

*Precious metal coinages and monetary expansion  
in late antiquity*

The currencies of late antiquity were dominated by two substantial if quite distinct and partly competing coinages, the late Roman solidus, the leading gold denomination of the period, and the Sasanian drahm/drachm, the dominant silver one. The solidus and the drahm/drachm were each the exclusive standard of their respective monetary systems, so that, viewed as a whole, the currencies of late antiquity rested on a sort of 'double monometallism' where the subsidiary coinages were simply 'representatives' of the leading metal. This system, if we can call it that, survived for over three centuries till the Arab conquests, when it was subsumed into a new and more expansive empire whose monetary traditions were largely influenced by those of late antiquity.<sup>1</sup>

In this chapter I shall mainly focus on the solidus but argue that its evolution was characteristic of trends in late antiquity as a whole, that is, including the Sasanian Near East, and therefore conclude by looking at the drahm and its wider circulation along the eastern trade routes. The basis of the late Roman monetary system was a gold denomination struck at 72 to the pound. Assuming the conventional figure for the weight of the Roman pound, 327.45 g, is correct, then each full-weight piece would have weighed 4.5479 g.<sup>2</sup> Three features are remarkable about this coinage. First, its prevalence as the exclusive monetary standard broke with centuries of monetary tradition that had sought to run a viable bimetallic system, on the whole without success. Second, it was struck to an exceedingly high standard of fineness, especially after the monetary reform of the late 360s when new regulations were issued for the form in which taxes

<sup>1</sup> 'Double monometallism' is from R. Brunschvig, 'Conceptions monétaires chez les juristes musulmans (VIIIe–XIIIe siècles)', *Arabica* 14 (1967), 113–43, at p. 129: 'un monométallisme double à répartition territoriale'.

<sup>2</sup> The conventional figure is supported by *P. Oxy.* 1918 verso ii 35 (from an estate account). F. Herschend, 'A Case-Study in Metrology: The Szikáncs Hoard', *Tör* 23 (1990–1), 85–104, has now proved that a lighter Roman pound, of 322.3 g, was used in making payments to the Huns in the fifth century.

should reach the Treasury. As the late John Kent noted, 'late Roman gold coins were as fine as it was possible to make them'.<sup>3</sup> Finally, it was struck in substantial quantities and circulated very widely indeed.

For the circulation of the *solidus* we have not just the testimony of the gold hoards, of which a considerable number survive, though not always in their integral quantities, but also the more local day-to-day evidence contained in the numerous contracts, accounts and other kinds of documentation that survive in the papyri of the fourth to seventh centuries. There is also, of course, the evidence of the historical sources, including numerous references to the very substantial payments made in various contexts – donations to the church, payments to tribal federates, consular largesses and so on. What all of this evidence demonstrates is that there was plenty of gold in the empire, a massive stock of currency, so that *if* it can be shown that the reserves in the state's hands showed a declining trend over time (and I think this is certainly suggested by the Roman/Byzantine evidence), the explanation cannot be found in an *external* flight of gold<sup>4</sup> but has to be sought elsewhere. My own argument will be that much of the gold ended up in private hands, where it was *both* actively used and occasionally hoarded.

Most scholars today would agree that late antiquity was a period of considerable monetary wealth,<sup>5</sup> yet the wider implications of this fact for economic history remain subdued. A major reason for this is that the gold coinage is viewed primarily in fiscal terms, so that even though 'the monetary wealth of the empire ... is conceptually a much broader topic than the imperial finances',<sup>6</sup> the two are ultimately conflated in discussions of the late antique Mediterranean. One extreme formulation of this view appears in John Haldon's book on the seventh century where he says, 'the presence of gold coins has very little to do with the existence of a market economy, being a reflection rather of the needs of the state and its military, administrative and fiscal machinery'.<sup>7</sup> By contrast, I want to argue

<sup>3</sup> J. P. C. Kent, *The Roman Imperial Coinage*, vol. viii: *The Family of Constantine I AD 337–364* (London, 1981), p. 56; also C. Morrisson *et al.*, 'Numismatique et histoire: L'or monnayé de Rome à Byzance, purification et alterations', *Comptes rendus de l'Académie des Inscriptions et Belles-Lettres* (1982), 203–23.

<sup>4</sup> So too P. Veyne, 'Rome devant la prétendue fuite de l'or: Mercantilisme ou politique disciplinaire?', *Annales ESC* 34/2 (1979), 211–44.

<sup>5</sup> E.g. J. P. C. Kent and K. S. Painter, *Wealth of the Roman World: Gold and Silver AD 300–700* (London, 1977).

<sup>6</sup> D. M. Metcalf, 'Monetary Recession in the Middle Byzantine Period: The Numismatic Evidence', *Numismatic Chronicle* 161 (2001), 111–55, at p. 112.

<sup>7</sup> J. F. Haldon, *Byzantium in the Seventh Century: The Transformation of a Culture* (Cambridge, 1990), p. 118.

that late antiquity saw a net expansion in the stock of currency (gold in the Mediterranean, silver in the Near East) and that *this was largely fuelled by an expansion of trade*. Money was needed in circulation as the volume of business expanded. (The theoretical assumption here is that money circulates to 'realise' prices and the quantity of money in circulation is therefore determined by the level of prices, once the volume of transactions and velocity of circulation are given, or by the scale of business – number of transactions  $\times$  price – if the velocity is taken as fixed. Since late antique prices were generally stable in terms of gold, this equation reduces to the volume of transactions and velocity of circulation.)

### Monetary expansion in the fourth to seventh centuries

How would one go about constructing such an argument? The studies of the gold coinage are few and far between, so we have almost no precise estimates of mint output (one of the variables in the 'stock of currency') and are forced to rely on some combination of a less coherent body of numismatic data with documentary sources (such as the papyri) and the few scraps of textual evidence that can be drawn directly into the argument. Among late Roman texts one of the most valuable is a fascinating passage of the mid-fourth century tract called *De rebus bellicis* ('A Tract on Defence'). The author, perhaps a disillusioned bureaucrat, tells us that Constantine's move to a new monetary standard (the solidus was first issued at Trier c.310 and not produced in the eastern mints till 324, after which it was struck at 'almost all the mints throughout the empire')<sup>8</sup> was bound up with a massive dishoarding of gold that led to the (renewed) accumulation of monetary wealth in private hands and sparked a veritable 'passion for spending gold'. The author also links the expanding circulation of gold to powerful social changes. 'This store of gold meant that the houses of the powerful were crammed full and their splendour enhanced to the destruction of the poor ...'.<sup>9</sup> The reference here is almost certainly to Constantine's expansion of the governing class of the fourth century, a process continued by his successors that would lead in time, several decades later, to the emergence of a new, more thoroughly Christianised aristocracy in the east, distinct from the older and more traditionalist senatorial families who continued to dominate the central Mediterranean basin.

<sup>8</sup> R. A. G. Carson, *Coins of the Roman Empire* (London and New York, 1990), pp. 149–51, 158–60, 170–1.

<sup>9</sup> Anon., *De rebus bellicis* 2.2 (Thompson, p. 110).

In the modern historiography of the late empire, the perspectives of the 'Anonymous' have had a profound influence in and through the work of Santo Mazzarino, for Mazzarino saw the history of the monetary system as central to the evolution of the late empire.<sup>10</sup> One clue to how this process worked is that if we look at the first batch of Constantine's new gold denomination, it turns out that 'The reverses mainly have a military flavour, such as GLORIA EXERCITVS GALL ...'.<sup>11</sup> The late third century established a tradition of substantial monetary payments to the higher echelons of the late Roman army and within this general movement a strong preference for gold, consolidated by the chaos of third-century bimetallism and the collapse of the silver coinage.<sup>12</sup> By the first decade of the fourth century, high-ranking officials such as the owner of the Beaurains hoard were in regular receipt of substantial sums in gold in the form of military bonuses (*donativa*) and unlikely to be willing to forego these payments.<sup>13</sup> Diocletian's reform of c. 294 was the last significant attempt to salvage bimetallism but its whole tendency conflicted with the aspirations of the officer corps (*militares*) and its failure must have been decisive in Constantine's decision to move to a gold standard.

The relative scarcity of Constantine's own solidi in the hoard material coupled with their rarity in the collections and sales catalogues has prompted the view that solidi were not struck on any substantial scale till around the middle of the fourth century, well after his reign.<sup>14</sup> But this is a matter of perspective. It is only true in the limited sense that gold was struck on a truly gigantic scale from the middle decades of the fourth century, dwarfing previous levels of circulation. Constantine produced vastly more gold than the Tetrarchs had ever done,<sup>15</sup> and his donations to the church imply *both* substantial hoards of gold and silver *and* an

<sup>10</sup> S. Mazzarino, *Aspetti sociali del quarto secolo: Ricerche di storia tardo-romana* (Rome, 1951; new edn Milan, 2002).

<sup>11</sup> Carson, *Coins*, p. 151.

<sup>12</sup> E.g. C. E. King, 'The Role of Gold in the Later Third Century A.D.', *Rivista Italiana di Numismatica* 95 (1993), 439–51; R. Bland, 'The Changing Patterns of Hoards of Precious-Metal Coins in the Late Empire', *Antiquité Tardive* 5 (1997), 29–55, at pp. 34–5; C. Katsari, 'Bimetallism and the Circulation of Gold Coins during the Third and Fourth Centuries AD', *Münstersche Beiträge zur antiken Handelsgeschichte* 22(1) (2003), 48–68.

<sup>13</sup> P. Bastien and C. Metzger, *Le trésor de Beaurains (dit d'Arras)* (Wetteren, 1977).

<sup>14</sup> P. Bastien, *Monnaie et Donativa au Bas-Empire* (Wetteren, 1988), p. 35, 'Les monnaies d'or de Constantin sont d'une relative rareté si l'on en juge par les collections et les catalogues de vente'; Bland, 'Changing Patterns', p. 36, 'there is no evidence for a significant increase in the minting of gold coins until the 350s'.

<sup>15</sup> See the data compiled by J.-P. Callu, 'Problèmes monétaires du quatrième siècle (311–395)', in *Transformation et conflits au IVe siècle ap. J.-C.* (Bonn, 1978), pp. 103–25, at 104.

extensive circulation of solidi in his reign.<sup>16</sup> The stocks that third-century emperors had hoarded in the Treasury<sup>17</sup> were rapidly released into circulation, supplemented by other sources such as temple treasures<sup>18</sup> and private hoards.<sup>19</sup> The forces *driving* the expansion of the gold coinage were first dealt with by Mickwitz in his book on the monetary economy of the fourth century. From this it was clear that commutation (*adaeratio*) was a central issue. But Mickwitz saw the mass of landowners (taxpayers) wanting commutation (of taxes) and the bureaucracy resisting commutation (of salaries).<sup>20</sup> For him inflation was the key factor that explained this pattern of behaviour. There was always the possibility that the gold coinage would be subject to debasement, as the silver had, repeatedly, in the third century.<sup>21</sup> Mazzarino's critique of this position developed a more realistic understanding of the late empire. The government was firmly committed to the stability of the solidus precisely because a large and increasing portion of its own revenues and of the emoluments of the bureaucracy were drawn in gold. In fact, officials systematically speculated on the stocks of foodgrains, using commutation and the kinds of arbitrage it allowed.<sup>22</sup> The general implication of Mazzarino's critique is of course that the late Roman bureaucracy was a major standard-bearer of the revitalised monetary economy of the fourth century. Commutation was widespread by the early fifth, despite government resistance, and more and more gold had to be churned out to sustain this system.

Analyses of the trace elements in a sample of solidi suggest that the middle decades of the fourth century saw a *huge* expansion in the volume of coinage struck, sustained by the discovery of fresh mineral sources in the Balkans.<sup>23</sup> In a pathbreaking dissertation, Jacques Poirier suggested

<sup>16</sup> R. Davis (ed.), *The Book of Pontiffs (Liber Pontificalis)* (Liverpool, 2000), pp. 16–27. The assignment of revenues denominated in gold must imply availability of the coinage in the areas where the estates were located.

