

Debasement and the decline of Rome

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On April 23, 1919, the London *Daily Chronicle* carried an article that claimed to contain notes of an interview with Lenin, conveyed by an anonymous visitor to Moscow.² This explained how ‘the high priest of Bolshevism’ had a plan ‘for the annihilation of the power of money in this world.’ The plan was presented in a collection of quotations allegedly from Lenin’s own mouth:

“Hundreds of thousands of rouble notes are being issued daily by our treasury. This is done, not in order to fill the coffers of the State with practically worthless paper, but with the deliberate intention of destroying the value of money as a means of payment ... The simplest way to exterminate the very spirit of capitalism is therefore to flood the country with notes of a high face-value without financial guarantees of any sort. Already the hundred-rouble note is almost valueless in Russia. Soon even the simplest peasant will realise that it is only a scrap of paper ... and the great illusion of the value and power of money, on which the capitalist state is based, will have been destroyed. This is the real reason why our presses are printing rouble bills day and night, without rest.”

Whether Lenin really uttered these words is uncertain.³ What seems certain, however, is that the real reason the Russian presses were printing money was not to destroy the very concept of money. It was to finance their war against their political opponents. The reality was that the Bolsheviks had carelessly created the conditions for hyperinflation. The ‘plan’ to destroy money in order to bring about a moneyless society was rationalised after the fact.⁴

Russia was not alone in recklessly pursuing an inflationary policy at the time. In the same article, Lenin allegedly applauded the actions of European states, and ‘the frantic financial debauch in which all governments have indulged’, which would hasten the fall of the capitalist system. However, their actions were short-sighted attempts to overcome fiscal deficits, not part of a master plan to put an end to the money economy. Nevertheless, the interview concluded, the result would be the same. Money would lose its value and the existing society would be undermined.

How are these observations relevant to the theme of Roman debasement and imperial decline? Like the Bolsheviks, the Romans stand accused of destroying the power of their own money by recklessly issuing worthless currency to cover state debts. No one, of course, has attempted to claim that what the Romans did was in any way a deliberate plan. Indeed, it is generally thought that those

¹ It is a great pleasure to be able to offer this essay to Andrew Burnett, who was there at the very beginning of my academic career. Because of our shared interest in Roman provincial coinage, in 1984 Richard Reece invited Andrew to act as joint supervisor for my PhD on Syrian coinage at the London Institute of Archaeology. In that capacity Andrew provided support and encouragement that extended well beyond the narrow horizon of the doctorate; and it is difficult to find a way to express sufficient gratitude. He has continued to extend that kindness to this day. This essay is not about provincials, but another subject that I know is one of Andrew’s interests: the history of numismatics as a discipline. He already knows my thoughts on some of the questions posed here, but I offer this piece in the hope that he will find something interesting (and credible!) in the argument.

² The following quotations, with a discussion of their veracity, are to be found in White and Schuler 2009.

³ While the ‘plan’ was certainly voiced by Commissariat of Finance, Lenin seems to have been opposed to the policy, preferring to retain money: ‘Since the spring of 1921 ... we have been adopting ... a reformist type of method: not to *break up* the old social economic system—trade, petty production, petty proprietorship, capitalism—but to *revive* trade, petty proprietorship, capitalism, while cautiously and gradually getting the upper hand over them, or making it possible to subject them to state regulation *only to the extent* that they revive’ (Lenin 1965: 109-116). See Arnold 1937: 107.

⁴ White and Schuler 2009: 217.

managing the Roman currency had no grasp of anything that we might regard as monetary policy.⁵ In their wide-ranging survey of the Roman Empire, Peter Garnsey and Richard Saller endorse the notion that ‘regular monetary policy’ was rudimentary or non-existent, and that the state was interested only in short-term fixes engendered by debasement of the coinage, without any understanding of consequences.⁶ The standard account of Roman imperial coinage is a story of decline due to poor management and the underlying bankruptcy of the Roman Empire, even at its height.⁷

That story is familiar enough. Rome’s expansion under the Republic had brought booty and wealth, but eventually costs of expansion were overtaken by costs of maintaining what was already possessed; and little or no further expansion and conquest under the emperors meant that henceforth the Roman Empire had to pay for its upkeep out of its own resources.⁸ The State’s survival came to depend on its ability to pay for its armies.⁹ When these costs exceeded revenues, emperors manipulated the coinage rather than attempting to raise revenues by other means, but no amount of manipulation could keep up with expenditure.¹⁰ The decline of Rome was marked by repeated debasements of the coinage, and the transition from an intrinsic money to a fiduciary one. In this model, coinage with intrinsic value is seen as ‘good’ money, and fiduciary coinage is ‘bad’. The tipping point came after the middle of the third century when, like the roubles of the Bolsheviks, the currency of imperial Rome became a ‘worthless product spewed out by the mints’; there were ‘floods of debased coins’, every one of which was a ‘botched, anomalous, trashy bit of metal’. Debasement had been ‘carried to the point of frenzy’.¹¹ In the end, it could proceed no further and the ‘great, wretched piles of shoddy change’ became valueless even to the state.¹² A command economy employing taxation in kind replaced the old system of money taxes, and society was reorganised under closer government supervision in order to ensure the state’s survival;¹³ a transition famously characterised by Michael Rostovtzeff as nothing less than the destruction of Roman capitalism:

When the safety of the State ... appeared incompatible with the liberal economic system, the latter was gradually discarded, and eventually replaced by a system which was a blend of Oriental *étatisme* and city-state “socialism”.¹⁴

Chester G Starr expressed the significance of the transition even more starkly, and as recently as 1982: ‘to modern man, the corrupt, brutal regimentation of the Later Empire appears as a horrible example of the victory of the state over the individual’.¹⁵ As Lenin had supposedly forecast for Europe, so it had been with ancient Rome: a liberal society had been undermined by a worthless currency, and new order had arisen from its ruins.

⁵ Crawford 1970; Jones 1974: 74.

⁶ Garnsey and Saller 1987: 21. The state’s complete inability to cope with inflation is imagined in the lively metaphor employed by MacMullen (1976: 116): ‘Government ... reacted like a frightened child at the controls of a runaway express train, pushing all sorts of levers and knobs.’

⁷ Mattingly 1927: 125, 126, 192.

⁸ Jones 1974: 124; Hopkins 1978; Tainter 1988: 129, 134, 188.

⁹ Rostovtzeff 1926: 413.

¹⁰ Walker 1978: 106-148; Tainter 1988: 188; Corbier 2005a: 390.

¹¹ MacMullen 1976: 109; 113; 125.

¹² MacMullen 1976: 117; Tainter 1988: 139.

¹³ Rostovtzeff 1926: 464; Callu 1969: 482-3; Jones 1974: 139, 168, 198; Crawford 1975: 570-1; Tainter 1988: 141;

Heather 2005: 65. For a critique, see Corbier 2005a: 381-3. More generally, it has been seen, rightly or wrongly, as marking the shift from a monetised economy to a ‘natural economy’: see comments in Corbier 2005a: 329.

¹⁴ For Rostovtzeff’s view of ‘capitalism’ characterising ancient Rome and its ‘liberal economic system’, see Rostovtzeff 1929/30: 206-8 (though he did not deal with the decline of the coinage in this article). On his views, see Rebenich 2008: 47; Ward-Perkins 2008: 194. On his treatment of the Later Empire as an inferior age characterized by the rise of the masses, see Cameron 2008: 236.

¹⁵ Starr 1982: 165; a process stretching back to the beginning of the third century, according to Paul Petit, who saw ‘un régime de totalitarisme naissant’ in the economy of the Severan period (1974: 73).

Starr's opinions might seem quaint or even rather comical now, and estimations as to the scale of the crisis, and whether the third century should be considered a crisis at all, may have moved on a great deal since Rostovtzeff and even since Starr wrote, as has thinking about the nature of the Roman economy; but the crisis or 'collapse' of the coinage persists in a form more or less as it was fashioned in the nineteenth and early twentieth centuries.¹⁶ On this point modern and earlier scholarship remains more or less in agreement. This legacy is not without interest, because I think it illustrates how the influence of events in the nineteenth and twentieth centuries shaped contemporary ideas about the ancient monetary economy, and how certain ideas about the nature of money have fashioned our perception of Roman currency.

The process by which scholarship developed a story of the 'decline' and 'collapse' of the Roman imperial coinage is the central theme of this essay. It does not seek to provide new solutions to problems. Instead it aims to supply the background to features that have gained widespread acceptance: that debasement of the denarius caused inflation in the first half of the third century; that the 'radiate' or 'antoninianus' introduced by Caracalla in AD 215 was a double denarius and therefore a major debasement; and that a vast increase in the supply of coinage caused catastrophic hyperinflation in the mid third century. Admittedly what is presented here is no more than a very rough sketch of a topic that would otherwise require much more space in order to do it justice, and a longer description would take fuller account of changes to the coinage during the first and second centuries; but, seeing that the third century is central to the story, I intend to focus on that period, and specifically the years between Caracalla's introduction of the 'antoninianus'¹⁷ in AD 215 and what is generally seen as the nadir of that denomination *c.* AD 270.

No modern account of the third century, be it a 'crisis' or a 'transition to late antiquity', can avoid mention of the notion that there was financial and monetary chaos and economic dislocation in this period. It has become symbolic of change.¹⁸ Though scholars of late antiquity have sought to bury the concept of a general crisis, the causes that transformed the empire of Augustus into the empire of Diocletian are still debated as if the outcome would have been more agreeable had the state been blessed with more competent managers.¹⁹ Even today, the period from 200 BC to AD 200 is treated as the period when the Roman economy was at its most 'modern'; the third century is seen as a retreat from this.²⁰ The spirit of Rostovtzeff still has resonance.

