



The Hoarding of Roman Metal Objects in Fifth-Century Britain

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ABSTRACT

Why have so many hoards of late Roman gold, silver and bronze objects been recovered from the British Isles, and what do these finds tell us about the 'End' of Roman Britain? This article explores these important questions and, reassessing the numismatic, archaeological and historical evidence, suggests that this highly unusual episode occurred in the years following the secession of Britain from the Roman Empire in c. A.D. 410. It is further proposed that the mass deposition of late Roman material culture reflects the population's response to their sudden political and social isolation, and their attempts to come to terms with the new post-Roman realities of the fifth century.

HOARDS AND THE ENDING OF ROMAN BRITAIN

The widespread hoarding of Roman gold, silver, bronze and other metal objects is one of the most evocative features of the archaeology of the British Isles in the late fourth and fifth centuries. The phenomenon is highly unusual in the Roman world at this time, and not since the later Iron Age had comparable quantities of precious metalwork been deposited in, and not recovered from, the ground. This episode of intensive metal hoarding has played an important role in the established narrative describing the ending of the Roman period in Britain, in which hoards are seen as an effect, in some way, of the series of turbulent events that led to the collapse of imperial authority (for instance, Collingwood and Myres 1936, 295–301; Frere 1967, 362; Esmonde Cleary 1989, 96–9 and 139–40; Mattingly 2006, 538). Initially it seemed that these pressures manifested themselves particularly in the hoarding of Valentinianic and, to a lesser extent, Theodosian coinage (struck from A.D. 364 to 402), though from the middle of the twentieth century the discovery of a number of hoards of other objects in southern and eastern England, particularly so-called 'treasure' hoards of silver tableware and gold jewellery, showed that the inhabitants of Britain at this time buried valuable metals in a variety of Roman forms and types.

These buried items were mainly manufactured during the second half of the fourth and the early years of the fifth centuries. Such is the quality of many of the late Roman objects deposited in Britain that when a set of intact silver plates, bowls, platters, dishes, ladles and spoons from Mildenhall in Suffolk was reported to the authorities in 1946, there was some reluctance among the academic community to believe that this was a genuine British find (Painter 1977a; Hobbs 2008). Many other hoards have been recovered since then from Britain south of an imaginary line between the rivers Humber and Severn, including the spectacular hoards of gold jewellery and silver spoons from Thetford in Norfolk, Christian liturgical silver vessels from Water Newton in Cambridgeshire, and gold jewellery and silver tableware, as well as gold and silver coins, from Hoxne in Suffolk (Johns and Potter 1983; Painter 1977b; Kent and Painter 1977; Guest 2005; Johns 2010). In the most recent up-to-date assessment of precious-metal hoarding in the Roman world, Richard Hobbs identified some 40 hoards from Britain that contain various forms of late Roman gold and silver non-coin objects (Hobbs 2006, 51–9 and 86–94).

Hoards containing late Roman coins, either on their own or together with other items, have also continued to be discovered and hundreds of such finds closing with issues of the House of Theodosius, struck between A.D. 388 and 402, are known from the same areas that produce the majority of late Roman gold jewellery and silver plate. Gold *solidi*, silver *miliarenses* and

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the smaller silver *siliquae* are present in some of these, though the majority contain low-value copper issues (Carson 1976; Archer 1979; Kent 1994, lxxxii–clxxvii; Bland 1997; Guest 1997b; Robertson 2000, lviii–lx, 353–410; Abdy 2002, 56–66; Hobbs 2006, 51–9). The discovery of late Roman pewter objects, including several hoards, emphasises the widespread deposition of Roman objects in a range of metals in these parts of lowland Britain (Beagrie 1989).¹

No other part of the Roman world exhibits a similar predilection for the burial and non-recovery of metal objects at this time. Although places such as Gaul, Germany and Spain do produce some hoards, including examples such as the Kaiseraugst treasure that certainly compare with the British hoards in terms of accumulated wealth, they are far fewer in number than from Britain. In fact, it has been estimated that the British Isles have produced approximately one-quarter of all gold and silver dating to the last half of the fourth and the first half of the fifth centuries from the Roman world (Hobbs 2006, 92–3). A very similar picture is observed when gold coins of the same period are examined — again far more *solidi* have been recovered from Britain, as single finds as well as hoards, than from other parts of the world for which comparable records exist (Bland and Loriot 2010, 16–27; Callu and Loriot 1990, 110–21; Bost *et al.* 1992; Kent 1994, lxxxii–lxxxv).²

By the 1970s and 1980s the consensus was that the burial and non-recovery of these hoards took place in the final years of the Roman period, most likely between the closing decade of the fourth century and sometime soon after the defeat of the last usurper in Britain, Constantine III, in A.D. 410/411. This corresponds with the latest coins found in many hoards, the majority of which end with coins of Honorius and Arcadius (and, much more rarely, Constantine III). The hoarding of late Roman objects was explained as a reaction by the fearful Roman-Britons who hid their valuables in order to protect them from Saxons, Picts, Irish pirates or roaming gangs of home-grown thugs known as *bagaudae*. It was assumed that the buried hoards should have been recovered when these threats had passed, but that those we find today must have belonged to people who for some reason, perhaps killed or taken into slavery, were not able to retrieve their valuables from the ground (Guest 2005, 16–21 for a summary; also Robertson 1974, 33–4; Archer 1979, 29–31; Burnett 1984, 168; Frere 1967, 364; Kent 1994, lxxxii).

This is a good example of the ‘threat’ or ‘emergency’ model devised to explain the burial of hoards in the past (Collingwood and Richmond 1969, 230–2; Robertson 1974, 13–15; Grierson 1975, 124–59; Guest forthcoming). In the case of hoards of late Roman metal objects in Britain, the emergency interpretation is also able to explain the absence of finds in the western and northern parts of the island because the populations in these areas (including Wales and the Midland and northern counties of England away from the east coast) were more distant from the homelands of the raiders from northern Germany and, therefore, they were not subjected to the same external threats. For these reasons, the hoarding of Roman metalwork is placed in the years leading up to the ending of Roman Britain, or immediately afterwards. Coins are particularly closely associated with Roman authority and the presence of so many Valentinianic and Theodosian issues has been used to imagine some form of Roman continuity into the fifth century beyond the A.D. 410 date often accepted as the moment when Britain formally ceased to be a part of the Empire (Salway 1981, 458; Dark 2000, 143–4).³

The evidence is highly complex, however, and there are a number of problems with the established account summarised above, notably concerning the dating and the interpretation of spatial

1 The many new finds reported to the Portable Antiquities Scheme in England and Wales since 1997 confirm that this episode of intensive hoarding was concentrated in the southern and eastern parts of Britain (Moorhead and Walton, this volume; Bland *et al.* 2013).

