
INTRODUCTION

Literature

The only detailed descriptive work covering the coinages studied in this volume is Engel and Serrure (1891), remarkable for its day and still a standard work of reference despite being outdated in many respects. The fullest study from a monetary standpoint (Suchodolski 1982), by an author who is also an accomplished numismatist, is in Polish and consequently, apart from its many maps, tables and graphs, difficult for most readers in western Europe to use. There is a good survey of the coinages of the Germanic successor states by Le Gentilhomme (1943–4), superseding an older work by Keary (1879). Often interesting on details is Monneret (1919–21), though it has to be used with caution as the author had no direct acquaintance with the coins and was uncritical in his use of written sources. Two old works that have been unjustly neglected, partly because neither is illustrated or professedly ‘numismatic’, are those of Müller (1860) and Soetbeer (1862–6). Both run to the end of the Carolingian period and despite their date can still be profitably consulted, particularly that of Soetbeer, because of their authors’ command of the laws, charters and other written texts and their copious citations from them.

The economic history is most fully covered by Dopsch (1927), now somewhat dated and effectively ending in the eighth century though continued by his monograph on the Carolingian period (Dopsch 1962). There are shorter but still substantial works by Latouche (1967), Doehaerd (1971), and Dhondt (1976), stimulating treatments of various aspects by Duby (1974) and Hodges (1982). The period is unevenly covered by chapters in vols. I and II of the *Cambridge Economic History of Europe* (1966², 1952).

The significance of the change-over from a gold to a silver coinage in the middle of the period covered by this volume has been much discussed, particularly since Pirenne in the 1920s made it one of the chief arguments in favour of his view that in all essentials the ancient world persisted to the late seventh century and ended as a consequence of Muslim expansion and not of the Germanic invasions (Pirenne 1923*, 1937). The monetary aspects of the argument figured prominently in all subsequent discussions (cf. Lopez 1943b*, Dennett 1948*, Riising 1952*, Perroy 1954*, Grierson 1960a, Cipolla 1962, Roberts 1964, Cahen 1965, Ashtor 1970, Hodges and Whitehouse 1983; the works marked with an asterisk are reprinted in Hübinger 1968b; cf. also Hübinger 1968a), and it gave rise to an equally contentious if more limited problem, that of the influence of Muslim coinage on western Europe in the eighth and succeeding centuries (Bloch 1933, Lombard 1947, Bolin 1953*, Grierson 1954a*, Himly 1955*, Duplessy 1956). On the role of coined money in the economy there has been much difference of opinion (Grierson 1959a; Metcalf 1967; cf. below, pp. 190–1, 282).

The most convenient general histories covering the period are the *Cambridge Medieval History*, vols. I–III (1911–22), and Lot, Pfister and Ganshof (1941). Works dealing with specific regions will be referred to in the appropriate sections. The most comprehensive works on the Germanic invasions, with excellent bibliographies, are Musset 1965, 1971.

(a) PEOPLES AND COINAGES (FIFTH–TENTH CENTURIES)

Medieval European coinage is customarily divided into three phases: (1) a post-Roman one dominated by derivatives of an imperial gold coin, the tremissis, (2) a late Merovingian, Carolingian and feudal one when virtually the only coins in circulation were silver pennies, and (3) a late medieval one characterized by the revived use of gold and a proliferation of ‘silver’ denominations ranging from pennies or their fractions in low-grade billon to silver ‘groats’ worth anything between 4 and 24 pence according to place and period. The coinages described in this volume are those of western Europe during the first five centuries of the middle ages, from the fall of the Roman Empire in the West, conventionally dated to the fifth century A.D., and the emergence of recognizable ‘national’ political units in the West in the tenth century. They thus include the whole of the tremissis coinages in gold and the first phase of the penny coinages in silver.

