

(extant from garrison settlements), as soon as they throw light on provincial economies. (2) There is a similar archaeological presence of Greco-Roman coins in places of Greco-Roman settlement. It would be surprising if monetization cannot be inferred from individual coin finds or texts, but it can be assumed that Greek and Roman influence went along with some use of coined money. (3) Money use went beyond the use of coins. Comments like that of Gaius quoted in the first chapter (p. 26) demonstrate a highly variable supply of coins against a background of widespread monetization. There was an increasing demand for money that was not always met by an adequate supply of coinage. This led to a thriving culture of credit, and any increase in the supply of coinage had a high chance of being absorbed into economies insufficiently supplied with it. From the late second to the third century AD the increasing demand for coinage by the Roman government led to increasing amounts of coin use in local economies and eventually to massive problems of regulating the monetary system. But it is unlikely that any increased quantity of coinage in circulation led directly to price inflation. (4) There was a considerable degree of interaction between the use of Greek and Roman coinage on the one hand and native money on the other in the areas of Greek and Roman conquest. Hybrid monetary cultures in which coins functioned in connection with other means of payment, such as grain, bullion or tools, are most likely to be expected in places of cultural interaction as a result of conquest. (5) Despite the rapid expansion of Greco-Roman coin use alongside conquest and trade, monetary cycles in which coinage circulated could remain tiny and monetization limited to a few transactions. Public payments on the one hand and fiscal demand on the other stimulated the circulation of coinage. But it cannot be taken for granted that this led automatically to coin use in a wider range of transactions. Depending on the size and frequency of the payments demanded in the form of coinage, it may have caused just a bilateral movement of coins to and from the local administration.

Some of these observations will be substantiated further in chapter 4. In the following chapter, we will look at the expansion of monetary networks, as these provided a further condition for monetization and coinage becoming an increasingly powerful medium of exchange.

CHAPTER 3

Monetary networks

INTRODUCTION

According to Moses Finley, the great number of weight standards and individual coin designs used throughout the Mediterranean impeded proper circulation of money, and in particular coinage. The fact that states showed little interest in removing these boundaries demonstrated that local rather than broader economic principles guided their monetary policies. What is more, the economic impact of coined money remained limited because of the political boundaries created by local weight standards and coin designs.¹

We know, however, that many cities adopted common weights and measures, or made their coinages more easily exchangeable by using the same weight standard for their principle coin. Every precious metal monetary system is based on a principal unit of weight (normally slightly lighter than the unit of metal weight itself). There is also a standard coin (stater) which represents a specific number of these units. In Greek *poleis*, for example, the stater could represent two, three or four drachmas of a different size.² It is highly significant, therefore, that the Athenians in the sixth century seem to have changed their metal-weight system from the Aeginetan standard to one that scholars identify with the island of Euboia (Arist. *Ath. Pol.* 10.3). The change was not related to coinage, for coins were not minted in Athens at the time of Solon to whom the change was attributed in the fourth century BC. It did, however, affect the monetary units on the basis of which monetary exchange was conducted. It seems that it was deemed important to facilitate transactions among people who used the Euboian rather than the Aeginetan monetary weight system and thus avoid negotiation and conversion charges. In this chapter I wish to explore weight standards as a reflection of monetary networks developing within the tension of local

¹ Finley (1985): 166 f.

² Thus the numismatic terms 'didrachm' (two-drachm-piece), or 'tetradrachm' (four-drachm-piece) which are not used in ancient texts.

and inter-regional systems of exchange and identity.³ In their capacity to reduce the costs of transactions, monetary networks represent the attempt to enhance monetary integration and circulation, which in turn increases the power of money.⁴

Monetary networks are the result of a complex interplay of political, ideological and economic factors. National or 'territorial' currencies that are valid almost exclusively in their country of issue belong to the history of the European nation state that peaked in the last two centuries.⁵ Many countries nowadays share a common currency or use a combination of local and international currencies to satisfy their various monetary needs. The spread of the dollar, euro and yen is an expression of the globalization of the international financial economy, the internationalization of politics, and the dissolution of national identities and boundaries. Ancient currencies, too, were embedded in particular political and economic systems which in turn they symbolized. Plato suggested for moral reasons that a state should have a local ('epichoric') coinage alongside a general 'Hellenic' one that was valid outside the *polis* (*Laws* 5. 742a–b). This imaginary coin system aimed at preventing the influx of luxury goods through trade and controlling the relationships which the members of an ideal city entertained.