2 This pattern of hoarding of late Roman metal objects is not explained by different traditions of reporting and publishing finds in other European countries, although differences certainly exist and will have had some effect on the material known to us today. Many Roman hoards have been found and published from countries that were once within the Empire, particularly France and Germany, and up to the middle of the fourth century they all produce significant numbers of hoards. There are also sufficient quantities of gold and silver from earlier times on the Continent to demonstrate that the relative absence of precious metals from the Roman Empire outside Britain in Late Antiquity is a real phenomenon.

3 In 1936 Collingwood proposed that the discovery of thousands of Theodosian coins at Richborough indicated a reoccupation of Britain by the Empire after A.D. 410 (Collingwood and Myres 1936, 299–301).

patterns of hoarding. The Roman Society's centenary celebrations in 2010 were an opportunity for the objective reassessment of the relevant material from Britain and elsewhere in Europe, and this paper proposes that the well-known episode of hoarding of late Roman metalwork was very possibly not an effect of the 'End' of Roman Britain at all, but instead belongs to the period after the ending of Roman rule in the years between Antiquity and the early medieval period.

HOARDING IN FIFTH-CENTURY BRITAIN: RECOGNISING COMPLEXITY

The notion that hoards of late Roman objects belong to the archaeology of later Roman Britain rests on two fundamental assumptions:

- These hoards form a single group that were all buried close together in time from A.D. 380/390 to 410/20;
- The discovery of almost all hoards and other finds of Roman metalwork in the eastern and southern parts of England demonstrates a general and real sense of insecurity among the Romano-British population at this time, whose root cause was the threat from raiders, pirates and brigands.

Estimating the length of time Roman coins were available to be used (and therefore lost or hoarded) is notoriously problematic. It is well known that coins often remained in circulation for many years after they were issued and, in an archaeological context, coins can only provide us with a date after which something happened (the classic archaeological *terminus post quem* or *t.p.q.*). A good example of the length of time late Roman coins could circulate for is provided by the Hoxne treasure, the largest collection of late Roman gold and silver objects from Britain, including 15,234 coins. This hoard must have been buried after the date of the eight most recent silver *siliquae*, either struck at Ravenna for Honorius between A.D. 404 and 408 or at Arles for Constantine III between A.D. 407 and 408. Yet 46 per cent of the silver coins in Hoxne were at least twenty years old by this time and, if the hoard had contained only *siliquae* and had the latest eight coins been absent (representing 0.05 per cent of the hoard's contents), we would mistakenly date its deposition to A.D. 402 at the earliest rather than 408 or later (see Lockyear 2012 for a general discussion of the problems archaeologists face with the dating of coins).

The dating problem is particularly acute at the beginning of the fifth century. After A.D. 402 the supply of new Roman coinage to Britain suddenly and almost completely dried up, so that there are very few later coins to provide a *terminus ante quem* (the time before which something must have happened) for the group of Theodosian hoards, even if only an indicative one. While there are a handful of coins struck after A.D. 402 from British hoards (including the Hoxne treasure), almost all were struck prior to the death of Arcadius in A.D. 408. The number of coins from Britain that date to the remaining nine decades of the fifth century is very small compared with what had gone before, and they are almost exclusively either single finds or excavated finds from settlements and later burials (Abdy and Williams 2006; Bland and Loriot 2010; Moorhead and Walton this volume).

Recent studies examining the contents of Theodosian coin hoards indicate it is likely that they were buried over a longer period of time than had previously been suspected and, consequently, that they should not be seen as evidence for a short period of intensive hoarding. John Kent first distinguished 'early' and 'late' hoards within this group (based on the relative proportions of coins of Arcadius and Honorius), while the analysis of the silver and bronze coins from the Bishops Cannings hoard from Wiltshire identified significant differences in the compositions of hoards closing with coins of the House of Theodosius that confirm they were not all deposited at the same time. This does not mean that we know when the hoards were actually deposited and, although we can distinguish relatively early from relatively later hoards, the only certainty is still that they were buried after the date of their latest coins (dating finds such as those from Mildenhall or Water Newton that did not include coinage is even more problematic).⁴

⁴ Analysis of the Bishop Cannings hoard indicates that bronze small change coinage probably disappeared from circulation before the higher value silver *siliquae*. This is presumably because silver coins were intrinsically valuable, whereas bronze coinage was a token currency whose monetary value had to be guaranteed (Kent 1994, lxxxv; Guest 1997b).

Effectively the episode of hoarding late Roman objects floats in the fifth century, though the discovery of the Patching hoard in 1997 offers the possibility that this activity could have continued after A.D. 450. This find from West Sussex on the English south coast contained 23 *solidi* and 27 silver coins (of which 23 are late Roman *siliquae*), found together with 54 pieces of scrap silver (known as Hacksilber) and two gold rings. The late fourth- and fifth-century coins are a mixture of Roman and so-called ‘pseudo-imperial’ issues (the latter attributed to a Visigothic mint in western Gaul), and the latest coin is a pseudo-imperial *solidus* struck in the name of the Roman emperor Severus III (A.D. 461–5), which provides the hoard’s *t.p.q.* (White *et al.* 1999; Abdy 2006; Orna-Ornstein 2009; Abdy 2013). The small group of late Roman *siliquae* struck *c.* A.D. 364–411 from Patching are not dissimilar to the contents of several hoards dated to the early fifth century and it is possible that the find’s owner brought together some worn old ‘Romano-British’ coins and a batch of more recent continental issues only immediately prior to the hoard’s burial in the 460s (or later). If this was indeed the case, the conclusion is that some Theodosian *siliquae* must have been in circulation, or at least available to be hoarded, in Britain in the second half of the fifth century. This raises the possibility that other apparently late Roman hoards containing coins could also have been deposited after A.D. 450 rather than in the years immediately before or after *c.* A.D. 410. On the other hand, the singularity of the Patching hoard suggests that it need not be representative of coin use or hoarding in general in Britain in the fifth century, and since 1997 several new hoards closing with coins of A.D. 388–402 have been discovered while the Patching hoard so far remains unique.

