL, and severed barbarian heads are presented to the emperor by auxiliaries (Fig. No. 55, 56) in the manner of column scenes XXIV and LXXII. Variants of the poses of fleeing, falling, dying and dead Dacians seen all through the column's battle scenes³⁵, the gesture of horseman No. 51 and the dead barbarians lying head downwards (Fig. No. 26, 66) have exact parallels on the column³⁶. In terms of smaller details, the tunic skirt missing on a dismounted cavalryman (Fig. No. 56) is a mistake recurring on 18 column auxiliaries (see 3.2.7). Zig-zag mail edging is a feature of both the column and the Frieze which is seen elsewhere only on monuments influenced by the column. Whilst several Dacian shield patterns are figured (Fig. No. 23, 27, 50, 52), others have the same tendrill designs as those on the column spiral and pedestal reliefs (Fig. No. 46, 49, 62 and trophy at right end). These details, the scale of the work and the resultant tooling of mail rings particularly, link the Frieze closely with the pedestal. The differing depths of relief on the Arch of Constantine panels compared with the Louvre, Villa Medici and Turin fragments suggests that several sculptors were at work as would be expected with such a large project. Moreover, the Louvre piece depicts a man wearing a lorica squamata with a

square neck-opening, but without a focale, and with an infantry form of helmet crest, all features divergent from the Arch of Constantine panels. The hut in the background is also different in detail. If the column's pedestal reliefs were sculpted after the spiral (see 5.17), then it is possible that whilst some groups of sculptors worked on the latter, others were carving the Frieze. Men who had worked on the Frieze may subsequently have transferred to the pedestal reliefs once the scaffolding around the shaft had been removed. Alternatively, some men may have been transferred from the spiral to the Frieze then gone on to the pedestal. Whatever the relative timing of these three enterprises they are clearly constituents of one unified programme³⁷.

Whether or not Trajan personally fought hand-to-hand with barbarians in the Dacian Wars is irrelevant. So too is the difference in his role on the two monuments because of the horseman coin issues cited above. The 'Alexandrian' role of the emperor on the Frieze is not at variance with the man's own interests³⁸. Significantly, Nerva had serious problems with the praetorian guard and Trajan's accession was somewhat imposed upon the capital by the provincial armies³⁹. Several emperors thought it prudent to advertise their amicable relations with the guard and certainly the appearance of the emperor fighting in the praetorian front rank in battle would have done no harm to his reputation⁴⁰. The helmet held for the emperor by a cavalryman (Fig. No. 45) is of exactly the same form as those worn by the equites, a unique device presumably intended to express solidarity with the ranks. The repeated involvement of the guard during the reigns of Domitian and Trajan in the Danubian theatre would have ensured that it was more than an

effete elite as it was at the time of the Civil War⁴¹. The column was a monument to the achievement of all the Roman forces involved in the Dacian Wars whereas the Frieze exclusively commemorated the emperor and his praetorians.

Any discussion of the figures on Trajan's column must take into account the contemporary Adamklissi metopes and crenellations. The representation of barbarian ethnic types and of Roman troops differ widely between the two monuments. Whether or not the column and the metopes depict the same 'historical' events, some explanation for these discrepancies must be attempted.

The tropaeum Traiani (Romania) is securely dated by its inscription to A.D. 108/9¹. Its commanding position was chosen for its visibility, especially from across the Danube². The good Beleni limestone used for the facing suggests a construction date subsequent to the erection of the associated altar and 'mausoleum' which are built using inferior stone³. Scenes of marching, combat and parade were depicted on 54 metopes, whilst 26 crenellations each figured an ethnically distinguishable barbarian bound to a palm tree.

Several attempts have been made to reconstruct the order of the metopes around the drum to form a coherent depictional programme. Three schemes proposed by Florescu were based upon findspots of blocks on the ground around the monument and upon his 'mathematic-architectonic' method which used dimensions of metopes and surrounding blocks to calculate original positions on the drum⁴. He ordered the metopes into two wars forming a series corresponding with the column's two-war spiral. Unfortunately, 6 of the 54 metopes are lost, 2 have confused findspots and 18 are unprovenanced. Metopes were found stacked together and a scatter of pieces ranging from

Ostrov to the sea suggests that robbing activities were very likely responsible for findspots⁵. Of 54 pilaster blocks 17 cannot provide dimensions and 24 of 54 lower frieze blocks have damaged lips, thus the degree of cumulative error in the calculations must be great. In rearranging Florescu's sequence Richmond used the metope content as a guide to form one campaign⁶. Rossi merely adjusted Florescu's series to reinforce a very literal comparison with the column, producing forced and unconvincing results⁷. All attempts to reconstruct the metope order have been based on preconceived ideas of content and historical background.

Scholars have suggested that both of Trajan's Dacian Wars were the metopes' subject⁸. However, it is difficult to arrange them by any method to reflect this coherently. A major problem with this interpretation is the location of the tropaeum 400 km away from the Dacian capital⁹. Other commentators have postulated the commemoration of local events, emphasising the localised barbarian ethnic types. The problem here is that if, as Vulpe suggested, the 'Moesian incursion' of scenes XXXI to XLVI on the column is depicted, then there is an awkward temporal gap between this supposed event (101/2 A.D.) and the dedication of the tropaeum (108/9 A.D.)¹⁰. Another suggestion is that the Second Dacian War is shown, but this does not explain why the wagon people on the metopes should appear in the Dacian heartland¹¹. Richmond, followed by Syme and Wilkes, favoured an unrecorded, Lower Danubian third Trajanic War to explain the monument's location, barbarian types and date¹². It is not impossible that the tropaeum was located on the site of Oppius Sabinus' Domitianic defeat, thus explaining the epigraphic dedication to Mars Ultor. This is despite recent attempts to date

the nearby altar and 'mausoleum' at Adamklissi to Trajan's reign and break any link they might have had with earlier events¹³.

All of the historical scenarios are seriously flawed and the only assured fact is the tropaeum's date.

The tropaeum is surely a monument of imperial status judging by its scale and rich decoration, consequently a generalised commemoration of Trajan's Dacian Wars is likely. However, it does not follow that those wars are what the metopes specifically depict. Whilst some of the action appears to run from metope to metope across the pilasters, it may be wrong to assume that the whole series forms a coherent documentary programme. The battle scenes in particular epitomise warfare between Romans and transdanubian barbarians, providing no more than unconnected vignettes within square frames. The space within these frames would in any case severely limit the possibilities of 'historical' narrative. The game of 'event reconstruction' played by scholars with Trajan's column is perhaps even more anachronistic when played with the metopes.