In practice, the boundaries of monetary relationships ran somewhere differently. The transition from bullion money to stamped coinage in the archaic period can be regarded as reflecting a changing balance between civic relationships and the contacts which individuals entertained across *polis* boundaries.⁶ Similarly, the continuing tension between local coinages, on the one hand, and the attempt to lock these coinages into larger networks of common weight standards, on the other, reflects the particular kind of 'connectivity' which marks ancient Mediterranean history. As Horden and Purcell have argued, the Mediterranean was characterized by 'dense fragmentation complemented by a striving towards control of communications'. Connectivity refers to the 'various ways in which micro-regions cohered, both internally and also one with another', while 'micro-regions ranged in size from small clusters to something approaching the entire Mediterranean'.⁷ In the classical Greek period most of the approximately one thousand known *poleis* were

³ The weight standards of coinages are discussed in any general numismatic introductions; e.g. Kraay (1976) for the Greek world; Crawford (1985) for the Roman world. But the monetary implications of weight standards have rarely been explored; see however Schmitz (1986); and Meadows (unpublished).

⁴ B. Cohen (2004): 46 f., for the effects of non-territorial monies on the reduction of transaction costs.

⁵ *Ibid.*: 7–14. ⁶ Thus Kurke (1995); cf. (1999).

⁷ Horden and Purcell (2000): 25 and 123; see also Erdkamp (2005).

small, politically autonomous units controlling territories not larger than 100 square kilometres; a handful only were as large as Athens, Sparta, Syracuse or Miletus. Even the wealthy *polis* of Corinth occupied an area of 90 km² only. Yet common language, religion and culture created a network of competitive relationships and exchange. This pattern, crossed by the attempt of some *poleis* to dominate politics and exchange, is the background of the local production of coinages on the one hand and their competitive inter-regional spread on the other.

What were the motivations for creating monetary networks of common weight standards? In principle, different weight standards did not prevent monetary communication across political boundaries. Herodotus translates the Babylonian weight system into the Euboian for his Athenian listeners (Hdt. 3. 89). Xenophon tells us that a Lydian *kāpithe* cost four Lydian *sigloi*, while one *siglos* was equal to 7½ Attic obols and a *kāpithe* equal to two Attic *choinices* (*Anab.* I. 5. 6.). In the Greek cities of Sicily there was even a regular conversion rate of 1:1 between the standard bronze unit (the *litra*) and the silver obol of the Aiginetan standard.⁸ An inscription listing the costs of the building of the temple of Asclepius at Epidauros in the fourth century BC shows how a city using the Aiginetan standard accounted for wages and purchases from Athens where a different standard was in use. The relationship of weight between the coins was seven to ten, and so 400 Aiginetan drachmas were paid for Athenian marble costing 600 Attic drachmas. A commission charge (*epikatallage*) of a further 25 drachmas was charged by the moneychangers in addition.⁹ The Romans, too, exchanged denarii into Greek-standard silver coins at fixed conversion rates (see below). Traders were well-known for their skills in reckoning with different currencies (e.g. Athen. 6.225a–b). They also assembled caches, using each currency where it was most acceptable (Lys. 12.11). Many hoards representing the savings of individuals or households contain a variety of current coinages, suggesting that the use of particular currencies was not confined to the town or country of their origin.¹⁰ But different weight standards of local monetary systems added costs in terms of negotiation and uncertainty. Common weight standards facilitate trade.¹¹

⁸ Carradice and Price (1988): 92.

