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HANS-ULRICH WIEMER

Coinage and Currency in Ostrogothic Italy: Did Theoderic and his successors have an economic or monetary policy?

I. Introduction

Assessments of the Ostrogothic kingdom in Italy have differed widely since the 18th century at least.¹ Contemporaries close to the royal court disseminated the idea that under Theoderic's reign Italy enjoyed a golden age (*aureum saeculum*). For Ennodius and Cassiodorus, the state of Italy was never better than under the Gothic king who on the emperor's orders had overthrown Odoacer and subsequently established himself as sole ruler of the Western part of the Roman empire.² Some modern historians have taken their testimony more or less at face value.³ In JONATHAN ARNOLD's recent book «Theoderic and the Roman Imperial Restoration» Late Roman panegyric reappears in the guise of academic prose.⁴ But there has always been a more somber

¹ For a survey of the history of scholarship on Ostrogothic Italy see now WIEMER 2020a where full references can be found. It needs to be stated unambiguously that I can make no claim to expertise in numismatics; my knowledge of the coins comes almost entirely from pictures and descriptions to be found in printed books and, increasingly, on the internet. I would not have written this article without the leisure and the intellectual stimulus provided by a fellowship at the Center for Advanced Studies «Migration and Mobility in Late Antiquity and the Early Middle Ages» in Tübingen. I should like to single out MISCHA MEIER and SEBASTIAN SCHMIDT-HOFNER for their perceptive comments on the paper I delivered via zoom on the occasion of one of our *jour fixes*. I gratefully recall ANDREAS FISCHER and PAOLO TEDESCO discussing an early draft of this version with me. At a later stage, JOHN WEISWEILER and HENRY HEITMANN-GORDON contributed valuable suggestions for improving style and argument as did the anonymous reviewer for «Chiron». FLAVIA MARANI made her fine dissertation available to me and drew my attention to numismatic literature which I would otherwise have missed. Finally, I should like to record the support I received from REINHARD WOLTERS who generously shared his expertise on coins and monetary history with me.

² On Ennodius' panegyric of Theoderic see GOLTZ 2008, 307–329 and WIEMER 2018, 37–42. The «social utopia» of Cassiodorus is analyzed by KAKRIDI 2005, 292–347.

³ The «golden age» of Theoderic was celebrated emphatically by HODGKIN 1891 and by ENSSLIN 1947/1959.

⁴ ARNOLD 2013 (on which see WIEMER 2013b). BJORNLIIE 2014 is more nuanced, stressing the continuity with the 5th century: «Ostrogothic Italy was somewhere between the command economy of the Roman empire and the tessellated economy of the early medieval west» (p. 170).

vision of the Ostrogothic kingdom, from EDWARD GIBBON to LUDO MORITZ HARTMANN. Simultaneously with ARNOLD, SEAN LAFFERTY concluded from his study of Theoderic's edict that under Ostrogothic rule economic life in Italy was in full decline as cities were abandoned, the population shrank and violence was omnipresent and virtually unchecked.⁵ Surprisingly, coinage and currency have played almost no role in these debates; the index of the recent «Companion to Ostrogothic Italy» does not even have an entry for them.⁶

This curious reserve is partly due to the state of scholarship on this highly technical, complicated and controversial subject. As far as I can see, research on the coinage of Ostrogothic Italy is still almost entirely absorbed by questions of classification, attribution and dating. To be sure, MICHAEL ANDREAS METLICH in 2004 published a monograph with the promising title «The Coinage of Ostrogothic Italy», which is a translation of his doctoral thesis submitted to the university of Vienna in 1999.⁷ METLICH's book supersedes a monograph published by FRANZ FERDINAND KRAUS in 1928 (which was based on a dissertation submitted in Munich in 1919) and as a catalogue of coins it is indispensable.⁸ METLICH's book does, however, have serious drawbacks for historians interested in coins as money.⁹ First of all, it is very difficult to follow his reasoning for attributing particular coins to particular mints. Second, the way in which he calculates weight standards from the weights which are empirically attested is rather opaque and has failed to convince his fellow numismatists.¹⁰ Third, the historical contextualization of coins is extremely brief and dogmatic. Fourth and last, METLICH has treated coin finds only in a perfunctory manner and shows no interest at all in coin circulation, though one hastens to add that as yet almost no die studies of Ostrogothic coinage have been undertaken. The degree of our ignorance

⁵ LAFFERTY 2013 (on which see LIEBS 2015).

⁶ ARNOLD et al. 2016.

⁷ METLICH 2004. METLICH's mentor WOLFGANG HAHN treated Ostrogothic coinage in the first edition of his «Moneta imperii byzantini» (HAHN 1973, 77–92). As this section has been omitted from the second edition (HAHN 2013), one is entitled to believe that in his view it has meanwhile been superseded by METLICH's book. For a brief overview of Ostrogothic coinage see also ARSLAN 2004.

⁸ KRAUS 1928. KRAUS's study was itself based on the BMC Catalogue «Coins of the Vandals, Ostrogoths and Lombards» published by WARWICK WROTH in 1911.

⁹ See the critical reviews by ALAN STAHL 2005 and by CÉCILE MORRISON 2006. WOLTERS 2005 is more charitable.

¹⁰ STAHL 2005, 754f. notes that the theoretical weights that METLICH has calculated are in many cases not supported by the cluster charts he presents, that he does not sufficiently take into account that the surviving specimens may have lost significant weight through wear and tear, and that the fiduciary nature of the copper coinage makes weight standards a deceptive criterion for their chronology; cf. MORRISON 2006, 477: «Ces poids théoriques paraissent prédéterminés, même si en fait ils semblent correspondre au poids le plus représenté dans la population. Les données pondérales n'étant nulle part dans le livre, tout contrôle ou discussion en est impossible.»

needs to be fully disclosed: the metrology and chronology of Ostrogothic coinage are known only in their broadest outlines, the rhythm and volume of coining, the geographical and social range of circulation are still almost completely beyond our grasp.

But why then should a historian bother to look at Ostrogothic coinage at all? My reasons for doing so are partly personal. When I was writing my biography of Theoderic I repeatedly came across the notion that Theoderic implemented something like an economic policy, and a reform of the copper currency is usually singled out to bolster this claim. In HERWIG WOLFRAM's classic «History of the Goths» one reads: «Das immer noch reiche Land ... blühte nicht zuletzt deshalb auf, weil Theoderich vernünftige ökonomische Maßnahmen, wie eine Münzreform, durchführte und sich um die Wirtschaftspolitik kümmerte».¹¹ Granted, WOLFRAM's book, first published in 1979, is now somewhat dated. But his assessment has become a commonplace in writings of the Vienna school of Medieval history, and ARNOLD's recent book credits Theoderic with restoration not only in the political but also in the economic sphere.¹²

Having been trained as an ancient historian when primitivist ideas about the ancient economy still held sway almost universally I'm instinctively inclined to reject the notion of Theoderic deliberately implementing reforms in areas of social behavior we tend to categorize as the economy. In the 1990s anyone applying a concept which is so intricately bound up with capitalist industrialization to the pre-modern world without immediate and elaborate excuse would have been laughed out of the seminar room, in Cambridge and in many other places.¹³ In the 21st century MOSES FINLEY has ceased to be the unassailable authority he once used to be, and the debate about the character of the ancient economy has been re-opened.¹⁴ Under the banner of «New Institutional Economics» concepts that used to be labelled as modernist have become en vogue again.¹⁵ JAIRUS BANAJI has argued for some time that the Late Roman economy was heavily monetized and that long-distance trade had considerable economic significance.¹⁶ Within this new constellation, the currency reform with which Theoderic has

¹¹ WOLFRAM 2009 (5th edition), 288. The sentence quoted is repeated word for word from the first edition: WOLFRAM 1979, 359. The English translation (WOLFRAM 1990, 288f.) reads: «The still rich land filled Ravenna's treasury and prospered not least because Theoderic carried through sensible economic measures, such as a reform of the coinage, and took an active interest in economic policies». In a footnote WOLFRAM refers to HAHN 1973, 77–91.

¹² BERNDT – STEINACHER 2006, 614: «Theoderich in Italien und die vandalisch-alanischen Könige waren die ersten in der römischen Welt, die wieder eine stabile Währung von mittleren und kleinen Nominalen etablieren konnten». The English version (BERNDT – STEINACHER 2008, 271) replaces «die ersten» by «among the first».

¹³ FINLEY 1973/1986. FINLEY is now becoming historicized even in the UK; see the contributions collected by JEW et al. 2016.

¹⁴ VON REDEN 2015 provides a useful overview of the debate (excluding Late Antiquity).

¹⁵ The new orthodoxy is advertised in the «Cambridge Companion to the Roman Economy»: SCHEIDEL 2012.

¹⁶ BANAJI 2001/2007, esp. 39–88; BANAJI 2016, esp. 110–140. For an alternative approach see WICKHAM 2005.

been credited is perhaps not the worst place to begin a re-examination of the relations between state – if I may use the word – and economy in Ostrogothic Italy that does not start from preconceived opinions about pre-modern economies. One does not have to subscribe to the view that commercial capitalism was a significant feature of the Late Roman world to recognize that money and currency did have social and economic effects that cannot have been entirely unnoticed by, or irrelevant to, rulers in the Late and Post-Roman World. After all, coinage had been an area of state activity since the Republic and often been regulated or reformed by legislation or imperial decision.¹⁷

In what follows I will present some observations and reflections on the copper coinage minted in Italy while Theoderic (493–526) and his immediate successors Athalaric (526–534) and Theodahad (534–536) ruled the remnants of the western Roman empire. Even if many loose ends will remain in the end, it will, I hope, be possible to clarify some of the issues involved, nor will I shy away from formulating one or two hypotheses that in my opinion deserve serious consideration. But before entering into a discussion of the copper coinage it will not be out of place to recall some basic facts about coins and currency in the western Roman empire of the 5th century. As these coins cannot be fully illustrated here, the reader is referred to the online catalogue of Ostrogothic coins in the British Museum which is particularly useful for the high quality of the illustrations.¹⁸

II. Coinage in Roman and Post-Roman Italy, 5th to mid-6th century

As so much is uncertain about Ostrogothic coinage, it is cause for relief that some general features of the system inherited by Theoderic are clear and undisputed even if their workings are still imperfectly understood.¹⁹ Late Roman coinage in both East and West was dominated by the gold coin of exceptional purity which was introduced by emperor Constantine the Great; Latin sources usually call it *solidus*, Greek sources often use the term *nomisma*.²⁰ From 309 or 310 AD, 72 *solidi* were struck to the Roman

¹⁷ For good general accounts of Roman coinage see BURNETT 1987; HARL 1996; WOLTERS 1999 (on the 1st–3rd centuries).

¹⁸ The scope and aims of this catalogue are explained by BALDI 2017. The full catalogue including the introductory essays was accessible on the website of the British Museum until April 2020, but it has since been taken off the internet for some unstated reason. The images and descriptions, however, are still available.

¹⁹ A clear and detailed overview of Roman coinage in the late 4th and 5th century can be found in GRIERSON – MAYS 1992, 3–90; see also KENT 1994 (= RIC X), 1–63. MOORHEAD 2012 provides a short, up-to-date introduction to the subject. CARLÀ 2007 is fundamental for the terminology used in textual sources.

²⁰ For the introduction of the gold coin commonly named *solidus* and for the other terms by which it was also called see CARLÀ 2009, 78–99. In fact, Constantine's *solidus* had been preceded by a gold coin struck at 60 pieces to the pound which is attested in Diocletian's Prices Edict of 301; numismatists call it *aureus* to differentiate it from the lighter coin of Constantine; see

pound, conventionally thought to have equalled c. 327g. One *solidus* thus weighed approximately 4,5g. After the reform of Valentinian I, weight and purity remained remarkably stable well into the 6th century.²¹ In addition, fractions of the *solidus* were minted, the *semmissis* and the *tremissis*, representing one half or one third of the *solidus*, respectively, with 144 *semisses* and 216 *tremisses* struck to the Roman pound. Theoderic minted all three denominations, or so it seems, but consistently refrained from putting his own image and title on the obverse, using the emperor's instead. His monogram, however, appears on the reverse of some types of *solidi*, but never on the smaller denominations. In the 5th century, the state insisted on taxes and fines being paid in *solidi*; *tributarius solidus* was a common term for the payments one owed to the tax authorities.²² Royal functionaries received payments in gold,²³ and rents were likewise calculated in this form.²⁴ Every Goth registered in Theoderic's army received five *solidi* annually,²⁵ and Procopius attests the tax revenue from Hispania being distributed among the Gothic soldiers of Theoderic in cash.²⁶ Patronage for high office

CARLÀ 2009, 45–54; ABDY 2012, 588–591. CARLÀ 2007, 160–162 shows that the term *aureus* continued to be used after Constantine had reduced the weight standard of the gold coin from $\frac{1}{60}$ to $\frac{1}{72}$ per lb.

