



Money and the Everyday

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[p. 85]

What happens every day and comes back every day, the commonplace, the daily, the evident,
the common, the ordinary, the infra-ordinary, the background noise, the usual,
how to give an account, how to question it, how to describe it?
Georges Perec (1973) (Translation by author)

Introduction

One can legitimately agree with French writer Georges Perec that the everyday does not generally receive the attention it deserves. But Perec, at least, could tackle the problem by direct observation. As the practices of ancient money users have hardly been recorded as such, what is left to us archaeologists, historians and numismatists are some generally ambiguous material remains, only very partially lit by often ambiguous texts. Any treatment of the subject will by necessity be patchy and sketchy at best. The focus of this survey is limited to the territories eventually conquered by the Romans: from Mesopotamia to the Atlantic, and from Northern Africa (including Egypt) to Northern Europe. The spread of monetary practices from the Near-East to Europe and the common use of coinage in later periods lend some unity to the area. Rather than representing a cultural bias against other traditions of money and coinage, this choice has been dictated by practicality and by my own expertise, which lies mainly in the coinages of the pre-Roman and Roman West. Even with these [p. 86] limitations, the area to be covered remains large. Since nothing is more peculiar to a specific time and place than the everyday, an exhaustive overview is out of the question. Less ambitiously, therefore, this chapter will highlight some relevant themes and illustrate them with well-studied examples from recent literature. Sources at our disposal can be classified in four main groups, which partly overlap: literary texts, documentary texts (papyri

and inscriptions), material currencies (mainly coins) and archaeological documentation (both objects and contexts).

It has long been recognized that most of our literary evidence devotes very little attention to everyday life. Much of what is to be found on the subject of money and money-use does not come from ancient historians but from other genres such as comedy, the novel or satire. This can raise the question of whether the information is trustworthy. Although this has to be judged for each passage by looking at its wider context both textual and historical, one can often assume that there is much to be gained here (see e.g., Millar 1981 on Apuleius' *Golden Ass*). Walter Scheidel (2014), after reviewing monetary valuations in ancient sources, believes them to be reliable for quantitative analysis. Sometimes monetary mentions are nevertheless difficult to interpret: the *Historia Augusta*, a collection of imperial biographies written in late fourth or early fifth century CE, is an extreme case, with numerous inventions and anachronisms (Carlà 2007b). But even an apparently more straightforward text can offer pitfalls. Juvenal, for instance, writing in the late first/early second century CE, uses the denomination *triens* to designate the so-called Charon's obol (*Satires* 3.267), an obvious archaism as *trientes* were last coined in the 80s BCE.

Documentary texts do give better insight into ancient practices, but they usually deal with either institutions or with rich individuals. This is particularly true of stone inscriptions, the best preserved sort of documentary text throughout the ancient world. In the East, the situation is a little more balanced. From the third millennium BCE to the Hellenistic period, the cuneiform tablets from Mesopotamia offer, along with various collections of laws (Roth 1997), numerous archives, both public and private (one of the most famous private archives is that of the Murašû family, powerful merchants from fifth century BCE Babylonia: Stolper 1985). They give a quite detailed picture of everyday transactions from the middle classes upwards. Only in Egypt have inscriptions, papyri and *ostraca* (texts written on pottery sherds) survived in large quantity during the whole period under study (a review of sources and literature can be found in Menu 2001; Agut-Labordère 2014). Such documents are also preserved in smaller number in other regions, for instance in the Northern provinces of the Roman Empire (the Vindolanda tablets are the best known example: Bowman, Thomas and Tomlin. 2010; 2011 and "Online resources"). Although graffiti on ceramics or walls are not uncommon, they are rarely extensive (see Figure 4.1). When they are, as in Pompeii, they provide a [p. 87] fascinating glimpse into everyday life (most of these are available in the *Corpus Inscriptionum Latinarum* [CIL], volume IV with supplements, now online).

For the Greco-Roman world, a few projects have tried to gather together the most useful textual evidence. John Melville-Jones has published a selection of texts relating to Greek coinage and is preparing a volume on Roman coinage (1993; 2007). Wolfgang Szaivert and Reinhard Wolters (2005) have issued a very useful collection of prices and salaries in the Roman world, which can be used with Walter Scheidel's online database on monetary valuations in literary sources (see "Online resources" below). Numerous studies are concerned with epigraphic documents; it is hard not to mention the names of Louis Robert for the Greek world and Richard Duncan-Jones for the Roman one (along with the books by Melville-Jones, a good starting point for epigraphy is Bérard et al. 2010, with online supplements).

For the numismatic evidence, the best place to start is the *Surveys of numismatic research* published every six years by the International Numismatic Council and divided by chronological period, along with the *Numismatic literature* published by the American Numismatic Society (some issues are available online, see “Online resources”). For coin finds, the *Surveys* are again useful. For other aspects of the archaeological documentation, one has to immerse oneself in the literature dealing with the area under investigation. The importance of archaeology has long been highlighted: Richard Reece has been highly influential in promoting “applied numismatics” that take into account the nature of the sites (Reece 2003). But only recently has progress in excavation methods made possible a closer study of where, with what and – sometimes – why coins were deposited on a given site. This of course also applies to other classes of material, including other forms of money less readily recognizable. It is better to start with recent works, going back towards older [p. 88] literature, as standards in archaeological excavation and publication have increased dramatically, allowing for better and more precise interpretations. There is a growing awareness of the value of archaeological context for interpreting money, and it is certainly one of the most promising avenues for new research, as demonstrated by the recent work by Colin Haselgrove and Stefan Krmnicek (Haselgrove and Krmnicek 2012; 2016. For recent monographs making use of archaeological data, see e.g. Butcher 2003; Krmnicek 2010; Frascione 2013; Hobbs 2013; Martin 2015). For much of the Ancient world, archaeology is of course the only way to explore periods and regions where no texts have existed or survived. But one should not underestimate the value of archaeological data for the better documented Classical world as well: for instance, the chronology of the first coinage from Lydia is currently being revised thanks to new excavations and a greater attention to material from previous campaigns (see Konuk 2012 with previous literature).

We have no way to gauge precisely the level of monetization in ancient societies, but it is clear that it was quantitatively and qualitatively different from our use of money. We live in a highly-monetized world, one that is much more integrated, from the monetary viewpoint, than it ever was before. Still, the assumption that most people in Antiquity would have lived without money and, particularly in the countryside, would have practiced mainly if not exclusively barter, is being proven wrong. First, progress in archaeological practice makes it clear that coins were much more present than we thought even in the rural areas. Second, we now know that coinage is not the only “real money”: communities that did not use coins even after the invention of coinage should therefore not be considered out of the monetary world. As a result, the aim of the following pages will be to show that money was a much more important part of everyday life than is often assumed. As much as possible, the focus will be on “common people”, as the uses of money by institutions, whether states or cities, temples or armies, have to this day received most of the attention. We must keep in mind, however, that, as always, the available written and material documentation, does not do justice to the lowest classes of the population. To a large extent, they remain largely out of our reach.

“Multiple money”

For a long time, money meant coinage for most scholars of Classical Antiquity. Moses Finley’s statement that “this was a world which never created fiduciary money in any form, or negotiable instruments. Money was hard coin” (Finley 1985: 141) helped anchor this belief firmly. This view seemed to be supported by ancient sources: it is clear from Caesar and Strabo that using currencies other than coins was viewed as barbarous (Caesar, *Gal.* 5.12.4; Strabo 3.3.7, 7.5.5 and 11.4.4). Similarly, in Late Antiquity John Chrysostom could write [p. 89] that “The use of coins is inherent to our existence, it regulates everything in life. Each time we want to buy or sell something, it is done by means of coins” (*In Principium Actorum* 4.2 = *Patrologia Graeca* 51.99. 36-40). Indeed, once coinage was invented, it acted as “all-purpose money”, used in every kind of transactions and widely adopted all around the Mediterranean and beyond.