Also underpinning the assumption that hoards of Roman metalwork belong to the archaeology of late Roman Britain is the second hypothesis that the threat from barbarians produced the concentration of these finds in the southern and eastern part of England (and, equally, that the absence of similar finds from the North and West is explained by the populations in these areas having been spared this violence and insecurity). Examining the coin evidence in more detail, however, shows that this distribution is better explained by the differential supply of Theodosian bronze coinage rather than any barbarian threats. The recent publication of over 50,000 Roman coins from Wales found that, with the exception of a handful of sites such as the city at Caerwent and the fort at Caernarvon, the latest Roman coins struck A.D. 388–402 are absent from this part of Britain. The same is the case in south-western and north-western England, the only regions of England for which comprehensive surveys of Roman coinage have been undertaken (Guest and Wells 2007; Guest 2010; Penhallurick 2009; Shotter 1990; Shotter 1995). Therefore, it appears that the absence of hoards of late Roman coins in the West and North could be explained by the general unavailability of Theodosian coins in these areas rather than their good fortune in lying beyond the reach of raiders and invaders. Additionally, those hoards that have been recovered from southern and eastern England are also now known to comprise different regional clusters rather than representing a single group with shared key features. Gold jewellery and silver plate, for instance, are found most often in East Anglia, while hoards from south-western England are more likely to consist of coins, particularly silver *siliquae*, alone rather than together with other objects (Hobbs 2006, 55–8). There is no reason to suppose that the numerous hoards of late Roman metalwork from Britain were buried for the same reasons or at the same time and, in fact, the differences in their contents described here suggest that they were not.

Another weakness of the emergency/threat explanation for the widespread hoarding of late Roman objects in Britain is that the phenomenon has tended to be studied in isolation from the situation elsewhere in the Western Roman Empire. As was explained above, while some hoards of late Roman coins and other metal objects are known from all parts of the Empire, overall they are far less frequent from France, Germany, Italy and Spain than Britain. This poses a problem for the British interpretation, for if the reason for their burial and non-recovery was the insecurity caused by the fear of raiding and invasion, why did the same effect not manifest itself in other areas also threatened by barbarians? The written sources that tell of the difficulties faced by the population of Roman Britain in the later fourth and early fifth centuries also describe how the Roman world was rocked by a series of seemingly calamitous events at the same time. On New Year’s Eve in A.D. 405 or 406, for instance, a large force of Vandals, Alans and Suebi crossed the river Rhine and, meeting little Roman resistance, devastated the cities of northern Gaul and

Germany. Yet neither this event, nor the invasions of Italy by Alaric's Goths in A.D. 408 and 410, the latter culminating in the sacking of Rome itself on 24 August (to which contemporaries reacted with understandable shock and disbelief), led to the endemic hoarding in Germany and Italy that the emergency model anticipates should have occurred (Jones 1964, 182–7; Curran 1998, 118–28; Kulikowski 2000; Heather 2005, 191–232; Moorhead and Stuttard 2010). We have to wonder why this should be the case if the emergency model is a valid explanation for the British evidence?

PRESTIGE EXCHANGE AND LATE ROMAN SOCIETY

In a panegyric delivered to the emperor Theodosius I and the Senate in Rome in the summer of A.D. 389, the rhetor Latinus Pacatus Drepanius described the experiences of the population of Gaul at the hands of the usurper Magnus Maximus. A senior military commander in Britain, Maximus had been proclaimed emperor by the troops there in A.D. 383. After crossing to Gaul with a large portion of the British garrison he defeated an army led by the Western Roman emperor Gratian, who was captured and killed by Maximus' forces. Maximus was reluctantly recognised as emperor in the West and he ruled Gaul, Germania, Britain, Spain and parts of Africa until A.D. 387 when, after relations with his co-rulers collapsed, he occupied northern Italy in an attempt to oust Gratian's half-brother Valentinian II. Theodosius, who at this time ruled over the eastern part of the Empire, sent an army to support Valentinian and Maximus was defeated at the Battle of the Save and executed in A.D. 388. It is likely that Pacatus was in Rome in an official capacity to represent the authorities in Gaul who had been governed by Maximus. In his speech he denounced the usurper as the violator of the Roman ideals of peace, stability and order, insisting that the population of Gaul had been the usurper's victims rather than his collaborators. The evil effects of usurpation were described by Pacatus in the famous passage where Maximus surveyed the fruits of his temporary triumph:

For, clad in purple, he would stand at the scales and with pale but avid gaze he would study the movement of the weights and the oscillations of the balance. And all the while loot from the provinces, spoil from those in exile and the property of the slain were being collected. Here was weighed gold snatched from the hands of matrons, there amulets wrested from the necks of orphans and yonder silver covered with its owners' blood. On all sides money was being counted, chests filled, bronzes heaped up, vessels shattered, so that to any observer it would seem to be, not the abode of an emperor, but a robber's den.

In the following passage Pacatus described what the accumulation of gold and silver was for, emphasising Maximus' great avarice and the detrimental consequences for the cities of Gaul:

But yet a robber makes use of his plunder, and at least gives to himself what he has seized from others. He does not plant himself on highways and lurk in swamps in order to amass and bury treasure and to be miserable in his crime, but in order to pander to his gullet and his belly, and not to lack funds for his expenditures; for he spends lavishly and without a care: with the same facility he acquires things and dissipates them. ... Our property kept travelling to his treasury by a single and continuous route; none of its remnants, no fragments, not even anything rejected finally out of distaste, did that engulfer of the common wealth vomit up again. (*Panegyricus Latini Pacati Drepani dictus Theodosio* 26.1–2; trans. R. A. B. Mynors in Nixon and Rodgers 1994).

The imperial court would have been well aware of the diplomatic purpose of Pacatus' visit to Rome and the rhetor chose his theme carefully. That the scenes he described were almost certainly entirely invented was irrelevant as the purpose of his speech was to flatter Theodosius by comparing his virtuous rule with the villainous usurpation of Maximus. The panegyric was a moral tale in which good ultimately defeated the forces of evil, leading to the happy return of Roman civilisation to the lands that had spent five years under Maximus' oppressive rule (Mynors 1964, 102–3; Garrison 1975, 48–50; Nixon and Rodgers 1994, 437–47). For these reasons Pacatus' panegyric must be treated with caution as a reliable source of events, but it does neatly illustrate one of the principal roles that gold and silver played in the late Roman system of

imperial patronage, whereby the emperor's ability to distribute large quantities of these precious metals to the aristocracy and the military was one of the main means by which the Empire's social hierarchy was maintained.