²¹ On Valentinian I's coinage reform, its implementation and motivation, SCHMIDT-HOFNER 2008, 189–230 is excellent. The legal and numismatic evidence is clearly presented by HENDY 1985, 386–394.

²² *Tributarius solidus*: Cass. Var. 5, 14, 3; 7, 45, 2; 9, 12, 2; 12, 23, 1; cf. Var. 11, 35, 2: *fiscalium tributorum solidos*. In Ennodius, *solidi* owed by a *conductor domus regiae* to a *chartarius* are called *solidi publici* (Ep. 7, 1, 2). Fines: Cass. Var. 11, 11, 2; 11, 12, 3; Ed. Theod. 90.

²³ Salaries: Cass. Var. 1, 10, 2 (*domestici*); Var. 2, 9, 2 (*auriga*); Var. 11, 35, 3; 11, 36, 4 (*cornicularius*); Var. 11, 37, 4 (*primiscrinus*).

²⁴ Rents: Gelas. Ep. 31 THIEL (JK 666 = HJ 1280); Ep. 32 THIEL (JK 667 = HJ 1281); P.Ital. 1 (a. 445/446); P.Ital. 2 (a. 565–570); P.Ital. 3 (mid-6th century); P.Ital. 10–11 (a. 489); Ennod. Ep. 7, 1, 2; Cass. Var. 8, 23, 2; Agnellus 60 (the so-called *constitutum de ecclesia Ravennatensi*, JK 887 = HJ 1711). The best evidence comes from the Liber pontificalis ecclesiae Romanae (esp. ch. 34, 9–33 on the donations of Constantine, but see also ch. 35, 4; 39, 4; 42, 6; 46, 3) and from the Latin papyri collected and edited by JAN-OLOF TJÄDER and cited in selection above. See further VERA 1986. GEISS 1931 is still worth reading.

²⁵ Donatives in Ostrogothic Italy: Cass. Var. 4, 14, 2 (*qui capiunt commoda donativi*); Var. 5, 27, 1 (*pro accipiendo donativo ad comitatum ... occurrere*); Var. 5, 26, 2 (*ad praesentiam nostram venire debeatis qui sollemniter regalia dona accipitis*); Var. 5, 36, 2 (*te donativo ... privamus*); Var. 8, 26, 4 (*Romani quieti sunt, qui, dum aeraria nostra ditent, vestra donativa multiplicant*). The evidence for the amount of five *solidi* and one pound of silver being distributed on this occasion is cited by HENDY 1985, 481 f.

²⁶ Revenue from Spain distributed among Goths and Visigoths: Proc. Bell. 5, 12, 47 f. Payment by *solidi*: Cass. Var. 2, 8 (1,500 *solidi*); Var. 5, 35, 2 (280 + 758 = 1,038 *solidi*). In Var. 11, 15, 1, however, gold sent from king's purse to the province of Liguria is reckoned by weight (100lb.), not by tale (100lb. = 7,200 *solidi*): *gloriosissimi domini devotae Liguriaee necessitatibus consulentes centum libras auri per illum atque illum de cubiculo suo pietate solita destinarunt*.

in church and state was purchased by means of gold coins.²⁷ The royal treasure of the Amals contained vast amounts of gold, in the form of both bullion and coins.²⁸

While gold was circulating in large quantities, silver coins had by the early 5th century become very rare; silver was still widely used for largesse, but no longer for striking coins in any significant number. In this respect, Theoderic departed from the monetary system of the Eastern Roman Empire, minting various denominations of silver which numismatic convention labels as fractions of a *siliqua*.²⁹ Silver coins were presumably struck for distribution to the soldiers, although there is little explicit evidence for this.³⁰ Their obverse is always reserved for the reigning emperor even if his garment has an unusual form, which numismatists label Ostrogothic. On the reverse, most silver coins minted after Odoacer's demise show Theoderic's monogram. His name and title, however, are absent from his coins. The name and title of a Gothic king make their first appearance – on both silver and copper – under his grandson and successor Athalaric, and even then only on the reverse: D(ominus) N(oster) ATHALARICUS REX (or RIX).³¹

The Roman currency system of the 5th century was based on two metals only, gold and bronze or rather copper (as the coins ceased to contain tin); it was thus basically bimetallic, whereas in the 4th century it had still been trimetallic. The minting of large bronze coins in this period also came to an end, if slightly later, around 425. The only copper coins that continued to be issued were tiny and rather inconspicuous; numismatists have labelled them AE4 to differentiate them from AE3, a bronze coin weighing c. 2,58g. The standard weight of AE4 was originally c. 1,23g and remained relatively stable until the reign of emperor Leo. Under the emperor Zeno there was a dramatic reduction, with well-preserved specimens weighing no more than 0,3g (fig. 1).³² These exiguous pieces have come to be called *nummi* or *minimi*; the use of

²⁷ *Suffragia* paid for by gold coins (*solidi* and *tremisses*): Gelas. Ep. 22 LOEWENFELD (JK 720 = HJ 1376); Ennod. Ep. 3, 10, 3; Ep. 7, 1, 2; Cass. Var. 9, 15, 6f.

²⁸ Proc. Bell. 5, 2, 26: Amalasintha had 400 *kentênaria* of gold loaded onto a ship; cf. HARDT 2006, 35f. A useful figure of comparison is provided by Proc. Hist. Arc. 19, 7 stating that Justin I inherited 3200 *kentênaria* of gold from Anastasius.

²⁹ METLICH 2004, 38f., 98–104 nos. 41–52 + no. 55. For nos. 53–54 see below n. 38. CARLÀ 2007, 170–175 and ABDY 2012, 594 rightly stress that in ancient texts *siliqua* denotes a unit of weight ($\frac{1}{24}$ of a *solidus*, thus $\frac{1}{1728}$ of a pound), not a particular coin.

³⁰ No less than 700,000lb. of silver in coin and bullion were spent by Anthemius and Leo on the invasion of Vandal Africa in 468, a sum amounting to one third of the total cost of 7,5 to 9,5 million *solidi*: Candidus frg. 1; Theoph. a. m. 5961 = Priscus frg. 42 MÜLLER – CAROLLA = Priscus frg. 53, 1 BLOCKLEY; Proc. Bell. 3, 6, 2; Joh. Lyd. Mag. 3, 43; HENDY 1985, 221. The annual donative was paid out partly in silver; for references, see above n. 25.

³¹ Copper: METLICH 2004, 115f. no. 85a + 85b, no. 86, no. 87a + 87b (10 *nummi*); cf. METLICH 2004, 105 no. 57a + 57b; 106 no. 59 for the silver (quarter-*siliqua*).

³² *Nummi/minimi* minted under Zeno: GRIERSON – MAYS 1992, 44–47 with table 7(c); KENT 1994 (= RIC X), 18; MOORHEAD 2012, 619; HAHN 2013, 13 (referring in n. 71 to «freshly looking Anastasius minimi» in the Massafra hoard weighing no more than 0,36g); MORRISON



Fig. 1: Minimus of Athalaric.

Minimus, 0,96g; METLICH 2004, no. 88.

Obv.: pearl-diademed, draped and cuirassed bust to right, IVSTI – NIAN;
rev.: monogram of Athalaric within wreath.

Scale ca. 3 : 2.

the latter term accounts for the possibility that the *nummus* as the basic unit of reckoning was not always represented by a single coin. We know from a novel of Valentinian III that in 445 one needed 7,200 *nummi* to buy one *solidus* from money changers.³³ Since the Codex Theodosianus had fixed the ratio between copper and gold at 25 pounds of copper to the *solidus*, 288 *nummi* would have to be struck from one pound of copper at the theoretical weight of c. 1,13g (288/327).³⁴ For the late 5th century, some scholars posit a huge inflation, with copper prices falling to as much as 16,800 or even 23,040 *nummi* per *solidus* in 498.³⁵ These exchange rates are inferred from prices

2015, 18: «Sous Zénon (474–491) le poids du nummus tomba de 0,80g à 0,60g et même à 0,20g». On the «solidus and nummus economy» see MOORHEAD 2012, 621–624.

³³ Nov. Val. 16, 1: *Quo praecepto etiam illud in perpetuum volumus contineri, ne unquam intra septem milia nummorum solidus distrahatur emptus a collectario septem milibus ducentis. Aequabilitas enim pretii et commodum venditoris et omnium rerum venalium statuta custodiet.* An edict of the *praefectus urbis Romae* Ecclesius Dynamius (PLRE II Dynamius 2), commonly dated to c. 488, sets the price to be paid for milling one *modius* of corn at three *nummi*: CIL VI 1711. The millers thus charged $\frac{1}{50}$ if we assume that $\frac{1}{50}$ *solidus* per *modius* (= 240 *nummi*) were a «normal» price for wheat in Late Roman Italy; cf. RUGGINI 1961/1995, 362f.

³⁴ Cod. Theod. 11, 21, 2: *Aeris pretia quae a provincialibus postulantur ita exigimus volumus ut pro viginti quinque libris aeris solidus a possessore reddatur.* In the «Codex Justinianus» (10, 29, 1) the figure 25 was adjusted to 20. By 534, then, one *solidus* was considered to be worth 20 pounds of copper. The evidence for exchange rates between gold and copper in Late Antiquity is conveniently set out by BANAJI 2001/2007, 223f. and CARLÀ 2009, 27f. Sources for the late 5th and 6th century are few and far between. According to Proc. Hist. Arc. 25, 11f. Justinian in c. 538/539 revalued the *solidus*, calling it down from 210 *folles* (= 8,400 *nummi*) to 180 *folles* (= 7,200 *nummi*). Since Procopius comments that in this way the *solidus* lost one sixth (this figure is preserved by the manuscripts) of its value, one either has to emend one sixth into one seventh or write 216 instead of 210. The former solution is adopted by modern editors of Procopius, the latter by MARESCH 1994, 50–53; ZUCKERMAN 2004, 80f.

³⁵ Exchange rate in 493/496: 1 *solidus* = 11,200 *nummi* (= 1,400 *folles* × 8): MORRISON 1989, 245f. 1 *solidus* = 14,400 *nummi* (= 350 × 42 minus 300): GRIERSON 1959, 79 (also GRIERSON – BLACKBURN 1986, 19); accepted by D. M. METCALF 1969, 12; HENDY 1985, 480; HAHN 2013, 15. CALLU 2009, on the other hand, posits the equation 1 *folles* = 5 *nummi*; a *solidus* tariffed at 1,400 *folles* would then equal 7,000 *nummi*. – Exchange rate in 498–512: 1 *solidus* = 16,800 *nummi*: GRIERSON 1959, 80. 1 *solidus* = 23,040 *nummi*: HENDY 1985, 464f.; ZUCKERMAN 2004, 83; MORRISON 2015, 20.

given in the so-called «Tablettes Albertini», private documents from Vandal North Africa, and they have not gone uncontested. Recently a case has been made that the exchange rate in fact remained unchanged at 1 : 7,200.³⁶ The equation of a *solidus* to 12,000 *nummi*, which is sometimes given for Ostrogothic Italy, is also dubious, as it rests on an antiquarian passage in Cassiodorus explicitly referring to the days of old when a *solidus* was worth 6,000 *denarii* (which is assumed to be a synonym for a coin worth two *nummi*).³⁷ Be that as it may: Even if the ratio between *nummi* and *solidi* remained more or less constant in the second half of the 5th century, there is no denying that a huge gap in purchasing power existed between the gold coins required for paying taxes and rents and the small change used for buying and selling in everyday life. To us, this monetary system seems terribly impractical, and it surely was rather cumbersome. It was also expensive for those who needed to acquire gold coins as money changers charged a fee. Tenants and taxpayers had to amass vast quantities of copper coins in order to acquire the gold coins they needed. The practical difficulties do not seem to have been insuperable, though. Intermediate denominations in silver were available at least in principle since Theoderic, Athalaric and Theodahad issued half-*siliquae* and quarter-*siliquae* equivalent to $\frac{1}{48}$ or $\frac{1}{96}$ of a *solidus*, respectively.³⁸

³⁶ ASOLATI 2012e, 147–153; ASOLATI 2012f, 294f. Previous debate turned on the interpretation of a single sentence in document no. II of the «Tablettes Albertini» which, as GRIERSON 1959, 76 frankly conceded, admits of no fewer than six different interpretations. ASOLATI argues that the equation between *solidus* and *folles* stated in this contract is specific to the transaction recorded and thus cannot serve as a basis for generalizations. In his view, the basic unit of reckoning was 1 *denarius* worth 3 *nummi* (1 *solidus* = 2,400 *denarii* = 7,200 *nummi*); CALLU 2013, 653f. objects that the smallest numeral to be found on Vandalic bronze coins is IV, not III.

