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Front cover: Photo of the Alexander tetradrachm, no. 68 (see article of Lloyd Taylor Fig 1 page 52)

NUMISMATIC ASSOCIATION OF AUSTRALIA INC

President's Report

With COVID-19 now endemic, the Association has not been able to hold a conference because of the upsurge this year of the virus Australia-wide, but nevertheless the NAA has continued to function with an upgraded website and the publication of this double volume JNAA31, which is available for free download at the NAA website. We plan to hold a conference next year in Adelaide, 19 – 20th October 2023, hosted by the Numismatic Society of South Australia.

I am delighted to announce the award of the Ray Jewell Silver Medal to our Managing Editor, Associate Professor Gillan Davis for his services to the NAA, and his numismatic work both in Australia and overseas for which he has an international reputation. Congratulations Gil from all of us.

The NAA continues to enjoy sponsorship at a sustainable level, with Noble Numismatics (Gold), Coinworks, Downies (Silver), Coins & Collectables Victoria, Drake Sterling, Mowbray Collectables, Sterling & Currency and Vintage Coins & Banknotes (Bronze) all contributing to ensure the Association's continued success. Membership is being maintained, and with the contributions by sponsors and members, the Association can function in these difficult times.

The NAA now has a new Secretary, Bridget McClean, and a new address in Nunawading, Victoria. This is convenient as the NAA is incorporated in Victoria. Much time has been spent changing bank signatories and updating Consumer Affairs Victoria; nothing happens quickly these days!

The Numismatic Association of Australia now has a functioning PayPal account linked to president@numismatics.org.au. This is very convenient for payments coming from overseas and avoids most international bank fees. Like with banking, setting up a PayPal account is not a five-minute exercise, but well worthwhile.

I am impressed with the considerable work our Managing Editor Gil Davis has put into this volume notwithstanding his being extraordinarily busy transferring between universities and setting up new programmes at the Australian Catholic University. Also, I am grateful to Barrie Newman for his on-going work in getting the journal set up and printed, taking on the tasks of both layout and copy editor.

Council continues to meet by ZOOM, hosted by David Galt at Mowbray Collectables.

Finally, the Association cannot function without the dedication of its secretary and its treasurer (Lyn Bloom); thank you both Bridget and Lyn.

Professor Walter R. Bloom
President, NAA
www.numismatics.org.au
3rd August 2022

Editor's note

This volume has been a long time in the making. Usually, an issue is based around the NAA annual conference, but COVID-19 made that impossible. More importantly, as the peak body for numismatics in the country, we are focussed on making each volume wide ranging, interesting and impactful. So, we waited on the completion of a couple of key contributions and have brought out a combined two-year issue which I have dubbed 'the professors' volume' on account of the academic attainment of most of the authors. I trust you will agree that the results justify the decision, because here we offer a splendid collection of eleven articles on an eclectic range of topics with some of the best numismatic analysis and writing I have read. Personally, I have learnt a lot, and I expect that you will too. The collection is rounded out by an obituary by NAA stalwart Peter Lane of the late Maurice B Keain, a real character on the Australian scene.

There are two articles on Australian topics. Vincent Verheyen offers a forensic scrutiny of 'proofs' and 'specimens' from the Melbourne and Perth mints issued in just two years, 1955 and 1956 and seeks to differentiate between them. Walter Bloom provides an interesting study of Western Australian numismatic medallions and badges with an emphasis on the Castellorizian Brotherhood which represented the émigrés from that Greek island.

Lloyd Taylor gives us a Hellenistic trilogy which is a tour de force in numismatic analysis. He starts with a brief but compelling argument correcting one of Hersh's additions to Price's Alexander typology showing that it was already in the corpus. Next, he reattributes Macedonian imperial coinage attributed to Berytos to Byblos. Finally, he shows that an issue of tetradrachms struck in the name of Philip III was in fact a posthumous issue of Seleukos.

There are four articles on a Roman theme:

- Bruce Marshall moves us into the turbulent period of the late Roman Republic with a study of 'labels' on a small number of denarii which he contends fed into the contemporary political discourse.
- Graeme Stephens and John McDonald offer us something unusual and valuable. They document and analyse an unpublished hoard of fourth and fifth centuries AD Roman coins and local imitations from Sri Lanka.
- Andrew Chugg explores the veracity of commemorative medallions of Antinous, paramour of the emperor Hadrian who was deified after his death in the Nile, arguing that there are ways of distinguishing between genuine and fake examples.
- John Melville-Jones offers us a magnificent work listing the names of Roman coins as used by the Romans themselves and sometimes just by modern numismatists.

Written in John's inimitable style, this is an invaluable reference for collectors, students and scholars.

The next article by Emy Kim and Cristiana Zaccagnino takes us into the fascinating world of a numismatic collection of some 600 Greek and Roman coins housed at Queen's University in Canada that is being used in teaching and research. They show just how valuable coins can be when treated as artefacts used to inform historical and scientific understanding. This represents a welcome trend in modern scholarship to integrate numismatics into cross-disciplinary studies.

Finally, we publish a long autobiographical article by Maria Caltabiano. This is justified by the profound impact which she has made on numismatics in a lifetime as professor of numismatics at the University of Messina in Sicily. Along the way, she describes many of her projects with a particularly fascinating exposition of an example of iconic programmatic minting in late fifth century BC Kamarina in the period of the 'signing masters' – some of the most exquisite ancient coinage ever struck. Sadly, we tend not to know enough about numismatics in early Europe, and this article goes some way towards filling the gap.

I sincerely thank the many diligent anonymous reviewers who have done so much to improve the papers. Likewise, I thank the members of the editorial board who stand ready and willing to help when called upon, and John Melville-Jones who happily proofreads the articles. Above all, I pay tribute to Barrie Newman without whose tireless efforts across the years, these volumes would not see the light of day.

Associate Professor Gil Davis
Managing Editor

Editorial Board

Articles must comprise original research on numismatic material including but not limited to Australasian numismatics (coins, tokens, medals, banknotes) or ancient or mediaeval numismatics. Manuscripts can be emailed to any member of the Editorial Board in your area of research, along with a copy to the Managing Editor.

The names of Roman coins

John Melville-Jones

Abstract

This article contains a list of the names used by the Romans to describe their coins, together with some names that occur in the writings of modern numismatists, even though they were not used in this way in ancient times, and other relevant words that were not actually the names of coins. It has been composed to a great extent by purloining (and in some cases correcting or improving) entries in the author's 1990 book, A Dictionary of Ancient Roman Coins *(published by Seaby, but now sold by Spink), and sometimes remodelling them or adding other material. Some of the names of coins that are discussed are known to us from ancient Greek and Roman documents which have been printed with translations in the first volume and explanatory notes in the second volume of* Testimonia Numaria *(Volume 1 published in 1993 and Volume II in 2007 by Spink). The article is a chapter that will (with some remodelling) form a part of the author's forthcoming book* Testimonia Numaria Romana.

Introduction

The intended readers of this article are of two kinds: there are collectors who need help in understanding the names given to the coins that they have, or are considering purchasing; then there are numismatists who may need no help with regard to understanding the coinage that they are studying, but may benefit from learning the reason for its name, or the names of other denominations.

In one case I think that I may have reached an original conclusion. Some numismatists assume that *maiorina*, 'slightly greater' and *maior,* 'greater', the latter of which appears in a later legal document, describe the same coin, and that they are only different forms of the same name. I agree that they may refer to the same coin, but my suggestion is that this is what some numismatists call the Æ2 or Æ3 denomination (Æ1 being the largest and Æ4 the smallest), and that it was renamed 'greater' in the later law because it had now become the greater of the two remaining *aes* coins that were being minted at that time.

There can be difficulties in deciding what some Roman coins were called, and in a few cases we cannot be sure what words that seem to be the names of coins actually refer to. The value of bronze Republican coins was occasionally indicated by the letter S (*semis*, i.e., 'half') and by dots indicating higher fractions of the *as*, but it was unusual for the minting authorities to be so helpful, even though the weights of bronze coins, even if they had the same value, could vary considerably. With the exception of references to

the *solidus*, there are difficulties in attaching the names that appear in some documents from the time of Diocletian onwards to the surviving silver and silvered bronze coins that survive. These are often a matter of convention rather than of any certain association of names with coins.

The arrangement is alphabetical, not chronological. There are a few repetitions, in case a reader decides to look at only one name of a coin, not related ones. There are no illustrations, but it will not be difficult for readers to access online web sites that will provide pictures.

Coin names

aes

Like the Greek *chalkos* (χαλκός), this word can mean either 'copper' or 'bronze', bronze being mostly copper, but containing some zinc, which hardens it, and perhaps other metals, especially lead, which was added either accidentally or deliberately because it was inexpensive and the purity of the metal in the coin was not important, as it usually was with gold (see aureus, first paragraph).

The Romans, starting a long way behind the Greeks, used bronze as a store of wealth and for making payments in bullion by weight at first before they produced what we would call proper coins. The expression *aes rude*, 'rough bronze', or less commonly *aes infectum* or *imperfectum*, ('unmade' or 'unfinished' bronze), could describe metal that was used in this way, although these phrases were not common, being found only in Roman etymological texts such as those compiled by Sextus Pompeius Festus and Isidore of Seville.

We come next to an expression that was not used by the Romans in the way that it is used in modern numismatic publications, '*aes signatum*' bronze marked with a sign'. It was rarely used by the Romans, but when it was, it simply meant (like *argentum signatum*, 'silver marked with a sign'), bronze or silver coinage that was mixed or unfamiliar, and was therefore not identified specifically. However, numismatists have chosen to use it to describe what might be considered an intermediate stage between 'crude bronze' and the first round coins, the rectangular bronze bars with various types, often representations of animals, cast upon them.

This may have been because in his *Natural History* (33.13.43), Pliny the Elder wrote that 'King Servius was the first to mark *aes* with the image of sheep and cattle … it was marked with the design of domestic animals' (*Servius rex ovium boumque effigie primum aes signavit … signatum est nota pecudum*). Early numismatists, who did not realise that even if there was an early Roman king called Servius, he would not have been producing any kind of coinage, decided that this phrase must have described the

bronze bars that preceded round coins. Since there is no surviving text that tells us clearly what the Romans called these bronze bars, it is probably better to leave things as they are, rather than doing anything that might lead to confusion.

Finally, we come to *aes grave*, 'heavy bronze' or 'bronze by weight'. When this phrase occurs in the writings of Livy, the author who uses it most, it refers to a number of fines and other payments made between 492 and 293 B.C. Since for nearly all of this period the Romans were not issuing what we could call coins, the bext explanation is that the words were used to describe payments that were made in bronze, probably measured in Roman pounds, or counted in *asses* of the original libral standard, weighing one Roman pound or *libra*.

In Republican documents the word *aeris* 'of bronze', is often combined with a number to express a number of *asses*, and the word survived for a while as an accounting term, even when the payments were probably made in silver.

From the end of the 4th century A.D. onwards many *aes* (now bronze silver-washed) coins of different weights and sizes were minted, and there is considerable uncertainly about their denominations. For this reason, early numismatists described them according to their size, with Æ1 being the largest and Æ4 the smallest. It is common nowadays to replace this form of nomenclature with other names, but many of these are no more than guesses.

antoninianus

The word is an adjective meaning 'of Antoninus', which was one of the names used by a number of Roman emperors, starting with Antoninus Pius (A.D. 138-161). For no good reason numismatists have attached the name to some coins that were first issued by an emperor whom we call by his unofficial name of Caracalla (who also had Antoninus as one of his names), in A.D. 214, and continued to be issued for 130 years after that.