⁹ IG IV² I 103 A and B, 35 f; 41 f. and 126 with Burford (1969): 126 and Carradice and Price (1988): 91–7, who also argue that the profit derived from currency exchange was the major incentive to maintain local currency systems; Maresch (1996) for commission charges in Ptolemaic Egypt where they were called *alage*.

¹⁰ For example, IGCH 1637 (Demanhur, Egypt, c. 500 BC; IGCH 1639 (Sakha, Egypt c. 500 BC)); IGCH 1166 (Bairakli, Turkey, c. 500 BC).

¹¹ E.g. Wallace (1984).

Inter-*polis* relationships, however, in combination with the interests of political elites, are more likely than the interest of traders to have affected the decision of Greek governments. Greek settlers abroad, for example, made their currencies compatible among each other and with those of their mother cities. Examples are the cities of the Chalkidike founded by Chalkis on Euboea, and several Euboian settlements in Sicily.¹² Military leagues, short-term alliances, and imperial taxation provided further reasons for the adoption or imposition of common weight standards (see below).¹³ Some temporary allies, such as towns in Asia Minor and the Propontis, periodically adopted common weight standards. The need to choose a standard in which payments to heterogeneous troops or subsidy payments to states were made is known from several examples in Thucydides (e.g. 5.47; 8.29; 8.45.2). In Euboea coin series are known which were not minted on the Euboian but the Aiginetan standard and are likely to be related to a time when Euboea changed temporarily its political and military affiliations.¹⁴ Part of more long-term interaction, including economic links, was the reversion of many Cycladic islands from the Attic to the Aiginetan standard after the dissolution of the first Athenian confederacy (see below). Members of the political elite and kings moreover frequently had financial stakes in trade. Olives, wine and grain were in regions of high productivity cash crops produced on large estates owned by leading citizens.¹⁵ In the Eastern empires kings were either directly involved in export, or their treasuries profited from harbour taxes and tolls. The kings of the Bosporan kingdom, the pharaohs of Egypt and their Greco-Macedonian successors are all well-known for their control over grain-resources supplying Mediterranean cities in the classical and Hellenistic period.¹⁶ In the case of archaic Athens, it is thus not unlikely that the switch of weight standard in the sixth century BC was in the interest of a land-owning elite who sold their surplus within an exchange network dominated by the Euboian rather than Aiginetan weight system.

An important motivation for keeping standards apart was competition. Although all precious metal coinages represented the same degree of bullion value, some coinages became superior to others.¹⁷ Xenophon, emphasizing the benefits of Athenian coinage, writes:

¹² Kraay (1976): 206.

¹³ There is some controversy over the question of why empires brought with them certain consolidation of the coin systems in their realm. See further below in this chapter. Howgego (1995): 9–61; Figueira (1998); and Kallet-Marx (2001): 213–25.

¹⁴ Schmitz (1986): 82 f. ¹⁵ Hollander (1999). ¹⁶ Garnsey (1988): 151–4.

¹⁷ For the general principle of currency hierarchies, B. Cohen (2004): 1.

At most other ports merchants are compelled to ship a return cargo, because the home currency has no circulation in other states, but at Athens they have the opportunity of exchanging their cargo and exporting very many kinds of goods that are in demand. Or, if they do not want to ship a return cargo of goods it is good business to export money. For wherever they sell it, they are sure to make a profit on the sum paid (*Por.* III, 2).

Xenophon wrote at a time (c. 350 BC) when Athenian coinage dominated the Mediterranean despite the decline of Athenian political power. It was a superior currency because of its acceptability and trust in the wake of the former power of Athens. The competition of currencies and weight standards began in the early history of Greek coinages. The Aeginetan weight standard spread rapidly across the southern Aegean, Boiotia and Thessaly soon after Aigina had adopted coinage. At the beginning of the fifth century local coin production peaked but monetary units were clustered into a handful of weight standards.¹⁸ The Athenian/Euboian weight standard and the coinage based on it began to dominate the Aegean from the mid-fifth century onwards, eventually leading to an Athenian imperial decree stipulating that only Athenian coins, weights and measures should be legal tender in the markets of the allies. In the fourth century many issuing authorities, including Egypt, imitated Athenian coins so as to have available the most acceptable coinage. Fifty years later, the posthumous Alexander coinage produced in most areas of the Hellenistic kingdoms (yet still based on the Athenian standard) for the first time transcended the identification of a coinage with a particular state, and dominated inter-regional exchange in the Hellenistic world. A fully unified imperial monetary system, though still supplemented by subordinate local currencies, developed under the Roman empire even after 296. In AD 296 the Egyptian drachma-system, which had been the last bastion of a purely local currency under Roman rule, was abolished, and the Roman denarius became the only inter-regional currency throughout the Roman empire. While monetary networks facilitated transactions in a political economy of taxation and public finance, they also affected trade. More difficult to answer is the question of how we can measure this effect.