It might be objected that the scholarly perspectives presented here have been superseded. The notion that coinage was solely a tool of the state, used to make state payments, has been challenged,²¹ as has the belief that all money consisted of coins and that the quantity of money was constrained by the supply of metals,²² and likewise the notion that all debasements were fiscal and designed to cover shortfalls in revenue;²³ but one important harbinger of the 'old' views remains generally accepted: that the antoninianus was an inflationary, overvalued coin that

¹⁶ To claim that there is absolute consensus on this would be disingenuous; see, for example, Depeyrot 1988; Rathbone 1996; and Bland 2012 (emphasising a greater degree of monetization in this period).

¹⁷ In this essay I have preferred the term 'antoninianus' to describe this coin, which many numismatists now prefer to call the 'radiate', in acknowledgement of the role of Mommsen, who first used the term, and who was also responsible for the claim that it was an inflationary coin (below).

¹⁸ 'Inflation and debasement of metal content are familiar ingredients of the Crisis' (Swain 2004: 3). On its centrality, see Alföldi 1938: 15-16; Potter 1990: 32-4; Duncan-Jones 2004: 43.

¹⁹ Bowersock 1996: 36.

²⁰ Note, for example, the debate over growth in the Roman economy up to the third century (Hopkins 2002, Hitchner 2005), and that one of the causes of the apparent decline in the activities of bankers (a key feature of the early empire's 'modernity') is attributed to the third century decline in the quality of the coinage and a rise in prices (Andreau 1999: 32).

²¹ De Cecco 1985; Howgego 1990.

²² Coins only: Jones 1974: 188; Tainter 1988: 133. Recent studies have emphasised the role of credit in expanding the money supply: Harris 2008; Hollander 2007.

²³ Lo Cascio 1981.

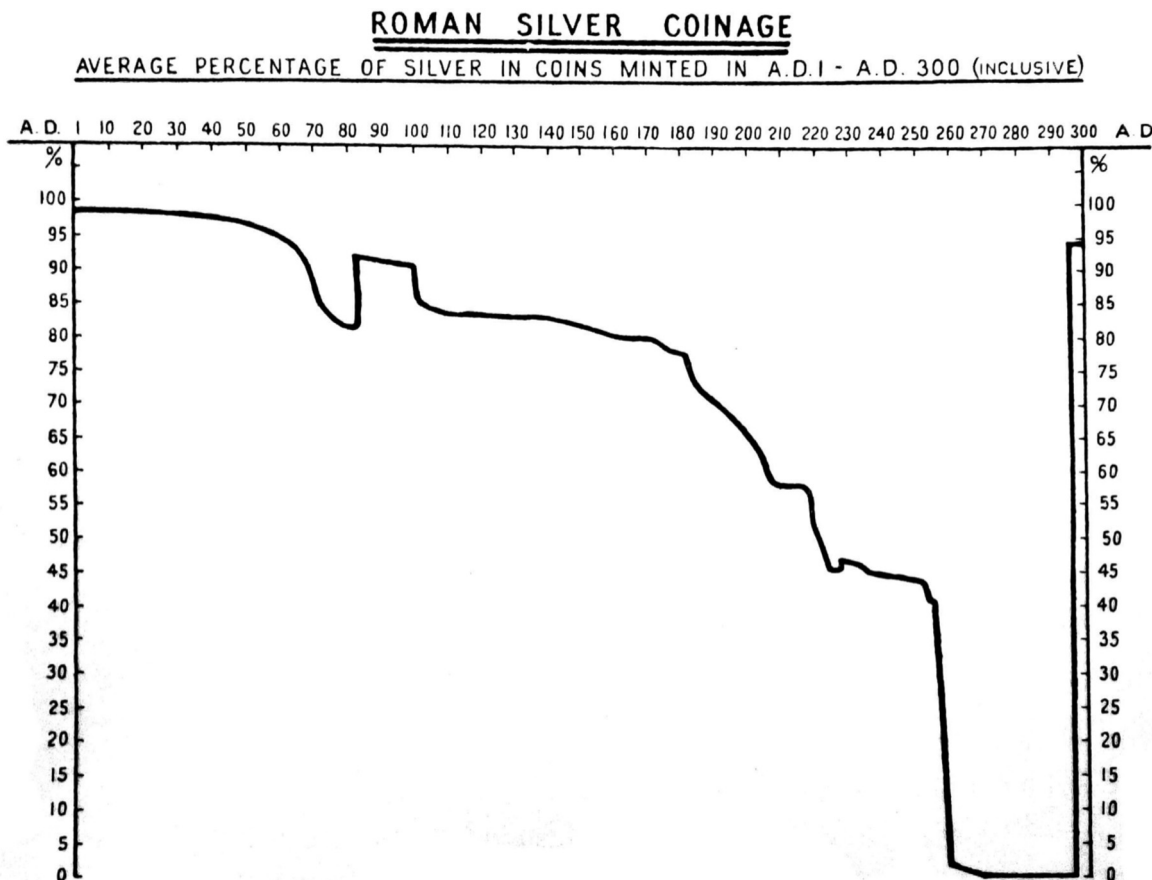


Fig. 1. The decline of the silver content of Roman coinage, as envisaged in Haines 1941: 47.

brought about the collapse of the Roman monetary system through its progressive debasement, so that financial chaos ensued.²⁴

As with so many features of the Roman Empire, its monetary system is seen as the creation of Augustus, whose wisdom and foresight remained unmatched by his successors. Augustus has become the standard in Roman imperial numismatics, the benchmark against which the performance of all others is measured. His coinage is seen as 'good' money, replete with natural, intrinsic value.²⁵ Indeed, a synonym for the Roman imperial monetary system up to the middle of the third century is the 'Augustan system' or 'Augustan coinage': an interlocking system of denominations in high quality gold, silver, brass and copper.²⁶ It is this system that is described as being 'manipulated' or 'adulterated' by Augustus' successors, so that to describe change in Roman currency is to describe the process by which this 'once splendid coinage of imperial Rome' was despoiled.²⁷

²⁴ Petit 1974: 198-201. Some have, however, questioned whether inflation was high, e.g., Corbier 1985.

²⁵ 'True money': Wassink 1991: 468.

²⁶ Sydenham 1919; Callu 1969: 482; Walker 1978: 110; Casey 1980: 11; Wassink 1991: 470, 473; Harl 1996: 73-96;

Hitchner 2005: 211; on the interlocking system, see Harl 1996: 72-73. For a critique of the concept of an 'Augustan system' applying to gold and silver, see Butcher and Ponting 2015.

²⁷ Sydenham 1919: 129.

There is certainly no avoiding the fact that a denarius of the early first century AD was made of pure silver, whereas a radiate or antoninianus of Claudius II (AD 268-270) is almost pure copper. The seemingly hard evidence can be tabulated (e.g. Harl 1996: 127; 130) or displayed in graph form, usually showing the silver content of the coinage through time sloping downwards, ever more rapidly, towards oblivion (e.g. Casey 1980: 10; Duncan-Jones 1994: 226; Rathbone 1996: 327). I choose here an early example of the genre from Haines 1941 (Fig. 1). A better visual metaphor for imperial Rome's decline would be difficult to find; and, whether by accident or design, the word used to describe the apparently progressive alloying of silver with copper in the coinage is almost invariably 'decline'.²⁸ The reasons for the debasement can still be debated (e.g. Lo Cascio 1981) although the majority view is that the alloying was a short-sighted policy conducted by bankrupt rulers that led to the currency losing its value, culminating in the third century in the 'Augustan' currency's 'collapse'.²⁹ The trajectory of the silver coinage thus seems to mirror the fortunes of the Roman Empire itself, and, as we have already seen, the consequences are generally regarded as having been profound.

When it comes to the precise cause of the devaluations, however, the accounts tend to become less certain. Sometimes the coinage is said to have lost value because it became debased (a 'metallist' perspective, where coins have value because they are made of valuable commodities); at other times it is said to have become debased because it lost value (for example, because too much of it was in circulation, or, less commonly, because the price of silver rose).³⁰ In the latter scenario, debasement was simply a way of enabling the State to produce more coins.³¹ Scholars have searched the literature for contemporary references to hyperinflation and the economic crisis accompanying the debasements, but there is precious little that does not require inference or emendation to make it fit. If there was high inflation in the period from 215 to 260, the Romans seem to have been uninterested in recording it.³² Hard evidence, in the form of price data, does not match the period of debasement.³³ A case can be made for a rapid rise in prices in Egypt under Aurelian in AD 274-5 and before Diocletian issued his Edict on Maximum Prices (AD 301), but these events come *after* the main period of debasement (AD 194-270).³⁴ This would seem to argue against a link between fineness and inflation, favouring instead a link between quantity and inflation or some other factor. But from the comments in many accounts, both recent and older, it would appear that there are difficulties in separating the two, despite the fact that the two positions represent fundamentally

²⁸ E.g. Harl 1996: 126. 'Decline' and 'fall' are terms that have been used in titles concerning the debasement of Roman coinage since at least the time of Mommsen 1851, e.g. Oman 1916; Haines 1941; Pense 1992; Verboven 2007.

²⁹ 'Collapse': Grierson 1975: 22; Walker 1978: 136; Casey 1980: 11; Potter 1990: 34; Wassink 1991: 483; Harl 1996: 126; Christol 1997: 164.