No precise dates can be given for either the beginning or the end of the coinages involved. The volume starts with the coins struck by the Ostrogoths, Visigoths, Vandals, Burgundians and other Germanic invaders of the Empire in the fifth century. These overlapped in both East and West with imperial issues, and some account of the latter is given later in this chapter, since they are necessary to an understanding of the Germanic coinages that first supplemented and then replaced them. They are not, however, catalogued or described in detail. Similarly, in the tenth century, when the coinages of the last Carolingian sovereigns overlapped with those of nascent feudalism, the coinages of the latter are reserved for later volumes. While in principle the volume runs to the end of the Carolingian period – 911 in Germany, 987 in France – and in England to the death of Edward the Elder in 924, a number of exceptions to these limits have been allowed. It is convenient to take the coinage of the kingdom of Italy down to the Ottonian conquest and the deposition of Berengar II (961), and that of the papacy down to the cessation of papal-imperial coinage in the 970s. In England, though the coinage of Wessex is not taken beyond 924, that of the Viking kingdom of York is continued to its downfall in 954 and the annexation of Northumbria by Eadred. The coinage of the kingdom of Burgundy (888–1032), on the other hand, has been left over to Vol. 6, since although the kingdom dates from the coronation of Rudolf I in 888 the bulk of its coinage belongs to the period from 937 onwards.

There are three main themes to the political history of the period: the establishment of the Germanic successor states, the emergence and break-up of the Carolingian Empire, and the unification of England under the house of Wessex. These will be surveyed, in such detail as seems appropriate, in the introductions to each section, but a short outline of them may be useful.

(1) *The Germanic successor states*

The Germanic world of central Europe and southern Russia was thrown into confusion in the 370s A.D. as a result of the invasion of the Huns from Central Asia. An East German people, the Visigoths, was permitted to cross the Danube by the Roman government in 376 and settle in the province of Moesia, corresponding to most of the north Balkans. The government hoped thereby to increase its own supply of mercenary soldiers, but a large national unit could not

be as easily managed as the smaller bands of Germanic auxiliaries on whose services the Empire had long relied. A first Gothic revolt ended in a spectacular Gothic victory at Adrianople (378), when the Emperor Valens was killed and his army all but wiped out, and a second one, following the death of the Emperor Theodosius I in 395, resulted in the devastation of much of the Balkans and the invasion of Italy. This in turn compelled the Roman authorities in the West to transfer military resources from Gaul, thereby weakening its frontier defences and making possible a second major Germanic invasion across the Rhine in 407. The next hundred years saw the establishment of powerful states by the Vandals in Africa, the Suevi in Spain, the Visigoths in southern Gaul, the Burgundians in south-eastern Gaul and the Ostrogoths in Italy, while much of northern Gaul was occupied by petty Frankish chieftains and much of Britain by a miscellany of Jutes, Angles, Saxons and Frisians. Not all these states were to last: the Vandal and Ostrogothic kingdoms were destroyed by an imperial revival under Justinian, while the Burgundians and the Suevi fell victims to the Franks and the Visigoths respectively. But Italy was invaded and most of it was occupied by the Lombards after Justinian's death (565) and, after the unification of the Franks under Clovis (d. 511), the Visigoths were driven from all save a southernmost strip of Gaul (Narbonensis) and became instead masters of Spain.

Each of these kingdoms developed a coinage of its own, initially imitated from imperial issues but in due course developing on its own 'national' lines, and it is these coinages that form the subject of the first third of this volume. Those of the Ostrogoths and Vandals, which in both cases were short-lived, carried on the Roman tradition of using gold, silver and copper, but the other coinages were almost exclusively of gold and conformed in weight, at least initially, to the Roman *tremissis*. A coinage of silver deniers, however, was inaugurated in *c.* 670 in the Frankish kingdom of Neustria, and by the end of the century these had taken over completely throughout the Frankish realm, as well as in Frisia to the north and across the Channel in England.

(2) *The Carolingian Empire*

The dynasty founded by Clovis lasted with only two brief interruptions for nearly three centuries, ending with the deposition of Childeric III in 751. Since the kingdom was inherited as if it were private property it was subject to repeated partition, and despite its being periodically reunited the royal power declined from the reign of Dagobert (d. 639) onwards. But a new dynasty of Mayors of the Palace emerged in the late seventh century, took over much of the reality of royal power, recovered peripheral regions that had become independent, and in 751, in the person of Pepin the Short, assumed the crown itself. Pepin's successor Charlemagne completed his father's work, annexing the Lombard kingdom of Italy, making himself master of Bavaria and Saxony and taking the title of emperor in 800. But his empire was too large to be held together as a political unit and in due course it broke up, his line ending in Germany in 911 and in France in 987.

