

P. L. DALL'AGLIO and G. ROSADA (EDS), *SISTEMI CENTURIALI E OPERE DI ASSETTO AGRARIO TRA ETÀ ROMANA E PRIMO MEDIOEVO. ATTI DEL CONVEGNO, BORGORICCO (PADOVA) – LUGO (RAVENNA), 10–12 SETTEMBRE 2009* (*Agri Centuriati. An International Journal of Landscape Archaeology* 6–7). Pisa: Fabrizio Serra editore, 2010. 2 vols: pp. 345 + 341, illus. ISBN 9788862274067 (bound); 9788862274050 (paper). €850.00 (bound); €450.00 (paper).

These two conference volumes are Parts 6 and 7 of the journal *Agri Centuriati*. Despite the 'international' claim in the journal's title, most papers in the proceedings are in Italian, with some in French, Spanish and English. All papers have an English summary; unfortunately these are written in rather poor English, making them confusing rather than helpful. Otherwise the volumes are extremely carefully edited with a large number of high-quality illustrations. The areas under discussion are mostly located in Italy, especially in the Po Valley, with some in southern France and Spain. Most papers focus on a small area, often making important contributions to our knowledge of land measurement in these locations.

The greatest value of these volumes, however, lies in the fact that they show many long-held conceptions about centuriation systems to be incorrect. Firstly, the papers show that land measurement systems were universally connected to water regulation. Furthermore, an important point emerging from many papers is that land measurement systems are not developed in isolation, but are always closely related to the geography of the landscape. This means that if two centuriation systems exist in the same area, but with a different orientation or grid size, this does not necessarily mean that they date to different periods — a position often held in the past, especially by Chouquer. Instead, they may simply have been designed to deal with different problems of drainage, which varied because of the local geography. Furthermore, measurement grids organized on parallel lines (*scammatio* or *strigatio*) are not necessarily older than centuriation in squares, as is often assumed. The idea that the 'standard', Augustan-period *centuria* of 710 by 710 m should be dated later than those with shorter sides, e.g. 705 m, seems invalid as well; in fact there was much variation. Unfortunately, some authors seem unaware of the insights offered by their fellow contributors, and still adhere to older ideas (e.g. Capogrossi Colognesi). The *Liber Coloniarius*, no doubt an important source, but with many difficulties of interpretation, often receives too much credence (e.g. Ceraudo and Ferrari). Especially the papers discussing legal aspects of land measurement place too much trust in the writings of the *Agrimensores* (e.g. Calboli and Alexandratos).

It is also clear that many centuriation grids remained in use long after the Roman period, while other grids were created in the Middle Ages or Early Modern period, some on the basis of older Roman grids, but others *ex novo*. On the other hand, some systems may pre-date the Roman era, since demands for more efficient drainage already existed before this time in many densely populated areas. Therefore, it is dangerous to ascribe all visible land measurement systems to the Roman period. Many papers in the volume therefore emphasize that we should study landscapes in their entirety, rather than focusing on the Roman period alone. Furthermore, measurement did not develop independently from the people inhabiting the landscape: settlements were often located on crossroads of boundaries, while cemeteries were located at the edges of centuriated land. Independently from each other, many papers emphasize some or all of these points, which should surely form basic assumptions in later studies. The studies also emphasize the degree to which Roman measurement systems have disappeared over time, especially the smaller internal boundaries. This raises problems for the preservation of these grids, which form important historical artefacts; if it is difficult finding the remains of centuriations, then it is difficult to formulate laws for their protection. Various papers describe new methodology and technology which can be useful in studying landscapes, especially GIS modelling and LIDAR; it seems that definitive research is impossible without using these new methods. Some contributors, however, have only used the standard method of studying ancient and modern maps, suggesting that their results may not be as comprehensive as they could have been.