The reason for their being given this name in modern times is that in an ancient collection of biographies of Roman emperors from Hadrian to Carinus and Numerian, usually called the *Historia Augusta*, there are, for example, in the life of Probus (3.5), references to *argentei Antoniniani* and *aurei Antoniniani*, 'silver and gold coins of an Antoninus'. Modern research has made it clear that this work contains much material in the form of supposed imperial documents, material that was simply invented in the hope that it would persuade readers of the truth of what was written there.

These coins weighed about one and a half times as much as the contemporary *denarius*, and although some numismatists have suggested that this was what they were worth, it is clear that in fact they were overvalued, and were tariffed at two *denarii*, which might have been the way in which they were described. This judgement is supported

by the fact that the head of the emperor on the obverse wears a radiate crown, which is normally in Roman coinage a sign of a double denomination. It is also possible that they were called *biniones* (see *binio*), but no surviving document uses the word in this way.

The *antoniniani* were issued as silver coins, but by the time that they began to be produced, the proportion of silver in *denarii* had been lowered, and these coins contained only about 40% silver. By the time that they ceased to be minted, they contained only about 5% of silver, although it is a little hard to judge the exact amount, because it is clear from surviving specimens that have not been subjected to much wear, that at some time during the period when they were being issued they were subjected to a process which enhanced the silver that they contained on the surface. There are various ways in which this could have happened, and it should be distinguished from the process of 'plating', which is almost always a sign of a coin's being counterfeit.

argentarius

This word, an adjective that became a noun, was used to describe someone who worked with silver (*argentum*). It was also sometimes applied to persons who changed money, after Roman coinage came to be issued in silver (and later in gold) as well as in bronze (see *mensarius*).

argenteus

This word, meaning 'of silver' appears in Pliny's *Natural History* (33.13.47), where he uses the expression *argenteus nummus* to distinguish the first Roman silver coin to be produced (which he mistakenly assumed was the *denarius*) from the first gold coin. In this case, *argenteus* was purely descriptive, and cannot be considered to be the name of a coin denomination. However, modern numismatists have chosen to use it as the name of a coin weighing about 3 grams with a fairly high silver content that was minted from the time when Diocletian reformed the coinage in A.D. 294 to about A.D. 310. A late historical document of poor quality, the *Historia Augusta*, which has already been mentioned above, uses the word to refer to several fictitious coins, so it cannot be used to prove anything unless further evidence is available.

The emperor Carausius who ruled for a while in Britain (A.D. 286/7-293), issued some coins with a higher silver content, and a higher weight, than current *denarii*. They showed the emperor with a laureate, not radiate, head. This suggests that they were not double *denarii*, but it is not possible to say what they were called – *argentei* is only a possibility. He might have been able to do this because, as with gold, he had access to mines with these metals in Britain. Later in the century Aurelian, who was attempting to stabilise the currency, issued a radiate silver coinage weighing about 4 grams, with the letters XX I on the reverse (KA at Greek mints). This probably meant 20 : 1, showing

that the metal contained 1/20 of silver. Some numismatists like to call them *argentei*, although there is no ancient evidence to support the name for this coin. Others call it an *aurelianus*, again using this name for convenience, since it does not appear in any ancient document.

Then, after Diocletian's *Edict on Prices* was issued in December 301, a few large silver coins averaging a little over 23 grams were minted. We can perhaps legitimately call them *argentei*, because a surviving inscription may be referring to them. The inscription was published by K.T. Erim. J. Reynolds and M. Crawford in *The Journal of Roman Studies* 1971, pp. 171-177, and at the beginning of fragment *b* what seems to be a (*nummus a*)*rgenteus* worth a hundred *denarii* is mentioned. By this time the *denarius* was no longer being minted, but it still remained a unit of account. *Nummus* was restored in the gap in the inscription because the word was of the right length and grammatical gender, and this is one of the reasons for suggesting that at this time the word was beginning to be used to describe a silver coin, while *pecunia* was used to describe silvered bronze coinage.

argentum

This word means either 'silver', or more specifically 'silver coinage', when a sum of money can be described with a numeral and the genitive *argenti*, 'of silver' (coinage). The word continued to be used in this way even when the proportion of silver in the alloy that was used for late Roman silver coinage fell to a low level. In some reports the expression *argentum infectum* ('unworked silver') could be used to describe silver bullion. W.V. Harris, 'A revisionist view of Roman money', in *The Journal of Roman Studies* 2006, pp. 1-24, at pp. 3-4, has warned us not to overestimate the extent to which large payments were principally made in bullion, and insists that there must have been many other ways in which financial transactions could be conducted.

argyrion (ἀργύριον)

This is the Greek word for silver, occasionally used in Greek documents in the same way as the Latin *argentum*.

as

The word *as* could sometimes be the name of a coin, or of a weight of a pound, but in Roman legal terminology could also mean the totality of something, so that someone who inherited property *ex asse* received the whole of it. For this reason, some have suggested that the Latin word was derived from the Greek εἷς, the masculine singular form of the word meaning 'one', but that proposal has not been generally accepted. The statement by Varro in his work *On the Latin Language* (*De Lingua Latina*) 5.189

that the word comes from *aes*, 'bronze', is also unlikely, as is the vague assumption (not impossible, but not linguistically proven) that it comes from the Etruscan language.

The *as* was divided into parts which were named according to the number of ounces that they contained. These were the *deunx*, *dextans*, *dodrans*, *bes*, *septunx*, *semis*, *quincunx*, *triens*, *quadrans* or *teruncius*, *sextans*, *sescunx* or *sescuncia*, and *uncia*, consisting respectively of 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1½, and 1 ounce. Of these divisions the following were represented by coins: the *semis*, *quincunx*, *triens*, *quadrans* or *teruncius*, *sextans*, and *uncia*. There is a solitary instance of the existence of the *dodrans*, in a coin of the Cassian family, bearing an S and three dots. We have no precise information as to the time when these divisions were first introduced, but some of them were probably used nearly as early as the first coinage of bronze money.

The first *asses* weighed one Roman pound, (the theoretical weight of the Roman *libra* being about 327 grams, but it is often more convenient to use the figure of 324 grams, because it is more easily divisible). Their weight fell a little, then again, to half a pound (six *unciae* or ounces, since the Roman pound weighed twelve ounces), then at the time of the Second Punic War there was a sharp reduction to two ounces, or one-sixth of a pound (what is called the 'sextantal' reduction). By the first century B.C. the weight of the *as* had fallen to half an ounce.

assarius

This was an early longer form of the Latin word *as*, which fell out of use, although it was adopted by some Greek cities as the name of the unit of their bronze coinage when they began to strike coins in this metal. In Greek, instead of being a masculine noun, like the Latin name, it became neuter (*assarion*, ἀσσάριον).

aureus

This is an adjective, meaning 'golden', but it soon morphed into a noun, and became the name of a gold coin, after the Romans began minting in this metal in the early years of the Second Punic War, perhaps as early as 218 B.C. It was nearly always struck in gold that was as pure as Roman technology could make it, with a reduction in weight from 1/40 of a Roman pound to 1/45 of a pound during the reign of Nero, and to 1/50 of a pound during the reign of Caracalla. Following that there were more reductions in weight until until it reached 1/70 of a pound, then at a time after the middle of the third century A.D., some financial crises that we do not fully understand, although several reasons have been suggested, led to slight reductions in purity and what seem to be almost random variations in weight.

In the reign of Diocletian the weight of the *aureus* (which is described as a *solidus* in the Edict on Maximum Prices, but because this was so unusual numismatists prefer to

save the word for the coin introduced by Constantine I a little later) was first stabilised at 1/60 of a Roman pound, then lowered to 1/72 of a pound by Constantine, who used the name of *solidus* regularly, perhaps to assure users that it was going to remain a stable coin.

Although these coins continued to be minted, the Roman government began preferring to receive large amounts of money paid as taxes in bullion, rather than in coins that took time to check and weigh (see *obrussa*). For this reason, in the later empire, a list of public offices and officers that we call the *Notitia Dignitatum* refers to a *primicerius* (chief administrative officer) of gold by weight (*auri massae*) and to another of gold (coins) by tale (*auri ad responsum*).

aurelianus, see *argenteus*
barbarous radiate, see *radiate*

bes

This is the Latin name for a fraction of two-thirds. A very rare bronze coin issued by Gaius Cassius Longinus in 126 B.C. has been identified as a *bes* because it bears the mark of value S**:** on it, meaning *semis,* 'half', plus two dots representing *unciae* or ounces, making a total of eight *unciae*. The Roman pound originally contained twelve ounces, although by this time the weight of the *as*, originally one pound, or *libra* had been considerably reduced, so this mark of value was necessary, because at this time the *as* was not being minted, and it was necessary to make it clear that it was not an *as* that had been further reduced in weight (see also *dodrans*).

bicharactus

This word appears only once in any surviving document, in the first line of fragment *a* of an inscription found at Aphrodisias in Caria that can be dated to A.D. 301, and was published by K.T. Erim. J. Reynolds and M. Crawford in *The Journal of Roman Studies* 1971, pp. 171-177. It was originally thought to be a part of Diocletian's Edict on Maximum Prices, but further investigation showed that it was a separate edict. The inscription is broken, and hard to read in some places. The line begins with BICHARACTAM, followed by a not very clear vertical line that could be part of the letter O, in which case, since the inscription certainly deals with coinage in some way, we might read BICHARACTA MONETA. The letter might also be P, and so BICHARACTAM PECUNIAM is also possible.

The reason for suggesting that the incomplete word is *moneta* (not in its original sense of 'mint', but of 'money' or 'coinage', which it acquired in the later Roman empire), or *pecunia* (which by now was regularly used to refer to base metal silver-enhanced coinage) is that *bicharactus*, a mongrel word with a Latin prefix and a Greek body,

means 'twice stamped', and it is difficult to think of any context in which a word of this kind (which is not found in any other surviving document) could be used, except for the production of coinage, although there are some similar ones, *bisignatus*, *dicharaktos*, *disignatus* and *disignim*.

bigatus

'With a *biga* (a two-horse chariot)', a word that appears for the first time in Livy's history of Rome (23.15.5), when he tells us that money of this kind was used in 216 B.C. to win the support of Bantius at Nola in Campania during the Second Punic War, and in a number of later passages, beginning at 33.23.7, when he reports on the booty collected from the Insubres and Cenomani, tribes located in Cisalpine Gaul, which is now part of northern Italy, which included thousands of units of *argentum bigatum*. This is difficult to understand, because the *denarii* that had a *biga* as a reverse type did not begin to be issued until the 150s B.C., whereas the triumphs at which these coins were supposedly displayed began in 197 B.C. Some scholars believe that Livy was quoting a source that was not part of an official record, words used by an earlier author who was using the word in the general sense of *denarius*. This is hard to believe, and an alternative suggestion, that the official reports of booty displayed in triumphs or ovations used the word to described the coin called a *victoriatus*, because it was half the weight of a quadrigatus, should not be dismissed automatically (see L.H. Neatby, 'The Bigatus', in *American Journal of Archaeology* 1951, pp. 241-244, and J. Melville Jones, *Schweizer Münzblätter* 2022, pp. 41-42). The coin type may have been inspired by coins that were minted for Philistis, the wife of Hieron II, at Syracuse during the Second Punic War.

