

particularly relevant to Roman needs between the late third and mid-first centuries B.C.: (1) Corduba-Obulco-Castulo-Mentesa-Saltigis-Saetabis northwards to Tarraco; (2) a coastal route from the north to Dianium-Carthago-Nova; (3) Corduba-Munda-Carteia; (4) Corduba-Hispalis-Hasta-Gades; (5) Corduba-Metellinum. The network thus ensured important north-south and east-west communication through Hispania Ulterior, although access from Hispania Citerior was only effective via Road 1. The reign of Augustus saw this system further enhanced in the context of his administrative reorganisation of the provinces towards the end of the first century B.C. He foresaw a need for faster communications between the governors at Corduba and Tarraco and, ultimately, Rome, as well as direct access to Baetica from Carthago Nova. Augustus thus began the great road which came to be known as the Via Augusta. By 8 B.C. Roads 1 and 4 were being upgraded to comprise a banked highway (6 to 7 m wide) to take heavy wheeled traffic, with drains and defining ditches and at least twelve stone bridges (611ff.): the easternmost link with Carthago Nova was provided by a road running from Corduba through Mentesa Bastia, Acci and Basti. However the system was not quite as straightforward as it might seem. Firstly, the road was only partially completed during Augustus' reign. Secondly, its easternmost stretch was unmetalled for its whole length, probably because it was used primarily to ferry metals mined in the Sierra Morena to Carthago Nova (pp. 759ff.), while the *cursus publicus* preferred to adopt the older and more direct route (1). Finally, the distribution of *miliaria* suggests that the only part of the road regularly kept up by the state was that within the *territorium* of the provincial capital at Corduba. The enterprise smacks of the blend of imperial propaganda, concern for state interests and pragmatism which are the hallmarks of the Augustan age. In addition to this, the early Imperial period saw the enhancement of the old Route 1 and the construction of another route running from Carthago Nova to Complutum. The only other truly 'Roman' roads were built to link Astigi and Ostippo, and Italica and Emerita (for the shipment of marble from Almaden for the new Hadrianic city at Italica). S. carefully charts the history of these surprisingly few roads into the late Roman period, how they were largely maintained during the Visigothic period (pp. 600ff.), and the use to which they were put during the seven centuries of Al-Andalus (602ff.).

S. also discusses the evidence for the far greater number of unmetalled roads and pathways which had been frequented since time immemorial (pp. 648ff.), and which continued in use throughout the Roman period. Thus he makes the point that 'Roman' roads were surprisingly few. The major routes were extremely expensive to create and funded directly by the state to ensure the political and administrative control of the region through the *cursus publicus* (pp. 698ff.). Moreover they had no economic function. The cost of road transport was high, while river transport was cheaper. Thus the network of rivers and natural harbours (pp. 702ff.) was sufficient to ensure the easy movement of olive oil, grain and wine from estates in the province of Baetica to ports and other outlets elsewhere. In addition, S.'s research suggests that beasts of burden remained the major form of transport in the region and that these could negotiate earth tracks or riverbeds with their loads just as easily as metalled roads (pp. 744ff.). Consequently, there was little incentive for local élites to spend money on creating unnecessary and expensive roads. The economic success of Baetica in the first three centuries A.D. thus had little to do with the creation of a new communications network to speed up the movement of commodities. Those élites involved in the production and marketing of agricultural surplus relied instead upon the traditional routes of communication by river and the beaten track.

Thus, the evidence of the roads suggests that Rome's administrative arrangements in southern Iberia built upon a selective enhancement of pre-Roman traditions rather than any radical break with the past.

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*Das frühkaiserzeitliche Militärlager in der Kaiseraugster Unterstadt.* By E. Deschler-Erb, M. Peter and S. Deschler-Erb. Forschungen in Augst 12. Romer Museum, Augst, 1991. Pp. 149, ills 86. Price: Sw Fr 50. ISBN 3 7151 0012 5.