Four types of barbarians appear on the metopes and crenellations, of which two are readily identifiable: Germanic Bastarnae and Sarmatian Roxolani in kaftans. The men with falces and bare torsoes may be independent eastern Dacians or Getic inhabitants of Wallachia or Bessarabia. The fourth type, in split tunics, correspond to the Dacians on the column but their tight caps, worn also by falx-men, excite the suspicion that they are just falx-men with tunics. However, this interpretation is complicated by one man on a metope wearing a tunic who is carrying a shafted weapon (Inv. 23). There are approximately 23 falx-men, 6 'Dacians', 8 Germans

Pl(149-52,
(154

Pl 150

and 1 Sarmatian on the metopes plus 11 'Dacians', 6 Germans and 6 Sarmatians on the crenellations. If falx and tunic men are the same then this gives 35 of this type in addition to 14 Germans and 7 Sarmatians. The proportions of types becomes less significant when their distribution is examined. Only falx-men occur in the cavalry and wagon combats; Germans appear in the infantry combats and in parades of prisoners. With one exception (Inv. 23), tunic men are only seen as prisoners. Kaftan wearers are all prisoners except in one combat (Inv. 30). Moreover, in the infantry combats ethnic types may be mixed purely for visual effect rather than for any 'documentary' reasons. P1 151

The addition of the tunic to falx-wielders would not, of course, necessarily identify the men as Decebalus' Dacians and, in any case, the wagons contribute against such a conclusion. Wagons, P1 152
 Germans and Sarmatians in combat only appear on the column in the 'Moesian incursion' phase of the First War and it is true that all P1 27,33-6
 three elements would best be located on the Lower Danubian front rather than in the Dacian heartland fighting the main Roman invasion armies. There is perhaps no reason why the Adamklissi sculptors should have been ignorant of the identity or appearance of any barbarian adversaries, whether they were in Dacia or in Wallachia. Thus, like the supposed 'historical' content of the metopes, the regional origins of the barbarians do not necessarily fit any neat hypothesis.

The officers in armour and undress on the metopes correspond with the column's officer figure types except that Trajan appears once wearing fine scale armour (Inv. 6) and one man is identified P1 146
 as a centurian by his vitis (Inv. 27). Likewise, the auxiliary

infantry and cavalry on the metopes are essentially the same as those on the column with the exception of their wearing scale armour (Inv. 7) and their carrying of sub-oval shields (Inv. 1, 2, 4-5, 7). Standard bearers carry legionary signa (Inv. 12, 13, 26, 40) and aquilae (Inv. 12, 13), and vexilla for both cavalry and infantry (Inv. 3, 26, 40, 42). The armoured bearers, like the cornicines (Inv. 26, 40) differ from the column in having pteruges, some scale armour and no animal skins. The legionarii, identified by their standards, pila and curved rectangular scuta, form the greatest contrast with the column because they wear scale or mail with pteruges instead of 'loricae segmentatae'. All of these differences between the two monuments, especially the last, may be explained purely in terms of the simplification and stylisation of figure type features in Rome in order to visually distinguish citizen troops, auxiliaries and barbarians. This of course lays the column open to charges of inaccuracy, but there is no need to resort to more complex 'historical' solutions to explain the differences between the two monuments or to go so far as to suggest that eastern legiones did not use the 'lorica segmentata' and that it is these troops which are depicted on the metopes¹⁴ (see 5.2.1).

The poses and proportions of figures in the Adamklissi sculptures make it clear that the sculptors working on the tropaeum had a very different training and background to those carving the column. They were probably soldiers, or at least members of that nebulous class of sculptors which provided soldiers and veterans with figural monuments¹⁵. They displayed a good working knowledge of military equipment and on the metopes this is best demonstrated by the unparalleled provision of additional limb armour, ocreae

Pl 148

Pl 147

Pl(147,149-
(50,152-3

and manicae¹⁶. These items will have been a direct defensive response to the murderous Dacian falx.

Pl(147,149-
(50,152

The process of figure type formulation necessarily involved a simplification of reality in every case. The foregoing examination of comparative pictorial and artifactual evidence demonstrates that the depiction of cuirassed officers, citizen troops, standard bearers and musicians in plate or mail armour alone ignored the contemporaneous use of other forms of body armour. This has given modern scholars a false view of the currency of the 'lorica segmentata', for example, because the column has been so intensively employed to illustrate the activities of the Roman army. Helmet types on the spiral are less uniform than body armour but again some variations were used most frequently with certain figure types in order to help with visual identification and not reflecting the realities of equipment variants. Whereas the apportioning of curved shields to citizen troops and flat boards to auxiliaries is realistic, and the thunderbolts-and-wings blazons correspond with other evidence for citizen troops, the wreath and tendril blazons are purely abstract or decorative devices. All of the oval shield patterns were concocted in order to loosely distinguish auxiliaries from Dacians, without reference to what blazons these groups really painted on their shields. Knee-breeches and saga were not depicted on citizen troops and paenulae appear only on unarmoured troops, being denied to the auxiliaries altogether. Likewise the barbarian figures were generally given uniform clothing and shields and were deprived of armour to prevent confusion with Roman figure types.

Within each figure type there are detailed variations not solely attributable to sculptors' mistakes or negligent omissions. Variations in helmet types, 'lorica segmentata' fittings, mail edging, tunic and cloak hems, shield patterns and standards are evidence not simply for a number of different sculptors at work but suggest that the artists were interested in much more than merely reproducing uniform figures. Within the figure type framework their love of virtuoso detail for its own sake as seen in the embellishment of loricae, baldrics, helmets, shields, scabbards and horse harness, is even more astounding because much of it could not be seen from more than six feet away from the surface of the shaft. It was quite invisible to the audience on the ground below (see 3.3.3).

Contraventions of the figure type formulae occurred all over the shaft, partly through carelessness and ignorance. The more ludicrous are easily identified such as citizen troops and auxiliaries wearing animal skins, Dacians fighting Dacians and officers with muscled mail cuirasses. A further complication is added because it appears that in the early stages of the work the figure types were still unclear in the minds of some sculptors (see 3.2.3; 4.5). Moreover, the categorisation of human figures led to the omission of troop types presumably considered unnecessary to the propaganda programme, such as centuriones, proper auxiliary sagittarii instead of irregular archers, horse-archers, lancers, auxiliary slingers, auxiliary infantry standard bearers and types of cavalry standards in addition to the vexillum.

The Hellenising influences at work on the sculptors themselves had a serious effect on figure type details, particularly where the

latter might have obscured the human form. Not only scenery and architecture were scaled down but cheek-pieces, shields, tunic skirts, horses, vehicles, artillery, some standards, falces, and perhaps shafted weapons were reduced in size. More insidiously, this affected the carriage of shields and the poses of figures, the former often following Hellenistic methods to keep the board vertical, and the latter perhaps excluding the use of double-handed falces. The putative colour-coding of shields in pursuance of figure-type identification may also explain some of the more awkward or impossible shield carriage on the frieze (see 3.3.3).