Later, the word was used by Tacitus (*Germania* 5.5), who wrote that the German tribes (who did not mint coins themselves) preferred silver coins that were either *bigati* or *serrati*, probably because these could be easily identified as containing a higher amount of pure silver than later ones. This question has been discussed by G. Marinelli, 'Sulla preferenza dei Germani per bigati e serrati (Tac. Germ. 5.5)', in *contributi di Storia Antica in onore di Albino Garzetti*, Genoa 1966, pp. 269-300. There is no need to interpret this as a reference to *victoriati*, because by Tacitus's time the Germans would have known that early *denarii* with a two-horse chariot, or with serrate edges, would have a better silver content and weight than contemporary Roman silver coins.

binio

This word means a 'double unit' of anything, and although there are only a few occasions on which it could refer to a coin, it is clear that this could happen. An ancient glossary explains it for Greek readers, in this way: 'binio δίνουμμα', 'a binio is two *noumma*'. An early Christian witer, in a work sometimes attributed to Saint Hegesippus and sometimes to St Ambrose, refers in one passage (5.24.3), which seems to be a slightly

elaborated translation from the Greek of Josephus's account (*Bellum Iudaicum* 5.13.4) of the capture of Jerusalem by the Romans, to the time when some Jewish captives were eviscerated by some of the Roman army because it was discovered that their faeces contained gold coins. The statement in the later translation that the soldiers found *biniones aureos* there cannot be right. No double *aurei* were minted for the Romans before the time of Caracalla, so the author was simply trying to make the discovery appear more exciting.

For an unusually good collection of such pieces, see V. Drost and G. Gautier, 'Le trésor dit "de Partinico": aurei et multiples d'or d'époque tétrarchique', in V. Drost and G. Gautier, *Trésors Monétaires* 24, 2009/2010, pp. 153-176 at p. 162, where four coins are described by the authors as *biniones*, nine as *quaterniones* and two as *octoniones*, because of their weights. Because such denominations are so rare, they might also be described as 'money medallions', issued to honour some persons on particular occasions, which could also be used as currency.

biunx

A coin of two Roman ounces (cf. *uncia*).

centenarius

From the time of the Roman Republic this adjective (formed from *centum*) was used to describe anything that contained a hundred units, just as *denarius* described anything that contained ten units. In the later Roman Empire the neuter form became a noun which came to mean a hundred pounds of gold, and *centenarius*, *ducentenarius*, etc., were used to describe officials whose annual salaries were fixed at a hundred or two hundred pounds of gold, probably paid in coin, which would enable them to pay their households and other staff as well as themselves. It was not the name of a coin.

centenionalis

In two late Roman laws (*Codex Theodosianus* 9.23.1-3 of A.D. 356 and 9.23.2 of A.D. 395), this word is used. The statement in the first document is: 'And if by chance ships come to any provinces with merchandise, everything shall be sold with the customary freedom, except for the coins that they usually call *maiorinae* or *centenionales communes*, or others that they know are forbidden.'

The first problem arises with the word 'or', because it is not clear whether the *maiorinae* and the *centenionales* were different coins, or whether they were alternative ways of describing the same coins, and whether *communes* describes only the *centenionales*, or both words. However, in the following document, dated nearly forty years later, they seem to be different coins. This law says, 'We command that only the *centenionalis*

nummus is to be handled in a public transaction, after the coining of the *maior pecunia* has been discontinued. No one should therefore dare to exchange the *decargyrus nummus* for another coin, knowing that the coinage, if it can be detected in a private transaction, is to be vindicated to the *fiscus*.' This suggests that the *decargyrus nummus* and the *centenionalis* might be two different names for the same coin, and that the latter must therefore be a small silver denomination (see *decargyrus nummus*).

One thing is clear: *centenionalis* must (in spite of the attempts of some scholars to interpret it as meaning 'one-hundredth' of something, although the Latin for this would be *centesimus*) mean a hundred of some unit. By the middle of the fourth century the numbers of coins were no longer being expressed in *asses* or *sestertii*, and the only possibility is that a coin of this kind was valued at a hundred *denarii*. By this time the *denarius* was a unit of account, not a coin that was a regular item in commercial transactions, and the rapid decline in the value of the silvered bronze coinage at this time (as opposed to the value of gold) meant that the sum of a hundred *denarii* was in fact not a large amount. This law was issued during the joint reigns of Arcadius and Honorius. Since their successors issued in silver only a small coin that numismatists like to call a *siliqua*, which was first minted during the reign of Arcadius (A.D. 383-408), this coin is perhaps the one that is referred to as a *centenionalis* in this emperor's law. It is also possible that it was soon after that that it was decided to withdraw the silvered bronze coinage from circulation (see also the entry on *maiorina*, where an attempt is made to explain the difference between *maiorina* and *maior pecunia*).

chrysochalkos, see *orichalcum*

cistophorus

This is the Latin form of a Greek word that means 'basket-bearing'. The word appears first in the inventories of treasures stored in a Delian temple in the second century B.C., and clearly describes a coin issued by Pergamum, and later by other cities in Asia Minor controlled by Pergamum, that had an obverse type showing a basket surrounded by a wreath of ivy, alluding to the cult of Dionysus, and a bow case between snakes, referring to the cult of Herakles/Hercules at Pergamum in Mysia. It weighed about 12.6 grams, nearly three quarters of the weight of an Attic weight tetradrachm. It seems that the coin was overvalued and circulated mostly within the territory that was controlled by Pergamum. For a number of years after it was first introduced, it was not hoarded because those who were selecting coins to hoard preferred others that were in a more valuable metal.

The date of its introduction has been much discussed, and numismatists now generally assume that this happened about 160 B.C. However, a report in Livy's history of Rome mentions coins of this kind being displayed in a triumphal procession celebrating a

victory that had occurred in 194 B.C. Coins of this kind have not yet been discovered in hoards before the 160s, but this may be because people were choosing other coins to save; see J. Melville Jones, 'Philology versus Numismatics; two different points of view regarding Livy's reports of cistophori', in *Latomus* 2022 part 4 (forthcoming).

After the Romans acquired Pergamum and its territory in 133 B.C., coins of cistophoric weight continued to be struck, but with different types. They continued to be minted for the Romans until the reign of Hadrian.

contorniate

This word comes from the Italian *contorniato*, 'surrounded'. It has been used since the 17th century to describe some coin-like pieces with an average diameter of 40 millimetres struck (or occasionally cast) in orichalcum, with their obverse and reverse types surrounded by a *solco di contorno* or 'surrounding furrow'. Their style has led some to suggest that they that they were made in the fourth and fifth centuries A.D., but a recent doctoral thesis by P.F. Mittag, *Alte Köpfe in neuen Händen. Urheber und Funktion der Kontorniaten*, Bonn 1999, suggests that they have predecessors as far back as the reign of Antoninus Pius, so may have begun to be made rather earlier. Some of their obverse types show busts of emperors from Caracalla to Anthemius (A.D. 211-472), but there are also many imaginary 'portraits' of famous figures of antiquity such as Homer, Euripides, Sallust and Horace, and their reverses bear representations of scenes from the Roman circus, or the amphitheatre, or from Greek or Roman mythology or the life of Alexander the Great. A few are uniface. They are certainly not coins, although perhaps they may have been used as small change at some time. The most likely explanation for their existence is that they were used as counters in board games.

decargyrus nummus

A law of A.D. 395 (*Codex Theodosianus* 9.23.2, see also *centenionalis*), published early in the reign of Honorius, is the only document that mentions this coin, which from its name, 'the ten-silver coin', should mean that it was worth ten times as much as another silver coin. Otto Seeck (in an article on this word in Paulys's *Realencyclopädie der classischen Wissenschaft*), referring to his earlier article, 'Die Münzpolitik Diocletians und seine Nachfolger' in *Zeitschrift* für *Numismatik* 1890, pp. 36-89, made what I consider a courageous decision, when he declared that it was the smallest silver coin, weighing very approximately 1 gram, that was issued by Honorius. Also, his suggestion that it could also be described as the *argenteus minutulus* that is mentioned in the *Historia Augusta* is doubtful, because many references to coins in this work are pure inventions.

The words used in this law are, 'We command that only the *centenionalis nummus* is to be handled in a public transaction, after the coining of the *maior pecunia* has been

discontinued. No one should therefore dare to exchange the *decargyrus nummus* for another coin, knowing that that coinage, if it can be detected in a private transaction, is to be vindicated to the *fiscus*' (see also *maiorina*). It should be noted that by this time *pecunia* was becoming a way of describing bronze coinage, so the use of *nummus* with *decargyrus* suggests that these coins were not bronze.

The otherwise excellent book by Philip Grierson and Melinda Mays, *Catalogue of Late Roman Coins in the Dumbarton Oaks Collection and in the Whittemore Collection from Arcadius and Honorius to the Accession of Anastasius* (Washington D.C. 1992) shows no knowledge of what Seeck had written, and on p. 128 equates the *decargyrus nummus* with with the *maior pecunia*, which to them (possibly correctly) means the current Æ2 bronze coins. But the identification of the Æ2 bronze coin with a 'ten-silver' coin is not possible.

decussis

This word can describe the number ten, but it can also describe a cast bronze coin worth ten *asses* (identified as being of that value by the number X that appeared on it) that was issued briefly c.214 B.C. It was at about this time that the first *denarii* began to be issued, but although for a while they too were worth ten *asses*, this word does not seem to have been generally used to generally describe them (see also *quinques/quinquessis*).

denarius

This word began as an adjective meaning 'of ten, containing ten', and when it was first used to describe a coin the word *nummus* was understood, even if it did not appear with it. It then became a noun, describing a silver coin worth ten *asses* at first, and sixteen later, that continued to be issued for more than five hundred years after it was first minted during the Second Punic War. It could also have been called a *decussis*, but that name seems to have been reserved for a sum of bronze coinage. Over a long period in the Roman Empire, beginning in the reign of Nero, it was gradually debased until it contained only a nominal amount of silver.

The date of its introduction is now firmly established as being a few years before 211 B.C. The traditional date of 269 which was proposed in the past because Pliny the Elder (*Natural History* 33.13.44) confused this coin with the first silver coins issued by the Romans, and the much later date of 187 B.C. that was proposed by some scholars because of a passage in a play by Plautus called the Trinummus (see the entry under this word) have now been shown by hoard evidence to be incorrect.

When the *denarius* was first issued, it weighed about 4.5 grams, and the contemporary *as* (now sextantal), weighed one-sixth of a pound, about 54 grams. This suggests that the relative values of silver and bronze were 1 : 12. The Romans did not measure

weights in grams (the metric system came into being in 1799), so at first the *denarius*, tariffed at that time at ten *asses*, could be said to weigh 1/72 of a Roman pound, or four scruples (*scrupuli*).

Soon after the middle of the second century B.C. there was a change in the relationship between silver and bronze coins in the Roman system. It must have happened because there had been a gradual alteration in the relative values of these metals, with silver having become more valuable. The *denarius* was also now retariffed at sixteen *asses*, a number perhaps chosen because it was easily divisible into halves and quarters.

In the eastern Roman empire the relationship between the Roman *denarius* and the bronze coins that were called *assaria* seems to have been 16 : 1 also. There are some documents which suggest that it might have been 18 : 1, but when they are examined carefully it is clear that they relate to transactions in which payments that were denominated in silver were being made in bronze, perhaps through a money changer, this was because the money changer was charging an *agio* or transaction fee (see J. Melville Jones, 'Denarii, Asses and Assaria in the Early Roman Empire', in *Bulletin of the Institute of Classical Studies* 18, 1971, pp. 99-105, and D. Mac Donald, 'The Worth of the Assarion', in *Historia: Zeitschrift* für Alte *Geschichte* 1989, pp. 120-123).