It is now well accepted, however, that coinage was *not* the only form of money and that there was money *before* coinage (for instance in Mesopotamia and Egypt: Powell 1996; Menu 2001). It is also clear that uncoined money did not disappear with the advent of coinage. *Hacksilber*, that is, silver ingots and objects chopped down and weighed, remained in use for decades, sometimes centuries, in both the East and the Iberian peninsula. Some *Hacksilber* hoards contain chopped coins, indicating that they served primarily as ingots. In the Egyptian oasis of ‘Ayn Manâwir, coinage was used as such but became part of the already existing two-tier monetary system. Coins were integrated into the upper tier of silver currency while the lower tier, where barley was the main currency, remained unaffected (Agut-Labordère 2014).

Although the ‘Ayn Manâwir evidence, dating to the early stages of coin use in Egypt, is exceptionally detailed, one wonders if similar situations were not more common than we assume in the Ancient World. Recent work has argued against an evolutionistic view from kind to cash (see e.g., von Reden 2010). Jean-Jacques Aubert (2014) has recently reminded us that Roman jurists devoted a great deal of attention to barter, which implies that it was a widespread phenomenon. It is very probable that some transactions involved other currencies than coinage in a situation of “multiple money”. This concept was put forward by Georges Condominas (1972; 1989), a French ethnologist who studied the Mnong Gar society in modern-day Vietnam. He observed that goods could be valued in a number of commodities, from buffalos to blankets to chicken, as well as in piasters (the official currency of French Indochina at the time of Condominas’ research). Each of these commodities could also act as means of payment. Although each was invested with a different value, none was assigned to a particular type of transaction. They did not function as “special-purpose money”, and the choice to use one or another was dictated by convenience rather than by the “sphere of exchange”. Although we have much less evidence to show that this was the situation in Antiquity (but see Ramos dos Santos 2008 for Mesopotamia), “multiple money” helps overcome the false dichotomy between natural economy and monetary economy: payments in kind need not indicate barter transactions (for the Middle Ages, see Bloch 1939; English translation in Bloch 1967, 230-47).

If this makes the monetary landscape much more interesting to look at, it also makes its study more complicated. For if it is quite easy to identify coins, other kinds of money are difficult to

recognize, particularly in the absence of texts. Cereals always played an important role in the Middle East and Egypt, but their ultimate fate was to be eaten, and organic materials in general are [p. 90] seldom preserved. The only practice linked to money that we can trace to some extent in both the material and textual records is weighing (see Figure 4.2). Because it implies agreed standards between the parties, this practice is increasingly seen as a central process in establishing currencies and thus as a crucial step towards the invention of coinage. The control of weight-standards was a top priority for all authorities during Antiquity. It appears in the earliest Mesopotamian law texts (Roth 1997) as well as in the Bible (“A false balance is abomination to the Lord: but a just weight is his delight”, *Proverbs* 11.1 [King James’ translation]). One of the tasks of Greek *agoranomoi* and Roman *aediles* was to control weights, and Late Antique and Byzantine monetary weights regularly featured the image of the emperor(s). In the present state of data, the oldest balances and weights that appear in the archaeological records are dated to the first half of the third millennium BCE (Early Bronze Age) in Mesopotamia (Rahmstorf 2016, with reference to previous work by the same author). This accords with the textual evidence of contemporary law collections. The phenomenon then spread out towards the West, reaching Italy and Central Europe a millennium later (Pare 2013). Clear links between standards from different regions demonstrate that commensurability was sought. Furthermore, according to a case-study, weighing equipment can be found in varying contexts, public, private and funerary: the practice appears to have been relatively widespread (Michailidou 2010, a case study on the Late Bronze Age Aegean). Of course not all weighing is related to money, but there is a clear thread linking weighing and currency running all through Antiquity. At the far end of the period, Late Antique Roman gold coins were weighed while being used as coins (Carlà 2007a; 2010). Weighing is therefore not an indication of non-monetary exchange but rather of different habits, often implying other [p. 91] currencies than coinage. The widespread appearance of scales in periods when coinage was either not yet invented (Bronze Age) or declining (Merovingian times) can thus be seen as hinting to different forms of money use rather than to non-monetary forms of exchange.

Although the remainder of this chapter will deal primarily with coinage, as it is the most readily identifiable form of money and present in a wide array of contexts, the reader should keep in mind that it was probably used in a situation of “multiple money”.

Producing money

In the contemporary world, producing currency (in the form of coins and banknotes) is a highly protected and partly secret activity carried on by the State, and we tend to project this state of affairs onto Ancient times. Indeed, the Imperial Mint in Rome, excavated under the church of San Clemente, lends support to this view: it is a massive building with thick walls and no windows (Guidobaldi 1992: 48-69). Although the building itself was in plain view and its function known (it was mentioned on the *Forma Urbis Romae*, the marble plan of the city, and a group of inscriptions was set up by the mint personnel, probably in front of its entrance), what went inside was well guarded.

But as we have seen, money was not always coinage and was not always produced by public authorities. In the pre-coinage phase of weighed metal, be it silver or gold in the East or in the Iberian peninsula or bronze in the Italian peninsula (*aes rude*) and possibly in continental Europe, there does not seem to have been any public involvement other than guaranteeing common weight-standards (but their adoption could also have been the result of personal initiative). The actual production of the metal objects was in private hands. Although there is general agreement among modern scholars (in line with ancient sources) that coinage was produced by public authorities, this does not always seem to have been the case. There is still no definite proof that there was state monopoly on the earliest electrum coinage from Lydia (Konuk 2012: 48). In pre-Roman Gaul, the case for decentralization appears even stronger. In the region now corresponding roughly to the northern half of France, coinage was introduced c. 300 BCE. The early faithful copies of golden *staters* from Philipp II of Macedonia quickly evolved into original coins decidedly Celtic in style. From c. 200, copper-alloyed cast coins were introduced; some decades later and in some areas, gold coins were replaced by silver, often bearing Roman-inspired images. Local coinages, mostly struck bronzes, thrived after the Gallic Wars (58-51 BCE) before disappearing completely c. 20/10 BCE. Throughout these three centuries, it is rather rare to find coin distributions matching the territories of the various *civitates* (often translated “tribes” in English). Some coins circulated widely, including low-value cast coins (see various contributions in Gruel 1995), while others appear only in one site (this [p. 92] is particular true of sanctuaries from modern-day Picardy). Although a growing number of types, from the mid-second century BCE onwards, display legends, moreover, not a single one mentions the name of a Gallic *civitas* before the Gallic Wars. Even after that date, most legends consist of personal names, some of which are aristocrats mentioned in Caesar’s *De Bello Gallico*.

Based on this evidence, it is very likely that a large part of coin production, if not the majority, was in the hands of private individuals. This accords well with the rare traces of Iron Age coin production found in excavations in Gaul. At Migné-Auxances, near Poitiers (France), a rescue excavation on a farm uncovered the remnants of a probable mint dated between 130 and 100 BCE. The production of copper-alloyed blanks was situated in a pit. Although no tools were found relating to the minting itself, it is very likely that this also took place on the farm, as the blanks were of similar composition to coins found during the excavation (Toledo i Mur and Pernot 2008). On the Fossé des Pandours (a hill-top settlement in Eastern France), several miscast potin-coins were found in a well very close to rather high-standard dwellings – suggesting direct control of coin production by the local élites. Similar evidence was uncovered on the *oppidum* of Villeneuve-Saint-Germain in France (Debord 1989). These Gallic examples are proof that mints operated in the middle of living quarters: no doubt controls were tight, but it was certainly not a secret process. Furthermore, technological studies have shown that casting and minting – the engraving of dies excepted – were accessible to average craftsmen and did not require extra skills. In the excavated workshops, it is clear or at least suspected that minting was not the only activity carried on. This may also have been the case in the official mint for bronze coins in Athens, where traces of iron working have been found (Camp and Kroll 2001: 144).