The conspicuous giving of appropriate luxury 'gifts' to the many holders of military and civilian offices (known as 'dignities') in the late Roman imperial regime allowed emperors to demonstrate their virtuous liberality. Gold, silver and other valuable materials were distributed as *largitio* to the Roman aristocracy at formal state ceremonies to mark imperial accessions and anniversaries, as well as at a variety of other special events and important occasions. Gold coins and silver vessels were also needed to distribute among the military communities in the fortified camps along the frontiers. Soldiers in the late fourth and fifth centuries each received five *solidi* and a pound of silver on the occasion of an imperial coronation, while the customary quinquennial donative was five *solidi* to each man. Assuming that the figure of 300,000 soldiers is a reasonable estimate of the size of the later Roman army, the celebration of each quinquennial anniversary would have required the distribution of somewhere in the region of 1.5 million *solidi*, or about 20,000 pounds of gold to the military alone (Hendy 1985, 177–88; Jones 1964, 435).⁵

In order to maintain the late Roman prestige-exchange economy and, specifically, the practice of imperial patronage by *largitio*, the imperial court made every effort to recover as much of the distributed gold and silver as possible. The measures devised to ensure that precious metals should return to the imperial treasury came into being during the course of the fourth century and were developed by successive imperial edicts. The office of the *Comes Sacrarum Largitionum* (Count of the Sacred Largesses, established during the reign of Constantine I) was one of the most senior in the imperial court and the holder of this post was responsible for the production and distribution of the imperial (sacred) gifts in gold and silver metal, as well as the retrieval of this largess through the taxation system. Furthermore, in order to curtail the use of gold outside the cycle of imperial patronage and taxation, the exchange of this most precious metal was legally restricted to the imperial family and the consuls. Thus, we can see the pre-eminent position that precious metals, but especially gold (pure and incorruptible and believed to reflect the emperor's sacred nature), held in late Roman society. The mechanisms devised to maintain the closed system of gold distribution and retrieval seem to have been remarkably effective, which explains how the hierarchy of the Roman Empire was able to survive for so long despite the many stresses and strains it was subjected to from the fourth century onwards (Delmaire 1989; Hendy 1985, 386–95; Jones 1964, 427–35).⁶

When Pacatus accused Magnus Maximus of resorting to extortion, murder and theft to obtain gold and silver, we can recognise this behaviour as a usurper's attempt to fulfil the obligations of a Roman emperor by distributing precious metals to his followers. Without this redistribution of wealth Maximus would not have been able to rely on the loyalty of the nobility and the military in those territories he controlled and his regime would have quickly fallen apart. Pacatus was naturally keen to contrast the desperate usurper's barbarous actions — not even worthy of a robber — with the dignity of the legitimate emperor who had no need to defile his subjects or their amulets, plates and bowls. Bearing in mind the purpose of Pacatus' mission to Rome and the audience to whom his panegyric was delivered, it is worth noting that the rhetor's descriptions of Maximus' barbarity included two specific actions for which we find some evidence in the archaeological record: the shattering of vessels in the first passage, and the burying of treasure in the second.

HACKSILBER AND THE CLIPPING OF *SILIQVAE*

Pacatus used the words *vasa concidi* to describe how Maximus 'shattered vessels' and the discovery of a small number of hoards from the British Isles that include cut fragments of Roman

⁵ It was not unusual for Roman senators in the fifth century to receive annual incomes equivalent to 1,000 to 4,000 pounds of gold (Jones 1964, 527–56; Hendy 1985, 201–3). For comparison, the 40 hoards from Britain that include late fourth- and fifth-century *solidi* contain fewer than 2,000 coins, amounting to less than 26 Roman pounds of gold.

⁶ There was a distinction between owning and giving gold, and the survival of late Roman gold jewellery shows one way that wealthy Romans used the gifts given to them by the emperors.

silver tableware, known as Hacksilber, shows that scenes like those related in the panegyric must have occurred there. The Patching hoard mentioned earlier contained 54 fragments of cut silver vessels, while other well-known Hacksilber hoards have been found at Traprain Law in southern Scotland and Coleraine in Northern Ireland. In all three cases pieces of silver objects and other items of bullion were found together with Roman silver *siliquae*, some or all of which had been clipped (for the most recent discussions of these and other Hacksilber finds, see the relevant articles in Hunter and Painter 2013).

Clipped late Roman *siliquae* are found in almost every hoard of silver coins from the later fourth and early fifth centuries. The clipping of *siliquae* seems to have begun in the 380s or 390s, becoming generally more widespread over the following decades and certainly continuing for some time after the sudden termination of *siliqua* supply to Britain after A.D. 402. In many hoards the majority of coins had been subjected to clipping (approximately 98.5 per cent of the *siliquae* in the Hoxne treasure were clipped), some very lightly while others were left with only the imperial bust remaining on the obverse. A study of the Hoxne coins showed that because the weight of official coins gradually fell throughout the second half of the fourth century, clipped coins also became lighter over time. This analysis demonstrated that *siliquae* were not clipped to achieve a predetermined weight standard as was once thought and, instead, it is apparent that clipping was undertaken in order to obtain silver metal, probably over an extended period of time (King 1981, 9–10; Burnett 1984, 165–8; Hendy 1985, 318; Guest 2005, 110–15). It is estimated that close to 7 kg of silver would have been obtained from the almost 14,000 clipped *siliquae* in the Hoxne treasure (representing about 30 per cent of the 24 kg these coins originally would have weighed) and it is very likely that one reason for obtaining metal from the edges of *siliquae* was to produce more silver coins, specifically *siliquae* copies that were probably produced in Britain (very few are known elsewhere) (Guest 2013, 96–100).

Metallurgical analysis of the 428 *siliqua* copies from Hoxne showed that they were struck from very pure silver (94–98%) and are indistinguishable from contemporary official coins. It is highly likely that these imitations were struck from metal clipped off official *siliquae*, while the fact that all of the *siliqua* copies were themselves clipped is a good indication that they were intended to circulate alongside those from the official mints. Four die-linked groups were identified among the Hoxne *siliqua* imitations that represent separate episodes of intensive copying from the 370s or 380s to sometime in the fifth century (Guest 2005, 102–9 and 130–2). Nonetheless, the Hoxne copies account for only a fraction (approximately 500 g) of the 7 kg of silver which it is estimated was cut from official *siliquae* in the hoard, and presumably the remaining 6.5 kg must have been used in other ways that we have yet to confirm (although we cannot be certain that this was the case, high-status items such as jewellery, tableware, or some of the silver ingots known from fourth- and fifth-century Britain could have been manufactured from recycled *siliqua* clippings too).

Clipped *siliquae* are found only very rarely elsewhere in the Roman Empire, though a small cluster of these coins occurs in Denmark with outliers in southern Norway.⁷ Single clipped Valentinianic and Theodosian *siliquae* from Western Roman mints are known from the settlements at Hørup and Melleholm in Jutland, while further examples have been found recently on the island of Bornholm from the ‘productive’ sites at Agerbygård and Sorte Muld. Other clipped *siliquae* were included in the Høstentorp, Simmersted and Høgsbrogård hoards, all of which contain small fragments of late Roman silver vessels and native silverwork as well as these cut Roman coins. It is difficult to imagine that the *siliquae* from these southern Scandinavian finds were not clipped in Britain, or that they can have arrived there from anywhere other than Britain.