With the exception of short periods during the brief reigns of Gordian I and II and Pertinax and Didius Julianus, when the silver content of the *denarius* was increased, its silver content fell as the years passed. In the end, it contained only a small amount of silver, its poverty being notionally concealed because the Romans had developed a process of 'surface enrichment' which made the coins look silvery until they had circulated for a while. Also, after the introduction of the *antoninianus*, the *denarius* was minted much less often. This must have been because there were enough *denarii* in circulation to make it possible to make a payment in an odd number of coins, with the rest mostly or completely made in *antoniniani*. A base metal coin weighing about 3.3 grams, issued by Aurelian in small quantities until the time of Diocletian's coinage reform, was probably the last *denarius*, although the term continued to be used to describe sums of money, like its predecessors the *as* and the *sestertius*, for a long time after that.

In Egypt during the time of the Roman empire the *denarius* is occasionally mentioned in papyri as being worth four Egyptian drachmas. A typical example would be 'thirty *denarii*, which make a hundred and twenty drachmas' (P.Meyer lines 15-16). Since *denarii* do not seem to be hoarded in Egypt, this type of statement suggests that the *denarius* was being used only as a unit of account, and this conclusion is supported by the fact that some of the documents, like the one mentioned above, show that they related to the activities of Roman soldiers who were stationed there.

denarius communis

This expression was never used in any surviving ancient text, although in some mediaeval documents *denarii communes* means 'public funds'. However, towards the end of the nineteenth century a French numismatist wrote an article in which he described the way in which the *denarius* became effectively a copper coin, rather than a silver one, and for some reason said that he would call it *le denier comun*. This was picked up by later numismatists, mostly writing in English, who assumed that it might be an official name for the *denarii* that were used for the maximum prices in the Edict of Diocletian on Maximum Prices. Even in the early twenty-first century some authors were still using this phrase (abbreviating it to 'd.c.'); see J. Melville Jones, 'The myth of the *denarius communis*', in *Schweizer Münzblätter*, 2017, pp. 59-61. It should not be used again.

denarius usualis

In A.D. 274 (Aurelian's time), a few *denarii* bore the letters VSV in the exergue. This is difficult to understand. If it is an abbreviation, *usitatus* or *usualis*, 'in common use', is the only likely possibility, although this would be appropriately described as 'unusual'. D. Woods, in his article 'Aurelian and the mark VSV: Some Neglected Possibilities', in *NC* 2013, 137-49, reviewed all the suggestions that had been made (his study being only slightly unsatisfactory because some of what he wrote assumed that *denarius communis* was a phrase that actually existed in ancient times – see the article by Melville Jones (2017) mentioned in the previous entry). His final suggestion was that VSV could be expanded to mean *veniens sol vicit*, 'Sol (the sun), coming, conquered', and that this referred to some victories won by Aurelian's soldiers over the Palmyrene army, led by Queen Zenobia ruling as regent for her young son Vaballathus, and by their general, Zabdas, in A.D. 272. The final victory was at Emesa, from where the cult of Sol had been introduced to the Romans by the short-lived emperor Elagabalus in A.D. 218. This is a more attractive suggestion than any of the others, although it is unprovable.

dextans

A fraction of 10/12, and therefore a weight of ten *unciae* in a Roman pound. A few of these were minted during the second Punic war, with the denomination indicated by the letter S (for *semis*, half a pound or six *unciae*), with four dots added to make up the number ten (see also *quincunx*).

dicharaktos (διχάρακτος)

In an inscription of the 2nd century A.D. found at Cadi in Phrygia (*Inscriptiones Graecae ad res Romanas pertinentes* 4.595), a tombstone prescribes a charge to be paid to the local treasury, if the tomb is reused, to be paid in '*denaria* of bright *dicharaktos* (coinage)', λαμπροῦ διχαράχτου δηνάρια. The editor, René Cagnat, surmised that *dicharaktos*, which has the literal meaning of 'twice struck', might have meant coinage that was *asper*, 'crisply minted' on both sides. If this suggestion is correct (and in that case it might mean 'firmly struck'), it would have meant that the types on both sides of the coins that were used to pay this charge had to be clearly formed, which should mean that the coins were of full weight, although the previous word, λαμπρός, 'bright', might have covered that requirement. Perhaps διχάρακτος was used to reinforce the previous word, rather than describing something different. It is easy to imagine that if this provision had not been made, someone might have tried to use as many worn coins as could be obtained to make the payment.

dichoneuton

This word, meaning 'twice melted', occurs only once, in a Roman imperial law of April 7, A.D. 371 (*Codex Theodosianus* 11.21.1) : 'The emperors Valentinian and Valens, *Augusti*, to Modestus, Praetorian Prefect. The bronze that is called *dichoneuton* is not only from now onwards to be brought to the Largesses, but it is to be completely withdrawn from use and from being exchanged, and no one is to be allowed to possess it publicly.'

The document is written in Latin, but the word is a Greek one. Michael Hendy (*Studies in the Byzantine Monetary Economy c.300-1450*, Cambridge 1985, at pp. 452-3 and 472-3), suggested that the intention of this regulation might have been to remove from circulation certain billon coins that had been issued earlier, perhaps because they were pre-Christian in their types. This explanation does not explain the meaning of *dichoneuton* adequately. It is more likely that the following sentence, which prescribes the ultimate penalty for those persons (probably mint workers) who melted existing billon coinage so that they could extract the silver from it before reminting it, makes clear to us what the real reason was. The crime of melting this coinage, described here as 'bronze', could either have consisted of melting it a second time to extract from it the small amount of silver that it contained, or more probably, if the mint workers had received appropriate weights of silver and bronze to create an alloy for this coinage, of melting the silver separately and storing a small amount of it away from the rest before proceeding with the process of minting the official coinage. Then the remaining bronze, with a smaller proportion of silver, could have been used to mint a number of coins, perhaps weighing slightly less than their theoretical weight, which in billon coinage would not be noticed.

dinomon, see *nomos*

disignim

An article by Daniel Sperber ('Moneta Bicharacta-disignim', in *Classical Quarterly* 1974, pp. 134-136) suggests that a word *disgnim* or *discnim* in a Jewish text might be expanded in Latin to *disignim*, representing an equivalent to the word *bicharactus* that appears in an inscription that refers to a coinage reform in Diocletian's time (see *bicharactus* above). *Signim* and *bicharactus* (the latter a Latinised form of the Greek διχάρακτος) are both words that can refer to the marking or stamping of coins, and *di-* is the Greek equivalent of *bi-* in Latin, referring to two of something, or something done twice.

In the Hebrew text it is clear that this word refers to coins. It records a ruling by a rabbi which dealt with a possibility that might arise when someone came to Jerusalem in the years when the 'second tithe' (a tenth of the produce of the food that he had produced, which would feed him on his visit, with the rest left over for the poor) was required, and wished to pay in coinage instead. In the first place, he had to acquire coins from a money changer that at that time and place equalled the value of the grain or oil or vegetables or fruit that he would take to Jerusalem, so that he could buy the same foodstuffs there. That would be convenient for anyone who had to travel a long way, and did not wish to pay more for donkeys or mules to carry his offering to Jerusalem. When he arrived in Jerusalem, he could buy an equivalent amount of fresh produce there with this money. But the Rabbi's ruling made it clear that if by the time that he arrived there, the value of the grain or other things had increased, or the value of the coinage had decreased, he could purchase only as much as the money that he had would allow him to buy. Since it is not likely that the cost of foodstuffs would vary substantially in a short period, Sperber suggested that the most likely reason for making this ruling by a rabbi who died in A.D 309 was that the *disignim* coins were the silver-washed coins that had recently been issued by Diocletian, coins that had been made to look silvery, when they were issued, by a process of surface enhancement, but soon revealed their low metallic value, and therefore became less valuable, perhaps the ones that were referred to in an inscription that uses another word, partly Latin and partly Greek, *bicharactus*.

dizodios (διζώδιος) or *dizodos* (δίζῳδος) or *dizotos* (δίζωτος)

This word, meaning 'with two figures', is found only in some Egyptian papyri tentatively dated to the fourth century A.D. (see F. Preisigke, *Wörterbuch der griechischen Papyrusurkunden* Berlin 1931, volume 3 p. 346), and appears in contexts where gold *nomismatia* or *solidi* are also mentioned. However, these papyri should probably be dated a little earlier, because it is possible that it refers to some gold coins of A.D 266 that have an obverse type that shows two busts, the Gallic emperor Postumus and the god Hercules with whom he was associating himself. No coins of this kind have been

found in Egypt, so the word may reflect the fact that these coins were unusual or more probably that it describes something quite different.

dodrans

This is the Latin name for a fraction of three-quarters. A very rare bronze coin issued by Marcus Metellus and Gaius Cassius Longinus in 127 and 126 B.C. has been identified as a *dodrans* because it bears the mark of value S**:.** on it (meaning *semis,* 'half', with three dots representing *unciae* or ounces; the Roman pound contained twelve ounces. By this time the weight of the *as*, originally one pound, or *libra,* had been considerably reduced, so a mark of value was necessary, because the *as* was no longer being minted, and it was necessary to make it clear that it was not an *as* that had been further reduced in weight (see also *bes*).

drachma (Attic)

In Greek writers this word sometimes appears in contexts where it clearly refers to the Roman *denarius*. The weights of the Attic drachma and the Roman coin were approximately the same, so it is not surprising that Greek historians chose to use this word, to preserve the purity of their language, or in case their readers did not understand the Latin form, which in Greek would have been *dinarion* (δινάριον). See also *tetranomon*.

dupondius

'Two-pounder', a bronze coin, originally cast, weighing two *asses*, which was first minted in small quantities at about the time of the introduction of the *denarius*, when the weights of Roman bronze coinage had been dramatically reduced. From that time onwards *dupondii* were occasionally minted in bronze, then in the reign of Augustus they were minted more regularly, and like *sestertii*, began to be minted in *orichalcum*. Also, from the time of Nero onwards the *dupondius* began to show the emperor's head with a radiate crown, which is usually a sign of a double denomination. It probably continued to be minted until the time of Diocletian, because there are some bronze coins of that emperor showing him with a radiate head (also a sign of a double denomination), which cannot be classified as belonging to any other denomination of coin.

exagium

This is one of several words derived from *exigo*, one of the meanings of which is 'test, examine'.

Some early *exagia*, in glass or metal, the earliest ones found in contexts which fit the time of Constantine I, bear the legend EXAGIVM SOLIDI. It is clear that they were created so that the weights of *solidi* could be tested. Some texts, including some

manuscripts of a Byzantine vocabulary (the *Suda*), include the word with a rough breathing, making it *hexagion*, but since that would imply that it contained six of something, that must be incorrect.

follis

This word originally meant 'bag, wallet or purse'. It was then applied to a bag containing coins, the number being identified by a ticket (*tessera*) that was attached to it. This would have made it unnecessary for the bags to be opened and checked each time they passed from one person to another. A mosaic in a house at Piazza Armerina, Sicily, dated around A.D. 300, shows bags with the number 12,500 on them. This number would be hard to explain, except that it seems that certain radiate silver-washed coins that had begun to be issued a little earlier during the reign of Aurelian had now been tariffed at twelve and a half *denarii*. Since these early specimens of what was probably called a *nummus* at this time weighed about ten grams, a *follis*, unless some more valuable coins were included, would have weighed about twelve and a half kilograms. At the beginning of their life some Italian mints produced smaller coins which appear to be intended to be halves and quarters of these *nummi*, but unsurprisingly, as the weight of the *nummus* declined significantly over the years, these ceased to be issued, because they might have caused confusion.