³⁰ A 'complex' problem acknowledged by Crawford 1975: 567, 590-1, who there tended towards the first option while not entirely excluding the second: 'I conclude that in a world where a precious metal coin was a piece of bullion an increase in the supply of currency did not necessarily lead to inflation ... in the third century A.D. the reduction in the purchasing power of the silver coinage was the direct result of its declining intrinsic power'. See also Estiot 2012: 553-4.

³¹ Heather 2005: 65. The argument is certainly plausible.

However, if the coins are devalued as a result, doesn't that reduce the overall quantity of money in circulation?

³² Link between debasement and inflation: Crawford 1975 (above, n. 29); Walker 1978: 109, adding 'we have no evidence that it was realised that debasement might in the long term be economically harmful'; Mann 1986: 287-288, accepting a rise in prices, though qualifying this by stating 'it is difficult to be precise about when or by how much'; Tainter 1988: 137 arguing for inflation, 'although good data are lacking'.

³³ Wassink 1991.

³⁴ Duncan-Jones 1994: 26-7 and Rathbone 1996 and 1997 set out some of the Egyptian evidence for episodes of price inflation, particularly in AD 274-5, but Egypt had its own silver coinage, changes to which do not parallel changes to imperial coinage. See also Corbier 1985 and 2005b: 425-8.

different understandings of the nature of money.³⁵ It would appear that the legacy of earlier thinking about the decline of Roman coinage is not easily discarded.³⁶

Coinage has not always occupied a central role in accounts of Roman decline, and the tenor of modern accounts is very different from earlier ones. Indeed, the earliest students of Roman imperial coinage were not much interested in change. The scholarly endeavours of the sixteenth and seventeenth centuries focused on two main approaches to the material: one, concentrating on coins as money, pursued through ancient texts, mainly by philologists and scholars of literature; and the other, concentrating on coins as mementoes of illustrious historical figures and as illustrations of antiquity, pursued through study of the coins themselves, by antiquarians. One might have expected those interested in coins as money to be alert to change, but they were mainly concerned with delineating a fixed system and defining monetary terms found in texts rather than charting the evolution of a system. Antiquarians, on the other hand, sought to bring dignity to ‘medals’, as they called their coins, and the study of these objects as money was regarded as sordid.³⁷

The lack of interest in change can be explained in part by the confusion about the identity and function of the objects that we now call Roman imperial coins.³⁸ By the early seventeenth century there was general agreement that they were monetary objects and not commemorative medals,³⁹ but there remained uncertainty as to what denominations they represented. It was difficult for the early savants to assemble enough material to conduct a meaningful survey of weights, and to compensate for the even more meagre information about fineness it was generally assumed that gold and silver were of high purity, at least until the time of the obviously base issues of the third century. Despite all the doubts, some general pattern gradually became discernable: the Republican weights of the gold and silver coinage had been abandoned for lighter ones under either Nero or Vespasian, and there had been a debasement under Septimius Severus or his successors, leading to the coinage of the mid third century becoming little more than billon. Debasement was therefore understood as something that had happened comparatively rapidly, or at least over a period not longer than about thirty or forty years and, for the few scholars who ventured to think about the reasons, a link with expenditure during the frequent wars of the period seemed plausible.

During the eighteenth century more systematic studies of weights emerged, and with it a clearer understanding of the denominations. Johannes Eisenschmidt’s *De ponderibus et mensuris veterum romanorum*, first published in 1708, provided one of the first attempts to outline the ‘decline’ of imperial silver: the Republican weight for the denarius had survived up to the end of Augustus’ reign, after which there was a decline in weight, until Nero had reduced its weight to an eighth of an ounce. After Nero the denarius had remained stable until the joint reign of Balbinus and Pupienus (AD 238), who had adulterated the silver with base metal.⁴⁰ Thereafter the

³⁵ Martin 2014: 143.

³⁶ One way of attempting to reconcile the two positions is to claim that debasement facilitated increased production, because that way the quantity of coinage was no longer constrained by the supply of precious metal, as proposed by Hitchner 2009 (though there the argument favours stability over inflation).

³⁷ This approach had been pioneered by Enea Vico in his *Discorsi di M. Enea Vico parmigiano sopra le medaglie degli antichi* (1555). Joseph Bimard de la Bastie, in his introduction to the 1739 edition of Louis Jobert’s popular handbook, *La science des médailles*, sums up the antiquarian attitude

in his comment on Louis Savot’s enquiry into the function, metrology and metallurgy of ancient coins, *Discours sur les médailles antiques* (1627). Bimard recognized Savot’s work as an ‘excellent book: but this clever man was content to study medals exactly like coins; that is to say, that he envisaged them from the least noble and least useful point of view from our perspective’ (Jobert 1739: xvi).

³⁸ Erizzo 1559: 35-6.

³⁹ Savot 1627: 1-42.

⁴⁰ These imperial colleagues have never fully been able to escape accusations that they helped to destroy the currency; see below.

coinage was further debased until the time of Gallienus and Postumus, after whom the currency collapsed. Eisenschmidt is among the first to outline a scheme that reminds us of the decline and fall of the 'Augustan' system, and once again, the period of debasement extended over a period of about thirty years.

A more empirical study was Jean-Baptiste-Louis Romé de l'Isle's *Metrologie* (1789), which tabulated the weights of hundreds of individual coins (he was later criticised for having privileged the material evidence - the weights of coins - over texts⁴¹). He too saw a weight decline of the denarius under the Julio-Claudians, followed by stability after Nero. However, he found it difficult to determine weights accurately after Caracalla, probably because it remained unclear whether or not larger coins with radiate portraits should be distinguished from the smaller denarii.

Scholars were only just beginning to debate the relationship of this larger radiate coin, which had been introduced by Caracalla and was generally thought to be a denarius, to the smaller laureate denarius.⁴² It was now clear that not only had the larger denarius been the commonest denomination for most of the third century, but by the middle of that century it had also become hugely debased. If not a denarius, what denomination did it represent? Eighteenth century scholars were undecided, and a general consensus would only emerge in the middle of the twentieth century, though this would not be a legacy of any of those early opinions. The history of scholarship concerning the value of this coin in many ways encapsulates thinking about the character of change in Roman imperial coinage, and even about the function of that coinage, but more on that in a moment.

The eighteenth century had, of course, seen the publication of Edward Gibbon's monumental work, *The Decline and Fall of the Roman Empire*, published in six volumes between 1776 and 1789. It was now possible to view Roman decline as a protracted process extending over centuries. Curiously, Gibbon hardly mentions debasement of the coinage at all – possibly because the supporting scholarly evidence for the decadence of the currency had yet to be presented in a coherent fashion. Nor does debasement feature in Montesquieu's 1734 essay *Considérations sur les causes de la grandeur des Romains et de leur décadence* (a work which provided some of the inspiration for Gibbon's *Decline and Fall*), even though chapter 16 of this work acknowledged the escalating cost of the army. Either the parallelism between the condition of coinage and the State had not yet gained wide recognition, or perhaps the notion of debasement to cover war expenses was too banal to be worthy of comment.

In the early nineteenth century scientific analyses of Roman silver coins helped to supply that parallelism. Between 1810 and 1815 Marti Heinrich Klaproth published a set of analyses demonstrating that Roman silver coinage had been debased long before the Severans, or Balbinus and Pupienus. His earliest coin, of Domitian, was only 80% fine.⁴³ Filippo Schiassi in 1811 confirmed that Augustus's denarii were as pure as Republican ones (excluding the debased legionary denarii of Mark Antony).⁴⁴ The Republican and Augustan denarii therefore represented Roman coinage in its pristine state. As more analyses were conducted, the case for a protracted decline of the imperial coinage arose.⁴⁵

⁴¹ Hussey 1836: 7-8.

⁴² Eckhel 1792: xxvi-xxvii.

⁴³ Klaproth 1815.

⁴⁴ Schiassi 1820: 33-7.

⁴⁵ For these analyses see Butcher and Ponting 2015, chapter 3.

The evidence was first assembled into a coherent picture by Theodor Mommsen.⁴⁶ His method underpins modern numismatics, and he provided the framework within which Roman numismatists still operate. Nevertheless, his explanations for change were broader in scope than those that have come to dominate today, encompassing both monetary adjustments, intended to maintain the stability of the coinage, and fiscal debasements, intended to cover deficits or to make profits. Up to the reign of Nero the denarius had maintained its Republican weight and fineness and had full intrinsic value, but, thanks to the presence of a gold coinage also of full intrinsic value, this system was becoming unsustainable. Nero therefore debased the denarius and reduced its weight, creating a kind of token silver coin backed up by a plentiful supply of full-bodied gold coins.⁴⁷ Roman currency was thus operating with gold as the standard of value.⁴⁸ In this way Mommsen posited that the coinage from Nero onwards was a different kind of currency from the strictly ‘Augustan’: it was in part fiduciary. Trajan maintained the weight but reduced the fineness further. This was the first occasion that Trajan had been proposed as a point of change. Nevertheless the Trajanic changes would seem to belong to Mommsen’s Neronian system, rather than constituting a separate phase. Trajan also recalled and reminted the finer Republican coins still in circulation, and by doing so profited.⁴⁹ However, public confidence in the denarius was sustained because it was backed by plenty of gold of full value.⁵⁰ Mommsen thus made it clear that the value of the silver coinage did not depend on intrinsic worth.