<sup>17</sup> Veyne, 'Rome', p. 216.

<sup>18</sup> Anon., *De rebus bell.* 2.1 (Thompson, p. 110), 'When the gold and silver and the huge quantity of precious stones which had been stored away in the temples long ago reached the public ...'.

<sup>19</sup> J. R. Rea, 'P.S.I. IV 310 and Imperial Bullion Purchases', *Chronique d'Égypte*, 49 (1974), 163–74.

<sup>20</sup> G. Mickwitz, *Geld und Wirtschaft im römischen Reich des vierten Jahrhunderts n. Chr.* (Helsinki, 1932), ch. 6.

<sup>21</sup> Mickwitz, *Geld und Wirtschaft*, pp. 176–7.

<sup>22</sup> Mazzarino, *Aspetti*, passim (on the bureaucracy's use of *interpretia*); L. Cracco Ruggini, *Economia e società nell'Italia annonaria: Rapporti fra agricoltura e commercio dal IV al VI secolo d.C.* (Milan, 1961).

<sup>23</sup> J.-P. Callu *et al.*, 'Aureus obryziacus', in *L'or monnayé*, vol. 1: *Purification et altérations de Rome à Byzance*, ed. C. Morrisson *et al.* (Paris, 1985), pp. 81–111, esp. 92–5; J.-P. Callu, 'Analyses métalliques et inflation: L'Orient romain de 295 à 361/368', in *Hommes et richesse dans l'Empire byzantin IV–VIIe siècle* (Paris, 1989), pp. 223–33, at 230–2; J.-P. Callu and X. Lorient, *L'or monnayé*, vol. 11: *La dispersion des aurei en Gaule romaine sous l'empire* (Juan-les-Pins, 1990), p. 110 ff.

that the 'monetary mass' (meaning gold) multiplied by a factor of twenty in the years between 346 and 388.<sup>24</sup> Whatever the precise forces it saw itself responding to, it is clear that government saw the *provision of liquidity* as a major monetary objective.<sup>25</sup> All the other evidence suggests that these were decades of significant economic expansion, with a great deal of money flowing into both agriculture and trade. If the stability of the gold coinage mattered for its fiscal objectives and to the stability of contracts, liquidity was crucial to the level of monetary activity in the economy as a whole. The solidus was a 'hard' currency, in the sense that government made sure that it would tend to rise against other currencies.<sup>26</sup> Gold coins were allowed to find their value in the market in the sense that the exchange rate between solidi and silver or the base metal currency constantly fluctuated.<sup>27</sup> People spoke of 'buying' and 'selling' solidi, much as we do of dollars, pounds and euros. The point to note is that the authorities wanted both consistency and depth in this market. Thus one of the earliest regulations stated that 'All solidi on which Our face and venerability is to be found are to be valued and sold at one price (*uno pretio aestimandi sunt atque vendendi*), however diverse the extent of the image.'<sup>28</sup> The solidus was money, not a piece of metal, and the rejection/discounting of coin on grounds of module or age was strenuously opposed, in part because it undermined the distinction between money and metal.<sup>29</sup> The workings of the economy required a properly functioning market in gold coins of various denominations, and the regulation of such a market was a consistent objective of government policy.

So, how much liquidity? For lack of the kind of numismatic work that alone can yield reliable estimates of the scale on which individual mints, and Constantinople in particular, struck gold at various times in the later fourth to seventh centuries, our next best option is to scour the documentary sources for reasonably reliable estimates of the amount of gold in circulation. Monetary historians are agreed that the stock of currency

<sup>24</sup> J. Poirier, *Contribution à l'analyse de l'or antique: Application aux monnayages du monde méditerranéen du IIe au XIVe siècle* (Thèse de doctorat d'état, l'Université d'Orléans, 1983), p. 178 (platinum not affected by the purification of gold); p. 190 (expansion of the monetary mass); p. 193 (Balkans rich in gold deposits). The increase in platinum was first evident in the coinage of Thessalonica.

<sup>25</sup> This was equally true of earlier centuries, see E. Lo Cascio, 'State and Coinage in the Late Republic and Early Empire', *Journal of Roman Studies* 71 (1981), 76–86, esp. pp. 82–6.

<sup>26</sup> See E. Lo Cascio, 'Teoria e politica monetaria a Roma tra III e IV d.C.', in *Società romana e impero tardoantico*, ed. A. Giardina (Roma/Bari, 1986), vol. 1, pp. 535–7, 779–801.

<sup>27</sup> E.g. *P. Oxy.* 1223, 31ff., 2729, 3401, 3628–36 all attest to fluctuations on a day-to-day or quarterly basis.

<sup>28</sup> *CTh.* 9.22.1 (343?).

<sup>29</sup> On the centrality of this distinction (between *merx* and *pretium*) and the tensions embedded in it, see Lo Cascio, 'Teoria e politica monetaria'.

was 'very large indeed',<sup>30</sup> there was 'plenty' of gold in circulation<sup>31</sup> and that there was a 'vast' coinage in gold.<sup>32</sup> What the documentary sources can do is establish an order of magnitude to give these descriptions a less intuitive feel.

The solidus was used for a very wide range of transactions, in fact for all but the most trivial exchanges.<sup>33</sup> The strongest evidence of this is its use in the East Mediterranean countryside, where, in Egypt for example, the papyri show a regular use of gold in all kinds of transactions from loans, rents and taxes to wage payments and rural fines. By the sixth century, commutation of taxes was widespread, undermining any rigid distinction between the fiscal and the economic functions of the coinage, and most producers would have watched the movement of prices carefully.<sup>34</sup> Anastasius' ability to generate reserves of 23 million solidi<sup>35</sup> was inseparable from the reforms in taxation that encouraged further commutation in his reign. Justinian consolidated this trend, as Khusro I would do in relation to Kavād's seminal reform of Sasanian taxes. In both Byzantium and Persia the main part of the sixth century was the highwater mark of monetary economy, and what is remarkable is how far this was sustained into the seventh century. All of this implies substantial liquidity in both monetary systems, the ability to collect cash revenues in terms of an expanding volume of commercial exchanges. One family of the elite aristocracy, the Apions, generated cash revenues of eighteen to twenty thousand solidi

<sup>30</sup> D. M. Metcalf, 'The Mint of Thessalonica in the Early Byzantine Period', in *Villes et peuplement dans l'Illyricum protobyzantin* (Rome, 1984), pp. 111–28, at 121.

<sup>31</sup> L. C. West and A. C. Johnson, *Currency in Roman and Byzantine Egypt* (Amsterdam, 1967), p. 115.

<sup>32</sup> Metcalf, 'Monetary Recession', p. 119; cf. K. W. Harl, *Coinage in the Roman Economy 300 BC to AD 700* (Baltimore and London, 1996), p. 175, who refers to 'one of the largest gold coinages in Roman history', about the first half of the fifth century.

<sup>33</sup> In what is surely the most detailed study we have of the local circulation of the base metal currency in any part of the empire, Isabel Pereira and her colleagues conclude that (at Conimbriga/Coimbra in Portugal) gold began to replace the bronzes by the late 390s, following the demonetisation of the *maiorina*, till the whole movement was cut short by the invasions of 409: I. Pereira, J.-P. Bost and J. Hiernand, *Fouilles de Conimbriga*, vol. III: *Les monnaies* (Paris, 1974), pp. 300–2. In Egypt the diffusion of the solidus was less belated, e.g. early papyri involving transactions in solidi include: *P. Kell. G 18* (c.350, fragment of a loan of money), *P. Oxy.* 2267 (360, complaint concerning embezzlement of seven solidi), *SB xx 15096* (363, sale of thirty arouras for 16 solidi) and *P. Vindob G 25871* (= F. A. J. Hoogendijk, 'Zwei byzantinische Landkäufe', *Tyche* 10 (1995), 13–26, at pp. 13ff., no. 1) (373, sale of 2½ arouras for 5 solidi). Circulation was substantial by the 370s, when even minor officials could be entrusted with sums like 238 solidi, cf. *P. Lips.* 34 (c.375).

<sup>34</sup> When there is extensive commutation of taxes, the amount of revenue will depend on the state of the market, see al-Maqrīzī, *Description topographique et historique de l'Égypte*, trans. U. Bouriant (Cairo, 1895–1900), pp. 283–4, for the Umayyads in Egypt.

<sup>35</sup> Procopius, *Anecd.* 19. 7.



from their estates in one district alone.<sup>36</sup> Egypt paid 2.6 million solidi a year under Justinian, against an aggregate (cash only?) assessment, for all regions, of over 7 million solidi (100,000 lb of gold).<sup>37</sup> It is particularly remarkable that the papyri show no signs of monetary recession in the early part of the seventh century. It is this that explains why both the Sasanians and the Arabs could still extract huge sums in gold at various times from 620 to 650. Documents from the Oxyrhynchite show the Sasanian official nicknamed Shahrālānyozān (probably Shahrvaraz, Khusro II's commander for the western region)<sup>38</sup> extracting substantial amounts of gold – probably a total of 250 lb from Oxyrhynchus and Cynopolis for the single indiction of 623/4.<sup>39</sup> Again, on the most conservative estimate – that cited by al-Balādhurī – ‘Amr ibn al-‘Āṣ who governed Egypt in the early 640s was able to impose a tax of 2 million ‘dinars’ on its people.<sup>40</sup> And in 647, the aristocracy of Byzacena paid the invading forces of ‘Abd Allāh b. Sa’d b. Abī Sarḥ an amount that different traditions variously put at 300 ‘qintars’ of gold (2.16 million solidi) or 2½ million solidi.<sup>41</sup> In this case, the link to large-scale commerce is explicit. In one of the least embellished accounts to survive, ‘Ubayd Allāh tells us that following the defeat of Gregory’s forces, ‘The Muslims saw that their [the Byzantines]’ wealth consisted for the most part of gold. They asked them about this gold and how they had come by it. “By selling olive-oil” was the answer.’<sup>42</sup>

<sup>36</sup> *P. Oxy.* xviii 2196 verso, 31: 18,512 solidi; xvi 1918 verso: 20,010 solidi; with J. Gascou, ‘Notes critiques sur quelques papyrus de ve et vie siècles’, *Chronique d’Égypte* 47 (1972), 243–53 esp. pp. 243ff.

<sup>37</sup> The figures are from the *Diēgēsis peri tēs oikodomēs tou nauou*, c. 25, dealing with the construction costs of St Sophia, see Preger, *Scriptores originum Constantinopolitanarum*, fasc. 1 (Leipzig, 1901), pp. 101f.

<sup>38</sup> This will be argued elsewhere. He was clearly of aristocratic provenance, since his epithet is πνευσημῶς in the Greek papyrus, and *xwadāy* in the Pahlavi ones.

<sup>39</sup> *P. Oxy.* li 3637 (Oct. 623); lv 3797 (26.4–25.5.624); xvi 1843 (Nov. 623) list these payments.

<sup>40</sup> Al-Balādhurī, *Kitāb futūḥ al-buldān*, ed. M. J. de Goeje (Leiden, 1863–6), pp. 216, 218; P. K. Hitti, *The Origins of the Islamic State, Being a Translation ... of the Kitāb futūḥ al-buldān* (New York, 1916), pp. 340, 343.

<sup>41</sup> See H. R. Idris, ‘Récit d’al-Mālīkī sur la conquête de l’Ifriqiya: Traduction annotée et examen critique’, *Revue des Études Islamiques* 37 (1969), 117–49; H. Slim, ‘Le trésor de Rougga et l’expédition musulmane de 647 en Ifrikiya’, in *Rougga*, vol. iii: *Le trésor de monnaies d’or byzantines*, ed. R. Guéry et al. (Rome, 1982), pp. 76–94 on the general consistency of the sources.