³⁷ Cass. Var. 1, 10, 5: *Et quoniam delectat nos secretiora huius disciplinae cum scientibus loqui, pecuniae ipsae quamvis usu celeberrimo viles esse videantur, animadvertendum est quantum a veteribus ratione collectae sunt. Sex milia denariorum solidum esse voluerunt, scilicet ut radiantis metalli formata rotunditas aetatem mundi, quasi sol aureus, convenienter includeret.* For the hypothetical equation 1 *solidus* = 12,000 *nummi* see HENDY 1985, 485 (accepted by HARL 1996, 189); CUPPO CSAKI 1987; HAHN 2013, 18. In the passage quoted, however, the equation 1 *solidus* = 6,000 *denarii* is ascribed to the *veteres*, as CARLÀ 2009, 305–307 rightly objects; following CALLU 1989/2010, 77, he maintains that Cassiodorus has the 4th century in mind. There is no evidence that the *denarius* was still used as a unit of reckoning in 6th century Italy as it was in Egypt where sums were calculated in myriads of *denarii*: MARESCH 1994, 1–3. In the *Formula qua moneta committitur* (Var. 7, 32, 3) *denarius* is a synonym for any sort of coin: *pondus quin etiam constitutum denariis praecipimus debere servari.*

³⁸ METLICH 2004, 98–107 no. 41–52 + no. 55–62. No. 54 is the sole example of a *siliqua* minted under Gothic kings; the obverse shows Justin I, the reverse Theoderic's monogram. Like no. 53 (labelled *milliarensis* by METLICH), this coin was struck on an eastern weight standard, and both types are extremely rare. This points to a special occasion, perhaps the joint consulate of Eutharic and Justin I. which was celebrated in both Rome and Ravenna in the presence of a high-ranking envoy from Constantinople (PLRE II Symmachus 3): Cass. Chron. a. 519, no. 1364; cf. Cass. Var. 9, 25, 2f.; Anon. Val. 80; WIEMER 2018, 540–543.

Money changers are well attested in Late Roman Italy, at least in Rome and Ravenna,³⁹ and the hypothesis that *minimi* were issued in sealed bags with value marks on them seems well-founded. The term that came to denominate the largest copper coin, *follis* (in Greek also φολλερόν) originally meant just such a bag or purse.⁴⁰

There is no doubt that the system delineated above underwent a decisive change sometime between the last quarter of the 5th and the early 6th century. By the early 6th century, at the latest, copper coins of much greater weight than the *minimus* circulated in the Eastern Roman empire and also in Ostrogothic Italy; they were struck in four denominations whose value was marked by numerals from 5 to 40, which can only refer to *nummi* as the basic unit of reckoning. It needs to be stressed that these coins did not replace the *minimi* which continued to be minted in both East and West. It used to be thought that during the 5th century the volume of bronze coinage in circulation decreased sharply, but recent research has made it clear that this assumption is ill-founded: *minimi* tend to be heavily under-represented in excavation reports; furthermore, they are difficult to read because of their small size and poor state of preservation. Because a high percentage is illegible and can only be classified according to weight and dimensions, serious study of this material demands considerable skill, devotion and endurance.⁴¹ These efforts are beginning to bear fruit: we now know for certain that both Odoacer and Theoderic issued *minimi*; it has also been recognized that *minimi* had a very long life cycle, extending over several generations. Furthermore, they circulated alongside small bronze coins (labelled AE4) which had been minted in large quantities in the first half of the 5th century.⁴² FLAVIA MARANI's meticulous study of coin finds in southern Latium has demonstrated that *minimi* were virtually omnipresent in this micro-region in the later 5th and throughout the 6th century; they penetrated all walks of life, but they were accompanied by various

³⁹ *argentarii* in Rome: CIL VI 9162 = ILCV 3766 (Ioannes, a. 522); CIL VI 9157 = ILCV 3819 (Antoninus, a. 544); CIL VI 9163 = ILCV 696 (Iulianus, a. 557); *argentarii* in Ravenna: P.Ital. 12, II, Z. 8 (Flavius Severus, a. 491); P.Ital. 29, Z. 2 + 8 (Basilius, a. 504); P.Ital. 30, Z. 109 (Iulianus, a. 539); P.Ital. 31, II, Z. 1 + 14 (Paulus, *vir clarissimus*, a. 540); P.Ital. 4–5 (four *argentarii*, three of them *viri clarissimi*, a. 552); CIL XI 350 (father and son, both *viri clarissimi*, a. 581); P.Ital. 20 (c. 600). The inscriptions of Iulianus *argentarius* (CIL XI 288 = ILCV 1795; CIL XI 289 = ILCV 1796; CIL XI 294 = ILCV 695; CIL XI 295) are discussed by DEICHMANN 1976, 3–33; cf. HAENSCH 2017, 549 n. 78. For bankers and banking in Late Antique Italy see BARNISH 1985; COSENTINO 2006.

⁴⁰ JONES 1959, 34 (= JONES 1974, 333); HENDY 1985, 339–341; CARLÀ 2007, 162–170.

⁴¹ That *nummi* have until recently gone largely unnoticed in archeological and numismatic studies is stressed by MOORHEAD 2012, 622f. and MARANI 2020, 47–50.

⁴² *Nummi* in 5th century Italy: GORINI 1996. *Nummi* minted by Theoderic: ARSLAN 2001a; METLICH 2004, 113 no. 79, no. 80a + 80b. *Nummi* minted by Odoacer: ARSLAN 2011, 368; ASOLATI 2012b; ROVELLI 2014, 37–41; BALDI 2017, 70. GRIERSON – BLACKBURN 1986, 422 no. 64 mistakenly regarded these *nummi* as fakes (already disputed by KENT 1994 [= RIC X], 213).

substitutes, mostly AE3, AE4, and imitations (or counterfeits).⁴³ ANDREA STELLA has shown that in Aquileia and other sites of northeast Italy the old stock of bronze coins of the late 4th and early 5th centuries remained in circulation for generations and was supplemented by imitations.⁴⁴ In Massafra (prov. Taranto) in Apulia a hoard of 278 *nummi*, most of them imperial, was buried c. 507/508 when the East Roman fleet attacked the Adriatic coast.⁴⁵

In contrast to the *minimus*, however, the copper coins valued at 5 to 40 *nummi* were as new to Post-Roman Italy as they were to the East Roman Empire. The chronological sequence of these momentous changes is disputed. The currency reform introduced by the emperor Anastasius is mentioned in written sources which date it to either 498 or 512. For Ostrogothic Italy, however, textual evidence for the reformed copper coinage is entirely lacking; dates can thus only be inferred by historical and numismatical considerations, with suggestions ranging from 477 to after 512. As the arguments that have been presented presuppose at least a rough idea of the coins, a brief description might be helpful. Broadly speaking, the large copper coins found in Italy and believed to have been minted in the period between the deposition of the emperor Romulus and the death of Theoderic can be classified into four series (a conspectus of scholarly opinions is appended at the end):⁴⁶

- 1) Series I – also known under the name *Zeno-folles* – consists of copper coins weighing approximately 16–16,5 g. The obverse has a bust of the emperor Zeno to right, the reverse a Victoria to right surrounded by the inscription GLORIA ROMANORVM or INVICTA ROMA. In the so-called exergue – the bottom portion of the background field –, we see the Latin numeral XL, beside the Victoria the abbreviation SC. Only two obverse dies are known, one has the inscription IMP ZENO SEMPER AVG and is extremely rare with only two specimens recorded. The other, which carries the inscription IMP ZENO FELICISSIMO SEN AVG, is known from about 30 specimens and thus relatively common; it is coupled with both of the

⁴³ MARANI 2020, 279–321, esp. 294–306 with fig. 47. For the early imperial bronze coins (mainly *sestertii* and *dupondii*) circulating in 6th century Italy see below n. 111.

⁴⁴ STELLA 2019, 138–144.

⁴⁵ The Massafra hoard is analyzed in detail by HAHN 1987 and also, more briefly, by KENT 1994 (= RIC X), cli f. For the attack on the Adriatic coast of Italy see Marc. Com. Chron. a. 508; Jord. Rom. 356; Cass. Var. 1, 16; 1, 25; 2, 38 with WIEMER 2018, 355.

⁴⁶ ASOLATI 2012c argues that all four series are to be seen as part of a coherent political strategy aimed to legitimize Theoderic's rule by using the iconography of both the first and the second Flavian dynasty; in his view, the king himself was responsible for the coins' design (accepted by CALLU 2013, 651f.). This interpretation is based on a misunderstanding of the name Flavius and over-estimates the propagandistic function of coin images. In Late Antiquity, Flavius was a status designation widely disseminated in the army and the imperial bureaucracy (see KEENAN 1973/1974). ASOLATI'S chronology is not, therefore, included in the conspectus appended below.



Fig. 2: Zeno-follis.

Follis, 16,680g; BM 1969,0517.1; RIC X no. 3665.

Obv.: INP ZENO FILICISSIMO SEN AVG (anti-clockwise),
laureate head of Zeno to right, IIII in the exergue;

rev.: GLORIA ROMANORO, Victory advancing to right, between S C,
holding trophy and wreath, XL in the exergue.

Scale ca. 3 : 2.

two reverses. This obverse shows the Latin numeral IIII below the imperial bust.⁴⁷ (Fig. 2)

- 2) Series II comprises two denominations weighing about 13–20g and about 7–8,5g respectively; for convenience I will call them *folles* and half-*folles* of the Lupa-type. The obverse shows the helmeted personification of Rome surrounded by the inscription IMVICTA ROMA, the reverse, a she-wolf and twins or a Victory. On the *folles*, we see four vertical strokes in the exergue and the Latin numeral XL above the Victory. On the half-*folles* we find the Latin numeral XX in the exergue and on the top of the field a single vertical stroke instead of four.⁴⁸ (Fig. 3)
- 3) Series III shares the obverse with Series II and also comprises two denominations marked by the Latin numerals XL and XX. On the reverse, however, we find an eagle. One might call these *folles* and half-*folles* of the Aquila-type. These coins are much lighter than the Lupa-*folles* with weights ranging from about 8,3 to 13,8g for

⁴⁷ KENT 1994 (= RIC X), 218, no. 3665–3667; METLICH 2004, 47; ASOLATI 2012c, 66–74. On the coin's rarity see GRIERSON – MAYS 1992, 187: «The issue must have been very small, for coins of each variety seem to have been struck by only a single pair of dies, though since many of the surviving specimens are corroded and several have been tooled, it is difficult to be sure of this»; cf. GRIERSON – BLACKBURN 1986, 31. According to METLICH, the mint of Rome in 490 also struck *semisses* and *tremisses* in the name of Zeno on Theoderic's orders: METLICH 2004, 13f., 83 no. 1 + no. 2. The attribution, however, is based on stylistic reasons. For similar reasons, METLICH also ascribes a quarter-*siliqua* from Sremska Mitrovica with Zeno's bust and title to Theoderic: METLICH 2004, 36, 98 no. 41.

⁴⁸ METLICH 2004, 114 no. 82a + no. 82b; 115 no. 84a + no. 84b; ASOLATI 2012c, 74f.



Fig. 3: *Lupa-type.*

Half-follis, 6,48g; BM no. 12390; METLICH 2004, no. 84b.

*Obv.: (IM)VICTA ROMA, draped and helmeted bust of Roma to right;
rev.: she-wolf, left, suckling Romulus and Remus in the field,
christogram between two stars, XX in the exergue.*

Scale ca. 3 : 2.

the *folles* and 5,3–10,9g for the half-*folles*. The name ›light‹ *folles* (or ›light‹ half-*folles*) serves to distinguish them from the ›heavy‹ *folles* of Series II.⁴⁹ Numismatists disagree as to whether Series II or Series III came first. GRIERSON argues that the ›heavy‹ *folles* preceded the ›light‹ ones, because – according to his calculations of weight standards – the ›heavy‹ *folles* correspond in weight to the *Zeno-folles* whereas the ›light‹ *folles* correspond to the *folles* which were struck by king Theodahad in 535/536.⁵⁰ METLICH, on the other hand, would have it the other way around. He rejects GRIERSON’s calculations of weight standards as mistaken, replacing them with his own (which have in turn been criticized by STAHL). Arguing from stylistic criteria, METLICH arrives at the opposite conclusion: He places the ›light‹ *folles* at the beginning of the Ostrogothic copper coinage, since an eagle on the reverse was already known under Odoacer. According to him ›light‹ *folles* were struck under Theoderic, the ›heavy‹ *folles* under Athalaric.⁵¹ (Fig. 4)

- 4) The obverse of Series IV stands out both for its image and its inscription. These coins, whose weight ranges from 2,25 to 3,9g, show a female figure to right with a mural crown surrounded by the inscription FELIX RAVENNA. On the reverse one finds either an eagle above the Latin numeral X, the monogram of Ravenna in a wreath above the same numeral or a Victory with a wreath and a palm twig, flanked by the letters R and V, clearly an abbreviation of the name of the city depicted on the obverse. For ease of reference one might call them Ravenna-types or *decanummia* as they were worth ten *nummi*.⁵² (Fig. 5)

⁴⁹ METLICH 2004, 112 no. 76a + no. 76b; ASOLATI 2012c, 75–83.