Whatever the means by which cut-up Roman objects, including clipped *siliquae*, arrived in southern Scandinavia, the similarities between the Hacksilber hoards from Denmark and the British hoards from Patching, Traprain and Coleraine indicate a distinctive tradition of silver deposition that extended from Ireland in the west to southern Scandinavia and the Baltic in

⁷ For non-British *siliquae* finds from within the Empire, see Berdeaux-Le Brazidec and Hollard 2008; Bistuer 1984; Abdy 2013. For recent summaries of *siliquae* from northern Europe outside the Roman Empire, including the Danish finds, see Horsnæs 2009; Horsnæs 2010, especially 113–17; Horsnæs 2013, 62; Rau 2013.

the east. A practice that extended over such a wide geographical area must have come about as the result of contacts between societies in Britain and this region outside the Roman Empire from the second half of the fifth century and, possibly, earlier (Guest 2013, 102–4).⁸ We might speculate whether these contacts indicate social or trade links between these regions, or if they were the result of raiding across the North Sea, but the important point in the context of this discussion is that the hoarding of gold and silver in this way does not resemble contemporary late Roman behaviour.

The same can be said for the act of clipping *siliquae* itself. Nowhere else in the Roman world resorted to cutting tiny slivers of silver metal from the edges of coins, even though new coins must have been increasingly scarce everywhere after the mints virtually ceased striking *siliquae* after A.D. 402. The obvious explanation is that Britain was affected not only by a shortage of silver coins, but by a general shortage of silver metal itself, and it is this that caused the population at this time to behave in a most unusual, even un-Roman, way towards objects of this metal. Seen from this perspective, the clipping of *siliquae* shares certain important characteristics with the cutting up of silver plates, jugs and bowls. Both acts involved the fragmentation of valuable metal objects, which, in the case of vessels at least, resulted in the complete modification of their original Roman functions to something new and different. It need not be the case that the cutting of silver tableware and of coins occurred at the same time, or even for the same reasons, but acknowledging that both these actions were transformative offers new possibilities of exploring the reasons for their ‘hacking’ and clipping (their ‘shattering’) in Britain and beyond. The cutting up of intact items of Roman tableware irrevocably changed these objects, previously defined by their functions, into pieces of silver bullion whose value was measured by weight. Although the original items were often made to specific weights and could have fulfilled a bullion role too, their dissection into smaller fragments allowed the same quantity of silver to be redistributed more widely than had been possible with the original object. This presumably met the needs of the societies where the cutting up took place and, thereby, enabled silver to continue to serve a useful function outside the late Roman prestige exchange system (Guest 2008; Painter 2013).

HOARDING IN FIFTH-CENTURY BRITAIN: A ROMAN PRACTICE?

In his long formal public speech addressed to the emperor in A.D. 389 Pacatus accused Magnus Maximus not only of shattering vessels, but also of lurking ‘in swamps in order to amass and bury treasure’. The actions of the usurper were intended to be compared to the dignified conduct of the legitimate emperor who, as was described earlier, as patron of the Roman people distributed the Empire’s riches down through the social hierarchy in the form of gold, silver and other prestige items. Pacatus was clear that, as well as the illegal seizing of private property, the hoarding of gold and silver was not something that Roman emperors did or should do. Although we know that the giving of gold by anyone other than the imperial family and the consuls was prohibited, whether or not this cultural embargo on the hoarding of accumulated portable wealth extended to the rest of Roman society in reality rather than in theory is uncertain. Yet, the general absence of hoards of gold and silver from the Roman Empire suggests that, for whatever reason, people did not bury these metals — or bronze for that matter — as frequently as had been the case in the past.

On the other hand, hoarding appears to have been relatively more common outside the Empire’s frontiers and numerous assemblages of high-status objects from the fourth, fifth and sixth centuries are known from across central and eastern Europe, from Scandinavia to the Caucasus and beyond. Most contain native, or so-called ‘barbarian’, prestige objects of gold and silver (such as bracteates, arm-rings, torcs, buckles and fibulae), though as we have already seen there is also plenty of late Roman gold and silver from these regions too. The patterns of deposition of Roman precious metals appear to have been highly dynamic, shifting between

⁸ The *t.p.q.* of the Patching hoard is provided by the pseudo-imperial *solidus* of Severus III (A.D. 461–5), while the native metalwork in the Danish hoards has been dated on stylistic grounds to the years around A.D. 500.

different parts of barbarian Europe from the mid-fourth century onwards. Romania, for example, produces a relatively short-lived episode of silver coin-hoarding from the 360s, while from around the middle of the fifth century an unusually large number of deposits of gold objects, including Roman *solidi*, has been recovered from the Baltic region (probably contemporary with the Hacksilber hoards from Denmark discussed above), particularly the islands of Öland and Gotland, but also in southern Scandinavia, northern Germany, and Poland (Gaul 1984; Hobbs 2006, 58–71; Komnick 2008; Ciołek 2009).

The appearance of Roman gold and silver in lands beyond the imperial frontiers reflects the complex history of contacts between the Roman emperors and different barbarian peoples in Late Antiquity. The means by which these precious metals and other valuable items travelled from the Empire into the hands of barbarians could have included raiding or trading, but it is noteworthy that ancient sources emphasise the payment of subsidies and tribute to barbarian kings as perhaps the main means by which Roman gold and silver ended up outside the Empire (Fagerlie 1967; Kyhlberg 1986; Grane 2013). In the fascinating account of his journey with a diplomatic mission to the Hun king Attila, Priscus of Panium describes how large quantities of gold were paid regularly to the Huns by the Eastern and Western Roman emperors throughout the 430s and 440s. The treaty signed in A.D. 447 after the battle of Chersonese, for instance, stipulated that tribute disbursement should be set at 2,100 pounds of gold per year. Although the emperor in Constantinople appears to have been careful to portray this outflow as the *largitio* due to a senior imperial official (Attila had been accorded the title of *magister utriusque militiae*, or Master of Soldiers), once outside the Empire these precious metals were nevertheless beyond the emperor's authority (Guest 2008, 297–8).