<sup>42</sup> E. Lévi-Provençal, ‘Un nouveau récit de la conquête de l’Afrique du Nord par les Arabes’, *Arabica* 1 (1954), 17–49, at p. 37; cf. Ibn ‘Abd Al-Hakam, *Futūḥ Ifriqiya wa’l-Andalus (Conquête de l’Afrique du Nord et de l’Espagne)*, ed. A. Gateau, 2nd edn (Algiers, 1947) pp. 47–8. Of the 268 solidi that make up the important mid-seventh-century hoard from Rougga (c.647), 72% are from the mint of Constantinople, see C. Morrisson in Guéry et al., *Le trésor de monnaies d’or byzantines*, pp. 60–1.



The least one can say on the basis of such figures is that the richest parts of the late antique world had very substantial stocks of gold (and silver) currency running into millions of solidi (and drachms). I want to argue, first, that this was equally true of the Sasanian Near East where the seventh-century trend was in some sense even stronger, and second, that the ageing of the currency probably accounted for much of this accumulating monetary mass, in both Byzantium and Persia. In what follows I shall assume that the theoretical weight of the drachm was 4.2 g of pure silver (or silver of very high fineness, over 95%).<sup>43</sup>

In the early twelfth-century Persian monograph called the *Fārs-nāme* there is a valuable section on the revenues of Fars (south-west Iran) where the author (conventionally called Ibn al-Balkhī) tells us, 'When ... Anushirvan established his land-tax (*kharāj*) in all his kingdoms, the land-tax of Fars amounted to 36 million [silver] dirhams equivalent to 3 million [gold] dinars.'<sup>44</sup> 'Dirham' in this context should be understood to mean *dirham al-wāfi* ('full-weight'), i.e. the Sasanian drachm whose theoretical weight was that of the later Arabic dinar, that is, one 'mithqāl'.<sup>45</sup> The veracity of this figure (36 million drachms) is supported by Ibn Khurrādādhbih's corresponding numbers for the Sasanian assessment of Kerman, Khuzistan and Fars. Here we are told that in 'imperial times' (a vague expression but generally used of Khusro I), Fars was assessed at 40 million 'dirhams *mithqāl*', Kerman to its east at 60 million and Khuzistan to its west at 50 million.<sup>46</sup> Since Kerman, Fars and Khuzistan formed the 'southern quarter' of the empire in Khusro I's reign (according to the scheme preserved in al-Tha'ālibī),<sup>47</sup> it seems likely that in the sixth century the region as a whole was assessed for a total of 150 million

<sup>43</sup> On the purity of the Sasanian silver coinage, see J. L. Bacharach and A. A. Gordus, 'The Purity of Sasanian Silver Coins: An Introduction', *Journal of the American Oriental Society* 92/2 (1972), 280–3.

<sup>44</sup> G. Le Strange, *Description of the Province of Fars in Persia ... from the MS of Ibn al-Balkhī in the British Museum* (London, 1912), p. 887 (Eng.); G. Le Strange and R. A. Nicholson (ed.), *The Fārsnāma of Ibn al-Balkhī* (London, 1921), p. 170 (Pers.).

<sup>45</sup> See al-Maqrīzī in A. Allouche, *Mamluk Economics: A Study and Translation of al-Maqrīzī's Ighāthah* (Salt Lake City, 1994), p. 57.

<sup>46</sup> Ibn Khordādhbeh, *Kitāb al-masālik wa'l-manālik*, ed. M. J. de Goeje (Leiden, 1889), pp. 35, 42 and 48 (pp. 25, 31 and 34 of the French trans.). The data for Fars and Kerman are supported by a contemporary source, Ibn al-Faqīh al-Hamadhānī, *Kitāb al-buldān = Abrégé du Livre des Pays*, trans. M. Massé (Damascus, 1973), pp. 249–50, while the amount cited for Khuzistan is also found in al-Muqaddasī, *The Best Divisions for Knowledge of the Regions: A Translation of Ahsan al-Taqāsīm fī Ma'rifa al-Aqālim*, trans. B. A. Collins (Reading, 1994), p. 372.

<sup>47</sup> Al-Tha'ālibī, *Ghurar akhbār mulūk al-Furs wa-siyaribim = Histoire des rois des Perses*, ed. H. Zotenberg (Paris, 1900), p. 609, with al-Tabarī, *The History of al-Tabarī*, vol. v: *The Sāsānids, the Byzantines, the Lakhmids, and Yemen*, trans. C. E. Bosworth (Albany, 1999), p. 147 (cited as *History*, vol. v).

drachms. As it turns out, the Sawād (Lower Mesopotamia/southern Iraq) was assessed for precisely this amount, 150 million drachms, in (probably) the second reign of Kavād I (498–531), the earlier part of the sixth century.<sup>48</sup> If the Sawād was Khusro's *kust ī xwarvarān* or western quarter, then between them the densely populated south and west, the most developed regions of the empire, would have accounted for a gross revenue of 300 million drachms (assuming Khusro retained Kavād's assessment of the west). Ibn Khurrādādhbih also cites a figure for the assessment of the northern provinces. This was substantially less than the figure for the south, only 30 million drachms.<sup>49</sup> Suppose Khurasan, the remaining quarter, contributed at least as much as this, viz. 30 million drachms, the *aggregate* claim may well have been in the region of 360 million drachms, divided, presumably, into three instalments of 120 million each.<sup>50</sup> This of course is hypothetical but it does indicate a broad order of magnitude for the main part of the sixth century that is not totally out of line with the one *exact* estimate we do have from the late Sasanian period for the amount of taxes *actually* collected some decades later, namely, the 420 million drachms (*mithqāls*) that Khusro II collected in the eighteenth year of his reign, i.e. 607/8, before the huge expansion of reserves that characterised the latter part of his rule.<sup>51</sup> According to the figures reported by al-Ṭabarī, the level of reserves stood at 800 million drachms in 602 and had escalated to 1.6 billion drachms by 620, at the end of Khusro II's thirtieth year.<sup>52</sup> The vast quantities of plunder that Khusro II collected in the occupied Byzantine territories of the Near East (120,000 lb of silver from Edessa alone, in 622)<sup>53</sup> is one obvious explanation of this staggering level of reserves, but he is also credited with periodic and sharp increases in taxation which led to a breakdown in his relations with the aristocracy. Even if we suppose that annual tax revenues ran into 400 to 500 million drachms and did not exceed that level, as they probably did, the general conclusion that seems to follow from all this is that both mint output levels (production of currency) and

<sup>48</sup> Ibn Khordādhbeh, *Kitāb*, p. 14 l.11ff. (p. 11 trans.). Ibn al-Faqīh, *Kitāb al-buldān = Abrégé du Livre des Pays*, p. 249, cites a figure of 123 million drachms. Whatever the true amount, the Sawād's taxes would fall to 100 million drachms by the second quarter of the seventh century, under 'Umar ibn al-Khaṭṭāb, cf. al-Balādhurī, *Kitāb futūḥ al-buldān*, p. 270, *Origins*, trans. Hitti, p. 428.

<sup>49</sup> Ibn Khordādhbeh, *Kitāb*, p. 20 (p. 15 trans.).

<sup>50</sup> Al-Ṭabarī, *History*, vol. v, pp. 256–7, for the instalments.

<sup>51</sup> See al-Ṭabarī, *History*, vol. v, p. 377; *Tārikh al-rusul wa'l-mulūk*, ser. i, p. 1042, referring to all taxes (*min al-kharāj wa sā'ir abwāb min al-waraq*); Ibn Khordādhbeh, *Kitāb*, p. 15, lines 6ff. (p. 12 trans.).

<sup>52</sup> Al-Ṭabarī, *History*, vol. v, pp. 393–4; *Tārikh*, ser. i, p. 1057, for both figures.

<sup>53</sup> *Chronique de Michel le Syrien patriarche jacobite d'Antioche (1166–1199)*, trans. J.-B. Chabot (Paris, 1901; repr. 1963), vol. II, p. 403; A. Palmer, *The Seventh Century in the West-Syrian Chronicles* (Liverpool, 1993), pp. 133–4.

the turnover in agrarian and commercial markets would have had to be enormous to support these levels of taxation.<sup>54</sup>

The Sasanians struck their silver in a far greater multiplicity of mints than the late Romans their gold, most situated in provincial capitals.<sup>55</sup> What is remarkable about Sasanian monetary history is the clearly discernible expansion in mint output that appears to have occurred in the *late sixth and early seventh centuries*. As Sears states, 'Hoards document a staggering increase in the output of drachms during the latter part of the sixth and the beginning of the seventh centuries A.D.'<sup>56</sup> Thus the coins of Hormazd IV (579–90) are 'among the commonest in the whole Sasanian series',<sup>57</sup> and Khusro II's coinage in silver was massive.<sup>58</sup> So the numismatic evidence reinforces the impression culled from the textual sources that the late sixth/early seventh centuries saw considerable monetary expansion, at least in the Sasanian empire.

Justinian is said to have depleted the reserves built up by his predecessors.<sup>59</sup> When Justin II came to the throne, he seems to have used his personal resources to clear the debts that Justinian had run up with a whole throng of private bankers. In the verse panegyric written to celebrate Justin II's accession, there is a dramatic description of this scene, in which Corippus makes the bankers exclaim: 'You know, greatest of rulers, how much benefit your treasury has from business. If our strength fails, whence will come the annual tributes for your resources?'<sup>60</sup> If we believe the bankers, then 'business' was clearly *central* to the monetary wealth of the late empire. However, before coming to this I would like to suggest that the continued circulation of older coin was a major factor in the steady expansion of the stock of currency that took place between the later fourth and seventh centuries.

Now this conflicts radically with the view that the late Roman monetary economy involved an 'incessant recoinage of the gold'. According

<sup>54</sup> See A. Kolesnikov, 'The Quantity of Silver Coinage and Levels of Revenues in Late Sasanian Iran', in *Matériaux pour l'histoire économique*, ed. R. Gyselen and M. Szuppe (Paris, 1999) pp. 123–30.

<sup>55</sup> R. Gyselen, *Arab-Sasanian Copper Coinage* (Vienna, 2000), p. 77.

<sup>56</sup> S. Sears, 'Monetary Revision and Monetization in the Late Sasanian Empire', in *Matériaux pour l'histoire économique*, ed. Gyselen and Szuppe, pp. 149–65, at 160.

<sup>57</sup> S. Tyler-Smith, 'Sasanian Mint Abbreviations', *Numismatic Chronicle* 143 (1983), 240–7, at p. 243.

<sup>58</sup> H. M. Malek, 'A Survey of Research on Sasanian Numismatics', *Numismatic Chronicle* 153 (1993), 227–69, esp. p. 237.

<sup>59</sup> Just. *Nov.* 148 pr., 'We found the treasury burdened with many debts and reduced to utter exhaustion.'