The coins that modern numismatists often call *folles* were first issued by Diocletian, bronze coins with a diameter of 25-28 millimetres at first, gradually shrinking to a diameter of about 15 millimetres. They initially had a reverse showing a figure representing the spirit of the Roman people, with the legend GENIO POPVLI ROMANI. Other personifications followed, and one that became popular showed the gate of a military camp. There is no evidence to support the guess that these coins were called *folles*, and perhaps *nummus* was the name actually used. Then in A.D. 498 an official working for the eastern Roman emperor Anastasius issued coins that were called either *terunciani* or *follares*, which we can identify as the largest of the three *aes* coins that were introduced at that time (see *teruncianus*). They bear the mark of value M. This is one of the ways of expressing numbers in Greek, using the letters of an early form of the alphabet (*alpha* = one, *beta* = 2, *gamma* = 3 and so on, so *iota* = ten, *kappa* = twenty and *mu* = forty). From this time onwards *follis* occurs occasionally in Greek documents as the name of a coin.

hexagion

This may be only a variant Greek spelling (with the first vowel aspirated) of *exagium*, but in a Greek medical writer of the fourth century A.D. it seems to be a weight of one and a half drachmas. It was never a coin, only a description of the weight of an element that was to be mixed into a medication.

hexas (ἕξας)

The Greek equivalent of the Roman *sextans*.

holokottinos (ὁλοκόττινος)

'Completely cooked', a word used, like *nomisma*, to describe a *solidus* in Greek texts, implying that these coins were in pure gold.

hypochalkos (ὑπόχαλκος)

'Bronze/copper beneath', the Greek equivalent of the Latin *subaeratus*, used to describe coins that had a surface plated with silver or gold, over a core of much less valuable metal.

keration or *kokkion* (*siliqua*)

Both the Greek word κεράτιον (sometimes found in a diminutive form κόκκιον) and the Latin word *siliqua* mean 'carat'. See *siliqua*.

lepton (λεπτόν)

This word means 'light, small', and the best-known example of its use in a monetary context is in Mark 21.42 and Luke 21.2, part of the story of the 'widow's mite', which tells us that this very small contribution of two of these coins from a poor person to the temple was as valuable as the much larger sums that rich people were contributing. In Mark's version, it is explained that 'two *lepta* are a *quadrans*', the *quadrans* being the smallest Roman denomination at that time, and the smallest Jewish coin at that time was called a *prutah*. Since Mark and Luke were writing in Greek, they were not using the Hebrew word, but just looking for a Greek equivalent, so this does not provide evidence that *lepton* was ever the name of a coin, except in the sense that 'mite' was, in English – a word that could be used in a general way to describe a coin of very small value (there were in the late Middle Ages some small Flemish coins to which the name 'mite', spelt 'myte' or mijht' was applied). In modern Greece since 1827 *lepton* has always been the name of the smallest unit of its currency, but that is a different matter.

libella

'Little pound', a diminutive form of *libra*. In the work *De lingua Latina* written in the first century B.C. by a formidable scholar called Marcus Terentius Varro, it is stated (5.174) that it is a tenth of a *denarius* (*nummi denarii decuma libella*), but there is no such coin. Also, in a much later work of the second century A.D. by Volusius Maecianus on the fractions of the *as* (*Assis Distributio* 66.1), it is stated that the *libella* is one-tenth of a *sestertius* (*sunt enim in sestertio libellae decem*). But it was never a coin. It is also

mentioned in some literary texts, but contrary to what some modern writers have assumed, it does not seem to have been a coin.

libra (and *litra*)

This word (like its Greek cousin *litra*), probably goes back to a time when coins began to be made, and originally meant 'scale (for weighing)'. It then became the name of the standard unit of weight, a pound. The 'libral' weight standard was the standard of the earliest Roman bronze coins, before the process of reduction began. Its theoretical weight may have been as high as 327 grams, lower than that of the British Imperial pound, but many numismatists find it more convenient, because its fractions can often be calculated more simply, and more aligned with the weights of coins that have suffered a little wear, to use a weight of 324 grams.

maior and maiorina

These words, like some others, such as *centenionalis*, *miliaresion and minutulus*, that seem to refer to late Roman coins, appear only rarely in surviving documents. Some scholars have assumed that they refer to the same coins, and that the different words are only an example of what might be called 'elegant variation' of language (*variatio elegans*). This might be correct in more literary forms of writing, but these documents are legal ones, so we must assume that the wording was intended to be precise, also, that they would be referring to the situation exactly at the time when these decisions were promulgated.

In a law recorded in the *Codex Theodosianus* (9.21.6) of February 349, when Constantius II was ruling in the eastern Roman empire and Constans in the west, it is stated that 'We have learned that some *flaturarii*, both criminally and repeatedly, are purging the *maiorina pecunia* by separating silver from the bronze.' This is easy to understand. At this time, *pecunia* usually refers to bronze coins with a silver-enhanced surface. The *flaturari*i 'blowers', worked to make the furnaces in which metal was melted as hot as possible. If they were given certain amounts of silver and bronze to melt together, it would have been possible for them to put aside a small proportion of the silver and keep it for themselves, because it would have been impossible to analyse the coins that were produced with enough accuracy to determine what had happened. The law made this a capital offence, but even in modern times, in places where capital punishment still takes place, this has not deterred people from doing something that is forbidden.

Maiorina pecunia is an odd expression. Adding the diminutive suffix *-inus* to a word that means 'greater' may give a sense of 'slightly greater', *i.e.* not the greatest. This may support the identification of the *maiorina pecunia* with the coins that are now most often described by numismatists as being the third (in descending order) of the base metal

coins of the period (described as Æ3 in older publications), because they were 'slightly greater' than the smallest coins. In that case, the law would refer to the larger of the two coins that Constantius II and Constans introduced in A.D. 346 (sometimes described incorrectly, as shown elsewhere, as being a *centenionalis* and half-*centenionalis*). These two coins replaced the smaller Æ4 coin issued by Constans in the west, and the Æ1 and Æ2 coins were no longer being issued. We may assume that the reason why it refers to only one kind of silver-enhanced coin is because the mint workers had only recently begun stealing some of the silver that should have gone into the larger of the new coins (or because this had not been noticed before).

We then find something slightly different, *maior pecunia*, in a later law of April 12, A.D. 395, delivered at Milan during the reigns of Arcadius in the east and Honorius in the west (*Codex Theodosianus* 9.23.2). This law orders that 'only the *centenionalis nummus* is to be handled in a public transaction, after the minting of the *maior pecunia* has been discontinued'. This implies that one denomination of the silver-enhanced bronze coinage was no longer to be minted. At this time there were three denominations of silver-enhanced bronze coinage being produced, none large enough to be called Æ1, and the others Æ2, Æ3 and Æ4 (*maior*) *pecunia*. There was indeed a brief cessation of the bronze coinage after this, although in A.D. 409-410 Priscus Attalus, a puppet of Alaric, issued some Æ3 coins, and a small number of bronze coins, mostly Æ2, Æ3 or Æ4 ones, except for a single Æ1 issue, were minted by later emperors until the reign of Anastasius I (A.D. 491-518). No certainty is possible, but my interpretation of this legislation is that in April 395 minting of bronze coins was being discontinued, and after one denomination was no longer being minted, leaving only two, the larger of which was described as the *maior pecunia*, and the smaller denomination was also discontinued, this left only what was still being called the *maior pecunia* to be no longer minted, at least for a while. This could mean that a different name was being used in legal documents to refer to the same coin at different times. Perhaps this can be compared to the practice followed in English schools in the days when Latin was a normal subject, and boys were identified by their surnames. Someone who entered the school might be identified, if there were already two other boys there with the same surname, by adding *terts* (for *tertius*) to his name, and would gradually move up to *minor* and *major*.

The use of *nummus* and *pecunia* here is significant. By this time the word *pecunia* was regularly being used to describe the silvered base metal coinage. This vague general word was useful when it came to describing coinage that might originally have been denominated as consisting of silver, but, as most people would have realised, now contained little silver. The use of *nummus*, not *pecunia*, on the other hand, with *centenionalis* is one reason for saying that the *centenionalis* was a silver coin.

In the inscription *CIL* VIII, 17896, an edict issued by Ulpius Mariscianus, the governor of Numidia (A.D. 361-363), a passage lists the fees that should be paid for *charta* (papyrus) by persons engaging in civil trials. For a first application, it is said that *singuli nummi maiores* will be sufficient, and when a legal case has been fully established, for defendants it will be four, and for prosecutors up to six. The legislation was clearly designed to rein in the tendency of members of the legal profession to use as many words as possible (perhaps, like modern lawyers being paid 'per folio', for each hour allegedly worked). Here we have a different situation from the matters referred to in the *Codex Theodosianus*, because *nummi* would have referred to silver coins, and therefore this would have referred to the heavier of the two coins that are sometimes called heavier and lighter *siliquae*.

mensa/mensarius

Mensa is the Latin word that means a table in any sense, whether in a house, or a religious building, or in a workshop. It was also used to describe the table at which a money changer would sit, preparing to exchange coins. For this reason, the word *mensarius* is often found in contexts where it means 'money changer' (see also *argentarius*).

miliarensis (Latin) or (Greek) *miliaresion* (μιλιαρήσιον)

The Latin adjective *miliarensis* is derived from *mille* (a thousand), and could be used to describe a number of things. As a noun, becoming the name of a coin, it sometimes took the neuter form *miliarense* (*miliarensia* in the plural), like the later Greek word *miliaresion*. Some numismatists prefer the neuter spelling. The names of Roman coins, however, are not usually neuter in gender, and therefore *miliarensis*, perhaps with the noun *nummus* understood, is more likely to be the correct form, although no surviving text uses it in a case that would settle the matter. The fact that the Greek word is neuter is not relevant, because some names of Greek coins, or Greek equivalents of the Latin names of coins, have a neuter form, for example *denarion* or *dinarion* for the *denarius.*

Those who wish to study the history of this name should read J.P. Callu, 'Les origins du "miliarensis" in *Revue Numismatique* 1980, pp. 120-130. The first mention of this coin occurs in a work composed by St Epiphanius, written in A.D. 392 at Salamis on Cyprus, which is generally known by the title 'On Weights and Measures', although this subject forms only a part of what it contains. Most of the Greek text of this work has been lost, except for a few quotations preserved in other writers, but Syriac, Armenian and Georgian translations survive. A translation of the Syriac version was made by James Elmer Dean (Chicago 1935). Epiphanius attempted to explain the name by deriving it from the Latin word for 'soldier' (*miles*), claiming that the coins were originally called *militarensia* because they were given as donatives to soldiers. This explanation, although it is repeated with some slight variations in other texts

(John Lydus, *De Mensibus* ed. Bonn p. 56 and Cedrenus, *Historiarum Compendium* Vol I, ed. Bonn, p. 296), may be disregarded.

The consensus of opinion seems to be that *miliarensis* described something that was 1/1,000 of something else, and numismatists have decided that it must have referred to a silver coin that was worth 1/1,000 of a pound of gold. This seems a reasonable interpretation, although we have no document that actually describes a payment being made in coins of this kind. The first coins that might have fitted this interpretation, since the silver-enhanced bronze coins of the late empire would certainly not have been worth as much as this, are silver coins issued between the reigns of Constantine I and Arcadius and Honorius, the larger ones weighing about 5.4 grams and the smaller a little over 4.5 grams. Numismatists get round the problem of deciding which coin might have been a *miliarensis* by using the terms 'heavy *miliarensis* (or *-e*)' and 'light *miliarensis*', expressions which the Romans are not likely to have understood.

By Diocletian's time silver coins had become rare, and most of the currency consisted of gold and the silvered bronze coinage already mentioned, so it is possible that the *miliarenses*, which seem to have been produced in small quantities but are well made and are often discovered with piercing that suggests that they were worn as ornaments or even as amulets, were distributed in this way.