A monetary crisis commenced when Septimius Severus debased the denarius to about 50%-60% fine, threatening the stability of the whole monetary system.⁵¹ Its credibility was further undermined when Elagabalus ordered that all taxes be paid in gold and when emperors began issuing gold coins of varying weight.⁵²

Crucially, Mommsen identified Caracalla’s new coin as the one that precipitated the crisis.⁵³ Although its weight and fineness suggested it was worth one-and-a-half denarii, as earlier scholars had proposed,⁵⁴ he argued that it was ‘ein *binio* oder Doppeldenar’.⁵⁵ It was thus a form of debasement, albeit one that did not involve reducing the fineness. He also argued that it could not have been called a denarius, and proposed two other possible names, both taken from the *Historia Augusta*: ‘aurelianus’ or ‘antoninianus’.⁵⁶ Neither name is regarded as credible today, but the latter one stuck, while the term ‘aurelianus’ is now applied to the reformed radiates of Aurelian and his successors. In spite of modern scholarly attempts to rebrand the coin as a ‘radiate’, Mommsen’s ‘antoninianus’ remains common currency.

The new coin thus took centre stage in the account of the collapse of the Roman monetary system. Its introduction by Caracalla had signified a major debasement but subsequent reductions in fineness reduced its value still further. Proof that it was heavily overvalued could be adduced from the number of contemporary forgeries. Not only was quality to blame, but quantity too: for Mommsen, the huge size of antoninianus hoards illustrated the oversupply of currency and its general worthlessness.⁵⁷ Eventually the coin became a valueless token, like paper money, that confirmed the State’s bankruptcy between the reign of Gallienus and Diocletian’s reforms:

⁴⁶ Mommsen 1851; 1860.

⁴⁷ 1851: 218; 1860: 767-9.

⁴⁸ Mommsen 1860: 767.

⁴⁹ 1860: 758-9.

⁵⁰ 1860: 826.

⁵¹ 1860: 826.

⁵² Elagabalus: *SHA* Severus Alexander 39; Mommsen 1860:

827; gold of varying weight: 1860: 826.

⁵³ 1860: 830.

⁵⁴ E.g. Pinkerton 1808: 141-2.

⁵⁵ 1860: 828.

⁵⁶ Aurelianus: *SHA* Probus 4.5-6; *antoninianus*: *SHA* Bonosus 15.8.

⁵⁷ Mommsen 1860: 830.

‘Das gesammte römische Münzwesen in der Epoche von Gallienus bis auf die Mitte der Regierung Diocletians lässt sich dahin charakterisieren, dass der Bankerott in Permanenz und die Münze, die diesen Bankrott ausdrückte und in der er sich vollzog, das Papiergeld jener Zeit, der Antoninianus war.’⁵⁸

In the Duc de Blacas’s French translation of the *Münzwesen* this passage is faithfully reproduced, but with a significant embellishment:

“Le système monétaire romain, depuis l’époque de Gallienus jusqu’au milieu du règne de Diocletien, peut être considéré comme une banqueroute en permanence. La monnaie qui servit à consommer cette banqueroute fut l’Antoninianus que l’on pourrait appeler l’*assignat* de cette époque.”⁵⁹

The reference to ‘assignats’ in this context is interesting. These were paper notes issued by the French revolutionary authorities between 1789 and 1796, and initially were backed up by property confiscated from the church and (later) the aristocracy.⁶⁰ To begin with, they were successful in reducing government debt, but later, with the government unable to plug the gap between income and expenditure, the State came to rely on the issue of assignats to cover its debts. With no proper restriction of their supply, the value of the assignats came to surpass the value of the property, and they were seen as the cause of hyperinflation. Like Diocletian, the Government tried to halt rising prices by setting price ceilings in the *maximum général* of September 1793 and, like Diocletian’s Edict, the *maximum* ultimately failed. Hyperinflation reached 80% in June 1795.⁶¹ This comparison with the assignat established a direct association between the antoninianus, fiscal deficits, and hyperinflation caused by oversupply of money – themes still associated with the denomination today.

Not everyone agreed with Mommsen’s argument about the value of Caracalla’s antoninianus. Friederich Hultsch considered its weight and fineness to be an indicator of its value (which he argued was 1¼ denarii or 5 sestertii), so that its introduction did not represent a debasement.⁶² The story of third century hyperinflation, so central to modern accounts of the evolution of Roman coinage, had yet to achieve notoriety. It seems to have been of little interest to the majority of nineteenth-century numismatists, still less was the idea of the antoninianus as an overvalued double denarius considered a key fact in the history of Roman coinage. Henri Cohen, whose *Description historique des monnaies frappées sous l’empire romain* became the standard reference until the publication of *RIC*, had almost nothing to say on matters of fineness and metrology.⁶³ Stevenson’s *Dictionary of Roman Coins* (1889) has no entry for ‘antoninianus’, nor does he mention the denomination under the entries for ‘Caracalla’ or ‘denarius’; the only acknowledgement appears to be under the entry for ‘Balbinus’ (one of the emperors of AD 238 who reintroduced the antoninianus), where he noted that ‘the large-sized silver of this emperor has the head with radiated crown’ whereas ‘the smaller size has the head laureated’, and under the entry for ‘Pupienus’.⁶⁴ Perhaps this lack of interest in the inflationary potential of debasement and overproduction of coins need occasion no surprise. In the late nineteenth century the leading world economies (Britain, the United States and Germany) had no inflation; instead, from about

⁵⁸ Mommsen 1860: 830.

⁵⁹ Mommsen 1873: 147.

⁶⁰ On the assignat inflation, see White 1995; on the objects themselves, see Lafaurie 1981.

⁶¹ White 1995: 246.

⁶² 1862: 242-3.

⁶³ Cohen 1880.

⁶⁴ Stevenson 1889: 122, referencing Akerman 1834 I: 462. Under Pupienus Stevenson notes ‘the silver is of two sizes, the larger of which exhibits the head of this emperor with the radiated crown’ (1889: 670).

1880 to 1913 they were experiencing slight deflation.⁶⁵ The assignats were a distant memory; besides, they had been made of paper, not precious metal.

The first volume of *Paulys Real-Encyclopädie* (1894) contained an entry on the ‘antoninianus’ by Wilhelm Kubitschek. He reported Mommsen’s idea that it was a double denarius and noted Hultsch’s argument that it was worth 1¼, but conceded that there was no agreement on the denomination’s value.⁶⁶ The uncertainty, or indifference, carried over from the nineteenth to the twentieth centuries. George Francis Hill in his handbook of 1899 noted the ‘degradation of the silver coinage in the third century’ but has little to say about its effects.⁶⁷

However, some were in favour of Mommsen’s interpretation, even if they did not credit him with the idea. Sir John Evans, who published a large mixed hoard of denarii and antoniniani in 1898, argued (without much substance) that the ‘argenteus Antoninianus’ was worth two denarii.⁶⁸ Francesco Gnechi’s handbook *Roman Coins* (which may have influenced Evans) had more to say, and his brief overview owes much to Mommsen.⁶⁹ Gnechi’s sketch outlined a gradual but continuous degradation of its silver content. Nero was the first to lower the weight and fineness of the denarius; then the base metal content rose to 15%-18% under Trajan; 20% under Hadrian; 25% under Marcus Aurelius; 30% under Commodus; and 50%-60% under Septimius Severus: the incremental decline with which we are all familiar. He stated as fact Mommsen’s proposal that Caracalla’s new coin was ‘a Double Denarius or Argenteus Antoninianus’, thereby implying that Double Denarius had been its original name. The Double Denarius was only 20% fine (a false claim that even contemporaries could correct), but ‘very soon degenerated until it did not contain more than 5% of silver and at last was hardly to be distinguished from bronze’. A brief mention was made of a loss of public confidence, mainly because of the State’s supposed refusal to accept the debased coin in taxes, but we find none of the drama that pervades twentieth-century accounts.⁷⁰

Gradually, however, a new consensus appeared to be forming, but it was one that refuted Mommsen’s idea that the antoninianus was a double denarius. In his own contribution to the subject of the ‘decline and fall’ of the coinage, Sir Charles Oman argued that, since the weight of the antoninianus was one-and-a-half times that of the denarius, it had been worth one and a half denarii or six sestertii.⁷¹ Nevertheless, Oman referred to the purchasing power of ‘wretched’ later antoniniani under Gallienus having ‘dwindled away to next to nothing’.⁷² Even so, he viewed Caracalla’s coin as monetary adjustment, not a fiscal debasement.

More followed. In his important article on the Roman monetary system, published in the same year that the *Daily Chronicle* reported Lenin’s plan to destroy the power of money, E. H. Sydenham followed the opinion of Charles Oman. The antoninianus was worth 1.5 denarii, and its introduction represented an adjustment to the silver and gold coinage.⁷³ Sydenham reported that his colleague, Harold Mattingly, had proposed accordingly that Caracalla’s aureus was worth 20 antoniniani or 30 denarii.⁷⁴ It was true that later the antoninianus became ‘a mere apology of

⁶⁵ Bordo et al. 2009.

⁶⁶ *RE* I, s.v. *antoninianus*: ‘keine Einigung über die ursprüngliche Wertung des A.’

⁶⁷ Hill 1899: 51.

⁶⁸ Evans 1898: 2: ‘It is difficult to say what relation these larger pieces bore in the currency to the smaller ordinary *denarii*, though not improbably they were double *denarii*’. No mention is made of Mommsen.

⁶⁹ For what follows, see the English translation of Gnechi 1903 (based on his 1896 Italian version): 121-3. Again, Mommsen is not mentioned.