The typical coin of the Carolingian period was the silver denier or penny, which represented a continuation of the late Merovingian denier, although under Pepin and Charlemagne its form was changed to a broader and thinner coin much more regular in appearance and its issue was brought under royal control. The history and vicissitudes of the Carolingian silver denier form the second main theme in this volume.

(3) The unification of England

The third theme is the coinage of England, which followed patterns very similar to those of its neighbours on the Continent. The small, separate groups of Germanic peoples who settled in Britain during the course of the fifth century conquered little by little almost the whole country and coalesced into a number of separate kingdoms. The four main ones were Northumbria (the land extending from the Humber to the Firth of Forth in modern Scotland), Mercia (in central England, taking its name from its *march* or border with Wales), Wessex (the land of the West Saxons in the south-west up to the frontier with Cornwall) and Kent (the smallest of the kingdoms but important because of its proximity to the Continent). The minor kingdoms included East Anglia, Essex, Sussex and Lindsey. During the seventh, eighth and ninth centuries the balance of power south of the Humber shifted between the major kingdoms, till a new wave of invaders from Scandinavia, the Vikings, overwhelmed northern and eastern England, so that towards the end of the ninth century the country came to be divided into two regions, the Danelaw and the remainder dominated by Wessex. It was left to the West Saxon kings in the first half of the tenth century to conquer and annex the Danelaw, resulting in the unification of the whole country for the first time since the Roman withdrawal five centuries before.

Britain was the only Roman province in which, with the end of the Empire, the use of coinage completely lapsed. Some Continental gold coins found their way into Kent from the second quarter of the sixth century onwards, although initially their use was mainly ornamental. In the seventh century a new indigenous coinage of gold tremisses on the Frankish model was created. In the second half of the century there came a transition to silver pennies, as in the Frankish kingdom. These were initially of the small, thick module of the Merovingian denier, but they assumed the broader Carolingian fabric during the third quarter of the eighth century. In remote Northumbria an aberrant coinage of debased silver and eventually copper coins of the early thicker fabric was struck in the later eighth and ninth centuries. The production of broad silver pennies was effectively confined to south-east England and East Anglia until the last decades of the ninth century, when minting spread to other parts of Wessex, Mercia and the Danelaw. It was out of the West Saxon penny that the later coinage of England was to develop.

The right to coin

There are many features of early medieval coinage that seem strange to the historian, and sometimes anomalous even to numismatists. It is traditionally held that the right of minting is a function of sovereignty – *ius monetae ossibus principis adhaeret* – and the manufacture of coin is usually closely controlled and centralized, so that a state normally possesses only a single mint. This last condition did not obtain in the late Roman Empire, for size and poor communications made many mints necessary, but the mints were at least operated by the state and the weight, fineness and external appearance of coins were determined by it.

Such control of mint operations is found in only a few of the coinages covered by this volume. In the years immediately following their settlement in the Empire, the invaders, when they minted coins at all, minted pseudo-imperial ones, imitating either imperial coins already circulating in the lands they occupied or the current issues of imperial mints as these came to their attention. This, at least, was what occurred with the gold. Silver and bronze were being minted

on only a small scale by imperial mints in the fifth century, and the new rulers had few scruples over inscribing coins in these metals with their own names or monograms. But as time passed, usually after about a century had gone by since the initial settlement, each of the Germanic peoples seems to have felt free to issue its own types in gold. The resulting coinages followed widely divergent patterns; some were centrally regulated while others were apparently issued on local initiative. In the Frankish kingdom the coins normally bear the names of moneyers and mints, and only exceptionally those of kings. In Visigothic Spain the names are those of kings and mints, never those of moneyers. The same is true of Lombard Italy, but in Tuscany there are coins with only the names or monograms of cities. Later, under the Carolingians, the coinage becomes completely royal but names of mints continue while those of moneyers are dropped. In England, where the coinage from the later eighth century is also unquestionably royal, the names of moneyers continue until the thirteenth century but those of mints only become a standard feature in the tenth.