An undated and now incomplete document, probably compiled in the late fourth century and revised in the early fifth century A.D., known as the *Notitia Dignitatum* or 'List of Dignitaries', contains some entries naming officials and departments in the western and eastern parts of the Roman empire whose duties were concerned with finance and coinage. One title has always given me much pleasure. The chief financial officer (perhaps equivalent to 'Treasurer' or 'Chancellor' or 'Chief Financial Officer'), whose duty it was to administer certain major forms of taxation and, of course, distribute appropriately what had been collected, was known as the *Comes Sacrarum Largitionum*, the 'Count of the Sacred Largesses' (by this time anything connected with the emperor might be designated as 'sacred'). I have pointed this out to several Australian Treasurers in various governments, but not a single one has followed my suggestion that a similar title might be constructed for his position.

One department in this list is described as the *scrinium a miliarensibus*, the Bureau for *miliarenses*, which had only a small staff. Since at this time silver coins of two different weights were being minted, it is possible that the word *miliarensis* had come to mean silver coinage in general, just as *pecunia* was being used to describe silvered bronze coinage.

So much for the miliarensis. What seems to be a reference to the Greek word *miliaresion* as a coin occurs in one of the *Novels* of Justinian (105.2.1, the Latin version dated to December A.D. 536 and the Greek version a year later). In this paragraph Roman consuls

are forbidden to scatter gold coins to the populace (this being reserved for emperors; see *sparsio*). Consuls may scatter items of lesser value, including *miliaresia*. This leaves us with two questions: are *miliarensis* and *miliaresion* (the latter word appears in the same form in both the Latin and Greek versions, except that in one Greek manuscript it is spelt with a double *lambda*) different forms of the same name, or different names for different coins? Because of this text it is probably correct to call the larger of the two silver coins issued by Justinian, weighing about 4 grams, a *miliaresion*, not a *miliarense*, as some cataloguers do (often describing a lighter coin half its weight as a light *miliarense* or *siliqua*, and an even lighter silver coin issued at the mint of Carthage as a half-s*iliqua*). No certainty is possible, but this text shows that the statement at p. 184 of my *Dictionary of Ancient Roman Coinage* (1990), that this word applies only to a Byzantine silver coin that was introduced in A.D. 720, is incorrect.

mina (μνᾶ)

Mina is the Latin form of the Greek μνᾶ, which began as the name of a weight, although later it became the name of a sum of money. It was the weight of a hundred drachmas of Attic weight, or seventy coins of Aeginetan weight, and a higher μνᾶ was used to weigh market produce (this was raised from about 600 grams to about 650 grams in the second century B.C. to make it equal to two Roman pounds).

minimi and *minimissimi*

Many Roman sites in Britain have provided hoards of coins which from the later third century onwards have provided large numbers of poorly executed copper or brass small coins, some with the emperor's head laureate, others with a radiate head, and they are also found elsewhere. Because it is not clear what their denominations were, modern numismatists call them *minimi* 'smallest', or 'minims' in English. Their poor execution and variable weight suggest that they were local attempts, official or semi-official, to provide small change, as more and more people began to use coinage for the purchase of the goods that they wanted.

minutus/minutulus

The first of these words appears only in the *Historia Augusta I* (*Severus Alexander* 22.8 and *Aurelian* 9.7 and 12.1), usually as an adjective describing the noun *argenteus*, so like many other descriptions of coins that appear in this work, it should not be regarded as a genuine name. The second appears in old publications on Roman coins describing the *denarius* of Caracalla, as opposed to the heavier *antoninianus*, but again this is not a description used in any ancient source.

missilia, see *sparsio*

niketerion (νικητήριον)

A Greek word meaning 'prize of victory' (νίκη). It is used by modern (but not by ancient) writers to describe a medal awarded to commemorate a victory. It cannot be proved that any Greek or Roman coins were issued for this purpose, although it has been suggested, probably incorrectly, that this might have been the reason for striking the fourth century B.C. decadrachms of Syracuse, or more probably, the Abukir and Tarsus medallions produced in the fourth century A.D.

nomisma (νόμισμα)

A general word for coinage, which was, like *holokottinos*, used in Greek texts to describe the *solidus*. A diminutive form, *nomismation*, is also found.

nomos (νόμος), and *nummus*

The first word, a Greek noun (with the alternative forms *noummos* (masculine) and *noummion* (neuter), was used as the name of a standard unit of silver Greek coinage in southern Italy and to a lesser extent in Sicily from the fifth century B.C. onwards, and also in some Italian cities as the name of a bronze coin.

When the Roman *denarius* began to be issued a few years before 211 B.C., its name, an adjectival form, was probably understood at first as being applied to the Latin noun *num(m)us* (which is often spelt with only one *m* in early Latin, a form which is followed in modern languages in words such as 'numismatics' and 'numismatist'). Similarly, *quinarius* and *sestertius* were originally adjectival forms, although they soon became nouns.

With regard to the Latin noun *num*(*m*)*us,* the Oxford Latin Dictionary cautiously describes it as being 'related at least ultimately to Greek νόμος; original meaning 'regular or statutory unit of currency'. This Greek word, which has a number of meanings, may be related to the verb νέμω, meaning 'apportion, divide', which leads to the meaning 'statutory / standard unit' (of currency) for the noun νόμος.

In the later Roman empire, *nummus* can sometimes be the name of a specific coin denomination, beginning with a coin that some numismatists have called a *follis* and others a *nummus*, issued in the time of Diocletian. These names are both sometimes associated with the small silver-enriched coinage that began to be produced between A.D. 293 and 296, with its weight declining in later years (but see *pecunia*). Also, in Egypt, some documents refer to financial transactions in talents and *nummi*. For example, some *ostraca* from Douch in Egypt (numbers 32, 54 and 272) records financial transfers in this way, but it is unclear whether they are coins, or just units of currency.

For a number of years, starting about 190 B.C., the inscriptions that published inventories of valuable items kept in the temple of Artemis on the Greek island of Delos recorded the presence of 29 *tetranoma,* 11 *dinoma* and 10 *nomoi* (four-*nomos*, two-*nomos* and *nomoi*); see *Testimonia Numaria* text **259**, Volume 1, at p. 189 and the commentary, Volume II, at p. 152. It has been suggested that these are coins issued by a western Greek mint, perhaps Syracuse, but this must be wrong, because the cataloguers on Delos always found ways of indicating which city or ruler had minted the coins that were kept there. This must therefore have been a way of describing the coins that were actually *denarii, quinarii* and *sestertii*, using Greek words. A later inventory, dated about 154 B.C., uses the word *dinarion* for the Roman *denarius*, but this is the only example of its use in these documents.

obol (ὀβολός)

The ancient Greek word ὀβελός means 'spit', a metal rod used for roasting pieces of meat, and the original meaning of 'drachma' was 'handful'. Six roasting spits made a 'handful', and since in a very early stage before coinage became normal these words were used to describe metal items that could have a value as currency. When coinage developed, ὀβολός, with a slightly different spelling, became the name of a coin worth one-sixth of a drachma. At Alexandria in the Ptolemaic and Roman periods some coins can be identified as obols or multiples of obols.

obrussa (ὄβρυζα)

This word, found first in Latin authors although in fact it seems to have been formed first in the Greek language, had a number of different meanings at different times. In the first place it seems to have meant 'assaying', literally applying to the testing of the purity of gold, and sometimes used in a metaphorical sense, then simply 'pure gold'. In the later Roman Empire, it became the name of a tax levied on taxpayers if they paid their taxes in gold coins rather than in ingots of gold. This was because it was more difficult and took more time for tax collectors to test large numbers of coins rather than ingots (see J. Melville Jones, '*Obrussa and* Ὄβρυζα. Their History and meanings', in *Journal of Ancient Civilisations* 2021, pp. 115-136).

octonio

Although this word does not survive in any ancient text, it would be a correctly formed name, on the analogy of *binio,* for a multiple coin or money medallion of eight *aurei*.

orichalcum

ὀρείχαλκον, literally 'mountain bronze', is mentioned by ancient Greek writers occasionally, with no clear indication of what it was, except that it was bright and shiny.

For this reason, Roman writers perverted its name to *aurichalcum*, 'gold-bronze'. The word is used by numismatists to describe an alloy of bronze and zinc, like modern brass, that was shiny when the coins were new, making them seem almost like gold. *Sestertii* and *dupondii* were struck in this metal from the later 40s B.C. until the third century A.D. It is impossible to say exactly when the use of this metal came to an end, because the zinc was increasingly replaced by lead.

pecunia

This word, like some others listed here, changed its meaning as the years passed. Originally, it seems to mean 'wealth' in a general sense, and is perhaps connected with the word *pecus*, meaning a domestic animal, although some modern philologists believe that it is connected with an Indo-European word *peku* that means 'movable wealth'. In classical Latin it was used to describe coinage of all kinds. However, in the later Roman Empire it is clear that it described base silver-enhanced coinage. This may have been a polite was of saying that although these coins may have had a silvery appearance when they were first minted, they consisted of bronze and perhaps some lead. *Nummis* now came to describe the rare silver coins. This change in meaning can be seen in a document called the *Notitia Dignitatum*, a list of different departments or bureaux in the administration of the empire, one of which was headed by the *primicerius* of the *scrinium* for *pecuniis*, who was distinguished from the head of the department for silver coinage, the *primicerius* of the *scrinium a miliarensibus* (see *miliarensis*).

pentassarion (πεπεντασσάριον)

Although the *as* was a Roman coin, Greek mints sometimes denominated bronze coins in *asses*. The only examples of a coin of five *asses* were issued at Marcianopolis in Moesia in the third century A.D. They bore the letter E or ε (the fifth letter of the alphabet) to indicate this. We do not know why coins of this denomination were issued (they are far too late to be *quincunces*).

philippeus or *philippus*

This word occurs in many ancient texts where it is clear that it may sometimes refer to Greek gold coins of Philip II of Macedonia, but in most other cases has become a name for any kind of Greek gold coin of Attic weight.

pseudomoneta

This word was used by some early modern numismatists to describe *contorniates* and *spintriae*.

quadrans (κοδράντης) and (*te*)*tartemorion* (τε)ταρτημόριον

The Latin word, meaning 'quarter', was used from the time when Roman coinage began to describe a coin of three ounces, a quarter of a Roman pound, this being indicated by three pellets to indicate its value. From about 90 B.C., when inflation had reduced the value of coinage, and the size of bronze coins had decreased, the *quadrans* became the smallest coin, which among other things could be used to purchase the cheapest form of entry to the public baths, or a short session with the cheapest kind of prostitute. It survived until the time of Antoninus Pius. The Greek (*te*)*tartemorion* was not usually used to describe a coin, and the Greek version of *quadrans*, κοδράντης, appears only in Matthew 5.26, where it is said that a wrongdoer will not be allowed to leave prison until he has paid the 'last κοδράντης'.

quadrigatus

A *quadriga* was the Latin name for a chariot drawn by four horses. Some Greek coins minted in South Italy or Sicily have this as a reverse type. In the middle of the third century B.C., before the *denarius* was introduced, *nummi quadrigati* (the word, like some other coin names began as an adjective) were issued by the Romans, minted either at Rome or (because their weight standard of 6.8 grams suggests that they were didrachms) in the south of Italy. Towards the end of the time when they were being minted, their weight dropped a little, and the purity of the silver in them was also reduced slightly. The suggestion by K. Harl (*Coinage in the Roman Economy 300 B.C. to A.D.* 700, at pp. 8, 29 and 481) that these coins were heavy *denarii* preceding the minting a few years before 211 B.C of lighter coins called *denarii,* is wrong. Half-*quadrigati* and halved *quadrigati* are also sometimes found, which shows that they were being used for small payments at this time (see *bigati*).