The constraints on realism imposed by figure type formulation often resulted in omission rather than outright inaccuracy. The lack of helmets for officers and standard bearers, and the absence of pugiones are good examples of this. The stylisation of such things as shield sizes or cheek-piece coverage is much more serious but the really inaccurate details are not in fact very numerous. For citizen troops the 'lorica segmentata' fittings were clearly misunderstood and therefore depicted illogically. Sometimes the sculptors' decorative pleasures ran to an excess of studs and rosettes. Helmet details are certainly misleading, brow plates being too numerous even if the praetorians did wear highly decorated Attic helmets, and the inaccurate peaks running all round the bowl are the result of imperfect observation. However, once perpetrated, the latter mistake was propounded by its employment to distinguish auxiliaries from citizen troops. Auxiliary cavalry lack proper cavalry helmets. This is not asking too much of a sculptor's capabilities as for example, helmets on Rhenish rider stelae clearly

demonstrate. The lack of proper spathae in all but a few cases and the misunderstanding of horse harness and blankets are also serious errors, but even here some accurate details win through. The sculptors were found most wanting with the Sarmatian cavalry and the Roman archers, the first depicted impractically, the latter representing a melange of barbarian spolia features bearing little relationship to the figures' real identity (see 4.5). Both groups have traditionally Roman artistic elements in their archery equipment.

Conversely, there are a large number of details which were true to life. On citizen troops these include lobate hinges and girdle ties on 'loricae segmentatae'; ribs and peaks on helmets; scabbard chapes, guttering, palmettes and grip assemblages; short aprons and belt combinations. The simple mail and use of baldric and sword without cingulum bear scrutiny on the auxiliaries as do the extra chest and haunch straps, triplet straps and saddle horns on the horses. Small round shields for standard bearers reflect contemporary practice. Where barbarian spolia have been used for the archers there is accuracy of a kind in terms of non-Roman helmets, scale armour and some bows. The cork-screw curls of Moorish cavalry are well rendered. Beyond these details there are features of quite unusual accuracy which set some figures apart from their figure type. These include the cavalry with spathae exhibiting trefoil guards and appliqué scabbard palmettes (XXXVII), and the standard bearers with overtunics girt by cingulum and apron (CVI. CVIII). The barbarian emissaries with long tunics, long swords, scabbard slides and kaftans (C) are good ethnographic studies. Every aspect of the unarmoured praetorians is accurately

depicted: paenula, slung helmet, curved oval shield, bolts-and-wings blazon, tunic with gladius on cingulum alone, apron and signa (LXXXVI-VII). These instances represent sub-types within their larger figure types. Overall, the models for figure types were generally well observed with particular details catching the eyes of some, but not all, sculptors. Often depictions are frustratingly close to reality, but much equipment is seen through a glass darkly. This is fully to be expected because the sculptors were not soldiers, unlike those working at Adamklissi, and they were without first-hand knowledge or experience of military equipment, some of which was visually very complex.

The major figure types and the points of accuracy must have been seen by the sculptors themselves (see 4.4; 4.5). These models need not have been numerous. One praetorian in full equipment with 'lorica segmentata' and a rectangular shield; one auxiliary in mail and carrying an oval shield; one standard bearer or musician' in mail and with a small round shield; one Dacian; one German; one Sarmatian clad in a kaftan. Six living models would have been sufficient in a studio context, or, in some cases, seen as prisoners in procession or as slaves around the city. The latter would have provided Moorish details. Material from the triumph provided for the archers and Dacians. Troops in the city, off duty or in triumphal procession or on other public display could have provided all the necessary details for unarmoured attire and standards. Verbal descriptions may also have played a part for the Moors, archers and Sarmatian cavalry. These sources could have provided information for items omitted from the spiral, such as double-handed falces, Roman scale armour, hexagonal shields

and missing troop types, but such things were ignored in the interests of figure type clarity and artistic composition. The weakest figure types are precisely those for which information in Rome was sparse, in particular for the irregular troops in the Roman forces.

The foregoing comments have been addressed to the question of the accuracy of individual figure types or of single figures within these categories. Two further problems require examination. It must be asked whether the rigid differentiation of equipment worn by citizen troops and auxiliaries reflected the real situation. The second question is whether the clearly defined roles of figure types in the action of the frieze accurately represented the contemporary functions of citizen troops and auxiliaries. On the column building is done by citizens whilst auxiliaries do the fighting. It is conceivable that distinctions in visual appearance and role were made purely to further the column's propaganda programme. In practical terms military equipment and the functions of troops are intimately connected. With this in mind an examination of 1st to 2nd century A.D. military practices should serve as a comparison to the picture advanced by the column's designers

Such an enquiry is particularly relevant at the time of writing because recent discussions of the identification of fort garrisons from the artifactual record have denied the existence of any distinction between legionary and auxiliary equipment¹. This view is based on the frequent finds of 'lorica segmentata' fittings in 1st century 'auxiliary' forts or in 'vexillation fortresses'.

These sites were in provinces where there was apparently no permanent legionary presence, particularly in Raetia, or were involved in fluid campaign situations when legions would supposedly not have been split up in the face of an enemy. Thus it is concluded that auxiliaries were as likely to have worn the 'lorica segmentata' as legionaries and a similar finds pattern of pilum fittings and ballista bolt heads suggests no distinction in weaponry either. This line of reasoning obviously bears directly upon the distinctive depiction of citizen troops on the column. However, if artifacts such as 'loricae segmentatae', pila and curved rectangular shields, which are traditionally ascribed to legionary use, are found on military sites smaller than legionary fortresses then there should, logically, be two possibilities which must be given equal attention. Either all troops could have had all forms of equipment without specificity, or some modern views of legionary garrisoning policies are too inflexible.

In various contexts the occurrence of putatively legionary-specific equipment on the smaller military sites could in part be explained by a wide use of legionary vexillationes. The decision whether or not legionary battle groups on campaign were kept intact presumably depended upon the problems posed by the enemy's strategy and tactics. Without involving vexillationes it is difficult to explain the so-called 'vexillation fortresses' of sub-legionary size in Claudio-Neronian Britain². Legionary garrisons have been postulated for small forts in Dorset during the invasion period as there is no suggestion that Vespasian was faced by any sizeable Celtic field army³. In a campaign of numerous small battles and sieges there would have been little danger and good advantage in

establishing small, well-defended legionary garrisons. Mixed legionary and auxiliary garrisons were also planted by Vespasian in Iudaea where another enemy held many strongholds but seldom stood to fight pitched battles⁴. Moreover, at this early period especially, any finds of ballista bolt heads are the strongest possible indication of the presence of legionary troops. There is no evidence for artillery specialists in auxiliary units of the 1st to 2nd centuries A.D. and little for direct auxiliary artillery use before the 3rd century⁵.