Clearly no simple answer can be given to the question of how the *ius monetae* fared in the Germanic successor states. In none of them was it preserved in a simple and undivided form. Even in Ostrogothic Italy and Vandal Africa, where many features of the Roman state survived almost unimpaired, the right to mint seems to have been shared, how formally we do not know, with local authorities, probably out of respect for real or supposed Roman precedents. Visigothic coinage, from Leovigild onwards, is formally royal, but much can probably be attributed to local initiative. The Frankish kings of the sixth and seventh centuries probably never claimed any royal monopoly at all (below, pp. 97–8). The absence of a minting monopoly would of course not prevent rulers legislating on the coinage, for it was in the public interest to ensure that such coins as were made conformed to accepted standards of weight and fineness. But this did not mean that public authorities had to make the coins themselves.

There was, however, one limit the successor states were usually prepared to observe. Their rulers normally refrained from minting in their own names the gold solidus, the coin that seemed *par excellence* to embody the pretensions of the Roman Empire. There are, of course, exceptions. Such coins were minted by the Frankish king Theodebert in the sixth century, by Frankish rulers at Marseille from 613 onwards, and occasionally by kings or moneyers elsewhere. But there was no minting of solidi by the Visigoths after a national coinage had been created by Leovigild, and the Lombards minted solidi only at Ravenna, the chief imperial mint in Italy, during the five years between its capture by Aistulf in 751 and its relinquishment to the papacy in 756. The historian Procopius, in recording Byzantine indignation at Theodebert's presumption in doing something that (he declares) not even the Sassanian kings of Persia dared to do, makes clear the importance that the imperial authorities attached to their prerogatives in the matter (*Bell. Goth.* III.33.5–6). In detail, it is true, he is wrong. Although the normal coinage of the Sassanians consisted of silver dirhams, they struck coins in gold when they found it convenient to do so, and the Byzantine objection seems not to have been to the minting of gold as such but to the minting of gold *solidi*. The Visigothic abandonment of the solidus from Leovigild onwards was consequently not the anomaly it appears, for the pseudo-imperial solidi had, in however blundered a fashion, borne the emperor's name and so did not infringe the monopoly. The same was essentially true of the Lombards. Even the princes of Benevento, who from Grimoald

III onwards minted solidi in their own name, only began to do so after the Byzantines had ceased to mint in mainland Italy. As for Marseille, the royal solidi are differentiated from imperial ones in having a profile bust, not a facing one, and so breached the imperial monopoly in only an attenuated fashion.

(b) THE IMPERIAL COINAGE IN THE FIFTH CENTURY

Literature

The standard descriptive work of the nineteenth century on Roman imperial coinage by Cohen (1880–92) has been for the most part superseded by *RIC* (1923–), but the ninth volume of this ends in 395 and the tenth and last, intended to cover the century 395–491, has not yet appeared. One must therefore continue to use the last volume of Cohen for the Western line of emperors from Honorius (393–423) onwards, and for the Eastern emperors to use Sabatier (1862) and Tolstoi (1912–14), despite the fact that both arrange the coins of each emperor according to the alphabetical order of reverse inscriptions and the first includes many non-existent items, either the consequence of early misreadings or out-and-out forgeries. The copper coinage of the period is covered by *LRBC* (1960), though in so condensed a form as to be usable only by numismatists. There is nothing comparable for the gold and silver, though the illustrations in a British Museum volume (Carson 1981) and books by Kent (1978) and Lacam (1983) illustrate most of the numismatic types, in the two latter cases by splendid enlargements. Ulrich-Bansa's monograph on the coinage of Milan covers much more than its title suggests and makes it a guide to much of the Western coinage as a whole (Ulrich-Bansa 1949). There is no satisfactory study of the monetary system, the most useful works dealing primarily with the late fourth century and their conclusions being in many respects open to question.

The historical background is best covered by Bury (1923), Stein (1959/1949), Demougeot (1979) and Courcelle (1964), or more briefly, but still with detailed references, by Lot, Pfister and Ganshof (1941). Jones 1964, dealing with the whole period from 284 to 602, is massively documented, especially in its administrative and economic aspects.

Historical background

Theodosius I, the last emperor to be effective ruler of the entire Roman Empire, died at Milan on 17 January 395. His designated successors were his two sons Arcadius and Honorius, who had been associated co-emperors in 383 and 393 respectively. Arcadius took the East, with Constantinople as its capital, and Honorius the West, with Ravenna as the normal imperial residence from 402 onwards. During the following decades the two halves of the Empire drew further and further apart even though in form it remained a unit, with legislation issued in the names of all imperial colleagues and the officials responsible for the mints remembering from time to time that coins should be issued in the names of co-rulers in the other half of the Empire (Blanchet 1908). The list of emperors of the fifth and sixth centuries is set out in Table 1.