LOCAL COINAGES AND INTER-REGIONAL EXCHANGE

The first coins attested in Asia Minor were based on some highly localized weight system. They were made of electrum, an alloy of silver and gold

¹⁸ Osborne (1996): 253–5; Parise (1997); Kim (2001b): 17 f.

that occurs naturally in the area of Mount Tmolos and could be panned out of the river Paktolos in Lydia. The use of a local metal and the localized weight system explains both why coins were invented in the first instance and why they remained at first such a local phenomenon. Electrum has variable proportions of silver and gold. In order to make pieces of the same size and weight equal in value, the ratio of silver and gold has to be tested and certified. Since this made the certification stamp an indispensable part of their value, these coins did not travel well across the boundaries of the cities in which they were issued. A fourth-century compact shows that extensive regulation was necessary when two states wished to make their electrum coinages interchangeable (*GHI* 2.112.14–16).

The spread of coinage began with the emergence of gold and silver coins under the Lydian king Croesus, or a little later when Lydia was incorporated into the Persian empire (c. 545 BC).¹⁹ The new coinages were produced in Sardis, but the variety of designs suggests that their production was influenced by many cities in Asia Minor. But despite their association with individual cities, coins were interchangeable because they were minted to a common weight standard which modern scholars relate to the Greek city of Miletus. Once electrum was replaced by gold and silver, and once coins were used in Greek cities, the idea of coinage rapidly spread to mainland Greece. Aigina was the first city which minted silver coinage almost at the same time as the first coins were minted in silver and gold in Asia Minor. The Aiginetan didrachma (2-drachma piece) of 12.1 g, however, was hardly compatible with either the Milesian weight standard or the Persian daric that replaced the coinage of Croesus at the end of the sixth century.²⁰ It was also different from that of the island of Samos which began to mint coinage at around the same time. It was the idea of coinage, rather than the Lydian coin system itself, that travelled to Greece where coins were used for local or regional purposes. The Aiginetan standard was adopted by most cities in the Peloponnese, of the Southern Aegean (with the notable exceptions of Delos and Melos), and for the federal coinages of Phocis, Thessaly and Boiotia in Central Greece, when they began to mint coinages in the second half of the sixth century BC.

Soon after Aigina, Athens began to mint coinage on yet another weight standard. The Athenian stater (at first a didrachma as in Aigina) had the same weight as the stater of Euboia, Samos, and Corinth, although in these weight systems the coin represented three drachmas. A generation later, the Athenians doubled the weight of the stater to a tetradrachm piece, as

¹⁹ Carradice (1987). ²⁰ *Ibid.*

well as creating a new design for their coinage. Tetradrachms of this weight and value had already been minted by Chalkis before the reformation of the Athenian currency and may represent an attempt of the Athenians to assimilate their system to that of Chalkis and its foreign settlements.