⁵⁰ GRIERSON – BLACKBURN 1986, 33. The same stance was taken by CLOVER 1991.

⁵¹ METLICH 2004, 51.

⁵² METLICH 2004, 112 no. 77, 113 no. 78a + no. 78b, 114 no. 81; ASOLATI 2012c, 83–86.



Fig. 4: Aquila-type.

Follis, 10,14g; BM 1904,0604.598; METLICH 2004, no. 76b.

Obv.: *INVICTA ROMA*, draped and helmeted bust (of Roma) to right;
rev.: eagle, left, looking right, on the left *XL*, *·A[.]* in the exergue.

Scale: 3 : 2.



Fig. 5: Ravenna-type.

Decanummius, 3,89g; BM 1853,0716.326; METLICH 2004, no. 77.

Obv.: draped and crowned bust (of Ravenna) to right, *FELIX RAVENNA*;
rev.: eagle between two stars in the field, *X* in the exergue.

Scale ca. 3 : 2.

According to METLICH, these four series were all minted in Rome. Only for a small emission of Ravenna-types of lower weight does he admit the possibility that they were minted in Ravenna.⁵³ He has not, however, produced convincing arguments for attributing all the other Ravenna-types to the mint of Rome, and the distribution of finds rather points to a mint in North Eastern Italy.⁵⁴ Even if the attribution to Rome

⁵³ METLICH 2004, 114 no. 81. METLICH identifies this denomination as *pentanummia*. This is confirmed by a hitherto unknown type of series IV with *INVICTA ROMA* on the obverse and the numeral *V* on the reverse published by ASOLATI 2013, 18f. For the *pentanummia* issued by Athalaric see METLICH 2004, 116 no. 87a + no. 87b.

⁵⁴ METLICH 2004, 48f. attributes the *decanummia* to the mint of Rome because of two hybrid coins with the head of Rome on the obverse and the Ravenna-monogram on the reverse. But his argument that these dies could only have been coupled in Rome seems specious. And why should the mint of Rome have put the monogram of Ravenna on the reverse of a coin which normally had *FELIX RAVENNA* on the obverse? ELENA BALDI (BALDI 2015, 46f.; BALDI 2017, 70) points to the fact that *decanummia* of this type are abundant in the finds from Ravenna

were correct, however, the general picture would not be greatly altered. Whereas under Theoderic gold and silver were minted in Rome, Ravenna and Milan, the production of copper coins was largely concentrated in the *urbs aeterna*.⁵⁵ The site of the mint of Milan is beyond recovery, but the mints of Rome and Ravenna do have a place in the urban topography.⁵⁶ Since the late 1st century, the mint of Rome was situated on mount Caelius near S. Clemente, east of the Colosseum, and it is commonly assumed that it remained there throughout Late Antiquity.⁵⁷ Recently, however, the suggestion has been made that in the 6th century the production of bronze and copper coins was shifted to a metallurgical workshop which has been uncovered during the excavations at the Hadrianeum on Piazza Venezia.⁵⁸ For Ravenna two separate mints are attested by textual sources; one was close to the palace and called *moneta auri*; judging from the name, it produced coins in gold and presumably also in silver. The other mint is referred to as *moneta publica* and seems to have been used for coining copper.⁵⁹

III. The invention of the follis: When, by whom and why?

III.1 Who came first, second and last?

The numismatic evidence thus consists of four closely interconnected series of copper coins of which series II and III are divided into denominations of 40 and 20 *nummi* while series IV comprises denominations of 10 and 5 *nummi*, if Ravenna-type coins that bear no numeral and are lighter than the *decanummi* were tarified at 5 *nummi*

and North Eastern Italy. ARSLAN 2011, 376 interprets the head of Rome as a symbol of power. REINHARD WOLTERS (personal communication) suspects that the two coins are contemporary imitations produced by casting.

⁵⁵ We know almost nothing about the sources of metal that were tapped for coining. Cass. Var. 9, 3 records an attempt to find new ores of silver and gold in Bruttium; for the mining of iron in Dalmatia see Var. 3, 25 f. Some scholars argue on the basis of Var. 4, 18 and Var. 4, 34 that precious metals were scarce in 6th century Italy. This hypothesis is hard to reconcile with the vast amounts of gold in the royal treasury; see above n. 26.

⁵⁶ Late Roman Mints: GRIERSON – MAYS 1992, 56–69; KENT 1994 (= RIC X), 23–26.

⁵⁷ Location of the Roman mint in the 2nd and 3rd centuries: WOLTERS 1999, 83 f.; cf. CARANDINI 2017, vol. I, 316, 318, vol. II, tab. 116, 118. For the Late Roman period see GRIERSON – MAYS 1992, 65 f. The 4th century «Curiosum urbis Romae» still lists the *moneta* in the Third District (p. 76 NORDH). A *primicerius monetariorum* appears on a funerary inscription for a *clarissima femina* dated to 452 as father of the deceased: CIL VI 8460 = ILCV 701.

⁵⁸ For the hypothesis that a large forge implanted within the Hadrianeum was used as a *moneta publica* from the 6th to the 8th century see SERLORENZI et al. 2018; MARANI 2020, 30 f.

⁵⁹ Mints in Ravenna: DEICHMANN 1989, 54–56, 123–130. *Monetarii*: P.Ital. 31 (a. 540), col. II, l. 2 (v[ir] c[larissimus] monetarius, 540); P.Ital. 35 (a. 572), l. 91: pal[atinus] s[a]c[rarum] l[ar]gitionum] et monetarius auri, fil[lius] q[uon]d[am] Laurenti monitar[ii]. – *Moneta auri*: P.Ital. 35 (a. 572), l. 88 f.: habens stationem ad Monitam auri in porticum Sacri Palatii. – *Moneta publica*: Agnellus 115: non longe a posterula Ovilionis in loco qui vocatur Moneta publica; cf. ibid. 164: non longe ab ecclesia sanctae redemptricis Crucis ad Monetam veterem.

(*pentanummia*).⁶⁰ Taken together, these coins form a currency system ranging from 5 to 40 *nummi*. On the assumption that this system or at least part of it was introduced by Theoderic, one can argue that by straddling the gulf between the smallest gold coin, the *tremissis*, on the one hand, and the only copper coin existing so far, the *nummus* or *minimus*, on the other, the king intended to spare his subjects the inconvenience of having to count or weigh great numbers of *minimi* in order to pay for goods and services. Even if this assumption is granted, however, the question has to be asked whether this coinage reform can properly be called an economic policy as WOLFRAM and others suggest. The answer surely depends to a large degree on what we mean when we use terms like economic or monetary policy. It goes without saying that neither Theoderic nor any other ruler of his time acted on the advice of people specialized in the analysis of macro-economic processes (as modern governments at least claim to do) or that he would have felt responsible for raising the Gross Domestic Product of his country. The idea that promoting economic growth is essential to good government was foreign to the Late Roman world, and there is not the slightest indication that Late Antique rulers would have been able to obtain and process the information needed to calculate the GDP even if they had felt the need to quantify the economic state of their realm.⁶¹

It is thus more than unlikely that Theoderich and his advisors were guided by the idea that an insufficient supply of money poses an obstacle to economic growth because it causes transaction costs to rise. But the lack of a sophisticated theory of money should not lead us to the assumption that the imperial or royal administration did not care about commerce and trade at all; after all, commercial transactions were supervised to be taxed. In Theoderic's Italy a tax of $\frac{1}{24}$, the so-called *siliquaticum*, was levied on the price of every good sold.⁶² Nor should we assume that the use of coins as a medium of exchange was of no concern to the state. In fact, Cassiodorus does here and there allude to the practical function of coins for commerce and trade, warning against the disastrous consequences of tampering with coins by reducing their weight or purity: «Every monetary transaction (*venalitas*) is dissolved if the metals necessary for the maintenance of life (*metalla victualia*) are deteriorated, since in commercial transactions one necessarily rejects anything that is offered corrupt». ⁶³ In this passage, Cassiodorus emphasizes the importance of coins for everyday transactions and presents it as self-evident that the acceptance of coins is contingent upon the value of

⁶⁰ METLICH 2004, 114 no. 81.

⁶¹ BEYER 1995 claims the contrary for the principate, but on insufficient grounds; in the same vein CARLÀ 2007, 217f. on the late empire. For an excellent account of economic thought in Rome until the high empire see NICOLET 1988, 104–219.

⁶² *Siliquaticum*: Nov. Val. 15; Cass. Var. 2, 4; 2, 30, 3; 3, 25, 1; 3, 26, 1; 4, 19; 5, 31. Cf. DEL-MAIRE 1989, 299–301. The levy of this tax was, however, farmed out to private entrepreneurs.

⁶³ Cass. Var. 7, 32, 1: *Additur quod venalitas cuncta dissolvitur, si victualia metalla vitiantur, quando necesse est respui quod in mercimoniis corruptum videtur offerri* (mistranslated by BJORN-LIE); cf. Var. 6, 7, 3 (cited below in n. 100).

the metals out of which they are made.⁶⁴ In the Burgundian kingdom, the circulation of so-called *Alariciani*, *solidi* minted by or at least attributed to the Visigothic king Alaric II, was legally prohibited because of their inferior quality.⁶⁵

One should therefore keep an open mind as to the possibility that Theoderic sought to facilitate the exchange of goods when he issued large copper coins with value marks. Interpreting these new copper denominations as a part of a monetary or economic policy requires, however, a bit more than that if the technical meaning of these terms is not to be entirely lost: this interpretation presupposes that this reform of coinage was conceived and implemented as a part of a long-term strategy to foster the prosperity of his realm. Labelling an improvised measure aimed at achieving limited goals deriving from political considerations a monetary or economic policy would produce terminological confusion. To put a hypothesis like this to a test is difficult in our case, but not entirely impossible. Without textual evidence bearing on the motives behind the coinage reform, one needs to argue from the probable effects of the measures taken, on the one hand, and from the circumstances under which they were taken, on the other. Only then can we begin to speculate about the reasons Theoderic or his advisors may have had for adopting this innovation. Unfortunately, however, not even the date when minting of these large copper coins actually commenced has as yet been established with certainty.

The chronology of Ostrogothic copper coins is dependent on a series of numismatic problems that have not as yet been solved to universal satisfaction. The crucial point is the sequence of the three copper coinages appearing between the last quarter of the 5th and the first quarter of the 6th century. Systems of large copper coins with value marks are attested not only for Ostrogothic Italy and the Eastern Roman empire, but also for Vandalic North Africa. Like the copper coins minted in Italy those struck in North Africa bear numerals in Latin, but with the important difference that these numerals are not based on the decimal system: Vandalic copper coins have the value of 42, 21, 12 and 4 *nummi* and thus cannot be easily exchanged for coins whose value is tarified in multiples of five.⁶⁶ The large copper coins of the Eastern Roman empire, on the other

⁶⁴ The king's concern for the undiminished purity and weight of coins is also reflected in the miscellany of legal norms known as «Theoderic's edict» which sanctions the clipping of gold coins: Ed. Theod. 90. On counterfeiting in Roman law see GRIERSON 1956/2001; WOLTERS 1999, 362–370.

⁶⁵ L.Burg. extrav. 21, 7; cf. Avit. Ep. 87 p. 96, 33 – p. 97, 1 PEIPER = Ep. 83, 5 MALASPINA: *quam* (sc. *mixturam*) *nuperrime rex Getarum secururae praesagam ruinae monetis publicis adulterium firmantem mandaverat*; for the identification of these coins, see GRIERSON – BLACKBURN 1986, 46.