In sum, these volumes make an important contribution to our knowledge of Roman land measurement systems and their subsequent history. A concluding chapter, distilling new insights from the individual papers, would have been helpful to disseminate the important points in a more accessible form to a wider audience. As it is, we must hope that these volumes will reach a

new generation of landscape historians and that their insights will be fully taken into account in future work.

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doi:10.1017/S0075435812000433

C. KATSARI, *THE ROMAN MONETARY SYSTEM: THE EASTERN PROVINCES FROM THE FIRST TO THE THIRD CENTURY AD*. Cambridge: Cambridge University Press, 2011. Pp. x + 304, illus. ISBN 9780521769464. £60.00/US\$99.00.

This book is actually two books compiled into one. One on coin circulation, use and supply in the third century A.D. in the eastern provinces of the Roman Empire; the other on the functioning of the Roman monetary system analysed from the perspective of modern economic theories. There are connections of course, the empirical evidence for the first underpinning several considerations in the second. Yet the strength of this book is mainly in its theoretical part, not in its empirical one. In an extremely clear way, devoid of jargon, various theoretical economic models are explained and questioned for their suitability for understanding or describing the workings of the Roman imperial monetary system. However, much, if not most, of this could have been written without drawing on the numismatic data collected in preparation for this book.

These data consist of a survey of coin finds — whether from hoards, excavations, museum collections or stray finds — from the (north-)eastern provinces of the Roman Empire (Achaea, Cyprus, Asia Minor, Dacia, Pannonia Superior and Inferior, Moesia Inferior and Syria). This is a laudable effort in itself, since coin-find studies and publications tend to focus strongly on the north-western provinces of the Empire, where the evidence is more easily available for scholarly purposes. The amount of work involved in getting access to the data and compiling an overview must have been enormous and should be appreciated. Taking this into account, the lack of even a basic catalogue of finds discussed in the book is to be regretted. Although an appendix lists the publications, museums and archives consulted, nowhere does it become clear what the actual coin numbers per emperor per site or region are, nor the ratios between the various denominations and mints. In a quantitative study, with a detailed chapter (1) on source criticism regarding coin finds and coin hoards, this is a serious omission indeed. All the more so since the core of the work is an enormous set of graphs setting out percentages of coin finds per annum per site for the period Trajan–Gallienus for the provinces listed above.

These graphs are discussed and analysed in great detail in chs 2 and 4, whereas chs 3 and 5–7 are of a more theoretical nature. Ch. 2 uses coin-find evidence to reconstruct silver coin supply to the various provinces in the third century A.D., working from the assumption that a rise in coin finds per annum indicates an increase in supply. Yet it remains unclear how significant the various observed peaks and troughs are, especially in provinces like Moesia Inferior where only two excavated sites are taken into account, without any indication as to actual coin numbers or individual site history. Ch. 4 examines both silver and bronze coin finds per annum in order to reconstruct relative changes in coin output at the mint, which in turn is used to estimate the amount of money in circulation and its effect on price levels (Quantity Theory of Money). While the relative coin output can indeed be grasped by this method, the author completely neglects residual coin circulation, a major factor in any period. Thus, a lack of imperial Severan and later bronze coins, a well-known phenomenon, does not necessarily imply that no bronze coins were used and thus that denarii and antoniniani took over the rôle of small change, as is suggested in this chapter. In order to substantiate this claim, the rôle of second-century bronze coins in third-century contexts should have been investigated too.

The more theoretical chapters are a lot more rewarding and offer some stimulating ideas and insights into imperial monetary policy. In ch. 3 a convincing case is made, based on attested medieval and early modern parallels, for the actual demonetization of gold coins in the third century, caused by the constantly decreasing fineness of the silver coinage, to which the gold coinage was tied in a fixed exchange rate. Gold as a commodity became more valuable than gold as coinage, and was thus either melted down or sold outside the Empire. This indeed would explain the scarceness of (later) third-century gold coins in hoards found on Roman territory and their relative abundance in the Barbaricum. Chs 5 and 6 address the frequently discussed topic of the level of monetary integration and regional financial autonomy within the Roman Empire,