In Raetia there was undoubtedly a legionary presence without legionary fortresses being established. Legionary troops will have passed through in transit along the frontier. Fort-building will have necessitated the presence of legionary technicians and manpower (see below). The manufacture of military equipment and its supply to auxiliary units in the province would probably have involved legionary fabricae⁶. Moreover, it has been suggested that Raetia came under the control of the army of Germania and a helmet with a legionary punctum inscription (legio XVI) was found by the fortlet at Burlafingen (W. Germany), leading the excavator to posit a mixed legionary-auxiliary garrison on the basis of this and other small-finds⁷. The widespread activities of legio III Augusta in North Africa⁸ and legio VIII Augusta in Germania⁹ demonstrate that legiones were not necessarily confined to their fortresses and that sub-units could be spread over a wide area. It is of interest to note that in an Antonine campaign context a vexillatio of legio II Adiutrix, 855 strong, was posted at Trenčín (Czechoslovakia), deep in Transdanubian barbaricum¹⁰. Thus the argument that legionary and auxiliary troops used

indistinguishable equipment because 'legionary' small-finds occur on sites other than legionary fortresses is at best inconclusive.

The view that the 'lorica segmentata' was cheap and easy to make, supposedly the opposite of mail armour, has also been advanced in support of its wide use by auxiliaries¹¹. However, contrary to popular belief, mail had a comparatively simple method of production involving wire-drawing and bending to form butted or riveted rings and punching for closed rings. In contrast the 'lorica segmentata' needed forging, cutting and bending of mild steel plate, leather working for internal and external straps, copper alloy sheet production and cutting for the fittings, then overall assembly¹². Both forms of armour production would have been divided up into separate processes for mass production in a fabrica where cost would have been largely irrelevant, but the plate armour had to be made to fit a specific wearer, whereas mail did not. In creating the 'lorica segmentata' the army sacrificed durability and ease of upkeep in exchange for superior protection on the most vulnerable parts of the body¹³.

One reason for the central place of the 'lorica segmentata' in garrison discussions is its artificially high profile in the archaeological record as compared with other armour types¹⁴. Mail was self-cleaning and robust, requiring little attention and shirts probably survived in use for decades. It was difficult to mislay such a large item as a lorica hamata (see 5.3.1). In contrast, the 'lorica segmentata' was difficult to maintain because of its perishable leather straps and numerous vulnerable copper-alloy fittings which were cut from thin sheet and required constant repair and replacement (see 5.2.1)¹⁵. These fittings are readily

recognisable and are numerous as site finds, whilst large pieces of mail rarely survive¹⁶.

The 'lorica segmentata' was suited to close-order formations but it was impractical for auxiliary troops skirmishing and moving at speed in the field (see 5.2.1). Other forms of body armour were of course suitable for legionaries as the pictorial sources demonstrate, but this was only a one-way suitability. All the pictorial and artifactual evidence suggests that legionary troops carried curved shields whilst auxiliaries had flat boards (see 5.2.3; 5.3.2). The curved rectangular, sub-oval or oval scutum was appropriate for close-order formations and would have been less manoeuvrable for skirmishing troops in dispersed order. Flat shields covered a wider front, especially when employed in defence against missiles. On horseback both the 'lorica segmentata' and curved shields would have been totally impractical¹⁷. Pila are only associated with praetoriani, legionarii and urbaniciani on funerary stelae, on metropolitan reliefs, and in the literary sources, but never with auxilarii (see 5.2.6). They were a short-range, heavy weapon designed to disrupt an enemy body advancing into *mêlée* combat. Pila were wholly unsuitable for long-range skirmishing, a purpose for which light javelins and throwing-spears were designed. Tacitus evidently considered that there were differences between legionary and auxiliary equipment, twice contrasting their armour and weaponry¹⁸. On the Adamklissi metopes it is almost as easy to tell legionarii apart from auxilarii as it is on Trajan's column (see 5.19).

Cultural traditions and the superior status of citizen troops may in part explain the differences but the practical considerations

discussed above would be most convincing if they were demonstrably based on differing legionary and auxiliary battlefield functions in the 1st to 2nd centuries A.D. In fact the legiones maintained their main-battle Republican role as close-order line infantry taking the brunt of the fighting. For example, in battles against Caratacus and Boudicca legionaries drew up in close formation and in the Civil War legion fought legion. Auxiliary troops provided the necessary missile support and screening and flanking forces¹⁹. The latter, especially cavalry, did act offensively, especially in pursuing repulsed opponents. Tacitus specifically contrasts the close and open formations of legionaries and auxiliaries drawn up before Placentia in A.D. 69²⁰. The respective battlefield functions are most graphically illustrated by Arrian's Hadrianic period order of battle against the Alani. The enemy impetus was to be disrupted by auxiliary missiles, repulsed by the legionary centre and cautiously pursued by auxiliary infantry and cavalry²¹. There were of course exceptions to this pattern, such as in the Battle of Mons Graupius where the auxiliaries alone were sufficient to scatter the Caledonian army²², and in the Civil War when Batavian rebel auxiliaries seem to have fought in close-order²³. The first case was the result of the tactical situation, and Agricola's cool refusal to commit his legionary reserve was emphasised as part of Tacitus' panygeric purpose. Civilis' Batavians in close-order were veteran troops fighting legionaries in an extraordinary situation perhaps not to be expected for armies centred around legionary forces.

Thus it would appear that in differentiating the equipment of citizen troops and auxiliaries Trajan's column reflected real

distinctions whilst imposing a certain degree of uniformity, particularly in armour types. The 'lorica segmentata' probably was largely confined to citizen troops. However, the virtual exclusion of the latter forces from battle scenes on the frieze does not accord with other evidence for the period. Behind this lies the view that greater glory was obtained from victories won without the loss of Roman, that is, citizen blood. The sentiment is explicitly stated in Tacitus' description of Mons Graupius, written approximately contemporaneously with the column's erection (see 2.3)²⁴.