These few examples concern official minting. Even more embedded in everyday life was the production of unofficial coinage. It is not always clear if we are dealing with false coins, as

some productions are so peculiar that it would have been impossible to be duped (for the Roman period, see Peter 2011). Roman Gaul has been well studied in this respect. Some production sites are indeed hidden, for instance in caves. But most of them are to be found either in towns, in metalsmiths' workshops, or in rural settlements. The best known examples of urban workshops are from Augst in Switzerland (Peter 1990; Straumann 2011) and Châteaubleau in France (Pilon 2004; 2005). It is not always clear if the minting was clandestine. For instance, although the production seems irregular, the second century BCE mint excavated in the temple of Karnak (Egypt), which was set up against the wall of a chapel, could hardly have gone unnoticed (Faucher, Coulon, Frangin, Giorgi, Delcros and Vallières 2011; see Figure 4.3).

Whatever the status and the reason of these unofficial productions, they seem to occur in periods of shortage (sometimes only in small denominations) and can be taken as clear signs of the need of currency in everyday life. In the [p. 93] rural France of the nineteenth and early twentieth century CE, we have numerous examples of local coin production that was perceived as forgery by the central authorities but was entirely legitimate to a population who occasionally used fourth century Late Roman bronze coins as small change. (On the legitimacy of forgeries for the users: Traimond 1994. On using Roman coins: the practice is reported for instance by famous French numismatists Jean-Baptiste Colbert de Beaulieu in Brittany and Jean Lafaurie in the South-West: Colbert de Beaulieu 1973: 330 note 660; Dumas 2008:152)

The physical production of coinage was therefore probably a much more mundane occupation than we tend to think. From what we know, this is also true for other forms of money. As mentioned previously, we know some of the commodities used as money from documents in Mesopotamia and Egypt: metals (gold, silver, copper and its alloys, but also lead), cloth, foodstuffs and, in particular, cereals (barley being regularly mentioned) (Powell 1996; Menu [p. 94] 2001). If metal objects often had recognizable forms that probably indicated their monetary function (such as rings or special-shaped ingots), this barely required special craftsmanship. Even the metal objects that may have served as currency in the Bronze Age, whose alloy differed from that of everyday objects, were probably produced by the same craftsmen (Pare 2013). When it comes to foodstuffs, we generally have no indication of a special treatment. The *ostraca* from 'Ayn Manâwir do mention payments in "fine barley" but the meaning is unclear; it may be a special variety, but more probably it was just ordinary threshed barley (Agut-Labordère 2014).

Once currency was available to users, it still underwent manipulations as it was adapted to new monetary situations. The fractioning of coins, for instance, is commonly observed in the Roman period. If there is the distinct possibility that the halving (less often quartering) of thick coins from the Republic and the Early Empire might have been official, for it is much harder than it seems (as was bitterly experienced by a colleague who tried to halve a bronze dupondius, using a hammer and a chisel), the common man certainly did have a go as well. It is not rare to find coins with chop-marks indicating a failed halving. Private initiative is certainly to be sought in the case of smaller coins, for instance the thin Late Antique bronzes. During the fifth and sixth centuries CE, all over the Roman Empire we find fourth century bronze coins cut up to match the new weight standards (see for instance Asolati 2005: 19-22, with numerous examples from the Mediterranean; the phenomenon is also present in the

Northern provinces). At more or less the same time, other users found a somewhat easier way, although it required the possession of a fair number of old Roman coins from the Principate: on c. 150 pieces, mainly from Italy, new value marks corresponding to the Ostrogothic and Vandalic monetary systems were made with a chisel. Cécile Morrisson thinks that this practice started in the public sphere and was later taken up by private individuals. The choice of coins seems to have been dictated by sheer availability (see Asolati 2012: 113-34, with previous literature).

Using money

Most people kept their money at home. Excavations in Pompeii give us some indications of how coins were kept in Roman houses. The hoard from the House of the Menander was in a big coffer (*arca*), stored in a cellar, with coins and jewels in a smaller box separate from the plate (Painter 2001). In a neighboring house, small clusters of coins were found in the sleeping rooms: each person was apparently keeping his/her purse under the bed. Because of the exceptional nature of the Vesuvian evidence, such details are difficult to obtain from other sites, but we can assume similar trends: valuable goods and big money were stored securely and sometimes hidden (this certainly accounts for an unknown number of hoards recovered in modern times), while small change was more readily at hand. Terracotta money-boxes are relatively common throughout the period (Graeven 1901). Money could also be deposited at the bank (on Greek banks: Bogaert 1968; on Roman banks: Andreau 1987). In the Principate, this was customary enough to appear in the *colloquia* of the *Hermeneumata Pseudodositheana* as a rather normal situation (*colloquia Monacensia*, 4): One character withdraws 100 denarii from the bank to pay his lawyers. Dating from the Principate and intended for Greeks learning Latin, “colloquia are bilingual dialogues and narratives designed to be used at an early stage of language learning [and] many colloquia passages are vignettes about daily life in the Roman World” (Dickey 2016: 10. The texts have been recently reedited in Dickey 2012; 2015). Throughout Antiquity, including in Mesopotamia, temples could also receive deposits from private individuals (see below for further information on sanctuaries).

The way people keep and move their money tells us something about how they use it (on the transport of coins, see de Callataÿ and van Heesch 2006, notably the papers by François de Callataÿ and Reinhard Wolters). It is therefore interesting to see that purses seem to have been the most common method to carry coins around in both Greek and Roman times. This indicates that it was customary and useful to have some cash at hand and points to a rather widespread use of coinage. Few purses have survived, as they were made of perishable materials, but an impressively complete leather purse from the second century CE has been found in Barger-Compascuum in the Netherlands (Glasbergen, Schlabow, Zadoks-Josephus Jittaand and Zeist 1956). Several examples of metal purses worn around the wrists are known from Roman times, some still containing coins, generally in bronze (see Figure 4.4). Bigger sums could also be carried in bags [p. 96] (the original meaning of the Latin word *follicis* which eventually designated a coin) or in chests and boxes of various size. In some famous lines, Aristophanes wrote of Athenians carrying coins in their mouth (e.g., *Eccl.* 817-19). This

was obviously very impractical and one of his character indeed swallows his small change (*Birds* 503)!

The first use of money that comes to mind, and indeed one of its principal if not main functions, was to pay for goods and services. Transactions could take place in a variety of places: shops, inns, private houses and of course the marketplace. There appears to be some correlation between the density of coin finds in archaeological excavations and the intensity of coin use in Antiquity. For instance, Richard Hobbs (2013) has shown that in *insula* VI, 1 of Pompeii, coins were more frequent along the street, around the small shops and at the shrine (see Figure 4.5). This is probably a general trend, as similar cases are found in pre-Roman and Roman Gaul (Martin 2015).