⁷⁰ Gnechi 1903: 122-3: ‘The discredit to which this silver coinage had fallen was the result of greed and indeed we may say of the dishonesty of the State which issued these valueless coins but refused to accept them and as early as the reign of Elagabalus ... issued a decree that the public payments of taxes should be made in gold.’

⁷¹ Oman 1916: 45.

⁷² 1916: 51.

⁷³ Sydenham 1919: 132.

⁷⁴ 1919: 134.

plated copper', contributing to the 'collapse of the Augustan system' under Gallienus, but while he mentions loss of confidence in the coinage, there is hardly any hint of a general economic collapse – merely in passing it is suggested that 'its purchasing power must have dwindled to a minimum'.⁷⁵

Most strikingly, the first volume of *RIC*, written by Mattingly and Sydenham and published in 1923, likewise espoused the argument that an antoninianus was worth 1.5 denarii,⁷⁶ giving no hint that some scholars had suggested otherwise. The introductory section of this first volume covered the whole range of Roman imperial coinage from Augustus to Diocletian, but there was nothing on inflation, or economic dislocation caused by debasement.

Given that *RIC* had endorsed the notion of the antoninianus as a monetary adjustment rather than a debasement, one might have expected Mommsen's proposal to have become the minority view. But in fact the opposite happened. Central to this reversal was one the opinion of the authors of *RIC* himself. Harold Mattingly, who had apparently agreed with Sydenham prior to the 1920s, had clearly changed his mind a few years later. In his magisterial survey *Roman Coins*, first published in 1927, Mattingly wrote of the varying opinions on value of the antoninianus, and came down decisively in favour of Mommsen (though the latter is not mentioned): 'There can be little doubt that 2 is the right figure. The Government was evidently concerned to increase the volume of the coinage; the expenses of the State were steadily mounting and the loss of gold and silver in foreign trade and in articles of luxury was still felt.'⁷⁷ He saw proof of the antoninianus's overvaluation against the denarius in the fact that the two denominations did not circulate together and that the Roman State had apparently found it difficult to mint both simultaneously.⁷⁸

Like Mommsen, Mattingly now argued that both quality and quantity of the antoniniani had terrible consequences for the Roman economy. But what had caused him to reverse his opinion? The answer may lie more in contemporary events in the first quarter of the twentieth century than in any new insight into third century monetary history. With the First World War the long period of currency stability on the gold standard had come to an end. The hyperinflation experienced in Europe and Russia, and particularly that in the Weimar Republic between the summer of 1922 and autumn of 1923, was to provide an even more extreme analogy for the superabundance of debased antoniniani than the hyperinflation caused by the assignats. This event rapidly established itself as the model for the degradation of currency through oversupply.⁷⁹

The story of this hyperinflationary episode need not detain us, except in those aspects that are important to this argument. Crippling war debts affected many countries, but none more so than Germany, a large part of whose debts had been imposed by the victorious Allies. The government, being unable to exact sufficient revenues from the people, resorted to printing money. The runaway inflation of 1922-3 destroyed savings and disrupted commerce, led to rioting and the interruption of food supplies, and was beyond government control by the autumn of 1923. The very legitimacy of the State came under threat. The mark fell from 18 billion to the pound on October 15 to 18,000 billion to the pound sterling on November 20. German currency had become worthless and the presses could not keep up with the accelerating rate of

⁷⁵ 1919: 139.

⁷⁶ *RIC* I: 29.

⁷⁷ Mattingly 1927: 126.

⁷⁸ The first of these arguments had later to be discarded, because it was clear from hoards that they did circulate together. The second derives from the fact that under

Elagabalus (AD 219-222) the antoninianus was discontinued, and then revived under Balbinus and Pupienus (AD 238), after whom the denarius ceased to be issued in large quantities (save for one large issue in AD 240-1).

⁷⁹ There is a copious literature on the Weimar inflation. See, for example, Fergusson 1975.

depreciation. When the paper mark reached one million millionth of a gold mark in November 1923, a new, temporary paper currency, equal to a gold mark, was introduced: the Rentenmark. One million million old marks equalled one gold mark, which equalled one Rentenmark. It was, as Fergusson puts it, ‘a confidence trick’,⁸⁰ but public confidence was what mattered, and it worked long enough for the situation to stabilise in spite of the fact that the money supply was still increasing.

The disaster had been foreseen by some; most famously, by John Maynard Keynes, whose widely-read manifesto *The Economic Consequences of the Peace*, written in 1919, had warned European governments of the dangers of printing money in order to cover their war debts.⁸¹ In the aftermath of the Weimar inflation his arguments concerning the destructive power of printing money in Germany seemed prophetic. Not only the Germans, but the French and other indebted nations such as Austria, Hungary, Poland and Russia were indulging in the overproduction of banknotes in an attempt to avoid borrowing or raising taxes:

“The inflationism of the currency systems of Europe has proceeded to extraordinary lengths. The various belligerent governments, unable, or too timid or short-sighted to secure from loans or taxes the resources they required, have printed notes for the balance.”⁸²

The dangers, he argued, could not be graver. Keynes cited Lenin on the destructive power of the forces about to be unleashed, noting that ‘the best way to destroy the capitalist system was to debauch the currency. By a continuing process of inflation, governments can confiscate, secretly and unobserved, an important part of the wealth of their citizens. By this method they not only confiscate, but they confiscate *arbitrarily*; and while the process impoverishes many, it actually enriches some. The sight of this arbitrary rearrangement of riches strikes not only at security, but at confidence in the existing distribution of wealth.’⁸³ There is no evidence of Lenin’s famous quip about debauching the currency in any of Lenin’s own writings, and Keynes may have taken it from the anonymous interview in the *Daily Chronicle*.⁸⁴ But on this point Keynes was clear. Without sound money a state cannot survive and society will be undermined. The lesson was stark, and it was a lesson that, after the fact, would be retro-fitted to third-century Rome.

That the Weimar episode gave the notion of the antoninianus as a debasement new credibility and relevance is apparent in numerous works on Roman coins, not least Mattingly’s own:

“Looking back ... we see that the financial miseries of the third century amounted to a formal state-bankruptcy, brought about by a long failure to adjust expenses to income. The best of all remedies would have lain in a cutting down of expenditure ... A second alternative would have been recognition of the deficit and the funding of a national debt. This was something beyond the ken of the Imperial as of the Republican statesman ... The State emerged, as modern Germany has emerged from a similar crisis, but only at a cost of individual happiness and well-being that is well-nigh incalculable.”⁸⁵

The echoes of Keynes may be coincidental, but there are more convergences, such as the speculation that a few made fortunes while most suffered:

⁸⁰ Fergusson 1975: 122.

⁸¹ Keynes 1919: 148-157.

⁸² Keynes 1919: 150-1.

⁸³ Keynes 1919: 148; echoed by Fergusson 1975: iv: ‘It

goes far to prove the revolutionary axiom that if you wish to destroy a nation you must corrupt its currency’.

⁸⁴ White and Schuler 2009.

⁸⁵ Mattingly 1927: 193.

“The results of the crash must have been disastrous. Trade must have been shaken to its foundation, prices must have risen to fabulous heights and individual fortunes must have been swallowed up by the cataclysm. No doubt, then as in our own time, the violent disturbance of credit gave occasion to the daring speculator to build up gigantic fortunes.”⁸⁶

The Germans, who had first-hand experience of the Weimar catastrophe, were soon in no doubt about the antoninianus’ role in debauching the currency, but were initially less certain about the double denarius. Bernhart’s *Handbuch zur Münzkunde der römischen Kaiserzeit*, published in 1926, was agnostic about the value of the antoninianus, noting the different opinions about its face value. So was Friederich von Schrötter’s *Wörterbuch der Münzkunde*, published in 1930.⁸⁷ But Kurt Regling, who wrote the relevant entry, could appreciate that debasement of the coin could have caused hyperinflation, just as on more recent occasions:

“Gehalt und Gewicht sinken bald, bis gegen Ende der Regierung des Valerianus ein plötzlicher Sturz des Silberfeingehaltes von etwa 33% mit kurzen Zwischenstufen auf 4-6% eintritt, der, da die Goldm. auch längst nicht mehr reichlich und stetig geprägt wird, in der Geld- und Wirtschaftsgeschichte des röm. Reiches eine ähnliche Katastrophe herbeigeführt haben muss, wie sie in Deutschland die Kipperzeit 1618/23 und die Inflationszeit 1919/23 bedeuten [my emphasis].”⁸⁸

If hyperinflation had accompanied the debasement of the antoninianus, how had the Roman state managed to avoid total destruction? Could the inflation have been arrested by the introduction of a new currency, like the Rentenmark? If so, which coinage was it?

In his widely-read study *Geld und Wirtschaft im römischen Reich*, published in 1932, Gunnar Mickwitz appealed to modern experience in proposing that Aurelian had created stability with his reform in AD 274. Here was Rome’s Rentenmark: the new radiate coinage of Aurelian.⁸⁹ However, he too was not convinced that the antoninianus had been originally designed as an inflationary coin. For him, it was an attempt by Caracalla to reintroduce a coin worth 1/25th of an aureus after the debasement of the denarius under Septimius Severus had altered the ratio.⁹⁰ In a near contemporary article specifically about the antoninianus, Benno Hilliger likewise argued against Mommsen’s double denarius, preferring Hultsch’s valuation of 1¼ denarii.⁹¹ Such views still allowed room for coinage reforms as monetary adjustments, and while they did not deny the possibility of financial catastrophe in the third century, they did absolve Caracalla of being the instigator of hyperinflation.