⁶⁶ The fundamental study of Vandalic coinage is MORRISON 2003 (with a brief guide to the various dates proposed since WROTH 1911, 73); see also BERNDT – STEINACHER 2006; BERNDT – STEINACHER 2008 (an updated translation of the former). According to MORRISON, minting of the Karthago-type began after 484. CLOVER, however, puts the start under Huneric (477), while GRIERSON suggests 478–523 with a question mark. MORRISON offers no date for the warrior-type. CLOVER, on the other hand, dates it to the reign of Gunthamund (484–496)

hand, appear in the same four denominations – i.e. 40, 20, 10 and 5 – as their Ostrogothic equivalents, even if their value is marked not by Latin, but by Greek numerals. And like their Ostrogothic equivalents the imperial copper coins were struck according to two different weight standards: in both cases, we find both ‘light’ *folles* with a theoretical weight of 9g and ‘heavy’ *folles* with a theoretical weight of 18g. In this case, however, the chronological sequence is secure: In the Eastern Roman empire the ‘light’ *folles* undoubtedly gave way to the ‘heavy’ *folles*.⁶⁷

The date when Anastasius first introduced his new copper coins can also be firmly established. Marcellinus Comes, a well-informed contemporary, records the «sale» of new coins called *follares* under the year 498: «By means of the coins (*nummi*) called by the Romans *terunciani*, and *follares* by the Greeks, each being marked with its own name, the emperor Anastasius sold a [rate or form of] exchange (*commutationem distraxit*) that was pleasing to the people» (transl. HENDY).⁶⁸ This, however, cannot be the whole story, as Malalas and the anonymous Syriac «Chronicle to the year 824» both place the distribution of new coins serving as small change under the year 512.⁶⁹ The apparent contradiction can, however, be solved on the assumption that Marcellinus refers to the minting of the ‘light’ *folles* which commenced in 498, and that Malalas and the Syriac Chronicle refer to a second stage in which they were replaced by the ‘heavy’ *folles*. These ‘heavy’ *folles* came to be extremely common in the Eastern Roman empire and continued to circulate well into the 7th century.⁷⁰ The 7th century hagiographer Leontius of Neapolis takes it for granted that *folles* (φολερά) were in everyday use, collected in cash boxes or given as alms. And for him, the *follis* was still made up of 40 *nummi*: «When someone sees the ‘holy fool’ Symeon eating in the cake shop on Holy Thursday ‘since early morning’ and asks him mockingly: ‘How much

and GRIERSON to that of Hilderic (523–530), while HENDY sits on the fence. For details see HENDY 1985, 478–484; GRIERSON – BLACKBURN 1986, 21–23; CLOVER 1991.

⁶⁷ On the currency reform of Anastasius D. M. METCALF 1969 is still fundamental; see further HARL 1996, 191–193; ZUCKERMAN 2004, 65f.; CARLÀ 2009, 336–340; MEIER 2009, 126–128; ASOLATI 2012e; ASOLATI 2012f; HAHN 2013, 13–15; MORRISON 2015, 18f.

⁶⁸ Marc. Com. Chron. a. 498, § 3: *Nummis quos Romani teruncianos vocant, Graeci follares, Anastasius princeps suo nomine figuratis placibilem plebe commutationem distraxit*. The reading *teruncianos* is an emendation first proposed by SCALIGER and accepted by JEAN-PIERRE CALLU, JOHN MELVILLE-JONES, and WOLFGANG HAHN. MOMMSEN defended the reading *Terentiani* found in the manuscripts. Translations and interpretations differ widely; in my view HENDY 1985, 476 got it right. The English translation by BRIAN CROKE is far removed from the Latin text he prints.

⁶⁹ Malalas 16, 12: ὁ δὲ αὐτὸς βασιλεὺς προεχειρίσατο κόμητα λαργιτιῶνων ἐν Κωνσταντινουπόλει τὸν ἀπὸ ὑπάτων Ἰωάννην τὸν Παφλαγόνα τὸν λεγόμενον Καϊάφαν· ὅστις ἅπαν τὸ προχωροῦν κέρμα τὸ λεπτὸν ἐποίησεν φολλερά προχωρεῖν εἰς πᾶσαν τὴν Ῥωμαϊκὴν κατάστασιν ἔκτοτε; Chronicon ad annum 724 a. 724 (= 512/513 AD), in: Corpus scriptorum Christianorum Orientalium. Scriptores Syri III 4, 115: *et edidit imperator monetam quadraginta nummorum et viginti et decem et quinque* (transl. J.-B. CHABOT).

⁷⁰ For the subsequent history of the Anastasian *follis* see MORRISON 2015, 18–21.

does it cost, Fool?», his hero holds out 40 *noumia* to the mocker, saying: «Here's my pholeron, stupid!», in order to show he was breaking his fast after 40 days.»⁷¹

We have no external evidence whatsoever as to when the minting of large copper coins in Vandal North Africa and Ostrogothic Italy began. There used to be a general consensus that the currency reform of the emperor Anastasius was later than and thus perhaps even inspired by the introduction of large bronze coins in both Vandal North Africa and Ostrogothic Italy.⁷² This sequence puts the earliest copper coins in the Post-Roman West before 498; in fact, most numismatists have dated them to either 477, thus ascribing them to Odoacer who had been sole ruler of Italy since 476, or to around 490, which would place the reform in the context of the war between Odoacer and Theodoric.

This consensus, however, has recently been challenged by ALAN STAHL in the «Oxford Handbook of Greek and Roman Coinage».⁷³ According to STAHL, the currency reform of Anastasius, instead of having been somehow inspired by barbarian precedents, was actually the first to be implemented, and thereafter adopted both in Ostrogothic Italy and Vandalic North Africa. In fact, STAHL contends that Theodoric followed the lead of the Eastern emperor very closely indeed, beginning to issue «light» *folles* of the Aquila-type (Series III) in or after 498 and replacing this type with «heavy» *folles* of the Zeno-type and the Lupa-type after the weight of the *folles* had been doubled by Anastasius in 512. If this interpretation is accepted, Theodoric had no monetary policy of his own: He simply took over a new denominational system including the weight standard that was devised in Constantinople, and then followed suit when Anastasius doubled the weight standard of this system. STAHL concedes

⁷¹ Leont. V.Sym. 1709B, p. 146 ΡΥΔÉN (*pholera* in a cash box); 1736C, p. 162 ΡΥΔÉN (*pholera* given as alms). Quotation: 1728B, p. 157 ΡΥΔÉN: ὃς ἰδὼν αὐτὸν τῇ ἀγίᾳ πέμπτῃ καθεζόμενον εἰς τὸν ἱτράν καὶ τρώγοντα ἀπὸ πρῶτῃ λέγει αὐτῷ: «πόσου τοῦτο, Σαλέ;» λέγει αὐτῷ κάκεινος κρατήσας ἐν τῇ χειρὶ τεσσαράκοντα νομμία: «ἔχει τὸ φολερόν, μάταιε» σημαίνων διὰ τεσσαράκοντα ἡμερῶν ἐσθίειν αὐτόν. The translation is adapted from that of DEREK KRUEGER.

⁷² For the *communis opinio* see, e.g., HARL 1996, 190: «The reforms of Gunthamund in Africa inspired Theodoric to reform Italian currency; both reforms in turn stood behind Anastasius's decision to reform the bronze currency of the Eastern Roman Empire». Slightly different ASOLATI 2012c, 74: «una scelta che anticipa di poco meno di un decennio le linee della riforma di Anastasio del 498 d. C. e, a nostro giudizio, ispira anche le soluzioni monetarie dei Vandali riguardanti il bronzo».

⁷³ STAHL 2012, 634–638. STAHL had been anticipated by HAHN 1973, 79. An even later date for the Zeno-*folles* has recently been suggested by ROVELLI 2014, 41–45, who argues that they are contemporary with the *folles* showing the portrait of Theodahad (for which see below) because they share the image of a Victory to right on the obverse. This choice can, however, easily be explained without assuming contemporaneity: Theodoric's nephew and Amalavintha's murderer had to advertise his invincibility more than any of his predecessors. ROVELLI isolates the Zeno-*folles* from the denominational system to which they clearly belonged and provides no convincing explanation as to why Theodahad should have wished to commemorate emperor Zeno, who had died almost 40 years earlier, in a small issue of *folles* while at the same time producing very large amounts of *folles* with his own portrait.

that the images and inscriptions were not imported from the East, but he offers no explanation as to why they were chosen. It seems clear, however, that the reasons for this departure from the Eastern model could only have been of a political nature, i. e. that Theoderic wished to emphasize his independence vis-à-vis the emperor while at the same time adopting the denominational system introduced by him.

To my mind there is one insuperable objection to this new, revisionist chronology: If in Italy the minting of large copper coins really only began after 498 and if the *Zeno-folles* were issued after 512, how are we to explain the existence of *folles* with the title and bust of the emperor Zeno? There seems to be no valid reason why in 512 Theoderic should have wished to commemorate an emperor who had died more than 20 years before and whose memory was rather tarnished even if his legitimacy was unquestioned.⁷⁴ In Ennodius or Cassiodorus, Zeno is never referred to as the emperor who commissioned Theoderic to topple Odoacer; on the contrary, Ennodius in his «Panegyric on Theoderic» (written in 507) depicts Theoderic as a king born to rule who in 474 restored Zeno to his imperial throne from which he had been driven by Basiliscus.⁷⁵ From the coins struck in gold and silver it is clear that Theoderic replaced the image of Anastasius with that of Justin after 518 and that Athalaric exchanged the image of Justin for that of Justinian after 527, and this is just what one would expect. As an exception to this rule, STAHL adduces the copper coins Totila issued in the name of Anastasius, but this is beside the point, as the then reigning emperor Justinian was waging war against the Gothic king whereas Theoderic in 512 was surely keen to preserve the special relationship with Anastasius invoked in the famous letter which Cassiodorus placed at the very beginning of the *Variae*.

If the late date for the introduction of large copper coins in Italy and North Africa is discarded, the debate about the chronology is back to where it stood before. Two dates are on offer: 477 or c. 490. In both cases, the argument turns on numismatic details which seem minuscule to the untrained eye. On the reverse of the so-called *Zeno-folles* we find the Latin numeral XL in the exergue and the abbreviation SC in the field, to which I will return later. Crucial for dating are the four vertical strokes

⁷⁴ On Zeno's memory in East Roman sources see WIEMER 2009, 27–31 where the sources are cited.

⁷⁵ Ennod. Pan. 11–14, esp. 14: *Si te illarum rector partium (sc. Zeno) non amavit, percussus praefuit rei publicae, si dilexit, obnoxius: usus es in tuorum fide meritorum teste purpurato*. The only mention of Zeno in the *Variae* (1, 43, 2) refers to the senator Artemidorus (PLRE II Artemidorus 3) who had moved from Constantinople to Italy although he was not only held in esteem by Zeno, but even related to him: *et licet esset clarus in patria nostram tamen elegit subire fortunam, superans gratiae magnitudine vim naturae, qui principe Zenone non tam benivolo quam affine gaudebat*. Cassiodorus also refrains from enlisting Zeno as a source of political legitimacy in the «Chronica» written in 519. In a fictional dialogue Jordanes has Theoderic submissively ask Zeno for the commission to rule in Italy as a gift (Get. 290–292). If this passage is based on Cassiodorus' lost history of the Goths, it seems to indicate a shift in the turbulent period shortly before or after Theoderic's death. It cannot, however, be excluded that the dialogue between Theoderic and Zeno was composed by Jordanes himself; the account of Anon. Val. 49 is similar.

one can see below the imperial bust. It would be perverse not to see in them the Latin numeral IIII. If that is so, we have two possibilities: Either the numeral IIII refers to regnal years of the ruler whose title and bust are found on the obverse. In this case, the so-called *Zeno-folles* are firmly dated to the year 477 (counting from 474) when Italy was ruled by Odoacer. This is the date defended by such eminent numismatists as PHILIP GRIERSON and CÉCILE MORRISON,⁷⁶ and it has also been adopted by METLICH. GRIERSON argues that *Zeno-folles* were minted in connection with Odoacer's attempt to win Zeno's approval for the abolition of the western emperors. In fact, we know from the contemporary historian Malchus of Philadelphia that West Roman senators went to Constantinople in the autumn of 476 to invite Zeno to take over the government of the West by entrusting Odoacer with the task of governing Italy for him.⁷⁷ In this context, the archaizing design of the coins and the use of the symbol SC becomes explicable as part of this joint venture of king and senate, but the precise function of the coinage remains mysterious.⁷⁸ If this scenario is accepted, the 'invention' of the large copper coin has to be credited not to Theoderic but to Odoacer acting in alliance with the Western Roman Senate. The question why Theoderic continued minting large bronze coins would, however, still be open, and this question would be particularly acute if the bulk of these coins – what I have called Series II, III and IV – really were struck after Italy had come under the sole rule of Theoderic as most numismatists believe.

If, on the other hand, the numeral IIII on the *Zeno-folles* refers, not to regnal years, but to the number of the work team that produced these coins – we know that the production of coins was organized in teams (*officinae*) which were numbered –,⁷⁹ then this chronological prop is removed and we need to look for other leads. MICHAEL HENDY, ROBERT CARSON and JOHN KENT have pointed to the fact that the inscription on the obverse runs anti-clockwise.⁸⁰ As this feature only became common after Zeno's death, they concluded that these coins belong to a transitional period in the very last years of Zeno's reign (who died on 9th April 491). Recently ERMANNO ARSLAN and MICHELE ASOLATI have joined their camp, arguing that the *Zeno-folles* were minted in Rome around 490 when Odoacer and Theoderic fought for the mastery of Italy.⁸¹ That this

⁷⁶ GRIERSON – BLACKBURN 1986, 31f.; GRIERSON – MAYS 1992, 47, 186f. and pl. 26, no. 689; accepted by JONES 1964, 443. MORRISON 2003, 72 n. 51 (citing with approval CLOVER 1991).