The agoras in Sagalassos (Turkey) provide an interesting view of Late Antique urban marketplaces (Putzeys 2007; Lavan 2012; Stroobants and Poblome 2015). They present themselves as open courtyards surrounded by small built rooms. Positions for removable wooden stalls were indicated on the floor of the square. Numerous coins were found both in the rooms and on the central courtyards. These agoras were probably the setting of daily transactions similar to those described in some written sources. Once again, the *colloquia* of [p. 97] the *Hermeneumata Pseudodositheana* offer some vivid depictions that supplement and lend credibility to what we find in Greco-Roman novels (*colloquia Monacensia*, 8: going to the market with a servant; *colloquium Montepessulanum*, 13: buying and bargaining over clothes; compare e.g., with Apuleius, *Met.* 1.24).

In Sagalassos, detailed analysis of the finds has made it possible to reconstruct the functions of the various rooms, most of which appear to have been retail stores, sometimes attached to workshops. In both agoras, weighing equipment was found with numerous coins in one of the rooms. These could have been the offices of moneychangers. Indeed, we know that moneychangers had an important role in everyday life, since for most of Antiquity coinage was never unified and users could be faced with a variety of coins (even during the Roman Empire various coinages circulated, particularly in the East). With the additional presence of forgeries, it was necessary to test coins frequently. Raymond Bogaert has gathered the evidence for Classical Antiquity (Bogaert 1976). The most clear text at our disposal is the so-called Nikophon's Law from 375/4 BCE (*Supplementum Epigraphicum Graecum* XXVI, 72): the city of Athens put in charge two approvers (*dokimastai*) to test coins in the market place, obviously on a daily basis. Testing appears to have been a craft in itself, involving not only touchstones, scales and close visual examination, but also listening to the sound of the coin and even smelling it!

Games with money-prizes were of course already known in ancient times and engraved game-boards are often found in public squares (Lanciani 1892 for an old but vivid account of ancient Rome). But Petronius in *Satyricon* (33.2), also mentions the use by Trimalchio of silver and gold coins as counters on a game-board: a convenient use to replace tokens that is likely to have happened in real life, although probably with coins of lesser value.

As testified by the graffiti from Pompeii, towns and marketplaces were witness to frequent money lending (e.g., CIL IV 4528) and pawning (e.g., CIL IV 8203), which could consist of very small sums. For instance, the person who pawned the earrings in CIL IV 8203 received 31 asses; according to some "shopping lists" inscribed on Pompeian walls, this would only support someone for a few days. (See also *colloquia Monacensia*, 5, for an impression of how

a loan was conducted, and *colloquia Harleianum*, 23, on how to be repaid.) Although the transactions were indeed recorded, such pawning and money lending was certainly not the work of professionals. It is proof that the lower classes of the urban population needed cash for their everyday life. Although most of our documentation concerns towns, we should not underestimate money use in the countryside. The Egyptian papyri show that the traditional assumption of peasants only accustomed to a “natural economy” is wrong. As always, it is difficult to find such precise documentation elsewhere, but it is worth mentioning a writing-tablet dated to 29 CE. Found in the countryside in [p. 98] Tolsum (The Netherlands) more than 100 km north of the Roman frontier, it is a loan-note for an unknown sum of money (Bowman, Tomlin, and Worp 2009). The findspot and the presence of a Batavian soldier as a witness make it likely that one of the contractees was a local.

Sanctuaries were also important loci for coin and money use (various contributions for the whole period in Chankowski 2005). Based on written documentation from Mesopotamia, Greece and Rome, the sanctuaries’ resources can be divided in three categories. First, objects belonging to the deity, normally inalienable. They could be transformed or sold insofar as it profited the gods (e.g., new statue, repairs to the temple). Second, private deposits that could be retrieved by their owners. Indeed, it was not rare to deposit one’s savings in a temple to benefit from the god’s protection. Finally came all the other resources from which the temple and its dependants made a living: fees for religious services and the sale of ex-votos or other artifacts, but also exploitation of landed property and financial operations such as loans.

Thanks to progress in archaeological excavations, it is now possible to identify some of these practices in the material record. Much attention has been devoted recently to the use of coins in sanctuaries in Gaul, from the advent of coinage in the third century BCE to Late Antiquity, and some trends appear clearly (see mainly Nouvel 2013). In the Iron Age, coins were probably deposited by the community in a public ceremony, in the form of precious hoards consisting mainly of high-value pieces. This changed from the mid-first century BCE onwards, when low value offerings became the norm: coins were deposited by individual, sometimes thrown (*iactatio*), sometimes superficially buried into the ground. These coins are often mutilated to withdraw them from circulation. On the sanctuary of the Martberg (Germany), David Wigg-Wolf (2005) could identify two phases: in the first one (first century BCE), the defacement is uniform, pointing to some kind of control; in the early first century CE, on the contrary, each coin bears different marks, indicating that each worshipper now took care of his/her own offering. Because they were consecrated, coins could not leave the sanctuary, which explains why sanctuary finds are so common from c. 50 BCE to c. 50 CE. The sudden drop in coin finds from the end of the first century to the end of the third century CE marks a new management of the offerings and possibly a stronger control by the clergy. In Gaul, stone *thesauri* (collection boxes) date precisely to this period (there are known much earlier in Greece and Italy, see Kaminski 1991). These offerings were certainly reused according to their status, either to embellish the sanctuary or to make some profit. From the end of the third century to the early fifth century, small value coins are again found in great quantities. These offerings seemed to have been left on the floor, where they were thrown by visitors. The reason is unclear but the very small value of each coin probably played a part. Finally, even when pagan sanctuaries were permanently closed [p. 99] c. 400 CE, objects belonging to the gods were not reused. This is demonstrated by a number of hoards from this

period, which often mix coins with other artifacts (statuettes, vessels); they had probably been carefully buried, either definitively or with the hope of recovery in more favorable times.

An exceptional set of graffiti found on the first century CE sanctuary of Châteauneuf (France) confirms that vows were expressed in monetary value, although it is unclear whether all of them were paid in actual coins (Mermet 1993; Rémy 1999; see Figure 4.1). Of course, not all coins found on a sanctuary site need to be offerings. Inside the sacred area of the sanctuary of Mandeure “Champ des Fougères” (France), pottery kilns were unearthed dating to the second half of the first century BCE, a time when religious activities were clearly on-going (Nouvel and Thivet 2011). It is tempting to interpret the kilns as a source of monetary income for the temple.

Another use of coins that has received considerable scholarly attention is the so-called “Charon’s obol”. This is still the favored interpretation for coins discovered in tombs, although it has become clear that funerary customs display strong chronological and geographical variation in the Ancient world. However useful, ancient texts propose too unified a picture. The meaning of funerary coin deposition must be asserted carefully for each region and its period, and important variation can be observed even in neighboring zones. For instance, coins are rarely found in Celtic Europe in the Late Iron Age, but in some spots they do appear, most notably in Northern Italy, some areas of Switzerland and modern Luxembourg. A variety of practices can also explain how the coin(s) arrived in the tomb. This is clear in the case of cremations: generally, only part of the offerings found in the tomb are burned, meaning that some were on the funeral pyre while the others were deposited directly into the grave. A careful excavation and a close examination of the archaeological data is always desirable and worthwhile, but probably never more so than in the case of cemeteries, for in funerary practices we can sense intentionality behind almost every gesture (see Stevens 1991 for a review of both literary and archaeological evidence; for the latter, many more data are now available).