In Magna Graecia either common weight systems or exchangeable coins were adopted for local transactions. In Southern Italy, where minting was begun in Sybaris and Metapontum by the middle of the sixth century, the local weight of 8 g per libra was used for the stater here called *nomos* (Lat. *nummus*). It was divided into thirds, in turn divided into sixths. Although the subdivisions of the Greek drachma are recognizable, the preference for a local weight system, combined with a peculiar mint technology and very little intrusion of foreign coinages, represents an insulated monetary network, rather than extensive monetary connections with mainland Greece. This contrasts with the Greek colonies in Sicily which generally adopted the weight system of their mother cities.²¹

In Macedonia minting began in the last quarter of the sixth century with a complex mix of different standards in the Chalkidike, the tribes and cities of Macedonia, and various areas in Thrace. In the Chalkidike the largest denomination was compatible with the stater in the Attic-Euboian system and was divided at first into half-pieces and then into thirds, sixths and twelfths. In the tribes and cities of Macedonia, by contrast, alongside some smaller fractions unusually large pieces were produced. Specimens are found more frequently in the Persian empire than in their area of origin itself which suggests that they were struck for a special range of external transactions.²²

By 480 BC over 115 different mints, some of them closing after a short period of activity, can be identified.²³ The speed with which the idea of coinage spread in Greece on the one hand, but the fact that many large economies in the Mediterranean, most notably the Phoenician cities and Egypt, did not adopt coinage at all until the fourth century BC, on the other, shows that coined money was related to particular exchange networks. Despite the potential exchangeability of many coinages, and despite the domination of certain weight standards in some regions, the circulation pattern of individual coinages was normally a local one.²⁴

Yet the relatively wide dissemination of the Aiginetan weight standard was an exception and gives Aigina a pioneering role in the growth of monetary networks in mainland Greece. Not only do archaic and classical

²¹ Crawford (1985): 344 f. ²² Kraay (1976): 139. ²³ Osborne (1996): 251–5.

²⁴ Figueira (1998): 31–46; Kim (2001a): 47 f.

hoards show that coins of the Aiginetan standard tended to be stored together, but also that Aiginetan coins travelled earlier and further beyond the Aegean than others.²⁵ The prominence of the Aiginetan weight standard is usually attributed to Aigina's dominant role in trade during the late archaic period. According to the logic of the argument suggested here, however, the Aiginetan standard created a degree of monetary consolidation which in turn increased its role in trade. The effect of Aiginetan currency domination is as important as the fact that hostile states, most notably Corinth, Athens and some large cities of western Asia Minor, chose not to participate in this network.

ATHENS

Monetary networks were created regionally as a result of political alliances and the hegemony of one state. At the same time, the mostly political origin of currency networks is likely to have become an economic dynamic as soon as certain currencies became more acceptable to users than others. As we suggested above, the connectivity of the Mediterranean was based on bonds and communications between places that were separated by exclusive citizen rights and local economies, but united by language and culture. Social mobility, religious interaction, aristocratic friendship and the advantages of Mediterranean shipping routes were reasons for relationships with a monetary dimension as much as were warfare, tribute payments, and trade. It would be misleading to approach monetary consolidation in exclusively economic or exclusively political terms. Not only did fiscal pressure lead to an increasing demand for the currency in which taxes and tributes were paid, but markets in turn were dependent on the conditions created by inter-state relationships and their influence on monetary production.²⁶

The dominance of the Aiginetan weight standard was outgrown by a much more powerful monetary network following the Delian League founded by the Athenians in 478/7 BC. The degree of consolidation that came along with the military alliance of the Athenians is reflected in the composition of hoards from the first quarter of the fifth century onwards and confirmed by the Athenian Tribute-Quota Lists that survive for several years from 454 BC until 430/29 BC. The lists recorded the sixtieth part of each contributor's payment that was reserved for Athena in Athens, and

²⁵ Figueira (1998): 37 f.

²⁶ Morley (2007): 64–70; Hopkins (1980) for the connection between tribute payments and the need for coined money.