The honouring of barbarian kings with imperial dignities was a straightforward deception to justify the fact that Romans now bought peace from barbarians. But whether as subsidies or tribute, the transfer of these large quantities of gold beyond the frontiers also upset the balance of the Roman prestige-exchange system because men like Attila did not discharge the tax obligations of a Roman aristocrat (or need to worry about avoiding them). Therefore, the wealth they received would not return to the imperial treasury, but instead remained outside the Empire where it was available to be used in other ways. It is likely this included the reuse of Roman gold to manufacture native objects such as the many high-status personal items known from barbarian Europe at this time, although Roman artefacts, particularly gold *solidi*, must have circulated actively among these societies because some ended up in hoards in these areas too. In fact, the occurrence of numerous small hoards and single finds of fourth- and fifth-century Roman coins from places such as Poland, Hungary and Romania suggests that gold was dispersed more widely throughout barbarian societies than in the Roman world. Presumably this was because outside the Empire these coins were not being constantly recycled through the office of the Count of the Sacred Largesses and could circulate more freely for prolonged periods of time (Bursche 2001; Bursche 2008; Guest 2008, 301–6).

The discussions in this and the previous section have shown that the distinctively British tradition of hoarding late Roman metalwork was not replicated in other parts of the Roman Empire, but instead shares important characteristics with the practices of barbarian societies. The interpretation proposed here is that the many individuals in Britain who hoarded their wealth in the fifth century were not behaving as Romans behaved, and the obvious explanation is that this took place after the formal separation of Britain from the Roman Empire, at a time when the emperor's authority no longer extended across the English Channel.

CONCLUDING OBSERVATIONS: SEPARATION AND ISOLATION IN FIFTH-CENTURY BRITAIN

Although the surviving historical sources describing events in Britain in the later fourth and early fifth century are scanty compared to earlier periods, and also notoriously unreliable, the important accounts by the Byzantine historian Zosimus and the British cleric Gildas (both written in the sixth century and closest to the events they describe) agree that Roman Britain ceased to exist as a political entity following the expulsion of the imperial authorities in the first

decades of the fifth century. The texts are less clear on the details of when and how this occurred, but it is relevant to this discussion that the separation of Britain from the rest of the Continent must have resulted in the subsequent isolation of the insular population not just from imperial bureaucrats and tax collectors, but from other aspects of Roman cultural life as well (Cool 2000; Swift 2000). Once outside the Empire those landowners and other members of the wealthier echelons of society that remained were no longer part of the long-established imperial system of patronage, and it is likely that the flow of new largess from the emperor's court to Britain must have ceased abruptly. With no new gold and silver, or bronze coinage, arriving in Britain, objects of these metals would have become increasingly scarce as time went on and it is very likely that how they were valued and used would have changed in light of the new post-Roman realities.

No other part of the Western Roman Empire experienced the same ending of Roman authority as Britain. Elsewhere Roman systems of governance seem to have continued in remarkably good shape despite the tumultuous events of the fifth century that would see them finally overwhelmed. Various 'barbarians' such as the Burgundians, Franks, Goths, Vandals and Huns were able to penetrate deep into Roman territory, yet few of the barbarians who stayed and settled in the former empire permanently destroyed the established structures of imperial authority, but instead preferred to assume the titles and instruments of Roman power.⁹ In Britain, however, the Angles, Saxons and other Germanic groups who arrived in the fifth century encountered a place where Roman Britain was a thing of the past and where new local power structures must have existed in order to fill the vacuum left after the secession of *c.* A.D. 410. Once here these settlers would have found only provincial trappings of Roman authority to adopt or adapt and, after apparently rejecting these, Germanic culture seems to have replaced existing Romano-British traditions and practices more quickly and more thoroughly than in Italy, Spain or Gaul (Wickham 2005, 303–33; Esmonde Cleary 2013, 338–94).

It is in this environment of post-Roman Britain that the burial of so many hoards of late Roman gold, silver and possibly bronze objects seems to fit best. The unique circumstances that brought about the ending of the Roman period in Britain produced an equally exceptional cultural response from the island's population, which must have been coming to terms with their sudden separation from the empire of which they had been an integrated part for so many generations. We should expect that people in fifth-century Britain hoarded their gold, silver, bronze and pewter objects for different reasons in different places, but perhaps some Roman gold and silver went into the ground to preserve it for a time in the future when its owners hoped Roman power would return to Britain? Or was the burial of wealth an effect of post-Roman tyrants trying to emulate Roman imperial behaviour and extort precious metals from the remaining population (as Pacatus accused Maximus)? Is it also possible that some Roman objects could have ended up in the ground because in parts of fifth-century Britain they were thought to be too closely associated with the Roman world and possessing them somehow endangered their owners?¹⁰

Although these and other scenarios are possible explanations for the widespread and intensive hoarding of Roman metalwork in post-Roman Britain, the exceptional nature of the archaeological phenomenon is compelling evidence for a prolonged period of intense cultural stress affecting a great many people over a very wide area. Societies that experience severe political, social or economic stress often express themselves culturally in ways that appear peculiar or out of the ordinary (Yoffee and Cowgill 1988; Zartman 1995). Given the history of the period it is difficult to believe that fear was not involved somehow in this, though perhaps we should think more along the lines of a deep anxiety about what an uncertain future might hold, perhaps mixed with

⁹ Even Attila was at pains to ensure the survival of the Roman emperors, without which he would not have continued to be handsomely subsidised. Only as a last resort does he seem to have made good his threats of war.

¹⁰ It is often difficult to conceive how gold and silver could have become less valuable in the past, or why people might have hoarded their wealth for reasons other than to protect them from an immediate physical threat. Yet it is a mistake to simply impose modern day perceptions on archaeological material without exploring how the concept of value was understood in the late Roman Empire. In fact, the literary sources tell us that objects made of these precious metals were believed by contemporary society (barbarian as well as Roman) to be possessed by otherworldly forces and therefore to be inherently powerful (for example, see Leader-Newby 2004).

feelings of loss and isolation in the years after Britain's separation from the Roman world, rather than the immediate terror of raiding barbarians or rampaging brigands.

The years after A.D. 410 were some of the most turbulent in Britain's history, yet with the benefit of hindsight we can see that endings are also beginnings. Looking forward, we might view the intensive hoarding of metalwork in the fifth century not as Roman Britain's swan song, but as the first stages in a process of cultural transformation that would lead to the prestige-exchange systems of the early Anglo-Saxons kingdoms, manifested most spectacularly in the Sutton Hoo burial or the Staffordshire Hoard. In his work *De Excidio et Conquestu Britonum* ('On the Ruin and Conquest of Britain'), the sixth-century British cleric and moralist Gildas laments the separation of Britain from the Roman Empire, condemning Magnus Maximus and later 'kings' for their role in Britain's ruin. In one of the most often quoted passages Gildas describes how, most likely in the 440s, the Britons sent a letter to the Roman commander 'Agitius' (almost certainly the general Aetius) seeking help against the Scots and Picts who were ravaging the north of the island. The plea bore the title, 'The Groans of the Britons', and continued: 'The barbarians drive us to the sea, the sea drives us to the barbarians; between these two means of death, we are either killed or drowned'. Whether a reply was sent is unknown, but no help came. Perhaps the hoards of Roman gold, silver and other metals from Britain discussed in this paper are another faint — yet extraordinarily vivid — echo of the Britons' anguish at this time of great upheaval and transformation?