quadrussis or *quattrussis* or *quattus*

This was a weight of four *asses*, which does not seem to have been the name of a coin, although it has been suggested that some of the lighter bars of the *aes signatum* might have had this name.

quartarius

This word was the name of a Roman measure of volume for liquids and grain, about 1/6 of a litre. In the *Historia Augusta* it is stated that Severus Alexander planned to issue a coin of this name, but no such coin exists.

quartuncia

This word, meaning 'quarter-ouncer' may have been the name of a coin one-quarter of an *uncia* or one forty-eighth of an *as*, issued briefly during the second Punic War. It

may also have had the name *sicilicus*, perhaps derived from 'sickle'. The reason for giving them the later name is that some of these coins have a C or a reversed C (in the shape of a sickle) in the field of their reverses. No ancient text describes any payments that were made or demanded using either of these names.

quaternio

This is the Latin word for a group of four people or things. It does not survive in Latin literature in a numismatic context (although we find, in the unreliable *Historia Augusta*, references to gold coins of 'quaternary form'). There are two reasons for suggesting that this might be an appropriate name for some coins or medallions. The word is of the same kind as *binio* and *octonio*, and some coins or medallions are of a suitable weight, starting with an Augustan issue that survives in very small numbers, and is so rare, and of such an unusual weight, that it may be considered a special striking, perhaps a medallion produced to honour a small group of persons, rather than a genuine coin. For a recently discovered hoard containing a number of such 'money medallions', see *binio*.

quinarius, see *sestertius*

quincunx

'Five *unciae*', the denomination of some rare bronze coins issued in central Italy in the middle of the second Punic war, their denomination made clear by five little blobs on the reverse (cf. *quincussis* and *quinquessis*).

quincussis

This word, meaning 'five *asses*', is formed on the analogy of *quadrussis* and *decussis*, but does not appear in any surviving documents. Some early bronze ingots weighed five pounds, or five libral *asses*, and in the earlier part of the Second Punic War some bronze coins that were issued on a weight standard a little below the semi-libral one, showed the numeral V to indicate that they were worth five *unciae* (see *quincunx* and *quinquessis*).

quinquessis (sometimes contracted to *quinques*)

This word means 'five *asses*' according to the Roman writer Festus. It was not the name of a coin, only of a sum of money (see *quincunx* and *quincussis*).

radiate

In Nero's reign some orichalcum *dupondii* show his head with a radiate crown rather than a laurel wreath. It is reasonable to assume that because of what happened later it indicated a double denomination, two *asses*, which prevented confusion with the *sestertius*. Radiate crowns then became normal for double denominations in all metals, although for some reason Galba, and Hadrian, after A.D. 119, did not issue *dupondii*

that showed them with radiate crowns. In the later Roman Empire the radiate crown became an attribute of Sol, the sun god.

In A.D. 259 some *antoniniani* began to be issued in the western provinces, which had been detached from the Roman Empire by Postumus. They were mostly in such a poor style that it is difficult to believe that they were the product of official Roman mints. They continued to be minted until these provinces were recovered in A.D. 274 after Tetricus II had been defeated. A small number were also issued in other places. They seem to have been issued to make up for a shortage of coinage, and were not forgeries, so the Roman government allowed them to circulate. Modern numismatists often refer to them simply as 'radiates'.

ramo secco

'Dry (*i.e.* leafless) branch', an Italian phrase used to describe cast ingots of bronze or impure copper, probably made by the Etruscans, which have been found in northern or central Italy in archaeological contexts ranging from the sixth to the third century B.C. The name is inspired by the branch or herring-bone pattern with which they are decorated, and this decoration suggests that they were official productions. However, their weights vary greatly, and the fact that it is rare for them to be found entire suggests that when they were used for payments, or handed over to make objects in bronze, they would be weighed, and then the required proportion of the metal that they contained would be hacked off. There is no evidence to make it clear why they were decorated with this pattern, and we can only suppose that after the first ingots of this kind were made with this decoration, later ones were decorated with the same decoration to authenticate them, perhaps to indicate that the metal that they contained was of acceptable quality, suitable for making bowls or other objects.

scripulum or *scrupulum*

This is the name of a weight in the Roman system, and the ancestor of the English 'scruple'. It was not a coin, but a weight that is usually given as 1.137 grams. However, as with the pound or *libra*, it is easier to use a weight of 1.125 grams, because it makes the arithmetic easier, and allows for the fact that many coins and other objects have lost weight through wear or cleaning. Some Etruscan silver coins bear marks which seem to represent their weight in *scrupula*, and the weights of Roman gold and silver coins often seem to have been calculated in the same way; for example, Nero's *denarius* was of three *scrupula*, and the *solidus* issued by Constantine I was of four *scrupula*.

sembella

A combination of *semi* and *libella*, used by some Roman writers to mean a half pound. Some numismatists have used the word to describe a coin which is a half of a libral *as,* but there is no justification for this.

semis

The more common name for a coin that was a half of an *as*, sometimes shown to be this denomination because of the alterations in the weight of the *as*, by the letter *s* or six dots on these coins. It was issued for the last time during the reign of Hadrian, by which time it had become a very small coin.

semuncia

The half of an *uncia* or ounce, first appearing as a small cast bronze coin in the third century B.C., its denomination indicated by the Greek letter Σ, which suggests that it was intended to circulate in Greek areas of Italy. After a while it began to be struck instead of cast and was last issued soon after the introduction of the *denarius*.

septunx

A Roman weight of seven ounces or seven-twelfths of a pound, denoted by the sign S. (*semis* plus one dot). It was never a coin.

serratus

This word means 'notched', and when applied to coins, means that around their edge there are little notches. The historian Tacitus, writing at the end of the first century A.D. (*Germania* 5.5), reports that the Geman tribes to the north of Italy, who did not at that time issue coins, nevertheless showed a preference for two types of coin, the *bigatus* and the *serratus*. *Serrati* can be identified as coins struck occasionally between the middle of the Second Punic War and the mid-60s B.C. The reason for their striking is not clear. If it was intended to make it more difficult for forgers to produce plated coins, this might not have succeeded, because plated *serrati* have been found. Theories that link these coins with some Gaulish ornaments that have serrated edges are not convincing, particularly since the *serrati* do not seem to have been produced specially for distribution in Gaul. Also, some gold and silver coins issued by the Carthaginians during the second century B.C. were struck on serrated flans, together with some approximately contemporary bronze coins of the Seleucid and Macedonian coins. The existence of the latter suggests that the discouraging of counterfeits was not a primary purpose of their being made.

sescuncia or *sescunx*

A word derived from *sesqui-* (one and a half) and *uncia* (ounce). It was normally only a weight, but some Roman mints in Italy issued a few bronze coins at the time of the Second Punic War of this value, which was denoted by the letters .S or .Σ, accompanied by a dot, on them, signifying *semis* + *uncia*.

sestertius

The Latin word is a combination of *semi-* and *tertius.* The literal translation would be 'half-third', and in Latin this could mean 'two and a half'. The *denarius* was originally worth ten *asses*, and so the *sestertius* was worth a quarter of that. When after the middle of the second century B.C. the value of the *denarius* was raised to sixteen *asses*, the *sestertius* then became a coin worth four *asses* instead of two and a half. In spite of this, its name, and that of the *quinarius*, were not changed. In documents it was usually written in the form of two upright strokes, usually joined by a horizontal line, making H (= 2), followed by an S (for *semis*) making HS followed by a number, expressed in Roman numerals or in words.

The silver *sestertius* was not issued between about five years when it was first minted at the time of the introduction of the *denarius*, and its last appearance in 44 B.C. A bronze version, a much larger coin, was briefly produced for Mark Antony after that, perhaps because he was short of silver to pay his troops, and this denomination was useful for petty expenses. Then in the time of Augustus it began to be issued in orichalcum, which probably made it more attractive. These coins continued to be produced until the time of Trajan Decius, although by that time they had reverted to being only bronze.

The neuter form *sestertium* was used to denote 1,000 *sestertii*, and as with other numbers that described amounts of coinage or other things, this was expressed by writing the number with a horizontal line over it; for example, Pliny tells us that seven years before the Second Punic War began, the Roman *aerarium* contained only 22,070 pounds of silver by weight – *pondo ... argenti* . $\overline{\text{XXII}}$LXX

In the second century B.C. large amounts of money were often reported as being in *asses* or *aeris* ('of bronze'), even though their high value makes it obvious that they would have been in silver. In the same way, the *sestertius* later became a unit of account, even though large sums of silver would have been paid in *denarii*. In French, *argent* can mean 'money in general, just as in Yorkshire in the past 'brass' could mean any kind of money.

sextans (ἕξας)

In Greek coinage the words ἕξας, 'sixth', (or διόγκιον, 'two-ouncer', or δίζας, 'pair') were used in some cases to describe a coin valued at one-sixth of a *litra*. In Roman coinage

the Latin *sextans*, also meaning 'sixth', because a Roman pound had twelve ounces, was a bronze coin that weighed one-sixth of a pound when it was first issued, although like other bronze coins its weight fell considerably. Because of this, its value was later made clear by two raised dots. It was discontinued soon after 100 B.C.

sextula

This word also means 'one sixth', but it was never used as the name of a coin.

sicilicus

This word, perhaps derived from 'sickle', may have been the name of a coin one-quarter of an *uncia* or one forty-eighth of an *as*, issued briefly during the second Punic War. The reason for giving it this name is that some of these coins have a C or a reversed C (in the shape of a sickle) in the field of their reverses. It might also have been called a *quartuncia*, 'quarter-ouncer'. No ancient text describes any payments made or demanded using either of these names.

siliqua (*keration, carat*) and *half-siliqua*

The seed of the carob tree (*siliqua Graeca*), gave its name to the smallest weight in the Roman system, one-sixth of a *scrupulum* or 1/1728. The Greek equivalent was *keration* (κεράτιον). In the fourth century A.D. the *siliqua* also began to be mentioned as a unit of value. It seems to have been worth one twenty-fourth of a *solidus* of full weight (72 to the pound), or 1/21 of a light-weight *solidus* (84 to the pound). There was also for a time a sales tax at Rome called the *siliquaticum*, of 1/24, *i.e.* one *siliqua* to a *solidus*.

There is no evidence that *siliqua* or *half-siliqua* was ever the name of a coin weighing about 1.9 grams or half that. However, modern numismatists have often decided to apply these words to various coins, even thought their weights are quite different, with no justification. This is because there are no other names that can be applied to them.

singula

See *sembella*.

solidus (and *light weight solidus*)

This word is usually used to describe a gold coin issued for the first time by Constantine I in A.D 309/10 (as stated previously in the article '*aureus*'). *I*t is used in one document in Diocletian's time (the *Edict on Maximum Prices*) to describe the earlier gold coin, but it is convenient to ignore this, and use the name for the later coin that had a very long history, surviving with this name into the Byzantine period as late as the tenth century). It was known in Greek as the *nomisma* or *holokottinos*. It weighed 1/72 of a Roman pound, or about 4.5 grams. An entry in Diocletian's *Edict* tells us that the *solidus* and

gold bullion (a pound's weight of *solidi* or a bar of gold weighing a pound), had the same value, so it seems that at this time taxes might be paid in either of these, or both, with no deductions being made to cover the cost of inspecting or testing coins. This means that these coins were treated as a commodity at first, but later things changed. It took more time for *nummularii* to collect and bag coins after attempting to ascertain whether they were not plated, clipped or of lower weight that they should be, so the government in Constantinople decided that taxes of high value should be paid in bullion, and if they were not, then an extra charge, called *obryza* (*ὄβρυζα*) would have to be paid (see John Melville Jones, '*Obrussa and* ὄβρυζα. Their History and meanings', in *Journal of Ancient Civilisations* 2021, pp. 115-136).