Walther Giesecke’s *Antikes Geldwesen* of 1938 took a different line on the antoninianus, one more in line with Mattingly’s opinion. A whole chapter of the book was devoted to the monetary crisis of the third and fourth centuries, and it was strongly influenced by Mommsen’s account. It

⁸⁶ Mattingly 1927: 192. See also Mattingly 1960: 125: ‘the Government took the final plunge and flooded the market with masses of base silver (billon) scarcely distinguishable from copper. It was little less than absolute bankruptcy. Business must have been terribly hampered and the losses of private individuals must have been heart-breaking.’

⁸⁷ Von Schrötter 1930: 37, ‘argenteus’.

⁸⁸ The Kipperzeit episode during the Thirty Years’ War provided a less dramatic, but equally valid, comparison to the debasement of the antoninianus. States debased the

coinage rather than raise taxes, leading to a collapse in confidence in their currencies.

⁸⁹ Mickwitz 1932: 59: ‘Die moderne Erfahrung hat gezeigt, dass es zu Inflationszeiten nicht die Hauptsache, nicht einmal immer vorteilhaft ist den ursprünglichen Münzwert wiederherzustellen, sondern dass es das wichtigste ist, eine neue Gleichgewichtslage der Münze zu finden, um sie wieder stabil zu machen.’

⁹⁰ Mickwitz 1932: 34.

⁹¹ Hilliger 1933: 144.

began by reminding the reader of the necessity of sound monetary policy for a healthy economy, and the consequences of poor management such as the Germans had experienced during the inflation between 1919 and 1923.⁹² For Giesecke the antoninianus was a double denarius, and he referred to Mommsen's arguments.⁹³ Again, quantity and quality had driven its value down. The huge quantities of antoniniani found in hoards proved that production had been on a massive scale. Indeed, the gigantic scale of production could be gauged by the number of mint workers involved in the revolt in Rome under Aurelian, in a battle that left 7,000 people dead. Giesecke noted by way of a parallel that in Germany at the height of hyperinflation in 1923 20,000 workers had been employed in printing money.⁹⁴ By the time of Gallienus, fixed weights of silver had emerged as standard of value (just as the dollar had become a point of reference during the Weimar inflation), so that both gold and copper could be subject to inflationary pressures.⁹⁵ The reader is left with little doubt as to the importance of the European experience between 1919 and 1923 as a new analogy.

At the same time the study of the ancient economy had been gaining momentum. The contrast between the late Empire and the earlier one was drawn, with the third century crisis the catalyst for change. Already by 1926 Rostovtzeff's *Social and Economic History of Ancient Rome* was emphasising a 'ruinous' rise in prices, accompanied by their instability, in the third century.⁹⁶ Coinage, and especially the debasement and weight reductions charted for the denarius, became an important element of the overall narrative. In Rostovtzeff's opinion the third century nadir of the antoninianus under Claudius II and Aurelian had witnessed the switch from a metallist conception of currency to a chartalist one – a theme that still finds resonance today.⁹⁷ Caracalla had 'replaced the denarius by the antoninianus' (thereby implying that its purpose was to supplant the old coinage) and this was 'the turning-point in the gradual depreciation of the silver currency', leading to a 'rapid increase in prices'.⁹⁸

Such accounts prompted the search for a tipping-point, a point of no return, when the Government lost control of the situation and debasement and inflation became irreversible, just as European governments had lost control in the 1920s. Caracalla's antoninianus had clear potential in this regard, but some thought they could see the seeds of Roman money's destruction much earlier – possibly under the Antonines, or under Trajan (who had debased the denarius and recalled high quality Republican coinage), or even Nero (cast as the first impecunious tyrant to meddle with Augustus' system).⁹⁹ No clear consensus emerged about the validity of these earlier tipping points, but they hinted that the Roman State might have been in permanent fiscal difficulty from the Julio-Claudians onwards. The notion of a military colossus with financial feet of clay was an appealing one, and the concept of the antoninianus as a double denarius fitted perfectly. It features as an important cause of trend towards 'State-socialism' in Friederich Oertel's essay for the twelfth volume of the *Cambridge Ancient History* (1939). Military expenditure increased and the coinage was debased in order to provide more coin, causing inflation. The process began early, with Nero, continuing under Trajan and Marcus Aurelius. Caracalla's double denarius precipitated serious inflation that was only halted by Aurelian's reform.¹⁰⁰

Of all those writing on the subject of third century debasement, Mattingly was undoubtedly the most influential, to the extent that it is his argument in favour of the double denarius, rather

⁹² Giesecke 1938: 161.

⁹³ Giesecke 1938: 169.

⁹⁴ Giesecke 1938: 172.

⁹⁵ Giesecke 1938: 174.

⁹⁶ Rostovtzeff 1926: 419.

⁹⁷ Rostovtzeff 1926: 419.

⁹⁸ 1926: 417.

⁹⁹ Bolin 1958: 234 (Septimius Severus).

¹⁰⁰ Oertel 1939: 257, 262, 269.

than Mommsen's, that is quoted today.¹⁰¹ His opinion that the antoninianus was 'probably a double denarius' was enshrined in *RIC* IV.1, published in 1936, but it was not backed by any arguments.¹⁰² Perhaps Sydenham, its co-author, still harboured doubts. But in a single-authored article on the Dorchester hoard published in 1939, however, Mattingly laid out the case. The antoninianus was designed to drive out the denarius. Initially 'the denarius resisted', and the plan failed, but Balbinus and Pupienus, in dire need of cash for their war against Maximinus, reintroduced the antoninianus 'as a means of inflation'.¹⁰³ The joint rulers of AD 238 are blamed for reintroducing the denomination that would lead to the 'collapse' or 'decline and fall of the antoninianus', which Mattingly dated to AD 258-259.¹⁰⁴ If AD 238 was the true tipping-point, AD 258-259 witnessed the crash:

"Up to AD 258-259 the business world maintained its confidence in the stability of the silver coinage. It was only then, when floods of debased metal swept the markets, that holders of the older and better silver began to protest... The first issues of debased coins may have caused little uneasiness; it was their issue, in masses to swamp the markets, that swept away public confidence."¹⁰⁵

In the following year Mattingly published the British Museum Catalogue *BMCRE* IV (1940). This time all uncertainty about the value of the antoninianus was swept aside: 'There is no serious doubt that its value was two denarii, not the one and a half or the one and a quarter that have also been suggested'.¹⁰⁶ The denomination was even listed as a 'Double Denarius' rather than an antoninianus in the catalogue. This time four arguments for a double denarius were set out.¹⁰⁷ Some of these had already been advanced by Mommsen: 1) it was simpler than any other value; 2) the radiate crown distinguished the dupondius (a double as) from the similarly-sized as with its laureate crown (though the fact that the dupondius was also made of an entirely different, more valuable metal than the as was passed over in silence); 3) the antoninianus had driven the denarius out of circulation – and, since 'bad' money drives out 'good', the antoninianus must have been overvalued with respect to the denarius; 4) Caracalla had raised army pay, and it was speculated that he had used the coin to pay his troops: 'we suspect, without being able to prove, that the double denarius was connected with a raising of pay of the soldiers. Perhaps they now received a double denarius a day'.¹⁰⁸

Here, perhaps, was a major tipping-point, albeit one concerning the intellectual history of Roman numismatics rather than the fiscal history of Rome itself. After the publication of *BMCRE* IV.1 doubts about Caracalla's new coin being a significant debasement were side lined.

Contrary opinions had little effect. In 1939 G. C. Haines presented an account of the 'decline and fall' of the Augustan currency to the Royal Numismatic Society. Unusually, Haines saw Caracalla not as the instigator of decay, but as an emperor who attempted to halt that decay. While treating the 'ultimate bankruptcy of the Roman Empire in the third century',¹⁰⁹ Haines absolved Caracalla by supporting the notion of the antoninianus as a one-and-a-half denarius piece. Mattingly's account tended to stress that the mismanagement leading to the decline and collapse of the coinage had been confined to the third century, but Haines regarded a debasement

¹⁰¹ Duncan-Jones 1994: 222 n. 39. More often, however, no supporting arguments are quoted by proponents of the double denarius.

¹⁰² *RIC* IV.1: 85.

¹⁰³ Mattingly 1939: 44.

¹⁰⁴ Mattingly 1939: 33; 39; 60.

¹⁰⁵ Mattingly 1939: 34.

¹⁰⁶ *BMCRE* IV.1: xvii.

¹⁰⁷ *BMCRE* IV.1: xviii.

¹⁰⁸ *BMCRE* IV.1: cciii.