We have so far distinguished between three main spheres of coin use: economic, ritual and funerary. In real life, this distinction was of course not as clear-cut. Moral and religious values could also impact the economic use of coins: Suetonius (*Tib.* 58), writes that bringing a coin bearing Augustus’ portrait in the latrines or in a brothel was considered lese-majesty under Tiberius, and Epictetus (in Arrian, *Epict.* 4.5.15-18) relates that after Nero’s downfall, a coin bearing his head could be rejected. Whether either of these incidents actually happened is debatable, but they indicate that coins were not treated only as economic objects. On the other hand, coinage and other forms of money were used in sanctuaries or in tombs *because* they had an economic value. Monetary jewels are another case of coins with multiple values. These jewels are not [p. 100] uncommon at all and are known from the Hellenistic period onwards (Vermeule 1975). They obviously acted as a store of value and certainly could have had a monetary use, but the coins they reuse are generally in good condition and their aesthetic quality certainly played a role as well. Conversely, coins can be melted down. Not only gold and silver also less valuable coinage could meet this fate: in some parts of nineteenth century CE south-western France, for example, there was a shortage of copper coins because there were used to make cutlery and other utensils (Traimond 1994). But at least some of the objects made from coins would certainly have functioned as stores of value and maybe even as means of exchange, with the result that they did not totally lose their

monetary functions. The following examples aim at showing some of the “non-monetary” functions assumed by coins, as well as illustrating how embedded coins were in everyday life. The texts quoted in the previous paragraph indicate that people paid attention to coin designs and that coin collections already existed: when Suetonius (*Aug.* 75) writes that the first emperor sometimes offered foreign or old coins, he implies that such items were available if one had the means. In Late Antiquity, the numismatic knowledge displayed by the author of the *Historia Augusta* probably indicates that he was himself a collector (Carlà 2007b). But attention to coin types was not confined to the educated aristocracy. In the Roman period we see respect for a coin’s image of the emperor centuries after it was minted: the Late Antique value marks engraved on the obverse of coins from the Principate carefully avoid the portrait, although the emperors depicted had been dead for at least 250 years. Nina Crummy has published a group of Late Antique British infant burials where coins were obviously selected for their imagery: in numerous cases, the coins are older than the tombs by a century or more (Crummy 2010). Maybe we should take John Chrysostom (*Ad illuminados cathechesis*, 2.5) literally when he writes, in the context of fourth century CE Antioch (Turkey), “what should one say about those people, who use magic charms and amulets, and carry bronze coins of Alexander the Macedonian around their necks and on their feet?” Some scholars have doubted whether Alexander’s coins were still available eight centuries after his death (Perassi 2011: 225-26), but in Merovingian Gaul, it is frequent to find graves with Celtic coins of comparable age along with more recent Roman coins (see Van Hoof 1991 for the situation in Belgium). Although it is hard to detect archaeologically, the ancient equivalent of modern collections of small change, for instance, euro coins of various countries, surely existed, as did the odd foreign coin kept as a souvenir, which certainly accounts for a (very) minor part of the “exotic” coin finds one occasionally encounters.

Coin-imagery appears to have been popular, as coins were reused, stamped or copied on various media. Indeed, as coins were the most readily available images of circular shape, there seems to have been a connection between [p. 101] circular motifs and coins in the minds of the craftsmen and the public. A famous example is the third century BCE black-glaze cups from Cales (Italy) reproducing the beautiful head of Arethusa engraved by Euainetos for Syracuse. The coin was impressed to obtain a matrix from which the central medallion was molded before being inserted in the cup. But this coin type was by no means the only one copied, and sometimes potters merely took inspiration from coinage (Richter 1959 with other examples). For a later period, Marie-Christine Hellmann (1987) has devoted a short study to Roman lamps, highlighting their connections to numismatic imagery. One lamp type, itself a New Year’s gift, depicted gifts, among them three coins (Hellmann 1987: pl. III no. 1; on this lamp type see Heres 1972). Other lamps drew inspiration from coins, one offering an imperial portrait obviously meant to look like a coin although it does not copy an actual type (Hellmann 1987: pl. IV no. 5). Similar examples can be found on metalwork (see e.g., the sheet from Austria published in Haselgrove and Krmnicek 2016: 10 fig. 1.4). Iconographic parallels also exist between coins and gems, which have other similarities: in addition to being small in size, both gems and coin-dies had to be engraved in negative (Guiraud 1996 provides a good introduction on gems).

In some contexts, coins seem to have carried enough authority to be used as seals (e.g., a fifth century BCE case in Mesopotamia: Starr 1976 with reference to other occurrences). Similarly,

some Roman glass containers have been stamped with a coin on the bottom. According to Luigi Taborelli, the practice is not decorative but linked to imperial involvement in glass production (Taborelli 1982; 1992). The author writes ambiguously “*conio monetale*”: in Italian “*conio*” generally means “coin die” but sometimes designates the coin itself. In this case, it is clear that the impressions were made with coins).

But sometimes coin impressions appear to have been purposeless, a mere game. A recent excavation in Oloron-Sainte-Marie, at the foot of the French Pyrenees, has yielded a late Roman broken tile (*tegula*) with at least 13 coin impressions made before firing. Although various hypotheses can be made about the function of such an object, none is satisfactory. The best interpretation so far is that there were no particular reason at all (Callegarin and Geneviève 2007). This is not without recalling the recent reappraisal of Greek monetary lead objects by François de Callataÿ (2010). Against the current trend of interpreting all such leads as test-pieces, he has interpreted most of them as “fantasies”, artifacts reproducing pleasant or spectacular coin types in the cheapest of metals (for the value of lead, Morrisson 1993: 79-84).

Conclusion: the social impact of money

This contribution has tried to offer some insights on possible topics and ways to approach the uses of money in and its influences on the everyday. After its [p. 102] invention, coinage clearly became an important part of life. Coins were perceived by Greek and Roman authors as the main, if not the only civilized form of money. They performed all functions traditionally assigned by economists to money and many more. Combined with the omnipresence of coins in the archaeological record, this has unsurprisingly introduced a bias against other forms of money, and has also obscured the continued existence of “multiple money” after the invention of coinage. But Mesopotamian and Egyptian evidence clearly demonstrates that money use was widespread without coinage. However difficult it may prove, a better understanding of “multiple money” should be a priority. Bearing this in mind, a more complicated but much richer picture of how money enmeshed with everyday life will no doubt emerge.

As the forms and uses of money in different times and places become clearer, it will become possible to tackle the issue of the social impact of money. In her book on *Money in Classical Antiquity*, Sitta von Reden dedicates her last chapter to the topic, remarking that “surprisingly, very little positive has been said about the social impact of money” (von Reden 2010: 186). Things have changed in the last decades, but her summary makes it clear that scholars (mainly Hellenists) have focused upon the symbolic value of money, underlining for instance how Greek money and coinage must be understood within the framework of generalized exchange that characterized the *polis* (not only economic exchange, but also verbal and political; hence the importance of the *agora* and of discourse: Bresson 2016, chap. XI).

Less attention has been given to the concrete impact of money on the living conditions of people. As early as 1970, Zvi Yavetz pointed out that the lower Roman *plebs* would have been most affected by monetary fluctuations. Citing studies on modern economies, David B. Hollander noted that “while monetization initially leads to an increase in the demand for

money, as people become more financially sophisticated, their demand for money actually decreases” (Hollander 2007: 145). The point these scholars make is clear: the poorer you are, the less financial assets you have access too. If the rich of Antiquity had an easier access to “multiple money”, the lower classes, particularly in towns, were highly dependent on the most commonly available and accepted form of money. The small-scale Pompeian loans mentioned above are a good example of this: people pawned their possessions in order to get some cash necessary for everyday transactions. Lack of documents makes it more difficult to gauge the situation in the countryside; “multiple money” was perhaps a more common situation, but we must be careful here not to exaggerate the discrepancy between rural and urban.