<sup>60</sup> Corippus, *In laudem Iustini Augusti minoris*, ll. 371–4, 'scis, summe regentum, publica quid vestro prosint commercia fisco, unde tributa tuis succedent annua rebus, deficiet si nostra manus?' (ed. A. Cameron, *Flavius Cresconius Corippus: In laudem Iustini Augusti minoris* (London, 1976), pp. 58–9, text; p. 101, trans.).

to Grierson, 'It is probable that the gold brought in through taxes was melted and re-struck before being reissued ... This incessant recoinage of the gold was in large measure responsible for the success of the government in maintaining the standard uniform over so many centuries.'<sup>61</sup> So too Kent who argued in a famous paper, 'The chance of any individual piece circulating for long was slight. If it escaped recoinage, it must have gone quickly to ground.'<sup>62</sup> *These views are now largely outdated.* Michael Metcalf has argued, 'Kent's emphasis that gold coins enjoyed a short life in circulation, before being clawed back into the imperial coffers by the ruler's device of insisting that taxes should be paid in gold, may possibly be true of other parts of the Empire, but it would not be an obvious conclusion to draw from the Illyrican finds.'<sup>63</sup> Harl notes that 'Annual recoinage would have been wasteful ... Solidi of good weight, regardless of age or the effigy they bore, were the equivalent of new coins.' Moreover, 'the wear on numerous specimens indicates that they had a long circulation life'.<sup>64</sup>

In fact, there is a great deal of evidence to suggest that older coins continued to circulate, and that a considerable if uncertain, and probably fluctuating, portion of the currency comprised such pieces. The emperors repeatedly sought to regulate public responses to the currency in circulation, seeking to combat a widespread public prejudice against older solidi. This is best reflected in Valentinian III's Novel 16, dated 445, from which it is clear that much older coinage was in circulation at that time and that 'buyers' were refusing to accept these pieces except at a discount, obviously because they were perceived to have lost weight through circulation.<sup>65</sup> The same kind of regulation had to be passed by Valentinian and his brother in the mid-fourth century, on the eve of their reform of the coinage,<sup>66</sup> and a famous edict of Justinian I, dated 559, shows that, again in the sixth century, in regions with a large and active circulation of money such as Egypt, the problem persisted, and was clearly disruptive of

<sup>61</sup> P. Grierson, 'Coinage and Money in the Byzantine Empire (498–c.1090)', in *Moneta e scambi nell'alto medioevo, Settimane di Studio*, 8 (1960), pp. 411–53, at 423.

<sup>62</sup> J. P. C. Kent, 'Gold Coinage in the Later Roman Empire', in *Essays in Roman Coinage Presented to Harold Mattingly*, ed. R. A. G. Carson *et al.* (Oxford, 1956), pp. 190–204, at 197.

<sup>63</sup> Metcalf, 'Minting', p. 70, pointing out, 'the age structure of the hoards reveals that a significant proportion of the currency consisted of solidi that had remained in circulation for more than ten years'.

<sup>64</sup> Harl, *Coinage in the Roman Economy*, p. 160, and p. 428, n. 8.

<sup>65</sup> *Nov. Val.* 16 (18/1/445), about repeated complaints that 'solidi stamped with the names of Our ancestors are being refused by buyers'.

<sup>66</sup> *CJ* xi.ii.1 (365–7), enjoining acceptance of older solidi (*solidos veterum principum veneratione formatos*) as long as they were of the requisite weight and alloy.

business activity. Justinian accused the coin-weighers and *chrysones*, probably bankers rather than tax officials, of discounting worn solidi, called ἀπόλυτον χάραγμα, i.e. 'loose coin', by as much as 12½ per cent and described this commission as exorbitant.<sup>67</sup> Papyri survive to show that what the edict did succeed in doing was reducing, not eliminating, the discount to 6¼ per cent.<sup>68</sup> Finally, the stipulation that solidi should be melted down and re-struck<sup>69</sup> only applied to the gold that was actually pulled in through taxation, and was in any case no longer being followed by the early fifth century, when, as Delmaire points out, recoinage was no longer automatic or compulsory.<sup>70</sup>

The coinage itself supports this general counter-argument. The so-called 'circulation' or 'emergency' hoards, that is, those hoards that can plausibly be viewed as random samples of the currency in circulation,<sup>71</sup> tend to show extended age structures (significant numbers of older solidi). At least four of the hoards in Table 6.1 date from the period after the Arab conquests, when the currency must have aged rapidly, but the general situation is sufficiently clear even from the other hoards listed in the table.<sup>72</sup>

<sup>67</sup> See C. Morrisson, 'Alterazioni e svalutazioni', in *La Cultura bizantina: Oggetti e messaggio: Moneta ed economia*, ed. A. Guillou (Rome, 1986), pp. 76–9, 86–8; J. Banaji, *Agrarian Change in Late Antiquity* (Oxford, 2007), pp. 73–5. So too in Italy in the sixth century, see Justinian, *App.* vii.20 (554), where it is said, 'Since we know that the solidi of earlier Roman emperors are easily available in those areas, but have also learned that financiers (*negotiatores*) and others inflict a discount of some sort (*dispendium aliquod*) on our tax payers in transactions that involve solidi (*propter mutationem solidorum*) ...'.

<sup>68</sup> *P. Oxy.* 1144 (580), xvi 1907.6 (7c).

<sup>69</sup> *C.Th.* 12.6.13 (367), with M. Amandry *et al.*, 'L'affinage des métaux monnayés au Bas-Empire: Les réformes Valérentiennes de 364–368', *Quaderni Ticinesi* 11 (1982), 279–95.

<sup>70</sup> R. Delmaire, *Largesses sacrées et Res Privata: L'aerarium impérial et son administration du IVe au VIe siècle* (Rome, 1989), p. 259. It may be of some interest to note that in England in the eighteenth century, 'light' gold accounted for as much as 'three-quarters of the total of gold coin in circulation', N. Mayhew, *Sterling: The Rise and Fall of a Currency* (London, 1999), p. 106.

<sup>71</sup> By contrast with sums that travelled with their owner (Beaurains, Sidi-bu-Saïd), or others that were carefully accumulated over time, and still others that were simply one-time payments (Casa delle Vestali, Szikáncs).

<sup>72</sup> Table 6.1 tabulates data for twelve 'circulation' hoards from the early fifth to the late seventh century, which vary in size from 12 to 751 solidi. If we take some arbitrary threshold to indicate the number of *distinctively older solidi* in these hoards (e.g. thirty-three years), and treat each hoard as equally important, that is, calculate a simple, unweighted average of the percentages of older coin (solidi that had circulated for at least thirty-three years before their date of deposition), the overall average percentage of such coin is 44 per cent. Even if we exclude the four post-conquest hoards that are the latest deposits in the sample, the average is still fairly high, namely, 37 per cent. (Sources: F. Panvini-Rosati, 'Osservazioni sulla circolazione in Italia nel v sec. d.C. di monete d'oro romane', *Bollettino di numismatica* 4 (1985), 7–14; J. Iluk, 'Skarb solidów znalezionej w 1764 r.w. Xanten (RFN)', *Wiadomości Numizmatyczne* 31 (1987), 76–87; C. Morrisson, 'La circulation de la monnaie d'or en Afrique à époque Vandale: Bilan des trouvailles locales', in *Mélanges de numism. off. à P. Bastien*, ed. H. Huvelin *et al.* (Wetteren, 1987), pp. 325–44, at 336–7; A. Tusa Cutroni, 'La circolazione monetaria nella Sicilia bizantina ed il ripostiglio da Castellana



Table 6.1 (*cont.*)

	<i>Gravisca</i> <i>Italy</i>	<i>Xanten</i> <i>Germany</i>	<i>Ain</i> <i>Meddab</i> <i>Algeria</i>	<i>Djemila</i> <i>Algeria</i>	<i>Castellana</i> <i>Sicily</i>	<i>Chatby</i> <i>Alexandria</i>	<i>Es-Sermita</i> <i>Tunisia</i>	<i>Rougga</i> <i>Tunisia</i>	<i>Nikertai</i> <i>Syria</i>	<i>South</i> <i>Jordan</i>	<i>Bet</i> <i>Sh'e'an</i> <i>Israel</i>	<i>Yildiz</i> <i>Palace 1</i> <i>Turkey</i>
Valentinian III		18		1								
Marcian			8	16								
Majorian			1									
Libius Severus			1									
Anthemius			1									
Leo I			26	51	2							
Julius Nepos				1								
Leo II & Zeno				2								
Zeno			29	58	4							
Basiliscus			3	11								
Basiliscus & Marcus				1								
Anastasius I			2	2	2							
Justin I												
Justinian I					2	4	12					1
Justin II						9	2					



	<i>Gravisca</i>	<i>Xanten</i>	<i>Ain</i> <i>Meddah</i>	<i>Djemila</i>	<i>Castellana</i>	<i>Chatby</i>	<i>Es-Sermita</i>	<i>Rougga</i>	<i>Nikertai</i>	<i>South</i>	<i>Bet</i> <i>She'an</i>	<i>Yildiz</i> <i>Palace I</i>
	<i>Italy</i>	<i>Germany</i>	<i>Algeria</i>	<i>Algeria</i>	<i>Sicily</i>	<i>Alexandria</i>	<i>Tunisia</i>	<i>Tunisia</i>	<i>Syria</i>	<i>Jordan</i>	<i>Israel</i>	<i>Turkey</i>
Tiberius II						2	4					
Const.												
Maurice						43	8	1	3	1		3
Phocas						21	2	83	57	32	95	41
Heraclius						5	5	121	276	90	382	142
Constans II								63	155	80	219	96
Constantine IV									22	27	55	61
Justinian II												16

The late empire's vast coinage in gold coupled with the tendency for older issues to remain in circulation (subject, of course, to natural wastage) is, I believe, the key to explaining a feature of the monetary history of the seventh century which has not been sufficiently emphasised – the extraordinary fact that an Arab gold coinage did not evolve for some five decades after the conquest of Syria. As Michael Bates points out, 'The remarkable aspect of the matter is not that 'Abd al-Malik instituted minting, but rather that a half century elapsed after the Arab conquest before a mint was set up in the capital of the caliphate.'<sup>73</sup> Balādhuri's statement that 'Umar imposed a poll tax on non-Muslims of 4 'dinars' 'on those who had gold' implies that these taxes alone would have involved substantial aggregate payments in gold. Yet we know that a pre-reform gold coinage was rare.<sup>74</sup> It follows that the Arabs relied on the *existing* stock of gold currency, that is, the stock of solidi in circulation in Syria and Egypt, and that this must have been very substantial indeed to allow the early administrations to function *for over fifty years* without fresh stocks of currency, i.e. a regular coinage of their own.<sup>75</sup> For example, under the three-year peace treaty of 659, Mu'awiya agreed to pay Constantinople 1000 solidi a day, according to the chronicler Theophanes.<sup>76</sup> This payment alone would have come to over a million solidi! In July 685, 'Abd al-Malik sought a treaty on the same terms,<sup>77</sup> agreeing to an annual payment of 365,000 solidi. This would have lasted till 691 when Justinian II broke the treaty – 'foolishly',

(Palermo), *Byzantino-Sicula* 1 (1966), 104–10; E. D. J. Dutilh, 'Une trouvaille de 191 monnaies d'or byzantines et de 1 pièce en argent', *Revue Belge de Numismatique* 61 (1905), 155–64; G.-Ch. Picard, *Bulletin Archéologique* (1943–5), pp. 427–8; Guéry et al., *Trésor de monnaies d'or byzantines*, p. 55; C. Morrisson, 'Le trésor byzantin de Nikertai', *Revue Belge de Numismatique* 118 (1972), 29–91; G. Bijovsky, 'A Hoard of Byzantine Solidi from Bet She'an in the Umayyad Period', *Revue Numismatique* 158 (2002), 163–88, esp. p. 183; S. McA. Mosser, *A Bibliography of Byzantine Coin Hoards* (New York, 1935), pp. 91–2.)

<sup>73</sup> M. L. Bates, 'History, Geography and Numismatics in the First Century of Islamic Coinage', *Schweizerische numismatische Rundschau* 65 (1986), 231–61, at p. 252.

<sup>74</sup> T. Goodwin, 'Arab-Byzantine Coinage', in *Sylloge of Islamic Coins in the Ashmolean, vol. 1: The Pre-Reform Coinage of the Early Islamic Period*, ed. S. Album and T. Goodwin (Oxford 2002), pp. 74–112, at 91, 'All pre-reform gold coinage is very rare, and probably never constituted a significant part of the gold coinage in circulation.'

<sup>75</sup> Bates, 'History', pp. 251–2, is baffled because he assumes that 'booty' and 'trade' would have been the only sources of supply (into Syria) and fails to consider the possibility that the stock of gold in circulation was sufficiently large to defray the need for currency. S. Heidemann, 'The Merger of Two Currency Zones in Early Islam: The Byzantine and Sasanian Impact on the Circulation in Former Byzantine Syria and Northern Mesopotamia', *Iran* 36 (1998), 95–112, at p. 96, is correct to note that 'the influx of new coins was restricted after 636. It seems that Syria had to rely mainly on the existing stock of gold coins left from the time before the Arab conquest. The coins arriving in Syria later on barely supplemented the existing stock.'