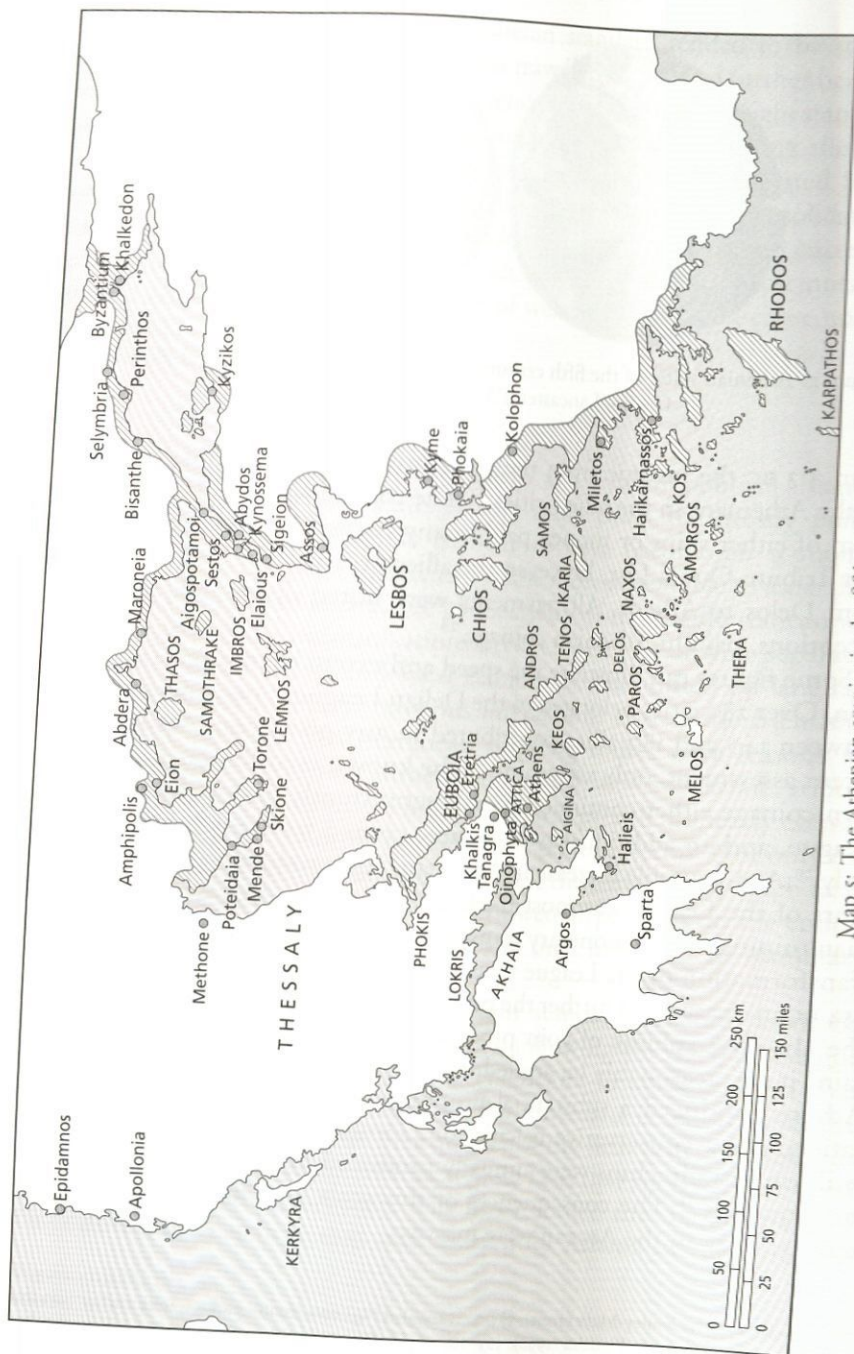
Figure 2: Athenian stater of the fifth century BC. By permission of Classical Numismatic Group, Lancaster, PA [www.cngcoins.com].

from 413 BC the income from the 5-per-cent harbour tax that was raised by the Athenians in the allied cities.²⁷ The tribute was levied at first in the form of either ships or money paid in any currencies. By the time of the first Tribute-Quota List, however, the allied treasury had been transferred from Delos to Athens. All payments were noted down and, with a few exceptions, paid in Athenian coinage.²⁸