BIBLIOGRAPHY

- Abdy, R. 2002: *Romano-British Coin Hoards*, Princes Risborough
- Abdy, R. 2006: 'After Patching: imported and recycled coinage in 5th–6th century Britain', in Cook and Williams 2006, 75–98
- Abdy, R. 2013: 'The Patching Hoard', in Hunter and Painter 2013, 107–15
- Abdy, R., and Williams, G. 2006: 'A catalogue of hoards and single finds from the British Isles c. 410–675', in Cook and Williams 2013, 11–74
- Archer, S. 1979: 'Late Roman gold and silver coin hoards in Britain: a gazetteer', in P.J. Casey (ed.), *The End of Roman Britain*, BAR British Series 71, Oxford, 29–62
- Beagrie, N. 1989: 'The Romano-British pewter industry', *Britannia* 20, 169–200
- Berdeaux-Le Brazidec, M.-L., and Hollard, D. 2008: 'Le depot de siliques à Bèdeilhac-et-Aynat (Ariège): un témoin de la presence des troupes de Constantin III (407–411) dans les Pyrénées?', *Cahiers Numismatiques* 177, 21–34
- Bistuer, F. 1984: 'Estudi sobre un tresoret de siliques dels emperadors Honori, Gracià i Màxim Tirà', *Acta Numismàtica* 14, 135–8
- Bland, R. 1997: 'The changing patterns of hoards of precious-metal coins in the late empire', *Antiquité tardive* 5, 29–55
- Bland, R., and Loriot, X. 2010: *Roman and Early Byzantine Gold Coins Found in Britain and Ireland*, London
- Bland, R., Moorhead, S., and Walton, P. 2013: 'Finds of Late Roman silver coins from Britain: the contribution of the Portable Antiquities Scheme', in Hunter and Painter 2013, 117–66
- Bland, R., and Orna-Ornstein, J. (eds) 1997: *Coin Hoards from Roman Britain X*, London
- Bost, J.-P., Campo, M., and Gurt, J.-M. 1992: 'Trouvailles d'aurei et la solidi dans la péninsule ibérique', in C. Brenot and X. Loriot, *L'or monnayé III: Trouvailles de monnaies d'or dans l'Occident romain*, Cahiers Ernest-Babelon 4, Paris, 33–90
- Burnett, A. 1984: 'Clipped siliquae and the end of Roman Britain', *Britannia* 15, 163–8
- Bursche, A. 2001: 'Roman gold medallions as power symbols of the Germanic elite', in B. Magnus (ed.), *Roman Gold and the Development of the Early Germanic Kingdoms: Aspects of Technical, Socio-political, Socio-economic, Artistic, and Intellectual Development, A.D. 1–550*, KVHAA Konferenser 51, Stockholm, 83–102
- Bursche, A. 2008: 'Function of Roman coins in Barbaricum of Later Antiquity. An anthropological essay', in Bursche et al. 2008, 395–416
- Bursche, A., Ciolek, R., and Wolters, R. (eds) 2008: *Roman Coins Outside the Empire: Ways and Phases, Contexts and Functions*, Wetteren
- Callu, J.-P., and Loriot, X. 1990: *L'Or monnayé II: la dispersion des aurei en Gaule romaine sous l'empire*, Cahiers Ernest-Babelon 3, Paris