This social impact of money is not restricted to coinage, as recently shown by François Lerouxel (2015). In a very stimulating paper, he argues that, between the sixth and the fourth century BCE, Roman aristocrats used the [p. 103] *aes rude*, the weighed bronze used as money before the adoption of coinage, in order to force monetary loans with high interest-rates onto plebeians. Because aristocrats probably controlled the production of *aes rude*, the loans were virtually unrepayable. Aristocrats thus aimed at putting plebeians in debt bondage (*nexum*) to gain control over their working force and use it on their own lands. *Nexum* was abolished in the late fourth century BCE, at about the same time the Roman state started the production of bronze currency, cast in weighty ingots (*aes grave*). This is probably not a coincidence, and it reflects in a dramatic way how money can affect one’s life (interestingly, some of Lerouxel’s remarks converge with David Graeber’s observations in his book on debt: Graeber 2014). Whatever its form, the impact of money on everyday life goes far beyond the simple dichotomy between “swap or sale.” The ways in which it influenced and structured the life of our ancestors, however, are still open for exploration.

Acknowledgments

In preparing this chapter, I benefited from the help of various colleagues. I thank them warmly for their insights on various problems. I owe a great debt to Lydia Spielberg for considerably improving my English.

List of Figures

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Fig. 4.2, p. 90 : Weighed money from Egypt. This type of scales is common throughout Antiquity. From Ducros 1908: 49 fig. 2 (public domain).

Fig. 4.3, p. 93 : Plans from the second century BCE mint of Karnak (Egypt). Redrawn by author from Faucher, Coulon, Frangin, Giorgi, Delcros and Vallières 2011.

Fig. 4.4, p. 95 : A Roman bronze arm-purse from Mook (The Netherlands). Photograph Rijksmuseum van Oudheiden, Leiden, inv. no. 1 1939/5.1 (license CC-BY).

Fig. 4.5, p. 96 : Pompeii, insula VI 1. Distribution map of coins found in the excavations of the Anglo-American Pompei Project. From Hobbs 2013:102, fig. 18 (image courtesy of Richard Hobbs).

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References

- Agut-Labordère, Damien. 2014. "L'orge et l'argent. Les usages monétaires à 'Ayn Manâwir à l'époque perse." *Annales. Histoire, Sciences Sociales* 69(1): 75-90.
- Andreau, Jean. 1987. *La vie financière dans le monde romain. Les métiers de manieurs d'argent (IV^e siècle av. J.-C.-III^e siècle ap. J.-C.)*. Rome: École française de Rome.
- Asolati, Michele. 2005. *Il tesoro di Falerii Novi. Nuovi contributi sulla monetazione italica in bronzo degli anni di Ricimero, 457-472 d. C.* Padova: Esedra.
- Asolati, Michele. 2012. *Praestantia nummorum. Temi e note di numismatica tardo antica e alto medievale*. Padova: Esedra.
- Aubert, Jean-Jacques. 2014. "For Swap or Sale? The Roman Law of Barter." In Catherine Apicella, Marie-Laurence Haack and François Lerouxel (eds.), *Les affaires de Monsieur Andreau. Économie et société du monde romain*. Bordeaux: Ausonius, 109-21.
- Bérard, François, Denis Feissel, Nicolas Laubry, Pierre Auteur Petitmengin, Denis Rousset and Michel Sève. 2010. *Guide de l'épigraphiste. Bibliographie choisie des épigraphies antiques et médiévales*. Fourth edition. Paris: Éditions Rue d'Ulm.
- Bloch, Marc. 1939. "Économie-nature ou économie-argent : Un pseudo-dilemme." *Annales d'histoire sociale* 1(1): 7-16.
- Bloch, Marc. 1967. *Land and work in medieval Europe. Selected papers*. Translated by J. E. Anderson. London: Routledge.
- Bogaert, Raymond. 1968. *Banques et banquiers dans les cités grecques*. Leiden: A. W. Sijthoff.
- Bogaert, Raymond. 1976. "L'essai des monnaies dans l'Antiquité." *Revue Belge de Numismatique et de Sigillographie* 122: 5-34.
- Bowman, Alan K., J. David Thomas, and Roger S. O. Tomlin. 2010. "The Vindolanda Writing-Tablets (*Tabulae Vindolandenses* IV, Part 1)." *Britannia* 41: 187-224.
- Bowman, Alan K., J. David Thomas, and Roger S. O. Tomlin. 2011. "The Vindolanda Writing-Tablets (*Tabulae Vindolandenses* IV, Part 2)." *Britannia* 42: 113-44.
- Bowman, Alan K., Roger S. O. Tomlin and Klaas A. Worp. 2009. "Emptio Bovis Frisica: The 'Frisian Ox Sale' Reconsidered." *The Journal of Roman Studies* 99: 156-70.
- Bresson, Alain. 2016. *The Making of the Ancient Greek Economy. Institutions, Markets, and Growth in the City-States*. Translated by Steven Rendall. Princeton: Princeton University Press.
- Butcher, Kevin. 2003. *Small change in ancient Beirut. Coins from BEY 006 and 045*. Beirut: American University.
- de Callatay, François. 2010. "Les plombs à types monétaires en Grèce ancienne : monnaies (officielles, votives ou contrefaites), jetons, sceaux, poids, épreuves ou fantaisies ?" *Revue numismatique* 166: 219-55.

- de Callataÿ, François and Johan van Heesch (eds.). 2006. "The Transport of Coins through the Ages." *Revue Belge de Numismatique et de Sigillographie* 152: 1-94.
- Callegarin, Laurent and Vincent Geneviève. 2007. "Une *tegula* portant des empreintes monétaires du IV^e siècle découverte à Iluro - Oloron-Sainte-Marie (Pyrénées-Atlantiques, France)." *Aquitania* 23: 137-50.
- Camp, John McKesson and John H. Kroll. 2001. "The Agora Mint and Athenian Bronze Coinage." *Hesperia* 70 (2): 127-62.
- Carlà, Filippo. 2007a. "Il sistema monetario in età tardoantica: spunti per una revisione." *Annali. Istituto Italiano di Numismatica* 53: 155-218.
- Carlà, Filippo. 2007b. "Usi ed abusi della terminologia monetale nell'*Historia Augusta*." *Hormos. Ricerche di Storia Antica* 9: 399-424.
- Carlà, Filippo. 2010. "The end of roman gold coinage and the disintegration of a monetary area." *Annali. Istituto Italiano di Numismatica* 56: 103-72.
- Chankowski, Véronique (ed.). 2005. "Les dieux manieurs d'argent : activités bancaires et formes de gestion dans les sanctuaires." *Topoi. Orient-Occident* 12-13 (1): 9-132.
- Colbert de Beaulieu, Jean-Baptiste. 1973. *Traité de numismatique celtique I. Méthodologie des ensembles*. Paris: Les Belles Lettres.
- Condominas, Georges. 1972. "Aspects of Economics among the Mnong Gar of Vietnam: Multiple Money and the Middleman." *Ethnology* 11 (3): 202-19.
- Condominas, Georges. 1989. "De la monnaie multiple." *Communications* 50: 95-119.
- Crummy, Nina. 2010. "Bears and Coins: The Iconography of Protection in Late Roman Infant Burials." *Britannia* 41: 37-93.
- Debord, Jean. 1989. "L'atelier monétaire gaulois de Villeneuve-Saint-Germain (Aisne) et sa Production." *Revue Numismatique* 6 (31): 7-24.
- Dickey, Eleanor. 2012. *The colloquia of the Hermeneumata Pseudodositheana, volume I. Colloquia Monacensia-Einsidlensia, Leidense-Stephani, and Stephani*. Cambridge: Cambridge University Press.
- Dickey, Eleanor. 2015. *The colloquia of the Hermeneumata Pseudodositheana, volume II. Colloquium Harleianum, colloquium Montepessulanum, colloquium Celtis, and fragments*. Cambridge: Cambridge University Press.
- Dickey, Eleanor. 2016. *Learning Latin the Ancient Way. Latin Textbooks from the Ancient World*. Cambridge: Cambridge University Press.
- Ducros, Hippolyte. 1908. "Étude sur les balances égyptiennes." *Annales des Services de l'Antiquité de l'Égypte* 9: 32-53.
- Dumas, Françoise. 2008. "Nécrologie de Jean Lafaurie". *Bulletin de la Société française de numismatique* 63, 5 : 152-4.
- Faucher, Thomas, Laurent Coulon, Elsa Frangin, Cyril Giorgio, Soline Delcros and Laurent Vallières. 2011. "Un atelier monétaire à Karnak au II^e s. av. J.-C." *Bulletin de l'Institut Français d'Archéologie Orientale* 111: 143-66.
- Finley, Moses I. 1985. *The Ancient Economy*. Second edition. London: Hogarth.
- Frascone, Daniel. 2013. *Zeugma IV. Les monnaies*. Lyon: Maison de l'Orient et de la Méditerranée-Jean Pouilloux.