In the early Byzantine period some light weight *solidi* were issued in Gaul, and legislation survives forbidding tax collectors to be forced to accept them (*Novellae Maioriani* 7.14, issued in A.D. 458).

sparsio

'Scattering', a word that was used to describe the practice of scattering coins or other objects of value, as practised by various victorious generals at Rome, newly elected consuls and emperors. The objects thrown were sometimes called *missilia*. During the Roman Empire *sparsio* became a regular ritual, and the actual throwing of separate coins became less common, being replaced by a more dignified transfer of money in bags or other containers. In the later Roman Empire, *sparsiones* in gold were restricted to emperors (see the last paragraph of *miliarensis*). Some Roman writers described them using the names of the containers in which these presentations were made, but these were not the names of the actual coins, as some early numismatists believed. An exceptional example of *sparsio* is reported by Jerome (*Letters* 22.32). This was wrongly attributed to Theodosius I by J.W.E. Pearce ('A half-siliqua of the Treveran mint' in *The Numismatic Chronicle* 1943, pp. 97-99); in fact, Jerome tells us that a rich Roman lady was trying to buy her way into heaven by distributing *nummi* to the poor, but when someone tried to jump the queue to get a second *nummus*, she got a fist in her face instead of a *denarius.*

spintria or *sphintria*

This word, derived from the Greek σφιγτήρ or σφιγτής, in the sense of 'anal muscle', became a Latin masculine noun occasionally used to describe a male prostitute who offered anal sex. At some time in the past numismatists began to use the word to describe a kind of round *tessera* that showed scenes of sexual intercourse, which sometimes bore numbers. These seem to date to the first century A.D. As Theodore Buttrey noted ('The *spintriae* as a historical source', in *The Numismatic Chronicle* 1973, pp. 52-63 and pls. 3-4), there is no evidence that the Romans used this word to describe these *tesserae*, but

it is convenient for us to do so. It is possible, although as Buttrey showed, unlikely, that they were used as tokens in brothels, either to show the workers what position clients who could not speak their language wished them to adopt, or to indicate what place a client had in a queue, or perhaps so that they could be called upon when their time was up, like people who had hired small boats to circulate in a large pond: 'Number twelve, leave now or pay more.' We can only speculate.

stater (στατήρ)

'Weighing, weight', a word used in some parts of the Greek world to describe the major coin in a series. Modern numismatists sometimes use it to describe coins in areas associated with the Romans to which they are unable to assign an exact denomination.

subaeratus

'*Aes* beneath', the Latin equivalent of the Greek *hypochalkos* (ὑπόχαλκος), used to describe coins that had a surface plated with silver or gold, over a core of much less valuable metal. The French *monnaie fourrée* ('stuffed') is sometimes used to describe a coin of this kind.

talentum

A talent (from the Greek τάλαντον). When used in the Greek world, the word was originally the name of a large weight, usually about 26 kilograms (an Attic talent containing 6,000 drachmas, and an Aeginetan one 2,100 staters), although there were differences in some other parts of the Greek world. It also became the name of a large sum of money, so that a very rich man might be described in Greek as 'many-talented'.

In some places in southern Italy and Sicily, and in Alexandria in Egypt, the word was used to describe a number of much smaller weights. It is not clear why this happened, although it has been suggested that occasionally these words were used to describe 'little talents' that represented the value of amounts of bronze coinage that were valued in terms of gold. However, this certainly does not explain these weights with complete satisfaction.

tartemorion (ταρτήμοριον)

A shortened form of *tetartemorion*.

teruncianus

This word, meaning 'three-ouncer' is a modern editorial correction of a word that appears in a manuscript of the 6th century, the *Chronicle* of Count Marcellinus. This tells us that in A.D. 498 the emperor Anastasius 'removed a form of exchange that was pleasing to the people, by introducing coins "marked with their own name", [presumably meaning

that they had signs of value on them], which the Romans [which is what the inhabitants of Constantinople called themselves] called *terentianos* and the Greeks *follares*'.

'Pleasing to the people' suggests that the change that Anastasius introduced (meaning that the bronze coins that he introduced began to have marks of value I (10), K (20) and M (40) *nummi*) was unpopular is hard to understand. There are two possibilities. The word 'not' might have been omitted before 'pleasing to the people', and in that case these words might mean that it had become very difficult, because of fluctuating weights, to decide what some coins were worth. On the other hand, it is possible that at least some persons were benefiting from being able to claim that some coins were worth more than they really were. No certainty is possible.

Terentianos ought to mean that the coins were connected with someone called Terentius, and this makes no sense (although Theodor Mommsen tried to defend it when he edited the chronicle in 1894 in the series *Monumenta Germaniae Historiae Historica*. But by changing the second *e* to *u*, and the second *t* to *c*, (the latter change causing no problems because in many mediaeval manuscripts there is little difference between the form of these letters), a more acceptable text can be created, writing *teruncianos*.

As I argued in an article published in 1993 ('Nummi Terunciani' in Volume III of the *Proceedings of the XIth International Congress*, pp. 9-13), a work bearing the title *Assis Distributio*, or 'Division of the *as*', written by Volusius Maecianus in the middle of the second century A.D., provides a clue to what Marcellinus might have meant. This work consists of what we might call 'lecture notes', which the author, a jurist, prepared for the young Caesar Marcus Aurelius. In this work it seems that *teruncius* could mean 'one-fortieth'.

In A.D. 498 Anastasius issued some new coins that weighed about 8 grams, and these weighed approximately one-fortieth of a pound, allowing for the fact that bronze coins were struck with less attention to exact weight, and the coins that have survived in hoards and are held by collectors and museums and dealers tend to be the better specimens.

tessera

The word comes from the Greek *tessares* or *tettares*, meaning 'four', and can describe a four-sided object, such as one of the stones used to form a mosaic, or a variety of objects that are not coins, such as small plaques, tokens, gambling counters or pieces for use in board games. Two special classes of *tesserae* are the *tesserae nummulariae* that were used by *nummularii* to mark bags of money that they had counted and tested, and perhaps *spintriae*.

tetartemorion (τεταρτημόριον)

'Fourth part', a Greek word which, like *kodrantes*, was sometimes used to describe an *as* as a fraction of a *sestertius*.

tetradrachmum (τετράδραχμον), plural *tetradrachma* (τετράδραχμα)

The name of a Greek coin (or sum of money) worth four drachmas, mentioned in a small number of Roman documents. In Livy's *History of Rome* a shorter form of the word, *tetrachmum*, is found in one passage.

tetranomon (τετράνομον) see *nomos*

A coin, or sum of money, worth four *nummi* or *nomoi* (see *nomos*).

tetras (τετρᾶς)

'Fourth', meaning a quarter, a Greek word that could be used to describe the Roman *quadrans*.

tetrassar(i)on (τετρασσάριον)

A coin of four *asses*, the Greek word occasionally used to describe the Roman *sestertius*.

tremissis

This is a rare word, meaning 'one-third'. If it had appeared only in the *Historia Augusta*, we might have been justified in assuming that it was never a coin. However, in some late documents it appears in records of financial transactions, and seems to be a variant of the more usual *triens*. A gold coin weighing 1.5 grams was struck from A.D. 383 in the reign of Theodosius I until the 9th century, which must have been one-third of a *solidus*. Some other slightly heavier gold coins weighing 1.7 grams that were occasionally issued from the time of Constantine I until the time of Arcadius have sometimes been called *tremisses*, although their weight might also justify their being called coins of one and a half scruples (*scrupula*), and a metrological writer writing in the late third century A.D., and not referring to coins, says that 'the *tremissis* contains one *scripulum* and a half'. For convenience, modern cataloguers may decide to use *tremissis* or *triens* to describe one or both of these gold coins, although there is no evidence to prove that this is what they were called by the Romans.

tressis

A rare coin of three *asses*, issued occasionally in the early history of Roman coinage, with its weight identified by the numeral III. Some modern writers seem to prefer the

form *tripondius*, 'three-pounder', but although this is not bad Latin, no ancient text uses it to describe a coin.

triens

See the note on tremissis above.

trinummus

'Three-*nummus*', a word that appears in a play with this name by the Roman poet Plautus, which was produced soon after 200 B.C. It was never the name of a coin, only of a sum of money.

See the note on *tressis* above.

tripondius, see *tressis*

τροπαικόν, see *victoriatus*

uncia

'Ounce', or one-twelfth of the Roman pound of twelve ounces, weighing about 27 grams. As a coin it was struck from the beginning of Roman cast bronze coinage until the end of the 2nd century B.C., by which time, like all other bronze coinage, it had lost a great deal of weight. See also *biunx*.

hypochalkos (ὑπόχαλκος)

'Bronze/copper beneath', the Greek equivalent of the Latin *subaeratus*, used to describe coins that had a surface plated with silver or gold, over a core of much less valuable metal.

victoriatus

Several literary texts and inscriptions ranging over a long period of time use this word, which can be interpreted at the name of a coin with a reverse type representing Victoria, the Roman personification of Victory, placing a victory wreath upon a trophy. A post on which a cuirass captured from an enemy is portrayed, perhaps with captives sitting miserably at the foot of it is a regular reverse type. Some found their way into the offerings placed in a temple on the Greek island of Delos, where the cataloguers used the word 'trophied' (τροπαϊκόν) to describe them.

The original coin had an obverse type of a head of Jupiter. Hoard evidence suggests that it began to be issued at about the same time as the *denarius*, but weighed less, only about 3.4 grams. It circulated in the south of Italy at first, so it was probably designed to make payments there, and was tariffed as a kind of drachma or half-*nomos*. It also circulated

in Cisalpine Gaul after it had been circulating in Southern Italy for a while. It replaced the *quadrigatus*, which ceased to be issued. A few double *victoriati* are known, but it is not known what they were called.

Some coins using a similar weight standard were minted by Greek mints on the western coast of Greece in the second century B.C., but there is no reason to suppose that their weights were the result of the existence of the *victoriatus*. Pliny the Elder (*Natural* History 33.13.46), followed by Volusius Maecianus, claimed that the *victoriatus* 'was brought from Illyria', *ex Illyria advectus*, which is incorrect, and was 'treated as merchandise', probably implying that it circulated in Roman commercial settings at bullion value, which may be correct.

It ceased to be minted about 170 B.C., but at the end of that century its name began to be used occasionally to describe another coin, the *quinarius*, which was minted only occasionally. This may have been because the *victoriati* that were still in circulation had lost a little weight – when they were first issued they definitely weighed more than half a *denarius*. The new *quinarius* had the same types as the *victoriatus*, and was popular in Gaul, perhaps because the Gauls, at a time when the *denarius* had begun to have a variety of coin types that might have made them feel that Roman coinage might be untrustworthy, they recognised coins with these types and felt that they could trust them.

For a discussion of the possibility that the word *bigatus* might also be used to describe the *victoriatus,* see *bigatus* above.

Author

John Melville-Jones completed a degree in Classics and Ancient History at the University of Cambridge in 1956, and later returned, after he had worked at The University of Western Australia for three years, to study for the Postgraduate Diploma in Classical Archaeology there. A short introduction to ancient numismatics formed a part of this course, and he was so excited by the experience of handling ancient coins under the guidance of an excellent teacher that he decided to specialise in this area. Since Western Australia was not a suitable place to collect ancient coins or study hoards, he decided to use his knowledge of Latin and Ancient Greek to collect and comment on the ancient written documents that mentioned coins.

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