The history of the two halves of the Empire in the fifth century was very different. In the East, although German military leaders played a prominent role in public affairs and the Balkans suffered terribly from German ravages, the main provinces – Asia Minor, Syria, Egypt, Cyrenaica – remained subject to the rule of Constantinople. The Theodosian line formally ended

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Table 1. *Emperors in the fifth and sixth centuries**

In the West	In the East
Honorius, 395–423 (tit. from 393)	Arcadius, 395–408 (tit. from 383)
<i>Marcus</i> (Britain), 406–7	
<i>Gratian</i> (Britain), 407	
<i>Constantine III</i> (Gaul), 407–11	Theodosius II, 408–50 (tit. from 402)
<i>Constans</i> (Gaul), 409–11 (Caesar from 408)	
<i>Maximus</i> (Spain), 409–11	
<i>Priscus Attalus</i> (Italy), 409–10	
<i>Jovinus</i> (Gaul), 411–13	
<i>Sebastian</i> (Gaul), 412–13	
<i>Priscus Attalus</i> (again, Gaul), 414–15	
Constantius III, 421	
<i>Maximus</i> (again, Spain), 420–2	
<i>John</i> , 423–5	
Valentinian III, 425–55	Marcian, 450–7
<i>Petronius Maximus</i> , 455	
Avitus, 455–6	
Majorian, 457–61	Leo I, 457–74
Severus III, 461–5	
Anthemius, 467–72	
<i>Olybrius</i> , 472	
<i>Glycerius</i> , 473	Leo II, 474 (tit. from 473)
Julius Nepos, 473–80	Zeno, 474–91
<i>Romulus Augustulus</i> , 475–6	<i>Basiliscus</i> , 475–6
	<i>Leontius</i> (Isauria), 484–8
	Anastasius I, 491–518
	Justin I, 518–27
	Justinian I, 527–65
	Justin II, 565–78
	Tiberius II, 578–82 (Caesar from 574)
	Maurice, 582–602

*The dates at which some emperors had the imperial title conferred on them as children are given in parentheses, as it was with these that their coinages began. The names of usurpers, and of Western emperors not recognized by Constantinople, are italicized. Coins exist of all those named in the list, save Marcus and Gratian. Names of Eastern co-augusti who never ruled independently are not included, although some had coins struck in their names (e.g. Pulcheria) or were associated on coins as junior colleagues (e.g. Marcus, son of Basiliscus).

with the death of Arcadius' son Theodosius II in 450, but Theodosius' sister Pulcheria married his successor Marcian and so preserved some element of dynastic continuity to 457. Marcian, Leo I and Zeno were all experienced soldiers, while Zeno's successor Anastasius was a treasury official of proven ability. The fate of the West, in contrast, was to be one of Germanic occupation. Honorius was an incompetent nonentity, and his reign saw the abandonment of Britain, the

sack of Rome in 410, the settlement of the Visigoths in Gaul, the ravaging of Gaul and Spain by mixed Germanic peoples who had broken across the Rhine frontier, and the careers of a long succession of would-be usurpers. Honorius left no son and his natural successor, his brother-in-law Constantius III whom he had reluctantly associated co-emperor in 421, had unfortunately predeceased him. Constantius' son Valentinian III was duly installed by his cousin Theodosius II after the brief interlude of a 'usurper' John (423–5), but Valentinian III's reign was no improvement upon that of Honorius. He was murdered in 455, but by that time the decline of imperial power in the West had gone too far for recovery to be possible. Most provinces were in Germanic occupation, and the imperial army itself was largely Germanic in composition. The end of the Empire in the West is traditionally dated to 476, when a Scirian officer Odovacar murdered the *Magister militum* Orestes and, after deposing Orestes' son Romulus, nicknamed Augustulus, sent a message to the Eastern emperor Zeno inviting him to accept sole rule, since with the loss of Britain and most of Gaul, Spain and Africa a separate line of emperors in the West was no longer necessary. Zeno replied that Romulus had been a usurper and that the West still had a legitimate sovereign in the person of Julius Nepos, then living in exile in Dalmatia. Odovacar agreed to accord Nepos some degree of recognition, but with his death in 480 the separate line of Western emperors came to an end.