- Carson, R. A. G. 1976: 'Gold and silver coin hoards and the end of Roman Britain', *British Museum Yearbook* 1, 67–82
- Ciołek, R. 2009: 'Der Zufluss von Solidi in die südlichen Ostseegebiet', in Wołoszyn 2009, 217–30
- Collingwood, R. G., and Myres, J. N. L. 1936: *Roman Britain and the English Settlements*, Oxford
- Collingwood, R. G., and Richmond, I. 1969: *The Archaeology of Roman Britain*, London
- Cook, B., and Williams, G. (eds) 2006: *Coinage and History in the North Sea World c. 500–1250 (Essays in honour of Marion Archibald)*, Leiden
- Cool, H. 2000: 'The parts left over: material culture into the fifth century', in T. Wilmott and P. Wilson (eds), *The Late Roman Transition in the North*, BAR British Series 299, Oxford, 47–65
- Curran, J. 1998: 'From Jovian to Theodosius', in A. Cameron and P. Garnsey (eds), *The Cambridge Ancient History. Volume XIII: The Late Empire, A.D. 337–425*, Cambridge
- Dark, K. 2000: *Britannia and the End of the Roman Empire*, Stroud
- Delmaire, R. 1989: *Largesses sacrées et res privata: l'aerarium impérial et son administration de IV^e au VI^e siècle*, Paris
- Esmonde Cleary, S. 1989: *The Ending of Roman Britain*, London
- Esmonde Cleary, S. 2013: *The Roman West, AD 200–500: an Archaeological Study*, Cambridge
- Faglerie, J. 1967: *Late Roman and Byzantine Solidi Found in Sweden and Denmark*, Numismatic Notes and Monographs 157, New York
- Frere, S. 1967: *Britannia: a History of Roman Britain*, London
- Garrison, J. 1975: *Dryden and the Tradition of Panegyric*, Berkeley
- Gaul, J. 1984: 'The circulation of monetary and non-monetary currency in the west Baltic zone in the 5th and 6th centuries AD', *Archaeologia Polona* 23, 87–105
- Grane, T. 2013: 'Roman relations with southern Scandinavia in Late Antiquity', in Hunter and Painter 2013, 359–71
- Grierson, P. 1975: *Numismatics*, Oxford
- Guest, P. 1997a: 'Bishops Cannings (Blagan Hill), Wiltshire', in Bland and Orna-Ornstein 1997, 423–63
- Guest, P. 1997b: 'Hoards from the end of Roman Britain', in Bland and Orna-Ornstein 1997, 411–22
- Guest, P. 2005: *The Late Roman Gold and Silver Coins from the Hoxne Treasure*, London
- Guest, P. 2008: 'Roman gold and Hun kings: the use and hoarding of solidi in the late fourth and fifth centuries', in Bursche *et al.* 2008, 295–307
- Guest, P. 2010: 'Coins from the Roman frontier in Wales', in B. Burnham and J. Davies (eds), *Roman Frontiers in Wales and the Marches*, Aberystwyth, 24–33
- Guest, P. 2013: 'Siliquae from the Traprain Law Treasure: silver and society in later fourth- and fifth-century Britain', in Hunter and Painter 2013, 93–106
- Guest, P. forthcoming: 'The hoarding of coins in Roman Britain', in R. Bland and J. Naylor (eds), *Hoarding and Deposition of Metalwork: a British Perspective*
- Guest, P., and Wells, N. 2007: *Iron Age and Roman Coins from Wales*, Wetteren
- Guggisberg, M. A., and Kaufmann-Heinimann, A. (eds) 2003: *Der spätrömische Silberschatz von Kaiseraugst, die neuen Funde: Silber im Spannungsfeld von Geschichte, Politik und Gesellschaft der Spätantike*, Augst
- Heather, P. 2005: *The Fall of the Roman Empire: A New History of Rome and the Barbarians*, London
- Hendy, M. 1985: *Studies in the Byzantine Monetary Economy, c. 300–1450*, Cambridge
- Hobbs, R. 2006: *Late Roman Precious Metal Deposits, AD 200–700: Changes Over Time and Space*, BAR International Series 1504, Oxford
- Hobbs, R. 2008: 'The secret history of the Mildenhall Treasure', *Antiquaries Journal* 88, 376–420
- Horsnæs, H. W. 2009: 'Late Roman and Byzantine coins found in Denmark', in Wołoszyn 2009, 231–70
- Horsnæs, H. W. 2010: *Crossing Boundaries. An Analysis of Roman Coins in Danish Contexts. Vol. 1: Finds from Sealand, Funen and Jutland*, Copenhagen
- Horsnæs, H. W. 2013: *Crossing Boundaries. An Analysis of Roman Coins in Danish Contexts. Vol. 2: Finds from Bornholm*, Copenhagen
- Hunter, F., and Painter, K. (eds) 2013: *Late Roman Silver: the Traprain Treasure in Context*, Edinburgh
- Johns, C. 2010: *The Hoxne Late Roman Treasure: Gold Jewellery and Silver Plate*, London
- Johns, C., and Potter, T. 1983: *The Thetford Treasure: Roman Jewellery and Silver*, London
- Jones, A. H. M. 1964: *The Later Roman Empire, 284–602. A Social, Economic and Administrative Survey*, Oxford
- Kent, J. P. C. 1994: *The Roman Imperial Coinage, Vol. X: The Divided Empire and the Fall of the Western Parts A.D. 395–491*, London
- Kent, J., and Painter, K. S. (eds) 1977: *Wealth of the Roman World: Gold and Silver, AD 300–700*, London
- King, C. E. 1981: 'Late Roman silver hoards in Britain and the problem of clipped siliquae', *British Numismatic Journal* 51, 5–31

- Komnick, H. 2008: 'Römerzeitliche Münzfunde in Nordostdeutschland zwischen Elbe und Oder', in Bursche *et al.* 2008, 113–33
- Kulikowski, M. 2000: 'Barbarians in Gaul, usurpers in Britain', *Britannia* 31, 325–45
- Kyhberg, O. 1986: 'Late Roman and Byzantine solidi. An archaeological analysis of coins and hoards', in A. Lundström and H. Clarke (eds), *Excavations at Helgö 10. Coins, Iron and Gold*, Stockholm, 13–26
- Leader-Newby, R. 2004: *Silver and Society in Late Antiquity: Functions and Meanings of Silver Plate in the Fourth to Seventh Centuries*, Aldershot
- Lockyear, K. 2012: 'Dating coins, dating with coins', *Oxford Journal of Archaeology* 31.2, 191–211
- Mattingly, D. 2006: *An Imperial Possession: Britain in the Roman Empire, 54 BC–AD 409*, London
- Moorhead, S., and Stuttard, D. 2010: *AD 410: The Year that Shook Rome*, London
- Mynors, R. A. B. 1964: *XII Panegyrici Latini*, Oxford
- Nixon, C. E. V., and Rodgers, B. S. 1994: *In Praise of Later Roman Emperors: the Panegyrici Latini*, Cambridge
- Orna-Ornstein, J. 2009: 'Patching, West Sussex, 23 AV and 27 AR (mixed Roman and pseudo-Roman) to c. AD 465', in R. Abdy, E. Ghey, C. Hughes and I. Leins (eds), *Coin Hoards from Roman Britain Vol. XII*, Wetteren, 389–92
- Painter, K. 1977a: *The Mildenhall Treasure. Roman Silver from East Anglia*, London
- Painter, K. 1977b: *The Water Newton Early Christian Silver*, London
- Painter, K. 2013: 'Hacksilber: a means of exchange?' in Hunter and Painter 2013, 215–42
- Penhallurick, R. 2009: *Ancient and Early Medieval Coins from Cornwall and Scilly* (ed. P. Guest and N. Wells), London
- Rau, A. 2013: 'Where did the late empire end? Hacksilber and coins in continental and northern Barbaricum c. AD 340–500', in Hunter and Painter 2013, 339–57
- Robertson, A. S. 1974: 'Romano-British coin hoards; their numismatic, archaeological and historical significance', in P. J. Casey and R. Reece (eds), *Coins and the Archaeologist*, BAR 4, Oxford, 12–36
- Robertson, A. S. 2000: *An Inventory of Romano-British Coin Hoards*, London
- Shotter, D. 1990: *Roman Coins from North-West England*, Lancaster
- Shotter, D. 1995: *Roman Coins from North-West England. First supplement 1995*, Lancaster
- Swift, E. 2000: *Regionality in Dress Accessories in the Late Roman West*, Monographies Instrumentum 11, Montagnac
- White, S., Manley, J., Jones, R., Orna-Ornstein, J., Johns, C., and Webster, L. 1999: 'A mid-fifth century hoard of Roman and pseudo-Roman material from Patching, West Sussex', *Britannia* 30, 301–14
- Wickham, C. 2005: *Framing the Early Middle Ages. Europe and the Mediterranean 400–800*, Oxford
- Wołoszyn, M. (ed.) 2009: *Byzantine Coins in Central Europe between the 5th and 10th Century*, Cracow
- Yoffee, N., and Cowgill, G. (eds) 1988: *The Collapse of Ancient States and Civilization*, Tucson
- Zartman, I. (ed.) 1995: *Collapsed States: The Disintegration and Restoration of Legitimate Authority*, Boulder