The 'Colonia (Paterna) Pia Apollinaris Augusta Emerita Raurica', founded according to an inscription for the second time in the Augustan period and occupied until the fourth century, is situated about 10 km to the east of Basel in Switzerland. Its geographical setting can be considered as a perfect choice: it is placed immediately near the navigable Rhine and the Roman road crossing lowland Switzerland from the west (Rhône-Valley, Geneva) to the east (Vindonissa, Raetia) and is linked with the northern frontier by river and

roads as well. The *colonia* is topographically divided into two parts: the Upper Town on a plateau, founded in the Augustan period and provided with public buildings, and the Lower Town in the valley bottom whose construction dates from the late first century A.D.

Since the first systematic investigations at the beginning of this century, a considerable number of excavations have taken place – and indeed are still going on. But a remarkable effort has also been made to evaluate and publish the vast amount of features, buildings, and small finds discovered in these excavations. Preliminary reports and smaller contributions are regularly presented in a periodical (*Jahresberichte aus Augst und Kaiseraugst* (1980 ff.)), and more extensive reports in terms of the amount of material and general context in a monograph series called *Forschungen in Augst*. Issued over the last few years in a fairly rapid sequence, these monographs comprise predominantly typological approaches to specific classes of object, artefacts or buildings. The particular volume under review is concerned with the question of the military presence in Augst during the first century A.D.: military occupation is generally accepted for the Flavian period, but it remains elusive for the first half of the century.

The starting-point of the present report is the existing archaeological evidence, which consists of V-shaped ditches, recovered during several small-scale excavations since 1985 and enclosing a rectangular area of more or less 3.5 acres, an inscription, and numerous military small finds. This evidence – linked with the geographical and topographical situation and taking into account tactical considerations – has given rise to the idea that there was an early military site (*castellum*) in the Lower Town of Augst.

The authors firstly set out to prove the presence (and nature) of Roman troops in Augst in general; not by discussing in depth the rather dubious structures, but by analysing the material culture, particularly the military small finds, and looking for possible military ‘indicators’ within other classes of finds. Secondly, by studying the distribution and concentration of these pieces of military equipment, they seek to locate the site of the assumed *castellum*. Thirdly they aim to date its occupation by using numismatic and ceramic evidence.

The core of the volume is the description and analysis of the military finds, supplemented by reports on two excavations and their small finds. Further chapters deal with the coin finds and animal bones recovered in the area of the assumed *castellum*.

The report on the military small finds consists basically of a typological description and interpretation of 109 objects, made from bronze, iron, and bone, and found in the whole area of the Lower Town (the military finds from the Upper Town are the subject of a thesis in progress and are not presented in this volume). The finds are discussed in four main categories according to their function (offensive weapons, defensive weapons, horse-harness, and further objects without a closer functional attribution) and supplemented by a detailed catalogue and illustrations. In summing up the results of the analysis of the finds E. Deschler-Erb concludes that the *castellum* in the Lower Town was probably held by an infantry unit (42 out of 109 objects are attributable to an infantry unit). The chronological frame-work provided on the one hand by the published evidence elsewhere in the Empire, and on the other hand by the archaeological context in Augst itself, dates the military presence to the Tiberian-Claudian (and perhaps Neronian) period. Concerning the ‘location’ of the *castellum*, a series of maps shows the general distribution of all (i.e. 446) military small finds in the Lower and Upper Town of Augst. Some of the concentrations and relative densities (e.g. defensive and offensive weapons) are quite obvious and give support to the interpretation of the ditch system. However, one wonders about the majority of the military finds (335 objects) which were found in the Upper Town and how they will be interpreted, particularly in relation to the finds from the Lower Town! A range of possible interpretations is offered on p. 53: e.g. lost by soldiers holding the *castellum* in the Lower Town, or lost by soldiers living in the Upper Town, or by veterans. In a final section of his report, E.D. places his conclusions in a wider historical context: the *castellum* of Augst, in close relationship to the legionary camp in Vindonissa, was part of the Tiberian-early Claudian defensive system along the Rhine and in the Alpenvorland. He puts forward the idea that the *castellum* in Augst, being in a favourable geographical position, replaced the Augustan military site in Basel. Likewise the reasons for its abandonment, perhaps connected with the change of legions in Vindonissa, or a consequence of the conquest of Britain, or as a result of the establishment of the frontier along the Danube, remain speculative.