- Glasbergen, Willem, Karl Schlabow, Annie N. Zadoks-Josephus Jitta and Wilhem van Zeist. 1956. "Der römische Münzschatz von Bargercompascuum (Drenthe)." *Palaeohistoria* 5: 77-99.
- Graeber, David R. 2014. *Debt: the first 5,000 years*. Second edition [first edition: 2011]. Brooklyn: Melville House.
- Graeven, Hans. 1901. "Die thönerne Sparbüchse im Altertum." *Jahrbuch des Kaiserlichen Deutschen Archäologischen Instituts* 16: 169-89.
- Gruel, Katherine (ed.). 1995. "Les potins gaulois : typologie, diffusion, chronologie. État de la question à partir de plusieurs contributions." *Gallia* 52: 1-144.
- Guidobaldi, Federico. 1992. *San Clemente. Gli edifici romani, la basilica paleocristiana e le fasi altomedievali*. Rome: Collegio San Clemente.
- Guiraud, Hélène. 1996. *Intailles et camées romains*. Paris: Picard.
- Haselgrove, Colin and Stefan Krmnicek. 2012. "The Archaeology of Money." *The Annual Review of Anthropology* 41: 235-50.
- Haselgrove, Colin and Stefan Krmnicek (eds). 2016. *The Archaeology of Money. Proceedings of the Workshop 'Archaeology of Money', University of Tübingen, October 2013*. Leicester Archaeology Monograph 24. Leicester: School of Archaeology and Ancient History.
- Hellmann, Marie-Christine. 1987. "Monnaies et lampes romaines : de l'intérêt des études comparatives." *Revue numismatique* 6^{ème} série (29): 25-37.
- Heres, Gerald. 1972. "Römische Neujahrsgeschenke." *Forschungen und Berichte* 14: 182-93.
- Hobbs, Richard. 2013. *Currency and exchange in ancient Pompeii. Coins from the AAPP excavations at Regio VI, Insula I*. London: Institute of Classical Studies.
- Hollander, David B. 2007. *Money in the Late Roman Republic*. Leiden: Brill.
- Kaminski, G. 1991. "Thesaurus. Untersuchungen Zum Antiken Opferstock." *Jahrbuch des Deutschen Archäologischen Instituts* 106: 63-181.
- Konuk, Koray. 2012. "Asia Minor to the Ionian Revolt." In William E. Metcalf (ed.), *The Oxford Handbook of Greek and Roman Coinage*. Oxford: Oxford University Press, 43-60.
- Krmnicek, Stefan. 2010. *Münze und Geld im Frühhömischen Ostalpenraum. Studien zum Münzumschlag und zur Funktion von Münzgeld anhand der Funde und Befunde vom Magdalensberg*. Klagenfurt: Verlag des Landesmuseums Kärnten.
- Lanciani, Rodolfo. 1892. "Gambling and Cheating in Ancient Rome." *The North American Review* 155 (428): 97-105.
- Lang, Mabel. 1976. *The Athenian Agora XXI. Graffiti and Dipinti*. Princeton: The American School of Classical Studies at Athens.
- Lavan, Luke. 2012. "The Agorai of Sagalassos in Late Antiquity: An Interpretive Study." In Luke Lavan and Michael Mulryan (ed.), *Field Methods and Post-Excavation Techniques in Late Antique Archaeology*. Leiden: Brill, 289-353.
- Lerouxel, François. 2015. "Bronze pesé, dette et travail contraint (*nexum*) dans la Rome archaïque (VI^e s.-IV^e s. a. C.)." In Julien Zurbach (ed.), *La main-d'oeuvre agricole en Méditerranée archaïque. Statuts et dynamiques économiques*. Bordeaux: Ausonius / École française d'Athènes, 109-52.

- Martin, Stéphane. 2015. *Du statère au sesterce. Monnaie et romanisation dans la Gaule du Nord et de l'Est (III^e s. a.C. - I^{er} s. p.C.)*. Bordeaux: Ausonius Éditions.
- Melville-Jones, John. 1993. *Testimonia numaria. Greek and Latin texts concerning ancient Greek coinage. Volume I, Texts and translations*. London: Spink.
- Melville-Jones, John. 2007. *Testimonia numaria. Greek and Latin texts concerning ancient Greek coinage. Volume II, Addenda and commentary*. London: Spink.
- Menu, Bernadette. 2001. "La monnaie des Égyptiens de l'époque pharaonique (de l'Ancien Empire à la I^{ère} domination perse)." In Alain Testart (ed.), *Aux origines de la monnaie*. Paris: Errance, 73-108.
- Mermet, Christian. 1993. "Le sanctuaire gallo-romain de Châteauneuf (Savoie)." *Gallia* 50: 95-138.
- Michailidou, Anna. 2010. "Measuring by weight in the Late Bronze Age Aegean: The people behind the measuring tools." In Iain Morley and Colin Renfrew (eds.), *The Archaeology of Measurement. Comprehending Heaven, Earth and Time in Ancient Societies*. Cambridge: Cambridge University Press, 71-87.
- Millar, Fergus. 1981. "The World of The Golden Ass." *The Journal of Roman Studies* 71: 63-75.
- Morrisson, Cécile. 1993. "Les usages monétaires du plus vil des métaux : le plomb." *Rivista Italiana di Numismatica* 95: 79-101.
- Nouvel, Pierre. 2013. "L'utilisation de la monnaie dans les sanctuaires gallo-romains." In Thierry Luginbühl, Cédric Cramatte and Jana Hoznour (eds.), *Le sanctuaire gallo-romain du Chasseron. Découvertes anciennes et fouilles récentes*. Lausanne: Cahiers d'archéologie romande, 362-84.
- Nouvel, Pierre and Matthieu Thivet. 2011. "L'évolution architecturale du sanctuaire du Champ des Fougères à Mandeure." In Michel Reddé, Philippe Barral, François Favory, Jean-Paul Guillaumet, Martine Joly, Jean-Yves Marc, Pierre Nouvel, Laure Nunninger and Christophe Petit (eds.), *Aspects de la romanisation dans l'est de la Gaule*. Glux-en-Glenne: Bibracte, 560-7.
- Painter, Kenneth. 2001. *The Insula of the Menander at Pompeii. Volume IV: The Silver Treasure*. Oxford: Clarendon Press.
- Pare, Christopher. 2013. "Weighing, commodification and money." In Harry Fokkens and Anthony F. Harding (eds.), *The Oxford Handbook of the European Bronze Age*. Oxford: Oxford University Press.
- Peake, Rebecca and Valérie Delattre. 2004. "L'apport des analyses 14C à l'étude de la nécropole de l'âge du Bronze de 'La Croix de la Mission' à Marolles-sur-Seine." *Revue archéologique du Centre de la France* 44: 5-25.
- Perassi, Claudia. 2011. "Monete amuleo e monete talismano. Fonti scritte, indizi, realia per l'età romana." *Quaderni Ticinesi. Numismatica e Antichità Classiche* 40: 223-74.
- Perec, Georges. 1973. "Approches de quoi ?" *Cause commune* 5: 3-4.
- Peter, Markus. 1990. *Eine Werkstatt zur Herstellung von subaeraten Denaren in Augusta Raurica*. Berlin: Mann Verlag.
- Peter, Markus. 2011. "Von Betrug bis Ersatzkleingeld - Falschmünzerei in römischer Zeit." In Marcus Reuter and Romina Schiavone (ed.), *Gefährliches Pflaster. Kriminalität im Römischen Reich*. Mainz: Philipp von Zabern, 106-19.