<sup>76</sup> Theophanes, *Chronicle*, A.M. 6150, A.D. 657/8; C. Mango and R. Scott, *The Chronicle of Theophanes Confessor: Byzantine and Near Eastern History A.D. 284–813* (Oxford, 1997), p. 484.

<sup>77</sup> For the date, see Mango and Scott, *Chronicle*, p. 503.

says Theophanes – because ‘Abd al-Malik now proposed to make the payment in the new gold coinage that began to be struck from the end of 691, and this apparently was unacceptable to the Byzantines.<sup>78</sup>

### The solidus vs the drachm?

The most striking feature of the gold coinage of the late empire was its ability to combine a considerable *density* of value with the functions of a *mass* currency. The power of the late Roman state was best encapsulated in both the quality as well as the scale of circulation of its coinage, features paralleled only by the Sasanians. Unlike the Sasanians, however, the Roman state was much less dependent on *external* international trade, and, in any case, unable fully to exploit the potential of that trade, due, in large measure, to a conscious Sasanian policy of controlling access to the east. Whereas the purity of the Sasanian silver coinage was linked to some considerable degree to a far-flung commercial network that used the drachm as a widely accepted means of exchange, the equivalent pressure in the late Roman state was the need to provide a stable monetary basis for the vastly more affluent society that emerged in the Mediterranean in the main part of the fourth and early fifth centuries. This was a society where the aristocracy accumulated enormous sums of money, as Olympiodorus tells us, but also one where the urban economy was largely driven by the monied classes of the empire, that is, those social groups outside the aristocratic elite who drew their incomes from banking, moneylending and trade.

The revival of banking in the fourth century was integrally related to the expanding circulation of gold, as bankers diversified into money changing and began to manage the assets of ‘high net worth’ individuals through an active deployment of funds.<sup>79</sup> Money changing must have been a hugely lucrative profession,<sup>80</sup> and its integration with banking would mean that vast sums of money were available to finance the expansion

<sup>78</sup> Theophanes, *Chronicle*, AM 6183, AD 690/1 (pp. 509f.). See A. Kaplony, *Konstantinopel und Damaskus: Gesandtschaften und Verträge zwischen Kaisern und Kalifen 639–750* (Berlin, 1996) p. 154, for the argument that this was coinage from the ‘imperial images’ period (‘arabisch-byzantinische Münzen’), viz. ‘phase 2’ in Bates’s subdivision of the earliest gold from Damascus, see Bates, ‘History’, pp. 238ff., esp. 243. It is possible that in discussing the chronology of the dinar, Bates may have been misled by the translation of Theophanes that he used, where the year in question, AM 6183, is wrongly identified as 691/2 instead of 690/1.

<sup>79</sup> The reference to asset management comes from Basil, *Regulae brevius tractatae*, ccliv (PG 31.1251), referring to Alexandria specifically, and based on his personal testimony.

<sup>80</sup> Ambrose, *Expositio evangelii sec. Lucam* 9.18, ‘Qui sunt nummularii nisi qui de pecunia domini lucrum quaerunt nec bona malaque discernunt?’; Ammianus, 30.9.3, ‘nec imperante eo [Valentinian] provinciam nummularius rexit’.

of international trade from the later fourth century. Ambrose depicts the typical merchant of the late fourth century as ‘always on the go, day and night, amassing piles of treasure, or accumulating great new stocks of merchandise’.<sup>81</sup> This obviously refers to the more substantial merchants, such as Constantinople’s large-scale importers of raw materials such as iron and copper (*to hekastou eidous parektikon, hoion sideroteleis, khalkoteleis*) mentioned in the mid-sixth-century treatise called *Peri stratēgias*,<sup>82</sup> or those who financed and organised trade with the east.<sup>83</sup> There is good textual evidence of the flourishing of this trade in the fourth century – the repeated reference to wealthy traders in the urban centres of the Near East carrying on a substantial business (*negotia maxima*) in goods imported from India and China, some at the great annual fair of Batnae, near the headwaters of the Balikh,<sup>84</sup> others, probably the majority, via Persia,<sup>85</sup> and the interesting reference in the *Hou Han shu*, written c.430, to the inhabitants of Ta-Ch’in ‘trading with Persia and India and gaining great profit from their dealings’.<sup>86</sup>

What is abundantly clear from the late antique evidence, however, is that by the early sixth century the Indian Ocean trade was largely in the hands of other groups. The formal proof of this is Cosmas’ own assertion that because of her location Taprobanē was ‘much frequented by ships from all parts of India and from Persia and Ethiopia, and it likewise sends

<sup>81</sup> Ambrose, *De officiis* 1,243 (ed. Davidson, vol. 1, p. 256), and the ref. to their ‘relentless quest for profit’.

<sup>82</sup> Anon., *Peri stratēgias*, 1, 11–12; 2, 28ff., ed. G. T. Dennis, *Three Byzantine Military Treatises* (Washington, D.C., 1985), pp. 10, 12; see A. Giardina, ‘Modi di scambio e valori sociali nel mondo bizantino (iv–xii secolo)’, in *Mercati e mercanti nell’alto medioevo: L’area euroasiatica e l’area mediterranea, Settimane di Studio 40* (1992), pp. 523–84, at 532ff., with the correct interpretation of the phrase *to hekastou eidous parektikon*, that is, *supplying* (not producing) every conceivable kind of material.

<sup>83</sup> E.g. (but from an earlier period) the Alexandrian financier in *SB* xviii 13167, the best discussion of which is D. Rathbone, ‘The “Muziris” Papyrus (*SB* xviii 13167): Financing Roman Trade with India’, in *Alexandrian Studies II in Honour of Mostafa El Abbadi*, ed. M. Abd-el-Ghani et al. (= *Bulletin de la Société Archéologique d’Alexandrie*, no. 46) (Alexandria, 2000), pp. 39–50, and F. De Romanis, *Cassia, cinnamomo, ossidiana: Uomini e merci tra Oceano Indiano e Mediterraneo* (Rome, 1996), pp. 183 ff.

<sup>84</sup> Ammianus, 14.3.3, ‘a great crowd of every financial description (*magna promiscuae fortunae multitudi*) gathers to deal in the goods sent from India and China’, with F. Millar, *The Roman Near East 31 BC–AD 337* (Cambridge, MA and London, 1993), p. 483 for the location.

<sup>85</sup> *Expositio totius mundi et gentium* xxii (Rougé, p. 156) on Nisibis and Edessa, ‘above all, they are both wealthy and equipped with every kind of commodity, for what they import from Persia they sell to the rest of the Roman world and what they buy they export’; so too Bostra at xxxviii (p. 176), from which the reference to ‘an exceedingly large volume of business’ (*negotia maxima*).

<sup>86</sup> Cited L. Boulnois, *The Silk Road*, trans. D. Chamberlin (London, 1966), p. 131.

many of its own',<sup>87</sup> and the explicit testimony of Procopius that Justinian had to rely on the rulers of Aksum to try and circumvent the Sasanian monopoly of silk.<sup>88</sup> The clear implication of these texts is that *Roman traders were no longer a significant force in the Indian Ocean*.<sup>89</sup> Egeria's fascinating description of Clysmā in the later fourth century distinctly implies that Indian merchants controlled a substantial part of the trade directed to the Red Sea.<sup>90</sup> There is a resonance of this in the early fifth-century Pelagian diatribe *De divitiis*, where the author tells his largely aristocratic readership, 'No one coming from India or Arabia or Egypt on business and intending to spend a short time at Rome or in any other place acquires houses or possessions there for himself or other property which seems immovable, but only gold or silver or merchandise of different kinds or anything which he is able to take back with him to his own country.'<sup>91</sup> Here the implication is even stronger, namely, that unlike the Sasanians the late empire did not shut its gates to merchants from the east, and thus, by this stage at least, they could carry gold *back with them*, despite the formal restrictions imposed by Valens some decades earlier. The Arabs too were active traders in the Indian Ocean. From Fa-hsien's account of his travels in India and Sri Lanka, it emerges that in the early fifth century there was a colony of Sabaeen merchants settled in the chief city of the island.<sup>92</sup> This reference should be read with Ammianus' description of the flourishing state of the southern coast of Arabia in the latter part of the fourth century, with its 'dense clustering of commercial ports' and 'numerous safe harbours'.<sup>93</sup> The argument is not that Byzantine vessels did not ply these waters but that they must have been a minor part of the traffic.

<sup>87</sup> Cosmas, xi, 15 (*Topographie Chrétienne*, ed. W. Wolska-Conus (Paris, 1968–73), vol. III, p. 345), 'Ἐξ ὅλης δὲ τῆς Ἰνδικῆς καὶ Περσίδος καὶ Αἰθιοπίας δέχεται ἡ νῆσος πλοῖα πολλὰ, μεστῆς οὖσα, ὁμοίως καὶ ἐκπέμπει.

<sup>88</sup> Procopius, *Bell.* i, 20, 9.

<sup>89</sup> I agree with D. Whitehouse, 'Epilogue: Roman Trade in Perspective', in *Rome and India: The Ancient Sea Trade*, ed. V. Begley et al. (Madison, 1991), pp. 216–18.

<sup>90</sup> J. Wilkinson, *Egeria's Travels* (London, 1971), p. 206, telling us that the port is 'renowned for the Indian merchants who come to it'.

<sup>91</sup> Pelagius, *De divitiis* 19.4, in the recent edition by A. Kessler, *Reichtumskritik und Pelagianismus: Die pelagianische Diatribe 'de divitiis': Situierung, Lesetext, Übersetzung, Kommentar* (Freiburg, 1999), p. 324; translation from B. R. Rees, *The Letters of Pelagius and his Followers* (Woodbridge, 1991), p. 208. For the date, 411–14, see Kessler, *Reichtumskritik*, pp. 108ff.

<sup>92</sup> Fa-Hsien, *A Record of Buddhistic Kingdoms: Being an Account by the Chinese Monk Fā-Hien of his Travels in India and Ceylon (A.D. 399–414)*, trans. J. Legge (New York, 1965), p. 104, 'Sabaeen merchants whose houses are stately and beautiful'. Now see Chapter 10 in this volume, p. 234.

<sup>93</sup> Ammianus, 23.6.46, *Ubi et stationes et portus tranquillae sunt plures, et emporia densa*, and his similar reference, at 23.6.11, to the Persian Gulf, 'All along the coast is a dense network of towns and villages, while ships are constantly sailing to and fro.'

The decisive factor, of course, was the growth of a powerful merchant class in Sasanian Persia, which drew its wealth from the luxury trades (Khusro II's treasures included a 'vast quantity of jewels, gold and silver plate, furs, precious fabrics')<sup>94</sup> and had the strong backing of the state.<sup>95</sup> Sasanian military expansion secured the conditions for the expansion of trade, but less through conquest than a looser, and less stable, system of control. From eastern Arabia to Sind and the Kushan domains to the north, the Sasanians constructed a series of spheres of influence which laid the basis, from the end of the fourth century, for a crushing Sasanian monopoly of the maritime trade<sup>96</sup> and a large-scale circulation of the silver drachm along the terrestrial silk routes. Of 368 drachms in the remarkable Tépé Maranjān hoard near Kabul (date *c.* 385), 326 are of Shāpūr II.<sup>97</sup> Coins of Shāpūr II were *abundant* in the area south of the Hindu Kush,<sup>98</sup> and they are also the earliest Sasanian coins to appear in China or eastern Turkestan.<sup>99</sup> Daibul, Makran and the adjacent parts of Sind were acquired by the Sasanians under Bahrām Gōr (Bahrām V, 421–38) as part of a dowry conferred on him by the local ruler.<sup>100</sup> It was his reign above all that was crucial in consolidating a Sasanian commercial network that led from Sind to Balkh, and from Merv to Bukhara and the desert oases leading to Turfan.<sup>101</sup> Merv churned out huge quantities of Bahrām V's drachms,<sup>102</sup> and these circulated north in sufficient numbers to become the prototype

<sup>94</sup> E. G. Browne, 'Some Account of the Arabic Work Entitled "Nihāyatu'l-irab fī akhbārī'l-Furs wa'l-'Arab"', *Journal of the Royal Asiatic Society* (1900), 195–259, at p. 250. In Firdawsī's rendering of Khusro I's circular to state employees, Sasanian merchants are symbolically associated with 'beautiful pearls and musk' (Mohl, *Livre des rois*, vi, p. 131). Pearl fishing flourished under Khusro II, Firdawsī in Mohl, *Livre des rois*, vii, p. 303.