The report on the structural features and non-military small finds recovered in and near the ditches (Bireten/‘Haber!’) includes the discussion of all phases: the ditches, cut into a rubbish layer (Phase 1b: dated by pottery to the Tiberian-early Claudian period), were refilled after their use as military structures (Destruction Phase 1d: late Tiberian-early Claudian period). The subsequent levels are attributed to the later civilian settlement(s) ending with the construction of the planned town c. A.D. 100. Apart from the not very

convincing figures showing sections through the ditch (fig. 52) and questions relating to the nature and origin of the rubbish layer predating the use of this area as a military site, the very interesting attempt to interpret the pottery assemblage, i.e. to look for military indicators, deserves comment. A. Furger (p. 96 f.) found evidence for the military in the high percentage of (cooking) pots which seems to contrast with that from civilian settlements in the early first century A.D. He argues that this fact could be explained by the non-centralised but individual cooking in every *contubernium*. Certainly, there is no reason to deny that pots generally formed part of soldiers' 'households', but why should they differ in number from a civilian household, and what lies behind the change, i.e. the adjustment, in the later part of the century? One 'civilian' assemblage used to compare with the 'military' one comes from a layer immediately beside the amphitheatre in the Upper Town, but is it really representative? Another civilian example stems from a single house in Oberwinterthur whose low representation of cooking pots is exceptional. Notwithstanding these criticisms, the attempt is very interesting and worth pursuing in future research.

The second excavation (Äussere Reben) yielded several successive structures dated to the late Tiberian-Claudian period: a ditch (Phase 1a) is interpreted as a drainage channel or as part of an earlier phase of the ditch system of the *castellum*. A subsequent phase (1b) consisted of a probable water canal, while the last two phases (1c and d) revealed a series of smaller ditches and stone foundations seen as the remains of military building of timber construction, and implying a possible enlargement of the *castellum*. This range of evidence, however, does not warrant an exclusive military interpretation of these features.

The report on the coinage comprises two parts: first all coins (first century B.C. to late fourth century A.D.) found in the area of the *castellum* (1,813 identifiable coins) are analysed. A remarkable and unusual peak in comparison with other find spots within the *colonia* is interpreted as a consequence of a military presence in the first half of the first century. Secondly he concentrates on the 244 pre-Flavian coins in order to establish a close date for the beginning and the end of the occupation of the *castellum*. The results achieved by this numismatic analysis support the ones discussed above in seeing a Tiberian foundation and a Claudian abandonment of the *castellum*.

The report on the animal bones is innovative in being not just a list in an appendix, but an attempt to interpret the bone assemblage found in the area of the ditches (excavation Bireten/'Haberl') in order to determine the function of this particular area. Although S. Deschler-Erb deals with various aspects such as age at death, butchery and eating practices, the discussion is focused on the predominance of sheep/goat bones in the numbers of fragments (39.6 per cent), followed by pig (32.7 per cent) and cattle (23.7 per cent), and the relatively high representation of wild animal species (2.6 per cent). This high incidence of sheep/goat bones seems to differ from the pattern identified in other contemporary assemblages (predominance of cattle bones) in Augst.

In a sub-chapter called 'Military – yes or no?', the evidence of Augst is then compared with military sites in Britain and on the Continent. Table 8 which shows the preference for pig on Augustan sites, and later diversification leading to cattle-dominated deposits in the third and fourth centuries, cannot be used to argue for a military interpretation of the present assemblage. The comparisons with and discussion of the British evidence are somewhat confusing but assume that soldiers, whenever possible, preferred the meat they were accustomed to eat in their homeland. The sheep/goat-dominated assemblage of Augst is therefore explained by the presence of troops coming from regions with a preference for sheep/goat-meat (South Gaul, Spain). Thus, a single aspect of a small assemblage (379 bones) is applied to prove the military presence – perhaps because it fits well with the '*ala Hispanorum*' mentioned on an inscription. Knowing about the problems concerning the publication and availability of archaeozoological data, but also noticing the relatively uncritical use of the British reports, the comparisons with both military and civilian settlements at a more regional level would have been useful in order to place the deposits under discussion in context.