Citizen troops on the frieze do take part in fighting during sieges and this role does agree with what is known of siege warfare, for example, during the First Jewish War²⁵. The serving of ballistae on the column by citizen troops alone accords with other evidence and forms part of another feature which is the near exclusion of auxiliaries from technical work. The presence of auxiliaries in two building scenes is most likely the result of sculptors' mistakes (see 3.2.3). How far this is an accurate reflection of comparative technical capabilities is partly obscured by the fact that few 1st century inscriptions survive to provide the identities of military builders. This is because most forts were built of earth, turf and timber with wooden internal building which carried wooden inscriptions. Auxiliaries may have engaged widely in unrecorded construction work but this is unlikely considering that after stone inscriptions appear, largely from the reign of Hadrian onwards, auxiliary builders are exceptional before the mid to late 2nd century. Moreover, there is little literary or epigraphic evidence for architectural specialists within auxiliary

units so this expertise may generally have been provided by the legiones²⁶. The widespread activities of legio VIII Augusta in Germany, for example, may partly be seen in this light²⁷. It may be significant that the earliest auxiliary building records involve easterners from areas where stone-based architectural styles were indigenous²⁸. The majority of auxiliary brick stamps did not appear until the 3rd century²⁹. The legions, on the other hand, certainly contained all the necessary artillery specialists, engineers and architects for undertaking technical work³⁰. Therefore it may be concluded that whilst again probably simplifying the situation, the column reflected the reality of where expertise lay in the army and of who carried out the majority of construction work.

SECTION 6

CONCLUSIONS: TRAJAN'S COLUMN IN PERSPECTIVE

Scholars have experienced little difficulty in providing precedents for the form of monument taken by Trajan's Column, a column topped by a statue, for the congeries armorum reliefs on the pedestal, or for the individual scene genres of the spiral frieze. However, no convincing predecessors have been put forward for the application of a helical relief to the shaft of a column¹. It would seem likely that this was a major innovation which, in being realised on such a large scale, presented a series of extraordinary problems to the planners and sculptors.

The scale of the undertaking was bound up with the depiction of a series of historical events, namely Trajan's two Dacian wars. Generalised individual scenes of warfare, victory and conquest were traditional motifs in various media of propaganda art (see 4.5; 4.8). Moreover, there were serious limitations to the truly documentary historicity of the frieze (see 2.2). Nevertheless, an attempt was made to represent in the capital a coherent picture of frontier warfare within a historical framework. This too was unprecedented as far as may be judged from surviving earlier sculptures and monuments.

The spiral frieze, the large scale of work, and the depictional content were indeed inseparable because the shaft provided the only feasible context for such a long relief. Figural propaganda sculpture was applied to unusually large public altars, such as the Domitius Ahenobarbus altar or the Ara Pacis. Processional and battle scenes were employed on temple friezes as was the likely context of the

Mantua, Lecce and Palestrina cavalry reliefs². Their length would have been restricted by the dimensions of the building. Military subjects of limited length appeared on funerary monuments, such as the 1st century B.C. exedra in the Museo Capitolino³, but only very occasionally in Rome in comparison with provincial practices.

Triumphal arches would appear to have been the main vehicle for propaganda sculpture but even these did not lend themselves to the carving of long friezes. The arch at Orange is exceptional amongst this class of monument for its long attic reliefs⁴, although the Cancelleria reliefs were perhaps destined for an arch. Otherwise the longest reliefs on arches were those seen on the Arch of Titus and the Arch of Benevento positioned on the sides of the passageways, or forming a triumphal register around all four sides⁵. The latter did not compare in length or size of figures with the frieze on Trajan's Column. For reuse on the Arch of Constantine, the Great Trajanic Frieze had to be cut up into four pieces and positioned in four unconnected positions⁶.

It would have been difficult to attempt any historical narrative on an arch because of the problems in employing any form of 'continuous style'. At best, large scale friezes could have represented a single event such as an adventus or a profectio, as on the Cancelleria Reliefs⁷. Alternatively, a scene characterising an event might have been used, such as the ship relief putatively associated with Claudius' invasion of Britain⁸. Most relief subjects in propaganda sculpture probably had the most generalised associations. They represented actions characteristic of the imperial office but not necessarily with reference to a specific event. The inclusion of deities and personifications in realistic juxtaposition with the emperor and his entourage further distanced the scene from real time. This practice

is present throughout 1st century A.D. propaganda art but the effortless blend of humans and deities with symbolic, rather than historical reference, is best seen on the Great Trajanic Frieze and the Arch of Benevento. The former was intended to epitomise Trajan's good relations with his guard units and not to record actions in a specific battle (see 5.18). Numerous scholarly attempts to interpret the content of the arch's panels have failed convincingly to define a coherent iconographic programme⁹. Significantly, deities appear on Trajan's Column only very rarely and as non-participating observers (see 4.8).

Thus, the available monumental contexts for figural propaganda sculpture were such that short friezes or rectangular panels could convey symbolic scenes but not complex depictions of actual historical events. When such happenings were represented they followed stock motifs and included figures on a supernatural plane. Trajan's Column was a radical departure from both propaganda art and architecture. This was made possible by the coincidental availability of treasure won from Dacia to finance the building of a huge forum-basilica complex. The nature of events in the two wars lent itself to an attempt at sculptural representation which together with Trajan's propaganda objectives could best be accommodated by a very long frieze (see 3.3). Some scholars might add that an architect of the necessary genius to conceive and design the spiral column was available at the right time in the person of Apollodorus of Damascus (see 4.2).

These considerations lead on to some other hitherto unparalleled features of the column project. Not only was the length of the frieze enormous, but also the area of stone it covered was

extraordinary. The number of human figures and the items of scenery exercised their own influences on how the work was ordered and executed. Despite the grandiose proportions, sculpting was carried out to an extremely high degree of detail with very little concession to the interests of the viewing audience below (see 3.3.3). The depiction of a large number of soldiers on the frieze, most of them armoured, was another new element of the work. It was a product both of the 'historical' content and, as importantly, of the significant military element in the viewing audience (see 2.3).

Ceremonial genre scenes had hitherto included the unarmoured praetorians who escorted the emperor from day to day (see 4.4; 5.7). Important exceptions to this were the frieze on the altar of Domitius Ahenobarbus and the surviving panels from the Arch of Claudius. The former shows armoured soldiers in contemporary mail cuirasses¹⁰ but the latter chose to include stylised helmets and body armour of traditional Hellenistic forms¹¹. Whilst Hellenistic elements of shield carriage and helmet design were included on Trajan's Column and the sculptors did not escape completely from their artistic background, intentionally or otherwise, a creditable overall attempt was made to depict early 2nd century A.D. military equipment. This is also a notable feature of the Great Trajanic Frieze (see 5.18). P1 135-44

The formulation of figure types for the column was a compromise necessitated by the great number of figures to be depicted, which resulted in simplifications and stylisations being introduced (see 5.20).

In the manner of the Roman soldiery, barbarians on the column were categorised into easily recognisable ethnic types. Although Hellenistic influences played a part, and the Sarmatian cavalry

were an artificial creation, barbarian types did reflect some of the realities of Dacian and German dress (see 5.12-14). Considering that the stock types of adversaries in triumphal art had been confined mainly to near-naked Gauls and Germans, this too represents a departure from earlier practices, not least because it shows enemies actually wearing armour. The most impressive feature of the column's reliefs with regard to verifiable accuracy concerns the pedestal reliefs rather than the frieze. These congeries armorum represent a great injection of realism in comparison with other works in the spolia genre. Barbarian equipment was presumably sufficiently available and impressive to cause stock motifs such as ships' prows, muscled cuirasses and Gallic animal standards to be abandoned.