⁷⁷ Malchus frg. 10 MÜLLER – CRESCI = frg. 14 BLOCKLEY; discussed in detail by WIEMER 2013a, 137–142.

⁷⁸ GRIERSON – MAYS 1992, 187: «Such a date would fit in well with Odoacer's instructions to the Roman Senate in the autumn of 476 to send the imperial ornaments to Zeno and invite him to take over the government of the West, while Zeno's reply, that the lawful emperor sovereign of the West was Julius Nepos, would explain why this anomalous coinage came so quickly to an end.»

⁷⁹ GRIERSON – MAYS 1992, 53f.

⁸⁰ HENDY 1985, 488f.; CARSON 1990, 209f.; KENT 1994 (= RIC X), 218f.

⁸¹ ARSLAN 2011, 370; ASOLATI 2012c, 67 («certamente essa si colloca entro il 491»).

is possible cannot reasonably be denied since there are strong numismatic grounds for believing that the mint of Rome issued a small amount of gold coins in the name of Zeno after the senate had taken Theoderic's side.⁸²

Now, with the evidence at our disposal, surely neither of the two possibilities outlined above can be formally proved or disproved. If, however, the earlier date for the Zeno-*folles* is right, the decision to mint them had nothing to do with Theoderic and it becomes very difficult to establish a link between the minting of large copper coins and his policies. On balance, however, the earlier date seems less likely for three reasons: First, Late Roman coins are hardly ever dated. A convincing explanation of why this small and ephemeral issue should be an exception has yet to be produced. Second, the numerals in Latin or Greek we find on the reverse of the Lupa-*folles* (Series II) can hardly be anything but mint marks. As the two series belong to the same system of denominations, one would expect that they have the same meaning and function in both cases even if on the Lupa-*folles* these numerals are placed on the reverse while on the Zeno-*folles* we find them on the obverse.⁸³ The third reason for preferring the later date becomes clear once we take a closer look at the historical circumstances: The use of value marks which had not been seen on Roman coins since the demise of the *denarius* in the 3rd century makes much better sense in the context of the war for the mastery of Italy.⁸⁴

This contention needs to be argued for. In 489 and 490, Theoderic had to use all the resources he could muster to win the war against Odoacer.⁸⁵ This context would seem to make the idea that the *folles* was invented as a means of fostering trade and commerce rather far-fetched.⁸⁶ If the minting of large copper coins really started while two warlords were fighting it out in Italy, the purpose of this innovation must somehow be connected to the economic relations between soldiers and civilians. I should like

⁸² METLICH 2004, 13f., 83 no. 1 (*semmissis*) + no. 2 (*tremissis*). METLICH cites five specimens of an apparently very small issue of *tremisses* using a typically Eastern reverse, i.e. a winged Victory with wreath and *globus cruciger*. By contrast, *tremisses* struck in the West since Valentinian III always have a cross within a wreath on the reverse: KENT 1994 (RIC X), no. 444 (Milan), 446 (Ravenna), 448 (Rome). METLICH also observes that a *semmissis* with Zeno on the obverse, currently known only from a single specimen, is strikingly similar to this *tremissis*.

⁸³ GRIERSON – MAYS 1992, 187 objects that mint marks usually appear on the reverse and points to Vandal silver coins dated by the inscription ANNO IIII or ANNO V (on which see GRIERSON – BLACKBURN 1986, 20) as a parallel. But the parallel is superficial, and Western Roman senators are unlikely to have looked to the Vandal realm for inspiration.

⁸⁴ The only significant exceptions are the bronze coins (*nummi*) with the value mark XIII minted for Licinius from 318 to 324, as it seems: BASTIEN 1973; ABDY 2012, 591 f.

⁸⁵ For a narrative account see WIEMER 2018, 180–187. Theoderic defeated Odoacer on the Isonzo on 28th August 489, but suffered severe setbacks in the following year. The battle on the river Adda near Milan, the outcome of which forced Odoacer to withdraw to Ravenna, was fought on 11th August 490.

⁸⁶ The suggestion that by their archaizing design the Zeno-*folles* give expression to Theoderic's eagerness to combine reform and restoration (ASOLATI 2012c, 74) is hardly more convincing.

to suggest that the *Zeno-folles* were distributed to Theoderic's soldiers as a means of paying for goods and services they would otherwise have taken by force. As they bore a value mark, there could be no quarreling about their value. Providing soldiers with money to prevent pillage and extortion is a motive which is plausible in itself and furthermore directly attested for Theoderic in comparable circumstances: When the royal administration arranged transport through Northern Italy for Gepid soldiers who presumably were on the way to Gaul, each «household» (*condama*) received three *solidi* as a stipend, «so that instead of a desire for pillaging our provincials, there would be the capacity for commerce».⁸⁷ As gold coins would have been an impractical means of paying for what the Gepids needed on the way to Gaul, the royal administration clearly took it for granted that exchanging them for smaller denominations was possible.

Seen in this light, the much-debated abbreviation SC – *senatus consulto* or *senatus consultum* – can be plausibly explained. In the vein of THEODOR MOMMSEN, numismatists have often deduced from it that the barbarian kings replacing the Western Roman emperors formally ceded the authority for minting these and other coins to the senate; GRIERSON, for example, calls these *folles* a «senatorial and municipal coinage».⁸⁸ This interpretation runs up against several obstacles which seem unsurmountable to me: For a start, the senate hardly ever played an independent role in the production of coins even in the glory days of the principate. MOMMSEN'S idea that this abbreviation was originally meant to express the senate's legal authority to mint bronze coins is now universally rejected. At present, the majority opinion would seem to be that the abbreviation referred to senatorial approval of Augustus' coinage reform and over time developed into a kind of symbol for the mint of Rome.⁸⁹ The second objection to be raised is that according to the *Variae* (6, 7, 3) the minting of coins fell within the purview of the *comes largitionum*. In the same work, we also find a formulaic letter of appointment for an official appointed by the king whose duties (and perhaps even his title) were identical to those of the *procurator monetae* of old (*Var.* 7, 32).⁹⁰ While

⁸⁷ Cass. Var. 5, 10, 2: *quibus ne aliqua excedendi praeberetur occasio, per unamquamque condamam sumptus eis tres solidos largitas nostra direxit, ut illis cum provincialibus nostris non rapiendi votum, sed commercii sit facultas; cf. Var. 5, 11: sed ne species ipsae aut corruptae aut difficile praeberentur, in auro vobis tres solidos per condamam elegimus destinare, ut et mansiones vobis, prout herbarum copia suppetit, possitis eligere, et, quod vobis est aptum magis, emere debeatis. nam et possessorem haec res occurrere facit, si vos necessaria comparare cognoscit.*

⁸⁸ GRIERSON – BLACKBURN 1986, 31–33. The interpretation goes back to WROTH 1911, XXXVII and KRAUS 1928, 47f. and has since been current in historical studies; see e.g. JONES 1964, 253f.; CHASTAGNOL 1966, 53; RADTKI 2016, 127; CALIRI 2017, 118. It was rejected without argument by HAHN 1973, 88f. and METLICH 2004, 9f.

⁸⁹ On the role of the senate in coinage WOLTERS 1999, 115–170 is fundamental. For the history of research see also WOLTERS 2004. SC also appears on silver coins (half-*siliquae*) minted in Milan: METLICH 2004, 100f. no. 46a + 46b.

⁹⁰ On the organization and staff of the Roman mint in the High Empire see PEACHIN 1986; WOLTERS 1999, 85–99.

Cassiodorus explicitly claims a public monopoly for the production of coins, there is no trace of and no room for a legal right to senatorial participation in coinage.⁹¹

To reject the idea that the symbol SC was meant to express senatorial autonomy should not, however, lead us to deny the political content of this symbol altogether.⁹² In 489/490 Theoderic surely needed the support of the senate of Rome, and it is more than likely that most Western senators supported him from an early stage of the war. In fact, we know that Festus, the highest-ranking Western senator, went on an embassy to Constantinople on behalf of Theoderic after the king had defeated Odoacer near the river Adda on 11th August 490.⁹³ If the senate of Rome put the local mint at Theoderic's disposal, the hypothesis that the symbol SC and the archaizing design were chosen to express the newly-forged alliance between the Gothic king and the senate of Rome clearly has some explanatory force. This political message would have squared well with the coins' socio-economic function of monetizing the provision of goods and services for Theoderic's soldiers. By providing his soldiers with denominations well-suited for small transactions, the king created an alternative to the acquisition of goods and services by means of force and in this sense protected his new subjects from all sorts of extortion. Monetization was thus a means of pacification. This concern for a peaceful coexistence between Gothic soldiers and Roman civilians came later to be conveyed by the term *civilitas*, which was spread by the royal chancellery and gladly taken up by the king's Roman subjects.⁹⁴ Cassiodorus teaches the lesson in a letter addressed «To All Romans and Barbarians settled throughout Pannonia»: «What use is the human tongue, if the armed fist settles litigation? Where is it believed that peace would exist, if there is fighting despite a state of civil harmony (*civilitas*)? Let yourselves openly imitate our Goths, who know to wage wars abroad and to exercise restraint at home. We want you to live thus, by that very means that you perceive our kin to have flourished by the grace of the Lord».⁹⁵

⁹¹ Cass. Var. 5, 39, 8: *monetarios autem, quos specialiter in usum publicum constat inventos, in privatorum didicimus transisse compendium. Qua praesumptione sublata pro virium qualitate functionibus publicis applicentur.*

⁹² OLBRICH 2013 suggests that the senate was formally involved in making Theoderic ruler of Italy. This idea should be banished to the realm of fantasy. The unique silver coin on which his whole argument is built is clearly a barbarian imitation if not a modern fake: the senate of Rome would not have approved of a silver coin with blatant spelling errors like VICRIA (instead of VICTORIA) and CONOR (instead of CONOB which was anyway reserved for gold coins). Nor would the senate have approved an abbreviation like TSCR that had never before been used.

⁹³ Anon. Val. 53: *mittens legationem Theodericus Festum, caput senatus, ad Zenonem imperatorem et ab eodem sperans vestem se induere regiam.* For Fl. Rufius Postumius Festus, cos. 472, *patricius* and *caput senatus*, see PLRE II Festus 5.

⁹⁴ *Civilitas* as a political concept: WIEMER 2018, 282f.

⁹⁵ Cass. Var. 3, 24, 4: *quis opus est homini lingua, si causam manus agat armata? Aut pax esse unde creditur, si sub civilitate pugnetur? Imitamini certe Gothos nostros, qui foris proelia, intus norunt exercere modestiam. Sic vos volumus vivere, quemadmodum parentes nostros cernitis domino praestante floruisse* (mistranslated by BJORNLIÉ).

III.2 The currency reform of the emperor Anastasius 498/512

On the face of it, the currency reform of Anastasius would seem to run counter to the interpretation of the *Zeno-folles* I suggest. The introduction of the *folles* in the Eastern Roman empire is widely held to have been economically motivated. To quote MORRISON (I translate from the French): «The reform of Anastasius stemmed from the same will to restore the stability of the money in bronze and the confidence of the public by the addition of marks of value».⁹⁶ As inscribing coins with value marks was a new feature in the coinage of the Eastern Roman empire that had no precedents in the last 200 years, this interpretation makes good sense. By putting the Greek numerals for 40 (M), 20 (Λ), 10 (Κ) and 5 (Ε) on the reverse, the minting authority wanted to put a stop to bargaining about their value. The intention to create a fiduciary coinage seems clear: The value of these coins was meant to be independent of their weight and the fluctuation in prices between copper and gold.

If that was the intention, the reform was a failure, at least initially. The copper coins issued from 498 onwards were replaced in 512 by others with the same value but double the weight. Whereas the *follis* worth 40 *nummi* that was issued between 498 and 512 weighed only 7,5 to 9,5g, the new *follis* issued from 512 onwards weighed 16 to 19g. The explanation seems obvious: If people were to accept these coins at their nominal value, their weight had to be doubled; there is a limit to overvaluing coins even in base metals. As the «heavy» *folles* introduced in 512 came to circulate all over the Eastern Roman empire, their effect on the economy can hardly be overestimated. It would, however, be illegitimate to derive the initial motivation for creating large copper denominations from the effect they had after their weight had been doubled in 512. As DAVID METCALF showed in an exemplary study back in 1969,⁹⁷ the pattern of circulation – as it can with reasonable certainty be reconstructed from coin finds – is hardly compatible with the idea that the large copper coins were introduced with the intention to foster trade and commerce as such. If that were the case, one would be hard put to explain the almost total absence of the «light» *folles* from a city like Antioch. In fact, these coins have turned up mostly in places where in this period troops were marshalled for campaigns against exterior threats. The conclusion drawn by METCALF more than 50 years ago still seems to stand firm: the original intention behind the currency reform of Anastasius was to provide individual soldiers with the means to pay for goods and services they wanted to get from civilians over and above the supplies their units drew by *annona* and *coemptio*. This interpretation makes sense in the context of the financial reforms that Anastasius implemented in the first years of his reign: by paying the troops in cash and severely curbing the range of compulsory

⁹⁶ MORRISON 2015, 18f. See also HENDY 1985, 475–478; HAHN 2013, 13–15. For a more concrete and realistic assessment see MEIER 2009, 130.