<sup>95</sup> Control of the commercial sea routes was central to Ardashīr's perspectives, see V. F. Piacentini, 'Ardashīr i Pāpakān and the Wars against the Arabs: Working Hypothesis on the Sasanian Hold of the Gulf', *Proceedings of the Seminar for Arabian Studies* 15 (1985), 57–77.

<sup>96</sup> See F. Thierry and C. Morisson, 'Sur les monnaies byzantines trouvées en Chine', *Revue Numismatique* 36 (1994), 109–45, at p. 137 for the Chinese sources for this.

<sup>97</sup> R. Curiel, 'Le trésor du Tépé Maranjān: Une trouvaille de monnaies sasanides et kušano-sasanides faite près de Caboul', in *Trésors monétaires d'Afghanistan*, ed. R. Curiel and D. Schlumberger (Paris, 1953), pp. 102 f., 104.

<sup>98</sup> Curiel, 'Trésor', p. 119.

<sup>99</sup> J. K. Skaff, 'Sasanian and Arab-Sasanian Silver Coins from Turfan: Their Relationship to International Trade and the Local Economy', *Asia Major*, 3rd ser., 11/2 (1998), 67–115, esp. p. 68; M. Alam, 'Coins and the Silk Road', in *Monks and Merchants: Silk Road Treasures from Northwest China: Gansu and Ningxia 4th–7th Century*, ed. A. L. Juliano *et al.* (New York, 2001), pp. 271–91, at 274, about the Kao-ch'ang hoards from the Turfan area.

<sup>100</sup> Al-Tabarī, *History*, vol. v, p. 102; al-Tha'ālibi, *Ghurur*, p. 564; see D. Whitehouse and A. Williamson, 'Sasanian Maritime Trade', *Iran* 11 (1973), 29–49, esp. pp. 43ff.

<sup>101</sup> For Balkh see al-Tabarī, *History*, vol. v, p. 99.

<sup>102</sup> E. V. Zeimal, 'The Circulation of Coins in Central Asia during the Early Medieval Period (Fifth–Eighth Centuries A.D.)', *Bulletin of the Asia Institute*, new ser. 8 (1994), 245–67, esp. p. 246.

of the Bukhara silver drachms of the sixth century.<sup>103</sup> Merv was the interface of Persian and Sogdian commercial dominance,<sup>104</sup> and a major station in the diffusion of Nestorian Christianity into Central Asia.<sup>105</sup> Even the disastrous closing decades of the fifth century (the losses inflicted by the Hephthalites) did nothing to stop the active trade with Transoxiana, and it is clear that for most of the sixth and early seventh centuries Sogdian merchants used the drachm as an international currency.<sup>106</sup> So entrenched was the circulation of Sasanian silver that, according to Skaff, 'silver coins were still being imported around a decade after the T'ang conquest' of the Kao-ch'ang kingdom in 640.<sup>107</sup>

This is the background against which we have to view the 'intense local competition between Roman and Persian traders'<sup>108</sup> reflected in the story Sopatros told Cosmas. To dismiss the narrative as fiction<sup>109</sup> misses the point that for well over a century the Sasanians had subjected Rome's external trade to what Callu calls a 'tactical blockade'.<sup>110</sup> The Byzantine sources of the sixth century contain some passages of extraordinary value to any reconstruction of events in that period. Justinian's attempt to use the Abyssinians to open a new line of access to the Indian Ocean was a failure, says Procopius, 'for it was impossible for the Ethiopians to buy silk from the Indians, for the Persian merchants always locate themselves at the very harbours where the Indian ships first put in (since they inhabit the adjoining country), and are accustomed to buy the whole cargoes'.<sup>111</sup>

<sup>103</sup> *Ibid.*, p. 247, about the Bukhar-khuda series.

<sup>104</sup> E. De La Vaissière, *Histoire des marchands sogdiens* (Paris, 2002), p. 178; R. N. Frye, *The Golden Age of Persia: The Arabs in the East* (London, 1975), p. 42.

<sup>105</sup> Nestorian Christians would have been among the most active Sasanian traders, for Cosmas, we know, refers to an established community of 'Persian Christians' in Sri Lanka, already by the end of the fifth century: Cosmas, xi, 14. For the date of this reference, see F. De Romanis, 'Romanukharattha e Taprobane: Sui rapporti Roma-Ceylon nel I sec. d.C.', *Helikon* 28 (1988), 5–58, esp. pp. 51–5; for the likely location, J. Carswell, 'The Port of Mantai, Sri Lanka', in *Rome and India: The Ancient Sea Trade*, ed. Begley et al., pp. 197–203, at 199. The East Syrian saint John of Dailam who spent thirty-five years in Fars in the early eighth century built monasteries with the money raised from trade with Sri Lanka, see S. P. Brock, 'A Syriac Life of John of Dailam', *Parole d'Orient* 10 (1981–2), 123–89.

<sup>106</sup> De la Vaissière, *Histoire*, pp. 168–70, esp. 'Les monnaies d'argent sassanides ... ont incontestablement connu une vaste circulation liée au commerce des marchands sogdiens.'

<sup>107</sup> Skaff, 'Silver Coins from Turfan', p. 99.

<sup>108</sup> J. I. Miller, *The Spice Trade of the Roman Empire, 29 BC to AD 641* (Oxford, 1969), p. 240.

<sup>109</sup> M. Hendy, *Studies in the Byzantine Monetary Economy c.300–1450* (Cambridge, 1985), pp. 276ff.; cf. F. De Romanis, 'Sul prestigio della moneta aurea romano-bizantina in Oriente (sec. I–VI d.C.)', in *La Persia e Bisanzio* (Rome, 2004), pp. 291–308, at 299–301 for criticism of Hendy.

<sup>110</sup> J.-P. Callu, 'I commerci oltre i confini dell'Impero', in *Storia di Roma, 111/1: L'età tardoantica: Crisi e trasformazioni*, ed. A. Carandini et al. (Turin, 1993), pp. 487–524, at 511.

<sup>111</sup> Procopius, *Bell.* I, 20, 12 (ed. Dewing, *History of the Wars*, vol. 1, p. 192): τοῖς τε γὰρ Αἰθίοποι τὴν μέταξαν ὠνεῖσθαι πρὸς τῶν Ἰνδῶν ἀδύνατα ἦν, ἐπεὶ αἱ οἱ Περσῶν ἔμποροι πρὸς αὐτοῖς τοῖς



This was in 531, following the last of a series of Abyssinian occupations of Yemen under the *nagaši* Ēlla Asbēha but before the coup in which Abrēha overthrew Sumu-yafa' Ašwa' (Esimphaios).<sup>112</sup> When the Sasanians recovered control of Yemen in the last years of Khusro I's reign (in 575), the real reason, as Theophanes of Byzantium pointed out, was the formidable threat of the emerging Byzantine alliance with the Türks. It was the Türks who approached the Byzantines. The passage in Theophanes documenting this is one of the most coherent in all of Byzantine historiography, for he notes that the Türks were now (in the 560s) in control of the trade with China, having destroyed the monopoly which the Hephthalites had wrested from the Sasanians in the later fifth century.<sup>113</sup> Zemarclus' embassy to the Kaghan was warmly received the following year, in 569. 'It was this', Theophanes says, 'that led Khusro to launch his expedition against' Abyssinian control of the Yemen.<sup>114</sup> What Photius' summary of these parts of this late sixth-century history lacks or leaves out is any reference to the information conveyed by another historian, Menander the Guardsman, that the whole Türk mission to Constantinople arose in the first place as a backlash to the Sasanian refusal to allow the Sogdians access to the Persian and Near Eastern markets for raw silk. It was the Sogdians, says Menander, who instigated the embassy to Byzantium, advising 'Sizabul' (Ishtemi?) 'that it would be better for the Türks to cultivate the friendship of the Romans and send their raw silk for sale to them because they made more use of it than other people'.<sup>115</sup> From this it is clear that in the late sixth century Byzantium was the world's largest market for silk, and since Sasanian merchants charged probably well over 15 solidi per pound of this material,<sup>116</sup> it is easy to see why so much energy was invested

ὄρμοις γινόμενοι οὐ δὴ τὰ πρῶτα αἱ τῶν Ἰνδῶν νῆες καταίρουσιν, ἅτε χώραν προσοικοῦντες τὴν ὄμορον, ἅπαντα ὠνεῖσθαι τὰ φορτία εἰώθασι (showing how commercial strategies were always at work).

<sup>112</sup> See Bosworth's commentary on Tabari's description of these events, al-Tabari, *History*, vol. v, pp. 207f., n. 518.

<sup>113</sup> Theophanes of Byzantium, in Photius, *Bibliothèque*, vol. 1: *Codices 1–83*, ed. R. Henry (Paris, 1991), p. 78: Οἱ γὰρ Τοῦρκοι τότε τὰ τε Σηρῶν ἐμπόρια καὶ τοὺς λιμένας κατεῖχον. Ταῦτα δὲ πρὶν μὲν Πέρσαι κατεῖχον, Ἐφθαλάνου δὲ τοῦ Ἐφθαλιτῶν βασιλέως ... Περδὸζην καὶ Πέρσας νικήσαντος ἀφῆρέθησαν μὲν τούτων οἱ Πέρσαι, δεσπότηαι δὲ κατέστησαν Ἐφθαλίται. οὐς μικρῶ ὕστερον μάχῃ νικήσαντες Τοῦρκοι ἀφείλον ἐξ αὐτῶν καὶ ταῦτα.

<sup>114</sup> Theophanes, *ibid.*, Ἰουστίνος δὲ Ζήμαρχον ἐς τοὺς Τοῦρκους πρέσβυν ἀπέστειλεν' ὃς καὶ λαμπρῶς ἐστίασας τε τοὺς Τοῦρκους καὶ ἐς τὰ μάλιστα φιλοφρονηθεὶς ἐς τὸ Βυζάντιον ἐπανῆει. Διὸ καὶ ὁ Χοσρόης ἐπ' Αἰθίοπας φίλους ὄντας Ῥωμαίοις ... ἐστράτευσε κτλ.

<sup>115</sup> R. C. Blockley (ed.), *The History of Menander the Guardsman: Introductory Essay, Text, Translation (etc.)* (Liverpool, 1985), fr. 10.1 (p. 115).

<sup>116</sup> This was the price Justinian asked Byzantine traders to stick to, to avoid competitive bidding, see A. H. M. Jones, *The Roman Economy: Studies in Ancient Economic and Administrative History*, ed. P. A. Brunt (Oxford, 1974), p. 362.

in constructing and retaining their 'monopoly'. Moreover, it is clear from Menander's description of the kind of questions Justin II asked the Türk envoys that the Byzantines knew little about Central Asia *c.* 570.