Coinage

The traditional coinage of the Roman Empire, consisting essentially of one denomination each of gold and silver (the aureus and denarius) and four of base metal (the sestertius and dupondius of brass, and the as and quadrans of copper), had disappeared as a result of the great inflation of the third century A.D. It had been replaced in the period of the Tetrarchy by new denominations of gold, silver and bronze which were repeatedly added to or modified in the course of the fourth century. On the eve of the German invasions some degree of coherence and stability had been achieved, with three denominations of gold, two of silver and four of bronze, all of them lighter than their counterparts of the early Empire. The correct identification of the silver and bronze coins in our collections with the names mentioned in the written documents is not altogether clear, and the relationship between the denominations is uncertain and must have changed several times in the course of the century. It was in any case greatly simplified in the post-Theodosian period, when, although the gold coinage carried on unchanged, the subsidiary coinage was reduced by the middle of the fifth century to one denomination each of silver and bronze, the silver being only very occasionally struck and the copper nummus a tiny coin reckoned many thousand to the solidus.

The normal gold coinage consisted of three denominations, the solidus (or nomisma in Greek), its half the semis or semissis, and its third, the triens or tremissis. The solidus was struck 72 to the Roman pound or 6 to the ounce, so that it weighed in Roman terms 24 siliquae (or carats in Greek), the fractions in proportion. The solidus and tremissis were the coins that influenced the West, for the semissis, though important in the East from the reign of Zeno onwards, was rarely struck in the West and only one Germanic derivative, a unique semissis struck at Rome under Theoderic the Ostrogoth (below, p. 35), is known. Other gold coins,

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for the most part of higher values, were struck for such occasions as consular or New Year distributions. Some are multiples of the solidus, usually three- or six-solidus pieces, while others are geared to an older division of the pound into 60 units (called *aurei* by numismatists) instead of into 72. The large multiples or medallions (Gnecchi 1912; Toynbee 1944), which could be converted into splendid pieces of jewellery, were much appreciated as gifts in the Germanic world, where a high proportion of them have been found and in which they were frequently imitated. Although they had a monetary significance (Bastien 1972; Jeločnik 1967) they formed no part of the regular circulating medium. Documents and hoards alike testify to the huge quantities of precious metal in the Empire (Mickwitz 1934; Piganiol 1945; Bratianu 1938). One hoard alone, found in 1963 at Szikáncs in Hungary (Biróné Sey 1976), consisted of 1,437 solidi of Theodosius II – the original figure was presumably 1,440 or 10 Roman lb – and evidently came from the huge tributes, amounting to nearly 40,000lb of gold, paid by this emperor to the Huns over the decades 430 to 450.

The silver coin in normal use at the end of the fourth century is one called by numismatists a *siliqua* on the assumption that it had the value of a gold *siliqua* ($\frac{1}{24}$ of a solidus) as money of account. It then weighed about 2g, probably for 2.27g (i.e. 144 to the pound), but was very variable in weight. By the fifth century it was struck in small quantities and only occasionally, essentially for ceremonial purposes, and many specimens weigh little more than 1g. There were also heavier and lighter coins, *miliarenses* and half-*siliquae*, and very heavy medallions comparable to those in gold, which circulated in conjunction with stamped gold ingots (Kenner 1888; Mommsen 1888; Iliescu 1965). It is clear that the silver had nothing like the stability of the gold, and both the system of values and the denominations of the coins, despite much discussion (Kubitschek 1913; Mickwitz 1932, 1933; Adelson 1957, 1958), remain uncertain.