Pl 27,33-5

Pl 120-34

In the provinces where warfare was perhaps more familiar, sculptural depictions of armoured soldiers and barbarians were frequent. The Augustan-Tiberian 'veterans' arches' of Provence have bound captives, Gallic spolia and battle scenes. Such reliefs on stelae and more substantial funerary monuments were popular during the 1st century A.D., particularly in the German and British provinces. Their varying accuracy and peculiar stylisations are reflected by employment as comparative material in the present work. Whilst these funerary representations decreased in numbers towards the end of the 1st century A.D., their style and cultural milieu was reflected by the Tropaeum Traiani reliefs which make the perfect foil in provincial art to Trajan's Column, a monument produced in the capital (see 5.19).

Pl 146-55

Examination of the Marcus Column¹ is an important aid to the study of Trajan's Column because both monuments share common features of planning and composition. Their differences reveal that the later column's designers learnt many lessons from their predecessors' work. The development and even exaggeration of some stylistic trends on the Marcus Column draws attention to their presence already on Trajan's Column.

The content of the Marcus Column frieze is very different from that of Trajan's Column because the wars it depicts were not clear-cut campaigns of conquest and annexation. The Marcomannic Wars were a series of barbarian invasions of the empire followed by temporary occupation by Roman armies of trans-Danubian territories². The various attempts by scholars to identify geographical locations and to date phases of the conflict from the frieze are not convincing and there is serious doubt about the value of such exercises³. Significantly, the few 'historical' scenes, such as the 'Rain Miracle' (M.C.XVI), which may be connected with Dio's account of the wars, P1 172 occur on the lowest spirals⁴. It is likely that these were celebrated occurrences positioned for visibility rather than in a chronological sequence with reference to a historical framework. The frieze may be an incoherent series of genre scenes without any value to historians. Apart from this contrast with Trajan's Column, the treatment of the barbarian adversaries and the approach to warfare differ greatly between the two monuments. On Trajan's Column the barbarians are noble adversaries, worthy of respect for their bravery. On the Marcus

Column there is no such finer feeling. Barbarians are slaughtered with graphic and explicit violence⁶. They are forced to kill each other in front of Roman soldiers and even women and babies are butchered. Facial expressions and exaggerated gestures are used to convey despair, anguish and physical suffering in a way quite alien to the Trajanic spiral. Clearly the damage done by the barbarian invasions and their effects on Roman sentiment changed the victor's indulgence into the near-loser's vindictiveness. The Marcus Column also lacks large battle compositions and has only three construction scenes (M.C. LXXXII, XCIV, XCVIII). Citizen technical skill as a propaganda theme was abandoned, as was the magnanimity accompanying romanitas, to be replaced by an arresting catalogue of the horrors of war. Some of the emperor's personal qualities were still emphasised but in a more formalised and stilted manner (see 6.3).

Pl 178

Pl 179

Pl 168

The layout and execution of the Marcus Column frieze is very noticeably different overall from that of Trajan's Column. There are fewer spirals up the shaft, 20 as opposed to 23. Far fewer human figures appear, c. 1,766 as compared with 2,639⁵. Carving was done in much higher relief with heavy undercutting. The style, proportions and poses of human figures are much less 'classical' and small carved details, such as shield patterns, belt fittings and lorica fastenings, are simplified or absent altogether. Scenery was reduced to the absolute minimum with scenes appearing less cluttered and even empty as a result. There was no provision for standards, tools and weapons to be inserted in metal. They were all executed in stone.

Pl(166,170,
(177

On the other hand, a great deal was copied directly from Trajan's Column. Despite historical complications the spiral was divided into two halves by a winged Victory flanked by trophies (M.C. LV). Despite the general lack of curved rectangular shields carried by citizen troops, a testudo appears in scene LIV, just as in scene LXXI of Trajan's Column. The spiral commences with riverside towers, sentries, port installations, a river god and a bridge and arch scene. It ends with animals, again exactly like Trajan's Column. Bridge-crossing scenes initiate 'campaigns' and vertically correspond (M.C. III, LXXVIII, LXXXIV). Mounted figures of Marcus appear one above the other on adjoining spirals (M.C. XXVIII, XXXIII) and they recall the mounted Trajan in scene XCVII of his column. There are only three construction scenes on the Marcus Column (M.C. LXXXII, XCIV, XCVIII) but two of these have figures which were undoubtedly sketched from construction workers on Trajan's Column⁷.

P1 84-5
 P1 176
 P1 77
 P1 2,164
 P1 173
 P1 92
 P1 179

A number of devices for the composition of scenes and modeling of figures also link the two columns but were more developed on the later monument. In many scenes on the Marcus Column groups of three or more figures were carved standing in the same pose⁸. Alternatively, lines of figures have alternating poses forming a rhythm of stances⁹. These artificial compositions not only filled up space, as with the triplet groups on Trajan's Column, but also imparted movement to the frieze which could be clearly visible to the viewer below. Details of equipment were also employed in this manner. Shields were lined up to define groups of figures within a scene and sometimes they were held in alternating attitudes¹⁰. Types of armour were sometimes chosen to

P1(170,171,
 (175,177
 P1(171,175,
 (177

form a rhythm for figures lined up together, such as mail-scale-
mail-scale, etc., or mail-scale-plate-mail-scale-plate, etc.¹¹. Pl 171

This likewise served to unify groups of figures. The execution of
all shafted weapons in stone reinforced the rhythms by imposing
parallel lines across scenes¹². Pl 177

The same scene genres appear on the Marcus Column as are on
Trajan's Column but they differ in their frequency of use, as with
the construction activities. Their scarcity on the Marcus Column
may be associated with the observation that builders are even less Pl 179

practically employed than on Trajan's Column (see 4.7.1). The
adlocutio genre places more emphasis on the emperor's status. This Pl 168

is done by increasing his comparative size, by distinguishing him
more clearly from his audience, by depicting him looking straight
outwards at the viewer, or by a combination of these features.

This perhaps reflected a process in propaganda art whereby over
time the emperor's visual prominence increased as the stability of
his position decreased (see 6.3)¹³. Standards were employed in much
the same ways¹⁴ on both columns to head marching troops and to pinpoint
the emperor's position (see 5.5.1). Aquilae are absent on the later Pl 168
monument¹⁴. Perhaps the fragmented nature of the Marcomannic Wars

necessitated the division of legions into vexillationes but this
does not wholly explain the absence because some near-complete
legions will presumably have been present in the field-armies
across the Danube¹⁵. One new genre which may be present on the
Marcus Column, depending on how a very damaged scene is interpreted
(M.C. XIV), is a cavalry decursio. This may have been modelled on the
pedestal reliefs of the Pius Column¹⁶.

