

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

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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 (Achaëa, 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,

giving a good overview of the debate. Additionally the author demonstrates the existence of distinct regional numismatic patterns, which did not, however, impede financial and monetary supra-regional trade and transactions for the élite and middle class entrepreneurs. In what is easily the best chapter of the book (7) the author gives an excellent overview of modern economic theories on the nature and origin of money, and investigates which one would best describe the Roman imperial monetary system. Convincingly she argues for middle ground between a purely state-run nominalist (or chartalist) system deriving from the state's needs to make payments and a metallist system, purely commercial in origin (the Aristotelian point of view) and driven by market forces. She concludes by coining a term for this in-between theory: fiscal metallism. Whether this phrase actually describes the situation in the Roman Empire remains to be tested by further empirical studies, based on a more methodologically sound treatment of numismatic data. The theoretical ground has been well prepared in this volume.

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B. WOYTEK, *DIE REICHSPRÄGUNG DES KAISERS TRAIANUS (98–117)* (Denkschriften/Österreichische Akademie der Wissenschaften, Philosophisch-Historische Klasse 387; Veröffentlichungen der Numismatischen Kommission 48; MIR – Moneta Imperii Romani 14). Wien: Verlag der Österreichischen Akademie der Wissenschaften, 2010. 2 vols: pp. 682, 156 pls, illus. ISBN 9783700165651. €136.00.

It has long been recognized that the coinage issued by the Roman emperor Trajan (A.D. 98–117) is in urgent need of a comprehensive (re-)assessment, honouring modern standards of numismatic analysis. This emperor's reign not only witnessed the high water mark of Roman rule in ancient Europe and beyond, but produced an immense amount of coins; and rare epigraphic evidence from this period sheds light on the organization of the capital's mint. Woytek's study *Die Reichsprägung des Kaisers Traianus* can now fill the gap in scholarship, making amends for the lacunae left by what previously have served as standard reference works, both written by Harold Mattingly: volume II (Vespasian to Hadrian) of the *Roman Imperial Coinage* series (RIC), published in 1926, and, released ten years later, volume III (Nerva to Hadrian) of the series *Coins of the Roman Empire in the British Museum (BMCRE)*, which was influenced in many respects by Strack's *Untersuchungen zur römischen Reichsprägung des zweiten Jahrhunderts I. Die Reichsprägung zur Zeit des Traian* (1931). These two works provide contrasting examples of numismatic study — that is, a catalogue of known coin-types versus a listing of all coin specimens kept in one individual collection. And yet these two volumes, along with the numismatic community more generally, could not cater for the specific situation of the period A.D. 103–112 (=COS V), failing to systematize, or even date, emissions from what is more than half of the emperor's entire reign — a major obstacle to the use of Trajan's coins by historians and archaeologists. Even a recent publication of the important holdings of the Bibliothèque Nationale in Paris by P.-A. Besombes (*Monnaies de l'empire romaine. IV Trajan (98–117 après J-C)* in 2008) could not help to solve this problem.

The study under review here, in turn, now presents a convincing argument on how to tackle this previously seemingly insurmountable problem. W. presents an exemplary and elaborate survey of all known coins, with structured and transparent examinations of types, emissions, stylistic developments and chronology. The material covered in the discussion comprises the Imperial coins from the mint of metropolitan Rome, including the 'metalla' (coins restituted in the name of Trajan), mules (i.e. coin struck from two dies which did not belong to the same emission), medallions (including one-sided ones), and non-precious metal coins with Latin legend which circulated in Syria, and in addition potential fakes and other dubious pieces; excluded from the study are, however, cistophoric coins from Asia Minor, the bilingual coinage of Caesarea in Cappadocia and that of Dacian origin, incuse coins, and contemporary imitations. These have mostly been covered by W. in various journal articles.

W.'s chapter on the development of Trajan's portrait-type on coins, and in comparison with surviving sculpture in the round (55–67; 67–73), is sure to kindle debate among archaeologists. W. concentrates on facial contours and the rhythm of the lower line of the bust, along with physiognomic detail more generally, to establish his Types A–D (Type B is the most