⁹⁷ D. M. METCALF 1969, esp. 94–99.

purchase (*coemptio*) for public needs the emperor strove to reduce the burden that provisioning the army put on the civilian population.⁹⁸

III.3 The folles of king Theodahad

Theoderic's nephew Theodahad ruled for only two years, from the death of Athalaric in October 534 to his own death in December 536. His copper coinage is remarkable in several respects. Theodahad was the first Gothic king to put his portrait on coins produced for wide circulation: The *folles* struck during his short reign show on the obverse his bust turned right with a Spangenhelm and the inscription D(ominus) N(oster) THEODAHATVS REX, while on the reverse we see a Victoria standing on a prow, flanked by SC and surrounded by the inscription VICTORIA PRINCIPVM (Fig. 6). The political message is unmistakable even if the image chosen for the reverse is not entirely appropriate to a king who had no sizable fleet at his disposal.⁹⁹ Theodahad had murdered his co-regent Amalasintha, the daughter of Theoderic; he thus urgently needed to assert both his right and his capability to rule. Therefore he adopted new ways of advertising his royal position and martial virtues: Unlike his Amal predecessors he posed as an ever-victorious warrior-king.

In the *formula* for the *comes largitionum* Cassiodorus seems to refer precisely to these coins when he has the king addressing his «finance minister» as follows (Var. 6, 7, 3):

«Indeed, you adorn this, our liberality, with another service, so that the form of our countenance is impressed upon metals in current use (*metalla usualia*) and you make a coin (*moneta*) that will remind future ages about our reign. O great invention of the wise! O praiseworthy institution of the ancients! That even the likeness of the *principes* should be seen to gratify subjects through commerce (*commercium*), for which our deliberations do not cease to watch over the welfare of all.»¹⁰⁰

⁹⁸ Cod. Just. 10, 2, 1; 10, 27, 2; cf. STEIN 1949, 199–203; MEIER 2009, 128–130.

⁹⁹ To all appearances, Theoderic's ambitious attempt to build a fleet of 1,000 *dromones* was abandoned soon after his death; see WIEMER 2018, 568–571. The image of a Victoria standing on a prow was not entirely without precedent in the coinage of Post-Roman Italy; it occurs on one of the three issues of the Zeno-*folles* – KENT 1994 (= RIC X), no. 3665 – and also on a half-*siliqua* minted for Theoderic at Milan: METLICH 2004, no. 46b. These isolated examples do not fit into a coherent pattern, even if they do seem to have a common model in the Flavian period; ASOLATI's suggestion (ASOLATI 2012c) that the image was chosen to spread the idea of continuity with the first Flavian dynasty is therefore unconvincing.

¹⁰⁰ Cass. Var. 6, 7, 3: *Verum hanc liberalitatem nostram alio decoras obsequio, figura vultus nostri metallis usualibus imprimatur, monetamque facis de nostris temporibus futura saecula commonere. O magna inventa prudentium! O laudabilia instituta maiorum! Ut et imago principum subiectos videretur pascere per commercium, quorum consilia invigilare non desinunt pro salute cunctorum.* The passage does not imply that the choice of images fell within the competence of the *comes largitionum*; thus, rightly, WOLTERS 1999, 290f.



Fig. 6: *Theodahad-follis*.

Follis, 10,59g; BM 1908,0506.7; METLICH 2004, no. 89b.

Obv.: *D N THEODAHATVS REX*, draped and helmeted bust of Theodahad;
 rev.: *VICTORIA PRINCIPV*, victory standing on prow to right, between *S C*,
 holding palm branch and wreath.

Scale ca. 3 : 2.

Again, Cassiodorus ascribes two functions to coinage: on the one hand, coins serve to make known the image of the reigning king and to preserve it for posterity, on the other, they serve as a means of exchange. Unfortunately, his description is very general and thus hardly illuminating. In this particular case, however, we can be more specific as to the volume of coins produced, as the *Theodahad-folles* are the only coins minted in Ostrogothic Italy for which a systematic die-study has been undertaken.¹⁰¹ ARSLAN was able to identify no less than 20 obverse dies and 64 reverse dies on the 187 specimens he found; using the so-called Carter formula, he reckons that only one obverse die, but about 18 reverse dies can be expected to be discovered in the future. Compared to the *Zeno-folles*, the number of obverse dies is ten times higher, indicating that Theodahad's coins were struck in much greater numbers. Precise figures cannot, of course, be calculated, but it does at least seem possible to gauge the order of magnitude: If the figure of 20,000 coins per obverse die, which is commonly used in quantitative studies of ancient coinages, is anything to go by, approximately 420,000 *Theodahad-folles* were minted with a nominal value of 16,800,000 *nummi*. The total would thus have equaled 2,333 $\frac{1}{3}$ *solidi* or 32,5lb. of gold, if the exchange rate was 1 : 7,200. To be sure, the real number of coins minted might have amounted to anything between half and double this figure (thus between 210,000 and 840,000 *folles*), as the margin of error is assumed to be two. But the figures are telling nevertheless.¹⁰² Furthermore, the extraordinary ratio of 1 : 3 between obverse and reverse (something like 1 : 1,3 would be normal) seems to indicate that these coins were produced under

¹⁰¹ ARSLAN – METLICH in METLICH 2004, 125–128.

¹⁰² That an obverse die could normally produce 20,000 coins is a rule of thumb advocated by FRANÇOIS DE CALLATAÏ and widely accepted in ancient numismatics; for discussion see the contributions assembled by DE CALLATAÏ 2011.

exceptional circumstances; perhaps the mint employed workers who were inexperienced in the production of copper coins.¹⁰³

Despite many uncertainties, it seems undeniable that Theodahad's *folles* were struck in large quantities in a relatively short period of time. The minting of these coins can hardly have begun before Amalasintha was declared dead as Theodahad formally held the position of joint-ruler as long as she lived. This gives a terminus post in May 535.¹⁰⁴ It is easy to see why Theodahad wanted to make his sole rule widely known and not at all mysterious that in order to achieve this purpose he chose to distribute coins with his image as every Roman emperor had done, even if no Gothic ruler before him had ever dared to imitate the imperial model. But this explanation does not account for the fact that these coins were minted in Rome when the city was visited by a Gothic king for the first time in more than 30 years. Both the place of minting and the amount of the coinage only become fully explicable if we connect the Theodahad-*folles* to the transfer of the royal court from Ravenna to Rome in January 536. This transfer was carefully planned several months in advance.¹⁰⁵ A letter to the Romans that Cassiodorus wrote on behalf of Theodahad shows that the king was concerned about unrest caused by the installation of a Gothic garrison in Rome.¹⁰⁶ From a letter Cassiodorus wrote as praetorian prefect to a man seemingly in charge of preparations for the imminent relocation we learn that the king's functionaries were instructed to gather the land-tax without detriment to the landowners and to procure what was fitting for the king's table without transgressing the rules.¹⁰⁷ The distribution of large copper coins fits in well with this policy: The king had these coins minted for the purpose of paying for goods and services that he and his court wanted to have in the new royal residence of Rome. Once again the rationale behind a monetary measure was economic only in the sense that the king wanted to facilitate and regulate exchange between a privileged group of his subjects – in this case, his court – and the people who were required to deliver goods or provide services to them.

¹⁰³ For the facts see METLICH 2004, 126f. METLICH's suggestion that the mint employed unskilled workers was endorsed by WOLTERS 2005, 105. The anonymous reviewer would explain the uneven consumption of obverse and reverse dies by repeated re-working of worn reverse dies; on this assumption one wonders why this cheap and convenient device was exceptional. For MORRISON 2006, 476, on the other hand, the ratio of 1 : 3 between obverse and reverse dies is quite normal, but she adduces parallels only for gold coins.

¹⁰⁴ For the date see VITIELLO 2014, 94–104 (based on Proc. Bell. 5, 4, 25).

¹⁰⁵ Preparations for the journey to Rome and the reception of the royal court: Cass. Var. 12, 18; 12, 19. cf. VITIELLO 2014, 132–139.

¹⁰⁶ Cass. Var. 10, 14. Theodahad's letter to the senate (Var. 10, 13) was prompted by a senatorial embassy to the court in Ravenna.

¹⁰⁷ Cass. Var. 12, 18, 2f.: *annonarum designatarum copia sine aliquo possessorum dispendio congregetur, quia sic omnia grata redditis si in nulla parte peccetis. Res una subtracta cuncta deformat et totum deesse creditur, ubi vel minima querela asperitas commovetur. Species praeterea quae mensis regis apparantur exacta tota sedulitate perquirite. Nam quid proderit exercitui satisfacere, si vos contigerit in ipsa dominorum pastione peccare.*

III.4 The circulation of copper coins in 6th century Italy

Whatever their date, the *Zeno-folles* were struck for a special occasion. That said, they do belong to a much larger group of copper coins issued in Italy and fit into the denominational system outlined above. Their chronology is uncertain and highly controversial. One element that the discussion has focused on is that series IV introduces a new image to Roman coinage: the personification of Ravenna. This innovative choice is likely to originate with Theoderic as it was him who transformed this city into an *urbs regia*. To be sure, Odoacer had also resided in Ravenna; unlike Theoderic, however, he did not leave his imprint on the cityscape, and there is no indication that he accorded Ravenna the same prominence in political discourse and imagery as his successor did.¹⁰⁸ But this origin does not of course exclude that the Ravenna-coins continued to be issued under Athalaric. Adherents of the early date for the *Zeno-folles* are free to put the ‘heavy’ *folles* of the Lupa-type (series II) under Odoacer; this solution was chosen by GRIERSON who refrained from giving dates for series III and IV. ARSLAN, on the other hand, attributes the Lupa-type to Theoderic and the Aquila-type to Athalaric, while METLICH reverses the chronological order of the two series. ARSLAN and METLICH thus at least agree that Theoderic did issue large copper coins and that Athalaric continued to do so. As Theoderic ruled in Italy for more than 30 years, this minimum consensus leaves us with a very vague time-frame.

The only clue as to the scale and duration of production seems to be that both the Lupa-*folles* and the Aquila-*folles* were struck by all five teams of workers (*officinae*) active in the mint of Rome.¹⁰⁹ This fact is insufficient to bolster the claim that Ostrogothic rulers regularly issued copper coins to provide a sufficient supply of small change for all their subjects. The use of various sorts of ‘emergency money’ – from AE3 and AE4 to imitations – would rather seem to suggest that the production of new copper coins lagged considerably behind what was needed.¹¹⁰ Shortage of small denominations might also explain the re-cycling of bronze coins of the Flavian emperors which were countermarked (by chisel cuts) with the numerals LXXXIII and XLII. Most of them have been found in northern and central Italy (with a cluster in Rome and its surroundings); from their contexts a late 5th or 6th century date for their re-cycling seems likely. Whether these coins originate from the Vandalic realm or from Italy, is debated; but even if they were imported from North Africa, it remains telling that they were accepted and diffused in Italy.¹¹¹

¹⁰⁸ On the central role of Ravenna in the self-representation of Theoderic see WIEMER 2015, 172–199. ERCOLANI COCCHI 1980, 43 points to the fact that the turreted personification of Ravenna was modeled on that of Constantinople.

¹⁰⁹ For these mintmarks see METLICH 2004, 112 no. 76b; 114 no. 82a. On the Aquila-*folles* the minting teams are numbered in Greek, on those of the Lupa-type in Latin.

¹¹⁰ The economic implications of this ‘emergency money’ are rightly stressed by ASOLATI 2013, 15f. and MARANI 2020, 32–34, 308f.

¹¹¹ For the findspots, see MORRISON 1983; ASOLATI 2012d, 114–116 with fig. 2; ASOLATI 2013, 16 fig. 7. 77 specimens were found in Italy, five in Tunisia (and one in Hungary). Most



Fig. 7: Findspots of folles (40 nummi) and half-folles (20 nummi) in Ostrogothic Italy (white circles represent the former, black circles the latter).