Features of Marcus Column figure types which differ from Trajan's Column may reflect warfare against different sets of adversaries¹⁷. Germans appear either bare-chested or with long-sleeved tunics. The former approximate to the Trajan's Column Germans (see 5.13) but the latter do not. A third type (M.C. XLIX) has the flat-topped helmet or hat seen in Trajan's Column scenes C and CLI. The barbarian forces lack archers but do have some slingers (M.C. X). Sarmatian peoples played a major part in the Marcomannic Wars and the absence of armoured barbarian cavalry may signify a return to the triumphal art convention of denying such protection to adversaries. On the Roman side the differences from Trajan's Column are numerous. Citizen troops are still distinguishable by the 'lorica segmentata' but these cuirasses now have multiple chest and upper back plates and pteruges at the waist¹⁸. In some cases aprons have lengthened, but sculptors also became thoroughly confused and depicted them hanging down the back, over the wearer's buttocks¹⁹. Feminalia are also worn by some citizen troops (M.C. XVI). This figure type carries hastae, not pila, and small flat oval, or sub-oval, shields. One citizen in 'lorica segmentata' blows a cornu (M.C. XXXIII,8). Auxiliaries are substantially unchanged with the major qualification that scale armour is commonly depicted on both infantry and cavalry to allow rhythms of armour types to be constructed. Armoured officers carry shields, wear helmets and actively take part in the fighting²⁰. A much larger proportion of helmets have crests than on Trajan's Column and those without have larger and more prominent bowl rings. There are no Roman slingers or Moorish cavalry, contrary to expectation

Pl 174

Pl 95-6,118

Pl (166,168,
(171,177,
(179

Pl 166,177

Pl (166,171,
(173,174

Pl 171

in the latter case, but archers do occur wearing authentic eastern dress with long trousers, long-sleeved tunics and Phrygian caps (see 5.8.4)²¹. Their bows are impractically short and have curled ears²². Of all these differences from Trajan's Column perhaps only the citizens' pteruges and the archers' attire need reflect changes in equipment practices rather than merely the sculptors' preferences. The indication of mail by drilling rather than zig-zag chiselling was presumably intended to increase visibility and clarify the type of armour (see 5.3.1). Pl 170
Pl 171

These differences and similarities between the two columns suggest that the planners and sculptors of the Marcus Column made very careful observations of Trajan's Column before and during their work. Standing below or on the gallery around the earlier column they could have seen how to improve the visibility of a spiral frieze. The reduced number of spirals, fewer figures, higher relief, less scenery, repeated poses and the elimination of detail invisible from the ground all strongly support this. The copying of the start and finish of the spiral, the testudo scene, the division into two parts by a Victory and figures modelled directly from Trajan's Column suggest that some features were retained and even plagiarised.

In comparison with Trajan's Column, the Marcus Column has far fewer mistakes and is a much more practical and assured monument. The spiral divider follows a smooth helical course without the irregularities of its predecessor. This might suggest a greater degree of planning and less free-fall composition at the shaft face. However, this was not entirely the case. Figures in an early bridge-crossing scene (M.C. III, 29, 31) have unusually large, curved oval shields with detailed thunderbolt-and-wings blazons. These contrast Pl 165-6

completely with the small flat oval shields without blazons seen elsewhere. Moreover, one auxiliary has his mail carved with crescents instead of drilled holes (M.C. III, 33). Exactly the same convention appears on the Villa Medici hexagonal altar reliefs, and nowhere else²³. Both the shields and the armour started being depicted in one way then quickly changed to another. The large shields may have been judged to unacceptably obscure the human figure and thus detract from the clarity of scene actions (see 5.2.3; 5.3.2). The crescents were a more naturalistic convention for mail but one not readily visible from a distance. Thus, at least in the early stages, figure type details were still being formulated, just as on Trajan's Column (see 3.2.3).

The Marcus Column did not attempt to depict a coherent series of events but merely presented a collection of genre scenes within a vertical correspondance framework and division into two by a Victory. This latter device was even more artificial than on Trajan's Column where there were at least two actual wars being depicted²⁴. Events of public interest were figured low down on the shaft where they were most visibly effective (M.C. XI, XVI). In many respects the Marcus Column was very successful in presenting its message to the public, even though it did not have surrounding balconies²⁵. It modelled itself on Trajan's Column in as far as it took the best features and eschewed the worst. Given the practical difficulties of 'reading' and understanding the events on the Trajan's Column spiral (see 2.2; 3.3.3), it was perhaps fortunate that the Marcomannic Wars did not lend themselves to historical narrative and that the Marcus Column was largely unrestricted by events²⁶.

Looking backwards from the Marcus Column to Trajan's Column serves to highlight the free-fall process of composition and lack of planning on the latter. It emphasises the lack of precedents for the spiral frieze on Trajan's Column and the experimental and innovative methods of its sculptors. Moreover, an awareness of devices such as triplet groups, pose and armour rhythms, shield attitudes and adlocutio formalisation which are developed and blatant on the Marcus Column, enables the same tendencies to be identified in their infancy on Trajan's Column. Shields are presented on the latter by men in alternating poses (CXLVIII) and armour is varied in scene X. Adlocutiones vary in how prominently and separately Trajan is figured in relation to his audience but some come close to Marcus Column compositions. Most of all, the simplicity of the latter monument's sculpted detail underlines what a tour de force was the virtuoso carving of Trajan's Column.

Pl 116

Pl 9

Pl 83,168

6.3

TRAJAN'S COLUMN AND ITS SUCCESSORS

It was not just the helical frieze concept which made the sculpting of Trajan's Column a new departure from earlier works. The scale and attention to detail of the undertaking were unprecedented and the wars were depicted in a 'historical' fashion hitherto unattempted. Armoured soldiers in more or less stylised military equipment were represented in large numbers. The pedestal reliefs were a still-life study of barbarian spolia rendered with a fidelity at variance with the established congeries armorum genre. However, these features created problems of visibility despite the application of paint, problems which were perhaps only fully appreciated once the work was complete and the scaffolding removed.