If the alliance was designed to *contain* Sasanian competition, it was clearly a failure. The late sixth/early seventh centuries saw a veritable explosion of Sasanian trade into Inner Asia.<sup>117</sup> Cosmas had explained the Persian advantage in silk in terms of the differential turnaround times linked to the length of voyages by land and sea,<sup>118</sup> and De la Vaissière in his excellent book on the Sogdian merchants has argued that the terrestrial routes were still dominant in the late sixth century.<sup>119</sup> The 'Turkish consolidation of Inner Asia in the middle of the sixth century' was itself a major factor stimulating revival or further expansion of the silk trade.<sup>120</sup> Secondly, as Skaff argues, the demand for international trade was largely driven by political conditions in China, and the latter part of the sixth century saw the pendulum swinging back to unification.<sup>121</sup> With the T'ang reunification of China in 618, this impact would have been even stronger. At any rate, for the Sasanians the late sixth century was a period of renewed commercial expansion, related perhaps to Hormazd IV's victory over the Türks. Khusro II's coinage of the 610s and 620s represents almost half the surviving coins from Turfan's tombs that have a mint date (eleven out of twenty-five),<sup>122</sup> and his coins were plentiful in various parts of Afghanistan.<sup>123</sup> The hoard from Wuqia in the Xinjiang Uygur Autonomous Region museum, which was never properly published since its discovery in 1959, contains at least 546 drachms of his (96 per cent of the Sasanian coins).<sup>124</sup>

The peak of Sasanian silver circulation in Turfan seems to have occurred later, in the second quarter of the seventh century. It was the purity of the

<sup>117</sup> The Arabic sources overstate the extent of Khusro I's conquests in the east but they also suggest that it was Khusro who sought a matrimonial alliance with Ishtemi, cf. G. Widengren, 'Xosrau Anōšurvān, les Hephtalites et les peuples turcs', *Orientalia Suecana* 1 (1952), 69–94, and M. Grignaschi, 'La chute de l'empire hephthalite dans les sources byzantines et perses et le problème des Avar', *Acta Antiqua Acad. Scient. Hungaricae* 28 (1980), 219–48, assessing the credibility of the sources differently.

<sup>118</sup> Cosmas, ii, 46 (Wolska-Conus, vol. 1, p. 353), who concludes, 'This is the reason why one always finds so much silk in Persia.'

<sup>119</sup> De la Vaissière, *Histoire*, p. 227.

<sup>120</sup> Skaff, 'Silver Coins from Turfan', p. 84–5.

<sup>121</sup> Skaff, 'Silver Coins from Turfan', pp. 85–6.

<sup>122</sup> Skaff, 'Silver Coins from Turfan', p. 86, cf. p. 70, 'almost all of the coins from tombs date to the late sixth and seventh centuries'.

<sup>123</sup> Curiel, 'Trésor', p. 126.

<sup>124</sup> M. Tsumura and K. Yamauchi, *Sasanian and Arab-Sasanian Silver Coins from Xinjiang* (Nara, 2003) (in Japanese), Eng. summary, p. 342.

silver coinage that won general acceptance for it from Bukhara to Turfan,<sup>125</sup> and this must have been a major factor in the state's decision to maintain high levels of purity. On the other hand, late Sasanian silver circulated in other forms equally amenable to trade. The late sixth century also saw an expansion of trade with the regions north of the Caspian.<sup>126</sup> Here, in north-eastern Russia, the chief means of exchange (in the Kama–Perm regions) were the large numbers of silver bowls and other silver objects that have turned up there. A lot of Sasanian silver was recycled to the north by Sogdian merchants,<sup>127</sup> showing that beneath the incessant political fluctuations in this vast landscape, the caravans continued to circulate because traders from different nationalities depended on each other. The late Sasanians had an abundance of silver which they used for both coinage and silverware.

To return to the solidus, Cosmas' story, told to him by Sopatros, about the Sri Lankan king scrutinising the solidus and the drachm is formal proof that both solidi and drachms circulated in the Indian Ocean trade. Since early Roman gold and silver coins had always circulated in the Indian Ocean as bullion, that is, valued for their bullion value,<sup>128</sup> there is no compelling reason to believe that the solidus would have been treated any differently in late antiquity. This contrasts sharply with the export of low-value copper coins to South India and Sri Lanka. Their import into these regions was probably linked to the undervaluation of the Late Roman bronzes<sup>129</sup> and designed to meet a need for local currency.<sup>130</sup> The solidi, by contrast, would have been melted down or holed and used for jewellery. The same was almost certainly true of the few stray solidi that have turned up along the silk routes to China.<sup>131</sup> The scarcity of Byzantine

<sup>125</sup> Cf. R. N. Frye, 'Sasanian–Central Asian Trade Relations', *Bulletin of the Asia Institute*, n.s. 7 (1993), 73–7, at pp. 73–4.

<sup>126</sup> R. N. Frye, 'Byzantine and Sasanian Trade Relations with Northeastern Russia', *Dumbarton Oaks Papers* 26 (1972), 263–9.

<sup>127</sup> De la Vaissière, *Histoire*, pp. 245–8.

<sup>128</sup> D. W. Mac Dowall, 'Indian Imports of Roman Silver Coins', in *Coinage, Trade and Economy: 3rd International Colloquium, 1991*, ed. A. K. Jha (Nasik, 1991), pp. 145–53; and D. W. Mac Dowall, 'The Indo-Roman Metal Trade', in *Foreign Coins Found in the Indian Subcontinent: 4th International Colloquium, 1995*, ed. D. W. Mac Dowall et al. (Bombay, 2004), pp. 39–44, arguing that the export of coins as bullion was driven by their relative undervaluation in the Roman monetary system.

<sup>129</sup> Lo Cascio, 'Teoria e politica monetaria', p. 546, and E. Lo Cascio, 'Aspetti della politica monetaria nel IV secolo', in *Atti dell'Accademia Romanistica Costantiniana, X Convegno Internazionale* (Naples, 1995), pp. 481–502, esp. 497–9.

<sup>130</sup> O. Boppearachi, 'Le commerce maritime entre Rome et Sri Lanka d'après les données numismatiques', *Revue des études anciennes* 94 (1992), 107–21, esp. pp. 116–17.

<sup>131</sup> The best survey is Thierry and Morisson, 'Sur les monnaies byzantines trouvées en Chine' (n. 96); also see Lin Ying, 'From Portraiture of Power to the Gold Coin of Kaghan: Western Turks and the

gold in this sector of the international trade is not so much an indication of the scale of its circulation as reflective of the fact that these coins had a limited *monetary* use in this part of the world.<sup>132</sup> But gold did circulate in the Central Asian trade, and this could only have come in, initially, as solidi. The evidence here is partly textual. When Qutaiba ibn Muslim conquered Baikand in 706, the Arabs found ‘innumerable gold and silver vessels’,<sup>133</sup> total assets valued at 150,000 *mithqāls*,<sup>134</sup> so this is some indication that the Sogdians had access to gold from the west. The really crucial pieces of evidence, however, both come from the remarkable early seventh-century history of Theophylact Simocatta. His sources on China were of an exceedingly high quality.<sup>135</sup> Describing the ‘realm of Taugast’, as he called China, Theophylact says, ‘They have a custom, which resembles law, that males should never embellish themselves with gold adornment, even though they have become owners of a great abundance of silver and gold as a result of their large and advantageous trading.’<sup>136</sup> A second passage from the same author states (in the context of Bahrām Čōbīn’s campaign against the Türks):

[T]he Huns [Türks] were subjected to tribute by the Babylonians [Persians], although formerly the *Huns [Türks] levied from the Medes [Persians] forty thousand gold coins* as cause for inactivity. The Turkish realm, then, had been made very rich by the Persians, and this particular nation had turned to great extravagance; for they hammered out gold couches, tables, goblets, thrones, pedestals, horse-trappings, suits of armour, and everything which has been devised by the inebriation of wealth. Subsequently when the Turks broke the treaty and demanded that they be given more than the customary money and that there be a very heavy supplement, the Persians, intolerant of the burden of the imposed tribute, elected to make war. When the Persians won a splendid victory, affairs together with fortune

Eastward Diffusion of Solidi’, in *Dal ‘denarius’ al ‘dinar’: L’Orient et la moneta romana*, ed. F. De Romanis and S. Sorda (Rome, 2006), pp. 239–63.

<sup>132</sup> Thierry and Morrisson, ‘Monnaies’, pp. 129–30, citing textual evidence for possible use as currency.

<sup>133</sup> Al-Ṭabarī, *The Zenith of the Marwānid House: The Last Years of ‘Abd al-Malik and the Caliphate of al-Walid A.D. 700–715/A.H. 81–96* (*The History of al-Ṭabarī*, vol. XXIII), trans. M Hinds (Albany, 1990), p. 137, citing conflicting estimates of the value of the hoard. Ṭabarī also tells us that the stocks of silk warehoused with the Baikand merchants were worth one million dirhams (p. 136).

<sup>134</sup> The figure accepted by Narshakhī in his local history, of which only a Persian translation survives, see Narshakhī, *The History of Bukhara, Translated from a Persian Abridgement of the Arabic Original by Narshakhī*, trans. R. N. Frye (Cambridge, MA, 1954), p. 45, ‘When he gathered together everything it amounted to 150,000 mithqāls.’

<sup>135</sup> See P. A. Boodberg, ‘Marginalia to the Histories of the Northern Dynasties’, *Harvard Journal of Asiatic Studies* (1938), 223–53, part 1.

<sup>136</sup> Theophylact, vii.9.3 (*The History of Theophylact Simocatta*, ed. M. Whitby et al. (Oxford, 1988), p. 192).

reversed their flow, and the Turks were subjected to tribute by the Persians and were also deprived in addition of the wealth which they had previously accumulated.<sup>137</sup>

So the Persians were paying the Türks in gold but conflict erupted and the Türks were defeated, the flows reversed and gold poured into Sasanian coffers. In what form? *Theophylact refers to 'gold coins'*.<sup>138</sup> These are crucially important passages, for they seem to be about the only textual references we have to the actual circulation of solidi in the geographical area covered by Türko-Sasanian interactions, both political (tribute payments) and presumably commercial as well, in the late sixth century.

The coins Theophylact refers to could only have been solidi, since they are not likely to have been Sasanian dinars.<sup>139</sup> Since no solidus hoards have turned up in the former Sasanian territories (at least none I am aware of), we must suppose that these payments, like the plunder the Persians collected in the Levant, were melted down.<sup>140</sup> We can thus visualise two situations for the late Roman/Byzantine gold circulating beyond the eastern boundaries of the empire: one where solidi retained their form of coin but circulated by weight, and did so with other coins such as the drachm, which also circulated by weight. This situation is formally attested by a passage in Balādhurī which says, 'The dīnārs of Heraclius used to be current among the people of [Mecca] before Moslem times, but also the baghlīyah [full-weight] dirhams of Persia; but it was not customary to buy and sell with them *except by considering the coins as bullion*'.<sup>141</sup> Both solidi and drachms were used in the Hijaz but they circulated by weight. The second situation, by contrast, was one where the solidi were basically treated as a form of bullion, valued for the purity of their metal content, hence readily melted down, holed, hoarded and so on. The best examples

<sup>137</sup> Theophylact, iii.6.10–13 (*History*, pp. 80–1).

<sup>138</sup> Τεσσαράκοντα χιλιάδας χρυσῶν, *Theophylacti Simocattae Historiae*, ed. De Boor (Leipzig, 1887), p. 212. The statement in Theophanes that Hormazd 'was able to exact a tribute of 40,000 gold coins from the Türks, whereas previously he had been paying the Türks the same amount', *Chronicle*, AM 6080, AD 587/8 (Mango and Scott, p. 385), looks like an extrapolation from this passage in Theophylact.

<sup>139</sup> So too H.-W. Haussig, *Die Geschichte Zentralasiens und der Seidenstrasse in vorislamischer Zeit*, 2nd edn (Darmstadt, 1992), pp. 167, 178.

<sup>140</sup> That this is what the Sasanians did with their precious metal plunder is suggested by a passage in Sebeos (or the history attributed to him), see Sebeos, 116 (R. W. Thomson and J. Howard-Johnston, *The Armenian History Attributed to Sebeos, Part 1* (Liverpool, 1999), vol. 1, pp. 69–70).