The absence of a substantial silver coinage in the fifth century has been regarded by some commentators (Patterson 1972) as proof of a general shortage of silver, but this was not the case. The metal existed, but was used for silver plate rather than for coin. Silver treasures of the later Empire are exceptionally abundant (cf. Kent and Painter 1977; *Archéologie* 54; Baratte 1975), and the historian Olympiodorus, the *Liber Pontificalis*, and other written records unanimously testify to the huge quantities existing in senatorial households (Allard 1907) and in the hands of the Church. The silver payments that abound in the Theodosian Code are expressed in terms of weight, and stamped silver ingots (Willers 1898; Salomonson 1961; Painter 1972; Baratte 1976, 1978), to say nothing of cut-up fragments of plate, show that it was in this way that such obligations were settled. The explanation of the lack of coin is presumably a divergence between a traditional mint price for the precious metal and that prevailing in the market, for when the mint price falls below that of the market the only silver available for turning into coin, and that only for special and limited issues, will be whatever the government has at its disposal from other sources. Such a contrast between abundant silverware and an exiguous silver coinage is one that has occurred many times in history, very notably in eighteenth-century England.

The bronze coins of the fourth century, when the full gamut of denominations was struck, consisted of four denominations, which in view of uncertainties over their nomenclature are commonly described as *Æ* 1, *Æ* 2, *Æ* 3 and *Æ* 4. The first was not minted after the 360s and

the second and third virtually ceased in 395. Only the fourth survived, gradually reduced in size from a diameter of 14mm and a weight of *c.* 1.7g in 395 to about 9mm and under 1g by the second half of the fifth century. A constitution of Valentinian III (*Nov. Val.* 16.1) of 445 fixes the value of the gold solidus at 7,000/7,200 nummi ('coins'), as these copper coins, being the only ones then in circulation, had come to be called, and there is reason to believe that by the end of the fifth century it had risen to twice this figure (Grierson 1959a; cf. Adelson 1967). Even assuming that some part of the abundant small change of the late fourth century remained in circulation for some decades after 395 – hoard evidence shows that a substantial proportion failed to do so (Blanchet 1900) – it is difficult to see how the commerce of the Empire can have been in a flourishing condition with such an inadequate means of exchange, especially since in the West the circulation of these nummi seems, by the mid fifth century, to have been virtually limited to the provinces of Italy (Gnecchi 1897; Cesano 1913; Newell 1933; Lallemand 1967) and North Africa (Turcan 1972; Brenot and Morrisson 1983; and hoards cited below, p. 17). In the East they circulated more widely, and many finds, including some substantial hoards, are recorded from Egypt (Milne 1926), Syria (Seeger 1976) and the Balkans (Thompson 1954; Adelson and Kustas 1960, 1962, 1964).

Although the pattern of denominations was in principle uniform throughout the Empire, the provinces seem to have been very unevenly supplied with coin, some of them managing with virtually no silver and others with a minimum of bronze. There were between ten and twenty mints: Trier, Lyon and Arles in Gaul; Milan, Aquileia, Ravenna (after 402) and Rome in Italy; Siscia, Sirmium and Thessalonica in the Balkans; Heracleia, Constantinople, Nicomedia and Cyzicus on the shores of the Sea of Marmara; Antioch in Syria; and Alexandria in Egypt. Barcelona was briefly a mint of the Spanish usurper Maximus (Calicó 1960, Balaguer 1980), and Carthage, after over a century of inactivity, began to strike again in the 420s. Some of these limited their minting to particular metals. Trier and Milan normally struck only gold and silver, Alexandria only bronze. Gold was for much of the time minted only when the emperor was in residence there or by a travelling mint attached to his court (Kent 1956).

The mints were identified on the coins by mint letters in the field or in the exergue, either alone (e.g. TR for Trier, *Treveri*) or else combined with OB or PS, abbreviations respectively of *obryzum* and *pusulatum*, the technical terms for refined gold and silver. OB had in fact a double sense, for in Greek numerals it stood for 72, the number of solidi struck to the pound. CON or CONOB came in time to be used on all gold coins wherever they originated, for after minting in this metal during the fifth century had become virtually limited in the East to Constantinople, users came to expect its presence on all gold coins. A variant found in the West is COMOB, justifiable as the mark of a treasury official with the title *comes obryzi* but essentially a *trompe l'oeil* for CONOB. Germanic coinages, when they came into existence, were mainly influenced by the coinages of the Western mints, but solidi of Constantinople, in which the huge imperial tributes to the barbarians tended to be paid, also served as models.

The obverse type of virtually all coins was an imperial bust in military costume. The tradition of the early Empire had been one of profile busts with characterized portraiture in high relief. In the course of the fourth century the relief became much flatter and characterized portraiture was gradually abandoned, so that the same impersonal bust could be used for any number of