Pl 120-34

These problems were recognised and effectively tackled by the planners and sculptors of the Marcus Column as far as layout, composition and carving techniques were concerned (see 6.2). Although this column was probably not surrounded by viewing balconies and was set on a higher pedestal than its predecessor, these circumstances did not detract from the legibility of its spiral frieze, as any modern observer may affirm. However, lessons were learnt even from this second attempt by succeeding monumental artists. The Severan arches in the Forum Romanum and at Lepcis Magna are characterised by very large sculpted panels which were laid out very clearly with the minimum of scenery and the maximum of rhythmic pose, expressive gesture and bold detail¹. Like the Marcus Column frieze, these panels were designed to be viewed from below, at a distance, rather

than close-to. This is a point which modern scholars have sometimes neglected. The curving over of spear-heads at the top of panels improves the optical effect. The emperor has become even larger in stature than his companions, more frontal in his pose and stare, and more detached from his audience. Standards now serve solely to frame him².

The representations of Galerius on the Tetrarchic arch at Salonika (Greece) are of an even more exaggerated size in comparison with other figures³. Standards, dracones and vexilla, crowd around him to pinpoint his position⁴. On the Arch of Constantine the 4th century panels depict a very over-sized emperor whose identity is never in doubt⁵. Standards frame him in the adlocutio scene but architecture fulfills this function elsewhere. To judge from antiquarian sketches and surviving fragments, the fallen helical relief columns of Theodosius I and Arcadius in Constantinople continued to develop visual presentation⁶. Each column stood in the middle of an open forum⁷. The Arcadius Column certainly had fewer spirals than the Marcus Column, 13 compared to 20. Moreover, it took the vertical correspondance further by organising similar relief content on bands of three or four spirals, effectively forming unified façades on each side⁸. Imperial figures were framed by architectural scenery rather than by standards⁹. They were not always larger in scale than their attendants, but were depicted with a studied frontality which detached them from actions around them. This rather removed the 'overseeing' imperial function which was central to Trajan's Column's propaganda message (see 2.3) and still present on the Marcus Column. Very large numbers of soldiers' spears were carried in uniform attitudes¹⁰ and shield faces were lined up

in a manner reminiscent of 3rd to 4th century hunt mosaics, but already seen in Marcus Column scene XI¹¹.

Pl 169

The series of monumental successors to Trajan's Column improved the visibility and public impact of the propaganda messages, each work learning from those which went before. The most important element was the emperor's figure which grew in stature as the nature of the imperial office changed. Adlocutio-like compositions may be arranged in a typological sequence to exhibit this process¹². However, it is clear from the composition of scenes and the role of standards on Trajan's Column that even for the optimus princeps the most important function of propaganda sculpture was to project his imperial image.

Trends towards greater visibility of the imperial personage and the increasing formality of presentation meant that the 'historical' specificity of propaganda reliefs declined. Accordingly, attempts to identify the four cities besieged on the Arch of Severus (Forum Romanum), for example, are anachronistic¹³. Parthian wars made up of sieges, rather than of set-piece battles, were depicted in an unspecific way. Four panels had to be filled so four generalised cities were represented. Likewise, registers on the Arch of Galerius depict genre motifs, such as profectio, adlocutio, submission and battle, and, although the historical context of Galerius' victories is known, the content is unspecific¹⁴. The Milvian Bridge battle panel on the Arch of Constantine probably represents an actual event but it is complicated by its close compositional similarity to scenes on Christian 'Red Sea Crossing' sarcophagi¹⁵. This declining historicity is already clear on the Marcus Column where the few definitely historical scenes, such as

the 'Rain Miracle' (M.C. XI, XVI), stand out in stark contrast to the genre scenes and to the reliefs on later monuments. Whilst the present work has argued that the frieze on Trajan's Column may not serve as a reliable historical source (see 2.2), it is not actually contradictory to assert that the spiral's undeniable historical framework represents the zenith of attempted documentation in Roman propaganda art. Before Trajan's Column was conceived the monumental context for such an approach was lacking. Afterwards, interest in historical content became increasingly subordinated to the presentation of the emperor's image.

Trajan's Column also represents an unequalled peak of accurate representation. In particular, the civil Roman architecture on the frieze was faithfully reproduced (see 4.7) but the simplification of scenery on later monuments prevented this being repeated. Later inaccuracies in the depiction of military equipment cannot be ascribed simply to a reduction of small sculpted detail. On the Marcus Column and the Severan arches patterns for Roman soldiery may be detected based ultimately on those set by Trajan's Column: officers in muscled cuirasses, citizens in 'lorica segmentata', auxiliaries in mail or scale. With the exception of a pilum on one siege panel¹⁶, the Severan arches provide no details which do not appear on the Marcus Column and not a great deal on the latter is different from Trajan's Column. It is important to be aware of this because the Severan arches provide the latest representations of 'loricae segmentatae' and play a part in discussions of this armour form's longevity¹⁷. If patterns had been formulated through reference to earlier monuments, then these propaganda sculptures lose any value as independent sources of information. The Arch of Severus in the Forum Romanum

rather supports this suspicion because soldiers on its pedestal reliefs were depicted in an extremely conservative style¹⁸. They carry ring-suspended 'Pompeii' type gladii on their right hips, and wear caligae and paenulae. To judge from artifactual evidence and independent representations none of these features of dress and equipment survived the Antonine period¹⁹.

Allied with a progressive stylisation of equipment was a trend towards increasingly bland barbarian representations. Clearly distinguishable Gauls, Germans, Dacians, Sarmatians and Parthians gave way in the 2nd century A.D. to a generalised ethnic type wearing long trousers, a long-sleeved tunic, cloak and Phrygian cap. Parthians on the Severan arches, for example, can and have been identified as Dacians²⁰. Thus, despite their many stylisations, simplifications and inaccuracies, as ethnographic studies the figure types on Trajan's Column were far superior to their equivalents on later monuments.

Trajan's Column exerted such a profound influence on sculpture because of the extremely high quality and detail of its reliefs, and because of Trajan's reputation as a great, if not the greatest Roman emperor. With Trajan's Column in front of them, sculptors working on later columns and arches were far more pragmatic with regard to the viewer's interests, making their monuments far poorer fields for subsequent study. Trajan's Column's continuous inspiration for artists may equally be ascribed to the simple fact of its survival in a remarkably undamaged state. The style of the Marcus Column's reliefs and their serious mutilation over the centuries meant that they had much less appeal to later generations. It has been claimed that 5th century mosaics in S.M. Maggiore in Rome were modelled on scenes from Trajan's Column¹ and the frieze's influence may be traced in the Middle Ages to the Hildesheim column². The Renaissance obsession with Roman culture ensured that many of the great artistic figures, such as Raphael, Michelangelo, Primaticcio, Giulio Romano and Polydoro da Caravaggio, were irresistably drawn to it³. Twin spiral relief columns at the Baroque Karlskirche in Vienna and the Napoleonic Vendôme Monument in Paris bear witness to its continued influence into the modern period⁴. Once the final lick of paint had been applied to Trajan's Column and the scaffolding had been finally removed from the shaft, then western art would never be the same again.