¹⁰⁹ Haines 1941: 17.

under Commodus (AD 161-92) as ‘the first real blow to public confidence’.¹¹⁰ Confidence was further shaken by Severus’s debasement at the end of the second century, after which the denarius began to depreciate relative to gold. However, Haines argued that Caracalla attempted to reverse the situation. His antoninianus was not a debasement, but a restoration of the pre-Severan-debasement denarius – at a different weight, but with the same silver content, and Haines laid out counter-arguments to those in favour of a double denarius.¹¹¹ In this way Caracalla restored public confidence in the currency. His radiate coin was therefore not a new denomination, but the revival of an old one; a conservative measure, rather than an innovation. It was Balbinus and Pupienus who, having little gold at their disposal, resorted to striking ‘very large quantities’ of antoniniani, and this seems to mark the beginning of the true catastrophe, just as it had for Mattingly.¹¹² A combination of high output and debasement saw the currency depreciate until, in AD 258, ‘the issue of these coins, the metallic value of which was far less than four sestertii, caused a panic, the banks refused to change the debased issues and the local currencies in the East were ruined’.¹¹³ The final page of the article presented a graph of the sort with which we are familiar, showing the decline of the silver content between Augustus and Diocletian, based on Hammer (1908) and additional materials supplied by Mattingly (Fig. 1).¹¹⁴

This positive view of Caracalla did not find support. The case for incremental debasement and inflation proved much more compelling than arguments that favoured monetary adjustments. In an essay on the Roman economy published in 1946, Harvard scholar Mason Hammond set out the case for the roots of the third century inflation extending back to at least the second century. Its outlook was ‘Rostovtzeffian’ in that it charted the transition from a liberal economy to the ‘totalitarian State of Diocletian and Constantine’ (a theme particularly favoured by scholars in the United States, it seems).¹¹⁵ A key symptom ‘of the strain on government finances’ was the condition of the coinage, and ‘difficulties with respect to coinage’ during the first and second centuries was considered one of the symptoms of ‘the beginning of disintegration’: ‘this depreciation of the silver content suggests that even during the second century the income of the government was inadequate to meet its expenses unless the supply of precious metals was spread more thinly.’¹¹⁶ The fiscal weakness of the Empire prior to the third century was now gaining importance. While debasement appeared to be progressive during the second century, it was possible to detect the problem as far back as the reform of Nero. While that emperor’s reduction in the weight of the aureus could have been the result of a rise in the value, Hammond considered the debasement of denarius ‘more dangerous, in the example it set’.¹¹⁷ He conceded that any depreciation during the second century had little effect on prices, and that it was only in the third century that the problem became severe. The introduction of the antoninianus precipitated the collapse, for if, as Hammond believed, the coin was worth two denarii, then debasement ‘became severe under Caracalla, and proceeded rapidly throughout the rest of the third century’. It should come as no surprise that the Weimar hyperinflation was invoked: ‘excessive depreciation can destroy faith even in token money, as in Germany in the inflation of 1920’. Loss of public faith led to inflation

¹¹⁰ For this and what follows, see Haines 1941: 24-25.

¹¹¹ Haines 1941: 29-32. This is what Mickwitz had argued. Note also Le Gentilhomme 1946, who regarded the antoninianus as a 1.5 denarius piece.

¹¹² Haines 1941: 35.

¹¹³ Haines 1941: 38.

¹¹⁴ Haines 1941: 47.

¹¹⁵ Hammond 1946: 64.

¹¹⁶ Hammond 1946: 65, 77-8. The ancient economy was based on ‘hard cash’ with no ‘long-term public debt’ (though seems to allow for limited private credit; Hammond 1946: 80). He concluded that ‘in finance, expansion was restricted to the available supplies of precious metals’.

¹¹⁷ For this, and what follows, see Hammond 1946: 78-79. Hammond considered that Roman society valued coins for their intrinsic value, not their token value.

and ‘a trend towards barter and payment of taxes in kind’, so that the empire evolved from a money economy to a ‘natural’ one – invoking the sort of moneyless society that the Russian Commissariat of Finances had yearned for in 1919.

“The later emperors came to feel that the individual existed for the State, not the State for the individual. Everything was sacrificed to the maintenance of a political structure which was no longer fulfilling any function beyond that of its own preservation.”¹¹⁸

However, during the 1950s a new school of thinking about the Roman economy emerged, and with it, new ideas that regarded Roman debasements as symptoms of the underlying mentality of those in the Roman State who were responsible for finances. This approach was based on a ‘substantivist’ or ‘primitivist’ reading of the ancient economy developed between the 1950s and 1970s, most famously characterised by (some might say unfairly) Moses Finley at Cambridge. However, for the Roman Empire, and for coinage in particular, another Cambridge scholar, A. H. M. Jones (whom Finley succeeded as chair of ancient history), was more influential. The general background to substantivism in ancient economics, and its reaction to what were seen as modernising interpretations by figures like Rostovtzeff, are too well-known to warrant coverage here.¹¹⁹ In the opinion of Jones ‘the economic knowledge of the ancients was childish’, and most monetary explanations for changes to Roman imperial coins, such as adjustments to compensate for changing prices of precious metals or to increase the money supply, were dismissed as ‘incredible’.¹²⁰ They were anachronistic and had to be false. Simple fiscal explanations, particularly if they emphasised the ignorance and short-sightedness of the State when faced with financial difficulties, were much more attractive.¹²¹

Unlike many scholars writing on the ancient economy Jones had a thorough knowledge of coins, and he was able to employ that knowledge in original and imaginative ways. In one of his earlier economic essays, originally published in 1953, he examined the causes of Roman inflation.¹²² For Jones, inflation during the fourth century surpassed that of the third, as he was able to demonstrate through documentary sources; but nonetheless the third century witnessed a substantial increase in prices.¹²³ He concluded that this third century inflation ‘resulted from the debasement and multiplication of the standard coin of the Empire’,¹²⁴ which had driven gold out of circulation and forced a switch to taxation in kind.

There was nothing much that was new in this, but Jones’s analysis went much further. Was there an underlying problem with the State’s approach to coinage that could explain the process of debasement and decline? Jones argued that there was. The Roman Empire was a closed economy over which neighbouring states had no economic influence. According to him, within the Empire the supply of metals for coinage was fairly constant, so a shortage of silver, or changing prices of metals, could not explain the process.¹²⁵ He argued instead that the problem was fiscal. The

¹¹⁸ Hammond 1946: 90.

¹¹⁹ See, for example, the cautious critique of Saller 2005.

¹²⁰ Jones 1974: 74. He was particularly concerned about the influence of modern politics on our understanding of antiquity, hence his opposition to Rostovtzeff’s view of the late Empire: Sarantis 2008: 20.

¹²¹ Jones himself did concede that monetary adjustments were sometimes possible, but he clearly preferred fiscal explanations. His aim in illustrating the ‘primitive’ state of the Roman economy throughout its history, however, was intended to overthrow the orthodoxy that the early Roman

Empire had been a progressive and liberal place and that late antiquity was a grim totalitarian response to an economy that had spun out of control in the third century. See Ward-Perkins 2008: 193-6.

¹²² Jones 1974: 187-227.

¹²³ Jones 1974: 195.

¹²⁴ Jones 1974: 224.

¹²⁵ His essay ‘Numismatics and history’ proposed a system of free minting of silver, where individuals could bring metal to the mint to have it converted into coin: 1974: 72.

system of taxation was extremely inefficient, so the State faced a gap between revenues and expenditure. Unlike modern states, Rome did not secure loans to cover its debts, so the only solutions available were either to raise taxes or to debase the coinage.¹²⁶ Higher taxes would be unpopular with the elites, so coin debasement was the solution. He cited as evidence the fact that those emperors who had debased the coins had fought expensive wars: Trajan; Marcus Aurelius; Septimius Severus; and Caracalla.¹²⁷ What finally emerges in his conclusion is that the Roman State did have a rudimentary form of monetary policy: it was an inflationary policy, designed to cover State debts and to overcome continued shortfalls in revenue, which from Caracalla onwards could be achieved by assigning higher nominal values to coins – tariffing the antoninianus at 2 denarii, for example.¹²⁸ Here was a method of expanding the money supply without having to rely on the supply of metals. But Caracalla's double denarius was also the start of 'an inflationary spiral ... in which prices rose astronomically'.¹²⁹

Though Jones makes no mention of European inflation of paper money between 1919 and 1924,¹³⁰ this contrast of the Government's options, between raising taxes or securing loans on the one hand and manipulation of currency on the other, was a key feature of Keynes' critique of European inflationary policy in *The Economic Consequences of the Peace* and I wonder to what extent this analysis influenced Jones's approach to Roman inflation. Given what we have encountered so far concerning the link between the European experience of the 1920s and the interpretation of monetary developments in the third-century Roman Empire such a potential source of inspiration seems possible, even if it was only indirect.

At any rate, here was a paradigm that could explain not only the third century collapse, but the fact that the gradual incremental debasement of the denarius from the time of Nero onwards had not caused inflation. The financial weakness that was exposed during the third century extended back into the second, and even the first century AD; however, only after the State began assigning new values to coins, unconnected with their metallic value, did inflation truly take off. Every change to Roman imperial coinage was best understood as a debasement brought about by fiscal difficulties. Once this was accepted, the antoninianus could only be understood as a debasement, as Jones argued:

"There is no evidence what value was put on this coin, but there would have been no object in issuing it except to increase the number of denarii that could be got out of a pound of silver; I take it therefore that it was worth 2 denarii."¹³¹

While Mattingly's list of arguments in *BMCRE IV* provided supporting evidence for a double denarius, here was the key argument: if it were not a debasement, the antoninianus can have had no purpose, and accordingly it would never have existed.

Essentially this can be understood as a statement of the belief that all changes to Roman imperial coinage must have been fiscal debasements. The State needed coin to clear its debts, as explained by

¹²⁶ Jones 1974: 187-190.¹²⁷ Jones 1974: 194.

¹²⁸ Jones 1974: 224-5. In an earlier essay published in 1965, however, he seems to ascribe the invention of assigning higher nominal values to coins to Aurelian, not Caracalla: Jones 1974: 139.

¹²⁹ Jones 1966: 22.

¹³⁰ There is a vague allusion at least once, but not in the context of the third century: 'The copper currency [of the fourth century] was inflated at a speed and to a degree

paralleled only in modern times, and by a method, it would seem, analogous to that of the printing press, by arbitrarily assigning ever increasing face values to the coins' (1974: 224).