<sup>141</sup> Al-Balādhurī, *Kitāb futūh al-buldān*, p. 466; F. C. Murgotten, *The Origins of the Islamic State, Being a Translation ... of the Kitāb futūh al-buldān, Part 2* (New York, 1924), p. 263; cf. al-Maqrīzī in Allouche, *Mamluk Economics*, p. 56.

of this are surely China, India and Sri Lanka, and of course it is also possible that in these markets the coins were brought in by traders of other nationalities, such as Sogdians, Arabs from the peninsula, Indians and so on. When Cosmas writes that solidi were carefully selected (*eklekta*) for export to Sri Lanka,<sup>142</sup> this must refer, in the first instance, to the fineness of the coins, and to their weight only insofar as there was a demonstrable connection between the weight and fineness of gold coins.<sup>143</sup> Finally, the two situations together would also account for his other assertion that ‘all countries use the solidus in their commercial dealing’, and that the coin was found from ‘one end of the world to the other’.<sup>144</sup>

In the western Mediterranean the Roman monetary system had of course disintegrated by this stage, but the use of Byzantine prototypes shows the profound influence of the solidus in this sector.<sup>145</sup> Like the Arab administrations in Syria and Egypt, and a whole century before them, the Merovingians based their gold coinage largely on existing stocks of solidi.<sup>146</sup> Gold was almost certainly being imported into Italy under the Ostrogoths,<sup>147</sup> and a great deal of Byzantine gold made its way north via the Ostrogoths and transpadana.<sup>148</sup> In the east, one of the most interesting hoards to have turned up is that from al-Madhāriba in Yemen.<sup>149</sup> This contained Aksumite (= 868) and late Roman (= 326) gold coins in a single hoard, but the baffling feature is the considerable gap between the solidi and the Aksumite coins. The bulk of the solidi date between 350 and 367, whereas the hoard stems from the second quarter of the sixth century!<sup>150</sup> At any rate, it is always interesting to be able to match a numismatic find with textual or other evidence. In the early sixth century, the wealthier Christian families of Najrān in southern Arabia used solidi in their transactions. The new ‘Letter’ of Simeon of Bēth-Arshām reports that,

<sup>142</sup> Cosmas, xi, 19 (Wolska-Conus, vol. III, p. 351), Ἦν οὖν τὸ νόμισμα ὀβρυζόν, λαμπρόν, εὐμορφόν τοιαῦτα γὰρ ἐκλεκτὰ προχωροῦσιν ἐκεί.

<sup>143</sup> Poirier has tried to show this in his dissertation, *Contribution à l'analyse de l'or antique*, pp. 162–70.

<sup>144</sup> Cosmas, ii, 77 (Wolska-Conus, vol. I, pp. 393ff.).

<sup>145</sup> J. Lafaurie and C. Morrisson, ‘La pénétration des monnaies byzantines en Gaule mérovingienne et visigotique du vie au viie siècle’, *Revue Numismatique*, ser. 6, 29 (1987), 38–98, esp. pp. 41–5.

<sup>146</sup> *Ibid.*, p. 44: ‘Ce sont les monnaies circulant en Gaule ou en Italie qui ont fourni la matière première des nouvelles fabrications.’

<sup>147</sup> See S. J. B. Barnish, ‘The Wealth of Iulianus Argentarius: Late Antique Banking and the Mediterranean Economy’, *Byzantion* 55 (1985), 5–38, esp. pp. 11–12, with the reference to Cassiodorus, *Variae* ix, 3.

<sup>148</sup> M. Asolati, ‘Considerazioni sulla circolazione di moneta aurea del v e vi secolo d.C.: Materiali inediti da Nerviano’, *Quaderni Ticinesi* 25 (1996), 271–86.

<sup>149</sup> S. Munro-Hay, ‘The al-Madhāriba Hoard of Gold Aksumite and Late Roman Coins’, *Numismatic Chronicle* 149 (1989), 83–100.

<sup>150</sup> The last coins are those of Kaleb (Ella Asbeha) who died c. 536.

following her martyrdom, the princes of Najrān interceded with the king Yuṣuf to grant a proper burial to Ruhayma, daughter of Azma', arguing:

This (woman) has done many good deeds to everyone, to the king, to the notables, and to the poor; and in like manner she formerly treated M'DWKRM <Ma'di-karib>, who before you has been king in this land. For he was in difficulty and borrowed from her twelve thousand *denarii*, and finally, when she saw that he was in difficulty, she renounced claim to the debt.<sup>151</sup>

Ruhayma's contract can be dated to within a few years. Ma'di Karib was the last of the Tubba' kings (the Tubba's were the 'ruling house of the kingdom of Himyar')<sup>152</sup> and he seems to have been placed on the throne of Himyar by the Abyssinians in late 518 or early 519.<sup>153</sup> Since he is still attested as ruling in 521–2,<sup>154</sup> Ruhayma's loan can be dated to 518–22. She herself was one of the victims of the great carnage at Najrān, in the autumn of 523,<sup>155</sup> and a superb example of the (largely Monophysite) aristocracy of that town.<sup>156</sup> So we can conclude that solidi were almost certainly legal tender in this highly commercialised sector of the Arabian peninsula, from where, moreover, much of the trade with India and Sri Lanka was conducted.

To conclude, the seventh century was far more vibrant than it has been made out to be from the narrow perspectives of a fragmented western Mediterranean, or even those of Haldon's Byzantium, and much of this was driven clearly by a volume of commercial exchanges that was as substantial as ever. Trade with the Far East saw a new period of expansion coinciding with the T'ang unification of China, and culminating, of course, in the great upsurge of the ninth century. Ibn Ḥabīb describes the international fairs at Sohar and Dibba on the Batinah coast in the last years of Sasanian rule in terms that recall Ammianus' description

<sup>151</sup> I. Shahid, *The Martyrs of Najrān: New Documents* (Brussels, 1971), p. 60, where Simeon cites the testimony of 'those who came from Najrān'. So too in A. Moberg, *The Book of the Himyarites: Fragments of a Hitherto Unknown Syriac Work* (Lund etc., 1924), p. cxxxiii, which dates from the second quarter of the sixth century and is less well preserved.

<sup>152</sup> Al-Ṭabarī, *History*, vol. v, p. 176.

<sup>153</sup> Bosworth in al-Ṭabarī, *History*, vol. v, p. 194, n. 487.

<sup>154</sup> Bosworth in al-Ṭabarī, *History*, vol. v, pp. 188–9, n. 480.

<sup>155</sup> F. de Blois, 'The Date of the "Martyrs of Najrān"', *Arabian Archaeology and Epigraphy* 1 (1990), 110–28.

<sup>156</sup> See her self-description in Simeon's 'New Letter', Shahid, *Martyrs of Najrān*, p. 57: 'You know that I am a Christian, and you know my lineage and family and who I am; and that I have gold and silver and slaves and handmaids and field produce and that I lack nothing ... And here I am saying to you that on this very day I am in possession of forty thousand *denarii* [solidi], sealed and placed in my treasury apart from the treasury of my husband, and jewelry and pearls and jacinths.'



of Batnae. 'Merchants from Sind, India, China, people of the East and West came to it,' he says about Dibba.<sup>157</sup> Here we have a clear reference to the Chinese sailing to the Gulf, but is the testimony credible? The answer is 'yes'. The Armenian geography now ascribed to Ananias of Širak completely bears it out. This survives in two versions, a long and a short one. The shorter recension, which dates from the late 630s or 640s, says of Yemen (Fortunate Arabia) that 'It produces everything and everything is found there either in the country itself or brought by merchants from China or India.'<sup>158</sup> Bašra, which was undoubtedly a relatively new foundation at this time, is described as 'filled with merchants and ships coming from India and all parts of the orient'.<sup>159</sup> 'The Sogdians', says Ananias, 'are wealthy and industrious merchants who live between the lands of Turkestan and Ariana.'<sup>160</sup> In short, behind the devastating conflict between Byzantium and Persia, the commercial world of the seventh century lay intact, supported by an abundant circulation of the precious metal coinages.

In terms of *external* trade, the Byzantines were effectively restricted to the 'northern' route (through the Astrakhan steppe or across the Caspian), from where in fact the bulk of solidi moved in other directions – to Scandinavia to finance the trade in Swedish furs,<sup>161</sup> to the Black Sea steppe in political payments.<sup>162</sup> Lombard's famous paper on the three monetary zones saw the late Romans and then the Byzantines progressively exhausting their reserves of gold in a multiple flight that was beyond control.<sup>163</sup> And it is true that measured by the standards of the late Republic<sup>164</sup> or

<sup>157</sup> Muhammad b. Ḥabīb, *Kitāb al-Muḥabbar*, ed. I. Lichtenstädter (Hyderabad, 1942), p. 265, cf. E. Shoufany, *Al-Riddah and the Muslim Conquest of Arabia* (Toronto, 1972), p. 156, and D. T. Potts, *The Arabian Gulf in Antiquity*, vol. II: *From Alexander the Great to the Coming of Islam* (Oxford, 1990), p. 339. For Persian maritime interests along the Arabian coast and the extent of Persian control, see J. C. Wilkinson, 'Arab-Persian Land Relationships in Late Sasānid Oman', *Proceedings of the Seminar for Arabian Studies* 6 (1973), 40–51.

<sup>158</sup> R. H. Hewsen, *The Geography of Ananias of Širak (Ašxarhaç'oyc'): The Long and the Short Recensions: Introduction, Translation and Commentary* (Wiesbaden, 1992), p. 72A.

<sup>159</sup> *Ibid.*, p. 71A; found only in the shorter recension and crucial for its date. Bašra was founded between 635–6 and 637–8, cf. F. M. Donner, *The Early Islamic Conquests* (Princeton, 1981), p. 217.

<sup>160</sup> Hewsen, *Geography*, p. 74A.

<sup>161</sup> D. M. Metcalf, 'Viking-Age Numismatics I: Late Roman and Byzantine Gold in the Northern Lands', *Numismatic Chronicle* 155 (1995), 413–41, esp. pp. 421, 423, 440.

<sup>162</sup> J. Smedley, 'Seventh-Century Byzantine Coins in Southern Russia and the Problem of Light Weight Solidi', in *Studies in Early Byzantine Gold Coinage*, ed. W. Hahn *et al.* (New York, 1988), pp. 111–30.

<sup>163</sup> M. Lombard, 'Les bases monétaires d'une suprématie économique: L'or musulman du VII<sup>e</sup> au XI<sup>e</sup> siècle', *Annales ESC* 2 (1947), 143–60, and *Études d'économie médiévale*, vol. 1: *Monnaie et histoire d'Alexandre à Mahomet* (Paris, 1971), pp. 133–46.

<sup>164</sup> Veyne, 'Rome', p. 215: 530 metric tons of gold in the Temple of Saturn!

even the second century,<sup>165</sup> the reserves of gold in the state's hands had dwindled substantially by the late empire and even more so by the ninth century.<sup>166</sup> But we can certainly rule out an external flight as the chief cause of this. What does seem to have happened is a progressive *dispersal* of the hoard into private hands, through largesse (*profusa largitio*), the vast endowments of the church and, above all, the expansion of private business. In the Sasanian realm, by contrast, the hoard remained largely *concentrated* in the various and numerous treasuries of the shah till it, too, was largely dispersed through the lack of a strong central administration in the Arab conquests.<sup>167</sup>

<sup>165</sup> Lo Cascio, 'State and Coinage', p. 79: 675 million denarii c.161.

<sup>166</sup> W. T. Treadgold, *The Byzantine State Finances in the Eighth and Ninth Centuries* (New York, 1982), pp. 10 ff.

<sup>167</sup> See al-Ṭabarī's account of how the Arabs dealt with the so-called 'treasures of al-Nakhirajān' following the battle of Nihāwand, al-Ṭabarī, *The Conquest of Iraq, Southwestern Persia, and Egypt* (*The History of al-Ṭabarī*, vol. xiii), trans. H. A. Juynboll (Albany, 1989), pp. 182–4.