Fortunately, there is one further test that one can apply to the hypothesis that the large copper coins were intended to foster trade and commerce. We owe this advance to a groundbreaking study of MICHELE ASOLATI, published in 2013 and as yet largely unnoticed outside Italy.¹¹² ASOLATI has taken the trouble to collect all available data on finds of 6th century copper coins in Italy. From evidence he presents it appears that with few and isolated exceptions copper denominations worth more than the *minimumus* were found exclusively in Northern Italy and in the regions bordering on the *via Flaminia* that connects Ravenna and Rome (Fig. 7).

of them are isolated finds. Only two hoards include specimens, one from Rome and one from Montelibretti in northern Latium. For the attribution to North Africa see MORRISON 1983; HENDY 1985, 483f.; HARL 1996, 188; BERNDT – STEINACHER 2006, 610–612. The case for Ostrogothic Italy has been argued by GRIERSON – BLACKBURN 1986, 28–31; ASOLATI 2012d. STAHL 2012, 636–638 remains undecided. If the numerals LXXXIII and XLII are value marks, they correspond to the Vandalic system. ASOLATI, however, following a suggestion by ANDREA SACCOCCI, interprets these numerals as indicators of weight in terms of *siliquae*, pointing to the existence of glass weights, dated to the second half of the 6th century, which seem to combine value marks on the decimal standard (K, I, E) with monograms for 42 (MB), 21 (KA), and 10,5 (I'), respectively (accepted by CALLU 2013, 653).

¹¹² ASOLATI 2013.

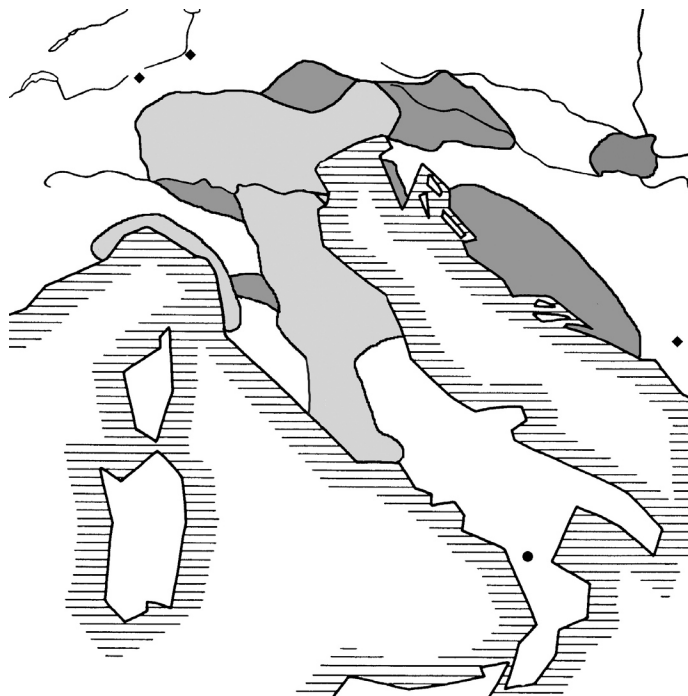


Fig. 8: Areas where copper coins worth more than a single nummus and/or coins made of precious metals have been found (areas in darker colour have turned up gold or silver only, black circles refer to isolated finds of copper, black squares to those of silver or gold).

To be sure, this pattern of distribution may partly be a function of the state of research since coin finds in Northern Italy have received much more scholarly attention than those in the southern part of the peninsula. Nevertheless, the picture emerging seems consistent, suggestive and historically plausible. It also receives confirmation by MARANI'S study of coin circulation in the Valle del Sacco south of Rome whose results converge with ASOLATI'S conclusions for Italy as a whole: *minimi* (and *pentanummia*) are found all over this micro-region and in all types of settlements – near road stations (*stationes*) and in urban spaces, on the sites of mansions (*villae*), hamlets and villages (*vici*), even in dwelling-places of shepherds. Finds of large copper denominations, on the other hand, cluster along the major road that connected Rome and Naples, the *via Latina*.¹¹³ Generally speaking, the area where large copper coins circulated coincides with the distribution of Gothic garrisons and courts as it can be deduced from written sources.¹¹⁴ What is more, the areas in which copper coins are found either singly or

¹¹³ MARANI 2020, 294–306. Naples was an important military base under the command of a Gothic *comes*: Cass. Var. 7, 23–25; TABATA 2013, 82–84, 203–205, 225–230.

¹¹⁴ For an overview see now CHRISTIE 2020. BIERBRAUER 1975 (updated by BIERBRAUER

in small hoards overlap to a high degree with the areas in which coins of high value, both silver and gold, were lost or buried (Fig. 8).

On present knowledge, it thus seems safe to say that the circulation of large copper coins in Ostrogothic Italy was closely bound up with transactions in which army and court were involved. ASOLATI also points to the striking contrast between the almost total absence of large copper coins from Southern Italy and the great number of 6th century *nummi* from stray finds and small hoards in exactly the same area. In most cases, these hoards represent small savings buried during the Gothic war fought by Justinian. In his view, the composition of these hoards is not so much a result of large copper denominations being unavailable south of Latium but rather the result of a preference for the *minimus*. ASOLATI would explain this by the workings of Gresham's law whereby money with a nominal value considerably higher than its metal value drives less overvalued money out of the market. As the large denominations contained less copper in relation to their value than the *minimi* he argues, people would want to keep the undervalued *minimi* rather than exchange them for overvalued *folles*. This argument, however, presupposes that the copper coins circulating in Ostrogothic Italy were not accepted as fiduciary money, but valued according to their weight. This in turn would imply that the attempt to introduce a fiduciary coinage failed in Italy while at the same time it succeeded in the Eastern Roman empire, at least after the ‹light› *folles* of Anastasius had been replaced by the ‹heavy› *folles*. Such far-reaching conclusions for the monetary history of Ostrogothic Italy seem unwarranted by the evidence presented and should be treated with due caution.

IV. Summary and conclusions

The question of when, how and why copper coins were minted in Ostrogothic Italy cannot at present be answered with the degree of certainty normally required in historical studies. As long as the precise chronology of the types issued cannot be firmly established, the weight standards used are imperfectly known and the dies used for striking them have not been studied systematically, it is clearly impossible to formulate hypotheses as to the volume and rhythm of coinage. From the study of coin hoards it would appear, however, that the large bronze coins did not circulate evenly in all parts of Italy but that their use was restricted to areas where Gothic warriors and their families were present. In the south of the Italian peninsula, the *minimus* seems to have remained the coin for everyday transactions. In southern Latium, the capillary distribution of this coin in both spatial and social terms demonstrably persisted from the second half of the 5th to the end of the 6th century.¹¹⁵

2007) is still indispensable as a catalogue of finds from graves; the debate on the settlement of the Goths in Italy is summarized by WIEMER 2018, 199–205.

¹¹⁵ MARANI 2020, esp. 306–313. Ostrogothic Italy thus still belongs to the monetarized economy of Late Antiquity in which small change was available in large quantities: ARSLAN 2001b.

The supposition that the large copper coins circulating in Ostrogothic Italy were minted because Theoderic and his successors pursued an economic or monetary policy aimed at promoting commerce and trade has no foundation in the textual evidence and is open to serious objections. If the large copper coins were in fact introduced on Theoderic's orders or at least with his permission, and if we reject the very late date for the beginning of this coinage advocated by STAHL – as I think we should –, the only way to connect the earliest issues with Theoderic is by dating them to the period when the Gothic king was fighting Odoacer. This would seem to be an unlikely moment for an invading king to take measures for the benefit of the civilian population or with the purpose of increasing the volume of goods and services turned out. One doesn't have to be a die-hard primitivist to think that under the circumstances prevailing in this war the aim to equip warriors with coins to pay for everyday expenses was much more prominent in the minds of those who took the decision to close the huge gap between the copper *minimus* and the gold *tremissis* worth 2,400 *nummi* that had until then characterized the monetary economy of Italy. Monetizing relations between the army and the civilian population was primarily a means of pacification. In this sense, the copper coinage of Ostrogothic Italy is an expression of the ideal and ideology of *civilitas*.

Comparative evidence would seem to lend some support to this hypothesis. Even the currency reform of Anastasius seems to have been initiated with the purpose of covering military expenses; it was only after 512 that the emperor's copper coins, now at double their former weight, began to circulate all over the Eastern Roman empire. The copper coinage of Theoderic's nephew and successor Theodahad would seem to point in the same direction: The large quantities of copper coins minted in Rome during his short reign should be explained by political, not by economic considerations: the wish to propagate his image and to facilitate economic transactions connected to the transferal of the royal court from Ravenna to Rome. The distribution pattern of the large denominations on the one hand, and the *nummus* on the other, fits with the idea that the minting of large bronze coins was primarily intended to provide the court and the army with a fiduciary coinage that was a convenient means of buying goods from civilians. If pressed to come up with an idea as to how these large copper coins were put into circulation, I would venture the suggestion that soldiers were expected, perhaps even forced to exchange part of their donatives paid out in gold *solidi* and raw silver for these copper coins. As the king could enforce a fixed exchange rate, moneylenders would have been happy to take on the task of selling these coins to customers in possession of gold and silver. From the government's point of view, this procedure would have had the advantage that a portion of the precious metals disbursed to the soldiers would immediately have flowed back to their source.¹¹⁶

¹¹⁶ This is the pattern suggested by FULFORD 1978, 71. DUNCAN 1993, 10, on the other hand, thinks that base metal coins were distributed directly to the soldiers. For criticism of METLICH's calculations of weight standards and exchange rates see the literature cited above in n. 10.

The argument I have presented does not of course preclude that the availability of large copper denominations in the long run did facilitate the exchange of goods and the provision of services not only between soldiers and civilians. Once the coins had been put into circulation, they could be used for whatever purpose their owners wished.¹¹⁷ Only further systematic study of coin finds will be able to show these economic effects. I do, however, feel rather uneasy about the notion that the promotion of commerce and trade was what Theoderic or his advisers were thinking of when they had these coins minted. As the currency reform of Anastasius shows, the original intention of a minting authority and the mid-term effects of a coinage do not have to coincide. Monetary policy is notoriously a field where not only declared and hidden intentions, but also desired and caused effects tend to differ widely. As we still *know* so little about the role of money in Ostrogothic Italy it would be rash to assert that the large copper denominations had little impact on the economic life of Theoderic's subjects. The evidence of coin hoards that have so far been studied does, however, seem to urge a note of caution in this respect, too: The large copper coins did not circulate in all of Italy and they did not replace the *minimus*, an unseemly piece of copper weighing less than a single gram which was the only coin in constant use by all classes and in all regions of Post-Roman Italy.

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¹¹⁷ This point was stressed long ago by FERGUS MILLAR in his review of HENDY 1985: MILLAR 1988. On the tension between the forces leading to the production of coinage and the forces leading to the circulation of coinage see the excellent discussion by DUNCAN 1993, 4–11.

		GRIERSON 1986	METLICH 2004	ARSLAN 2011	STAHL 2012
Series I: <i>Zeno-folles</i>	XL	477 Rome 16,13g	477 Rome 1/15lb. (= 21,8g)	490 Rome	> 512 Rome 16–16,5g
Series IIa: Roma / Lupa <i>folles</i> (heavy)	XL	Odoacer Rome m. 14–16g (? = 1/18lb.)	Athalaric Rome 1/17,5lb. (= 18,68g)	Theoderic Rome	> 512 Rome 13–20g
Series IIb: Roma / Lupa 1/2- <i>folles</i> (heavy)	XX	Odoacer Rome m. 7–8g (? = 1/36lb.)	Athalaric Rome 1/35lb. (= 9,34g)	Theoderic Rome	> 512 Rome 7–8,5g
Series IIIa: Roma / Aquila <i>folles</i> (light)	XL	Date? Rome m. 10–11g	Theoderic Rome 1/25lb. (= 13,08g)	Athalaric Rome	> 498 Rome 8,3–13,8g
Series IIIb: Roma / Arbor + Aquilae 1/2- <i>folles</i> (heavy)	XX	Date? Rome m. 8g	Athalaric Rome 1/35lb. (= 9,34g)	Theoderic Rome	> 498 Rome 5,3–10,9g
Series IVa: Ravenna / monogram	X	Date? Ravenna 2,72–3,1g	Theoderic Ravenna 1/100lb. (= 3,27g)	Athalaric Ravenna	Date? Mint? 2,25–3,90g
Series IVb: Ravenna / Aquila <i>decanummion</i>	X	Date? Ravenna	Theod/RM 1/100lb. (= 3,27g)	Athalaric Ravenna	Date? Mint? 2,25–3,90g
Series IVc: Ravenna / Victoria	(V)	Date? Ravenna	Theod/RM 1/120lb. (= 2,725g)	Theoderic Ravenna?	? / ? 2,25–3,90g

Table 1: Overview of series.

Illustrations

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