To conclude: every report in the present volume revealed a particular trait in the assemblages studied which contrasted with other assemblages found in Augst; each contribution sets out to examine the question of military occupation but each soon assumes this to be a fact which has to be proved at all costs. The presence of soldiers cannot be denied and there might even be a *castellum* in the Lower Town of Augst. The main and most convincing arguments, however, are not the new ones but those based on the amount of military objects, the inscription and the geographical and topographical situation. In terms of function and use, it would be interesting to know what was generally going on in the Lower Town during the first century A.D. compared with the contemporary civilian settlement in the Upper Town. But as A. Furger has pointed out in the preface to this volume, the lack of systematic and large-scale excavations as well as the lack of evaluation of the excavations carried out hitherto, makes it impossible to answer this question.

Nevertheless, the idea behind every contribution of using different classes of objects as independent subjects with their own potential, rather than a traditional typological approach, is extraordinarily refreshing and stimulating. There still remains the impression that the report as a whole is not yet finished, and that some of the more interesting points are touched upon but not discussed as they should be – perhaps because the authors were determined to prove a *castellum* and, by doing so, neglected to consider critically the context, quality and size of the assemblages studied. There also remains the question why the authors and editor did not wait to present a hard back volume of high quality like this (and all the published volumes of this monograph series) until all the military objects dating to the first century, and thus the question of the military presence in August as a whole could be fully discussed and published.

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*The Roman Cavalry from the First to the Third Century A.D.* By K.R. Dixon and P. Southern. Batsford, London, 1992. Pp. 256, pls 35, figs 84. Price: £30.00. ISBN 0 7134 6396 1.

The study of Roman cavalry is essential for all those who wish to understand something of the equipment, organisation and operation of the Roman army. Yet although general works must refer to the cavalry and much important work has been done lately on important aspects of cavalry equipment, notably the saddle, there has been no convenient synthesis of what we know, think we know, and need to know, about Roman cavalry. Karen Dixon and Pat Southern have done just that, and deserve our congratulations.

The subjects they cover are unit strength and organization, equipment and arms, recruitment, conditions of service, training, the *hippika gymnasia*, the employment of cavalry, military records and supply of horses, mounts, stables and grooming, water and food supply, welfare, and baggage-animals. They use as their sources literature, inscriptions, sculpture, papyri and archaeological evidence, drawn from the Republic to the Late Empire, and marry to these most interestingly and effectively comparative material drawn from eighteenth- and nineteenth-century accounts and manuals. They show due caution in arriving at their own assessment of what can be legitimately deduced from the available evidence.

The most valuable section of the book is that on stables. In the past the difficulty of identifying stables, our failure to produce a complete ground-plan of an undoubted stable, and our inability to identify a standard form for a stable, have been largely passed over. The summary and evaluation of the present situation provided here is excellent in its weighing of the evidence. Other sections are good and competent, particularly perhaps those on sources and on equipment and armament, the latter the longest in the book.

In a work of synthesis there are inevitably weaker sections, though the standard is extraordinarily high. That on origins, unit strength, organization and titulature is careful to cite modern discussions, but the citations are not consistently of the most detailed recent study and any important further work. Instead the selection of a modern source seems at times arbitrary, too many references are simply repetitions of the conclusions of the one major study, and some important articles have been missed, notably D. Kennedy on milliary cohorts in *ZPE* 1 (1983), 253–63, M. Hassall on the internal planning of auxiliary forts, in B. Hartley and J. Wachter (eds), *Rome and her Northern Provinces* (1983), 96–131, and D.B. Saddington, *The Development of Roman Auxiliary Forces from Caesar to Vespasian* (1977), with a comprehensive cover of the literary and epigraphic evidence for this period. M. Speidel (1965) should have been cited on the *equites singulares Augusti*, and P. Southern herself on the *numeri* in *Britannia* xx (1989), 81–140. The section on the employment of cavalry in wartime has some useful quotations but lacks detailed analysis. There are a number of other minor points to rectify for the next edition. The use of *pers. comm.* is overdone; it is not an acceptable replacement for a proper reference. There is generally care in terminology, but the use of lance as an equivalent for any sort of spear, thrusting or thrown, is inaccurate and confusing. The Latin at times is shaky.

These are minor blemishes. The words that will come most frequently to the reader's mind will be of praise and appreciation. Anyone who wants a good overall survey of our present knowledge of Roman cavalry and the questions we ought to be asking will find it in this book.

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