- Pilon, Fabien. 2004. "Unofficial Cast Coinage in 3rd c. Gaul: The Evidence from Châteaubleau." *Journal of Roman Archaeology* 17: 385-396.
- Pilon, Fabien. 2005. "Four Coin Production Techniques Used in the Three Officinae of Châteaubleau (ca 260-280 AD)." In Carmen Alfaro, Carmen Marcos and Paloma Otero (eds.), *XIII Congreso Internacional de Numismática, Madrid, 2003. Actas, Proceedings, Actes*. Madrid: Ministerio de Cultura, 793-801.
- Powell, Marvin A. 1996. "Money in Mesopotamia." *Journal of the Economic and Social History of the Orient* 39 (3): 224-42.
- Putzeys, Toon. 2007. "Contextual Analysis at Sagalassos. Developing a Methodology for Classical Archaeology." Ph.D. thesis, Katholieke Universiteit Leuven, Leuven.
- Rahmstorf, Lorenz. 2016. "From 'Value Ascription' to Coinage: A Sketch of Monetary Developments in Western Eurasia from the Stone to the Iron Age." In Colin Haselgrove and Stefan Krmnicek (eds.), *The Archaeology of Money. Proceedings of the Workshop 'Archaeology of Money', University of Tübingen, October 2013*. Leicester Archaeology Monograph 24. Leicester: School of Archaeology and Ancient History, 19-41.
- Ramos dos Santos, António. 2008. "What Pays What? Cashless Payment in Ancient Mesopotamia (626-331 BC)." In Sushil Chaudhuri and Markus A. Denzel (eds.), *Cashless Payments and Transactions from the Antiquity to 1914*. Stuttgart: Franz Steiner Verlag.
- Reece, Richard. 2003. *Roman Coins and Archaeology. Collected Papers*. Wetteren: Moneta.
- Rémy, Bernard. 1999. "Religion populaire et culte impérial dans le sanctuaire indigène de Châteauneuf (Savoie)." *Revue Archéologique de Narbonnaise* 32: 31-38.
- Richter, Gisela M. A. 1959. "Calenian Pottery and Classical Greek Metalware." *American Journal of Archaeology* 63 (3): 241-49.
- Roth, Martha Tobi. 1997. *Law collections from Mesopotamia and Asia Minor*. Second edition. Atlanta: Society of Biblical Literature.
- Scheidel, Walter. 2014. "Benford's Law and Numerical Stylization of Monetary Valuations in Ancient Literature." SSRN Scholarly Paper ID 2541608. Rochester, NY: Social Science Research Network. Available online: <http://papers.ssrn.com/abstract=2541608> (accessed May 1, 2016).
- Starr, Chester R. 1976. "A Sixth-Century Athenian Tetradrachm Used to Seal a Clay Tablet from Persepolis." *The Numismatic Chronicle* 136: 219-22.
- Stevens, Susan T. 1991. "Charon's Obol and Other Coins in Ancient Funerary Practice." *Phoenix* 45 (3): 215-29.
- Stolper, Matthew W. 1985. *Entrepreneurs and Empire. The Murašû Archive, the Murašû Firm, and Persian Rule in Babylonia*. Istanbul: Nederlands historisch-archaeologisch instituut.
- Straumann, Sven. 2011. *Die Nordwestecke der Insula 50 von Augusta Raurica. Die Entwicklung eines multifunktional genutzten Handwerkerquartiers*. Augst: Augusta Raurica.
- Stroobants, Fran and Jeroen Poblome. 2015. "Buying and Selling in Late Roman Pisidia: A Hypothetical Framework of Coin Use in Sagalassos and its Countryside." *Revue Belge de Numismatique et de Sigillographie* 161: 73-104.

- Szaivert, Wolfgang and Reinhard Wolters. 2005. *Löhne, Preise, Werte. Quellen zur römischen Geldwirtschaft*. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Taborelli, Luigi. 1982. "Vasi di vetro con bollo monetale (note sulla produzione, la tassazione e il commercio degli unguenti aromatici nella prima età imperiale)." *Opus* 1: 315-40.
- Taborelli, Luigi. 1992. "Vasi di vetro con bollo monetale. Addenda I." *Opus* 11: 93-104.
- Toledo i Mur, Assumpció and Michel Pernot (eds.). 2008. "Un atelier monétaire gaulois près de Poitiers, Les Rocheraux à Migné-Auxances (Vienne)." *Gallia* 65: 231-72.
- Traimond, Bernard. 1994. "La fausse monnaie au village. Les Landes aux XVIII^e et XIX^e siècles." *Terrain* 23: 27-44.
- Van Hoof, Catherine. 1991. "Un aspect du rituel funéraire dans les tombes franques et mérovingiennes en Belgique : la présence des monnaies." *Analecta Archaeologica Lovaniensa* 30: 95-115.
- Vermeule, Cornelius C. 1975. "Numismatics in Antiquity. The Preservation and Display of Coins in Ancient Greece and Rome." *Schweizerische Numismatische Rundschau* 54: 5-31.
- von Reden, Sitta. 2010. *Money in Classical Antiquity*. Cambridge: Cambridge University Press.
- Wigg-Wolf, David. 2005. "Coins and ritual in late Iron Age and early Roman sanctuaries in the territory of the Treveri." In Colin Haselgrove and David Wigg-Wolf (eds.), *Iron Age Coinage and Ritual Practices* Mainz: Philip von Zabern.
- Yavetz, Zvi. 1970. "Fluctuations monétaires et condition de la plèbe à la fin de la République." In Claude Nicolet (ed.), *Recherches sur les structures sociales dans l'Antiquité classique*. Paris: Éditions du Centre National de la Recherche Scientifique, 133-57.

Online resources

- Corpus Inscriptionum Latinarum*. Available online: <http://arachne.uni-koeln.de/drupal/node/291> (accessed March 30, 2016).
- Guide de l'épigraphiste*. Supplements available online: <http://129.199.13.51/ressources/publications-aux-p-e-n-s/guide-de-l-epigraphiste/article/overview> (accessed April 30, 2016).
- Numismatic Literature*. Some volumes available online: <http://numismatics.org/Numlit/Numlit> (accessed April 14, 2016).
- Vindolanda Tablets Online*. Available online: <http://vindolanda.csad.ox.ac.uk/> (accessed March 23, 2016).
- Vindolanda Tablets Online II*. Available online: <http://vto2.classics.ox.ac.uk> (accessed March 23, 2016).
- Prices and Other Monetary Valuations in Roman History: Ancient Literary Evidence*, database compiled by Walter Scheidel. Available online: <http://web.stanford.edu/~scheidel/NumIntro.htm> (accessed March 30, 2016).
- Surveys of Numismatic Research*. The Survey for 2002-2007 is available online: <http://inc-cin.org/survey.html> (accessed April 14, 2016).