¹³¹ Jones 1974: 194. Note however that in his 1956 essay 'Numismatics and history' he stated that 'the name 'and face value of the coins which numismatists call 'antoniniani' ... [is] a matter of conjecture' (Jones 1974: 75).

Michael Crawford in 1970: ‘there is no reason to suppose that [coinage] was ever issued by Rome for any other purpose than to enable the State to make payments, that is, for financial reasons’.¹³² Pressure to debase came about because of rising costs of maintaining the empire coupled with a shortfall in revenues, resulting in a need to stretch the supply of precious metal across an ever-increasing quantity of coin. Debasement due to fiscal pressures was eventually seen as endemic, stretching back as far as Nero and possibly even to Augustus.¹³³ The history of Roman imperial coinage was the history of deficit spending. In the intellectual environment of the 1960s to 1980s, monetary explanations for change became increasingly unacceptable, and the study of coinage in antiquity diverged from the study of medieval coinage, where monetary explanations remained central.¹³⁴ Evidence for improvements in the quality of the silver and gold coinage, such as that initiated by Domitian, had been of considerable interest in previous decades,¹³⁵ but these were now regarded as doomed from the start. Nothing could halt the slide into oblivion, because the State either did not know or did not care about the effects of its deficit spending.

The view that Caracalla’s coin was an inflationary double denarius has pervaded ever since.¹³⁶ Its introduction was one of the most significant debasements in the history of Roman coinage, as Humphrey Sutherland explains in his handbook, *Roman Coins*:

“[Caracalla’s antoniniani] did in fact constitute the first great overt act of depreciation in the currency of the Roman Empire.”¹³⁷

Today, Mommsen’s arguments about the value of the coin he dubbed the antoninianus are accepted, even though he generally goes unacknowledged as its originator. This is hardly surprising. There is no need to acknowledge anyone as the inventor of the concept: the double denarius has simply become an historical fact, with the weight of scholarly opinion supporting

¹³² Crawford 1970: 46. Jones also seems to have come round to this view in a revision of his 1953 essay on inflation: ‘In general ancient governments put money into circulation by spending it.’ However, base metal was different: ‘What [the Government] did was to sell copper coins to money changers, who were usually licensed and sometimes held a monopoly ... and to demand payment from them in silver and gold’ (Jones 1974: 72, 219). State payments as the mechanism for coin distribution is now the dominant model, e.g. Mann 1986: 272, the state’s ‘only mechanism of disbursement was its own expenditure’.

¹³³ Crawford 1970: 48; 1975; Walker 1978: 106-148.

¹³⁴ For the perspectives of medievalists, see, e.g. Cipolla 1956; Spufford 1988. In the opinion of the economist Marcello de Cecco (1985), the ‘primitivist’ conception of Roman coinage is not an adequate description of money: if coinage does not fulfil a key function of money like exchange, it cannot function as monetary payment. For an attempt to apply the approaches of medievalists to Roman coinage, see Lo Cascio 1981 (an approach dismissed as unbelievable by many Romanists). Wassink 1991 also considers the role of metal prices in the history of debasement.

¹³⁵ Regling 1931; Bolin 1958: 223-31.

¹³⁶ Bolin 1958: 248: ‘the simplest solution is to take the antoninianus as corresponding to 2 denarii. There is no reason to doubt this’; Crawford 1975: 565: ‘There seems no doubt that it was a double-denarius; the argument that

its issue would otherwise have been pointless is by itself decisive’; MacMullen 1976: 259: ‘The equivalence of the antoninianus to two, not one-and-a-half, denarii has often been contested, but only the 2d.- value makes sense and gains increasing acceptance’; Walker 1978: 64: ‘we are therefore probably justified in continuing to see the antoninianus as intended to be worth 2 denarii, and as such to regard it as being effectively a debasement’. The number of works in which it is introduced as a double denarius are too numerous to list. See, for example, Callu 1969: 197; Petit 1974: 80, 199; Sutherland 1974: 218; Grierson 1975: 22; Crawford 1975: 565; 1978: 152; Casey 1980: 9; Tainter 1988: 136, 139; Potter 1990: 9; Duncan-Jones 1994: 222; Harl 1996: 128; Rathbone 1996: 322; Strobel 2002: 94; Corbier 2005a: 333-4; Metcalf 2010: 136. That said, not everyone was persuaded. Robert Carson, who in 1962 had described the antoninianus as an ‘inflationary double-denarius’ in *BMCRE* VI: 103, later doubted it because denarii and antoniniani were commonly hoarded together, and he subsequently argued in favour of a value of 1.5 denarii (Carson 1969: 129). Elio Lo Cascio, who favours monetary explanations for change, has also questioned the two-denarius valuation (1984). Others have suggested change, beginning with an initial value of 1.5, later changed to 2: Wassink 1991: 480-1; or an initial value of 2, later changed to 1.5: Bland 1996: 79.

¹³⁷ Sutherland 1974: 218.

it. But, as I have argued here, that opinion seems to have been coloured more by experiences of money in the late nineteenth and early twentieth centuries than by hard evidence from the third century.

It has been the contention of this essay that the end of the monetary stability brought about by the gold standard and the inflation experienced after World War I inspired a generation of numismatists and historians of the ancient economy to draw a parallel between the catastrophic hyperinflation of 1919-24, and especially that in Germany from 1919-23, and the debasement of silver coinage in the third century. As a result, Mommsen's account gained contemporary relevance in a way that had not been possible in the nineteenth century. Two very different models of inflation were employed to describe the third century case: one emphasising a link between the debasement of the silver coinage and price inflation; and another emphasising a link between the quantity of silver coinage and price inflation. The former viewed value as a natural and immutable property of objects; the latter understood the monetary standard as flexible and subject to market forces. The problem with the former explanation was that the price data available did not show hyperinflation occurring during the period of debasement. Jones attempted to overcome this problem by proposing that nominal re-tariffing of coins could have greatly increased the money supply, but by doing so he seems to fall back on the second explanation. The problem with the latter is that, as recent events following the debt crisis of 2008 have shown, a general increase in the supply of money does not automatically lead to price inflation. Other factors are also in play. In any case, the size of third century hoards is not necessarily any indication that money was oversupplied.¹³⁸ Large hoards of antoniniani may instead reflect the absence of high value 'intrinsic' money, such as aurei, for hoarding.¹³⁹ Noting that there was an upsurge in coin production is not the same as saying there was an increase in the overall supply of money. If the supply of coined money consisted mainly of antoniniani by the mid third century, then the supply of these coins would have needed expanding to make up for the absence of a large quantity of higher denominations. Given the recent arguments for an expansion of monetisation and coin use in this period, we cannot be certain that instead there was not instead an *undersupply* of coins.¹⁴⁰ In an environment where there was a high demand for coin and a high degree of confidence in the creditworthiness of the State, it is even conceivable that a fiduciary currency with little or no silver content could have succeeded. The success of the Rentenmark in 1923 reminds us that confidence is an important factor in creating monetary stability; but measuring confidence in the third century currency may well be beyond our capabilities.¹⁴¹ The observation that there were short periods of rapid inflation, such as under Aurelian or Diocletian, would be irrelevant to the success of a token currency if these inflationary episodes were interspersed with periods of price stability or low inflation. Most historians and numismatists, however, would consider the third century a hostile environment for the development of such institutions. It might have been better suited to the destruction of money, as many of those quoted above argued.

In this essay I have not ventured to furnish yet another opinion about the consequences of debasement, or on the value of the antoninianus. That was not the point of the exercise. Instead I have tried to give an account of the development of thoughts about the third century debasements.

¹³⁸ Duncan-Jones 2004: 44-5 'coin finds on a spectacular scale suggest that the volume of money was greatly expanded ... coin finds [i.e. stray finds from excavations, not hoards] suggest important changes in volume'.

¹³⁹ On the problem of third century gold, see Bland 2013.

¹⁴⁰ Monetisation: Rathbone 1996; Bland 2012: 521, 533;

Estiot 2012: 553-4.

¹⁴¹ The much-quoted papyrus P. Oxy. 1411, ordering Oxyrhynchite money changers to accept all coins except forgeries in AD 260, is hardly a sufficient measure. See West and Johnson 1944: 183; Rathbone 1996: 335-6.

I will, however, end with some questions. Given that perspectives on the Roman economy and on the nature of Roman money have changed so significantly in the last twenty years, do we still need the ‘great debasement’ of the third century to be a period of hyperinflation? Is a ‘decline’ and ‘collapse’ of the currency necessary to achieve the transformation to late antiquity? And if not, do we also need to be so certain that the radiate or antoninianus was an inflationary double denarius?

There is plenty of numismatic evidence of third century date to work with; whether it is the right sort of evidence for answering such questions is another matter. One day, perhaps, new evidence will provide solutions. At any rate, we probably need better monetary models to work with in order to make sense of this very difficult material. The recent interest in Roman credit invites us to think of other ways of looking at Roman coinage than simply as objects that enabled State payments. In the meantime, it is perhaps worth continuing to explore the history of our convictions. I leave it to Theodor Mommsen, discoverer of the double denarius, through the notes taken by his student Sebastian Hensel in 1883, to have the last word on the dialogue between Roman and modern money. It is a comparison that probably had more resonance in the nineteenth century than it does today, and only serves to emphasise the influence of contemporary perspectives on our understanding of the past: ‘If one wishes to know how a State is situated, one need only look at its coins; herein are reflected its fortune and misfortune, its decline and revival. This is still the case today: all countries – France, England, Italy, Germany, Russia – can be assessed more or less by their coinage’.¹⁴²

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¹⁴² Mommsen 1992: 216.

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