Some figures can illustrate the speed and extent of monetary consolidation. Over 280 cities belonged to the Delian League at one time or another; between 140 and 180 allies contributed in any given year. According to a recent assessment, only sixty-nine of the known contributors minted their own coinage either continuously or intermittently during the time of the League, and an additional twenty-three coined fractions below the stater only.²⁹ A measurable increase in Athenian coin production during the early years of the League was most likely related to the increase both in Athenian mining and in monetary transactions consolidating the empire.³⁰ The transformation of the League treasury into a fund of Athenian coinage by 454 BC increased still further the production of Athenian coinage. Although the absolute volume of coin production is notoriously difficult to ascertain, it can reasonably be argued that from the mid-fifth century onwards Athens produced a substantial proportion of the total coinage in circulation. By a conservative calculation, somewhere between one and nine million tetradrachms were annually produced in Athens from around 450 BC onwards.³¹ The consequences of this scale of coin production for the coin supply in the Aegean were massive.

²⁷ Most recently, Kallet-Marx (2001): 195–222; see also Figueira (1998): 266–95, with earlier literature.

²⁸ Eddy (1973). ²⁹ Figueira (1998): 563–76. ³⁰ Rutter (1981). ³¹ Meadows (unpublished).



Map 5: The Athenian empire in the fifth century BC

Fifty per cent of the minting members of the alliance ceased minting between 478 and 445 BC. A further 10 per cent can be added if cities are included which had minted denominations smaller than the drachma.³² By 445 BC the proportion of minting states among the allies had dropped from about 35 to 20 per cent. Among those which maintained minting were Aigina until its destruction in 430 and the autonomous members of the Athenian alliance, Chios and Samos, which did not pay money tribute to Athens at all.

Monetary consolidation becomes even more apparent if the closure of mints is related to the weight standards. No allied city which had used the Aiginetan standard produced denominations larger than the drachma by the time of the Peloponnesian War. Only one city that had previously minted on the Attic standard continued to mint after that time. Those allies which continued to mint after 445 BC were tied into other weight systems, such as the Phocaeian or the Persian which dominated the Northern coast of Asia Minor. Apparently, states that in the pre-League period had belonged to a regional monetary network not linked to Greece and the Western Aegean were more likely to maintain their insulated position than those participating in the major Greek exchange networks. This meant that many of the highly monetized Aegean islands minting on the Aiginetan standard discontinued their coinages in the earliest years of the League, while the member states in Ionia and the Hellespont which minted on the Persian and Eastern Greek standards, or in electrum, rarely gave up minting their own coins.

The dominance of Athenian currency in mainland Greece and the Aegean islands had effects on the desirability of Athenian coinage beyond the members of the Athenian military alliance. Imitations of Athenian tetradrachms were minted from the beginning of the fifth century onwards, increased in the middle of the century and are particularly common in hoards from Syria and Egypt.³³ Since the latter did not use coins for their internal transactions, it is likely that they were minted because of their attractiveness to Greek mercenaries. It has been argued that Athenian imitations were produced in greater quantities after 413 when the supply of genuine Athenian coins fell short of the demand for this coinage.³⁴ Particularly noteworthy is a special issue attributed to a Persian king or satrap in the late fifth century BC. The three letters AΘΕ ('[coin] of the Athenians')

³² Figueira (1998): 58 f., 62 f., 576. The chronology of coinages, and thus any attempt to date their termination precisely, is open to discussion. It is therefore better to argue with the help of a general picture rather than on the basis of precise figures and dates.

³³ Robinson (1947); Buttrey (1982); van Alfen (2002). ³⁴ Kraay (1976): 73; Figueira (1998): 530.

of the Athenian tetradrachms were replaced by the letters ΒΑΣ ('of the king'), notably in Greek letters. The obverse of the coinage bore a bearded portrait of a Persian noble instead of Athena. It has been suggested that the coinage was issued by the Persian satrap Tissaphernes subsidizing a Spartan fleet against Athens.³⁵ If this is the case, it appears that the acceptability of Athenian coinage by the end of the fifth century had moved beyond the boundaries of its own monetary network.

Some time during the height of Athenian currency domination the Athenians legislated about the use of Athenian silver coinage, weights and measures.³⁶ According to the so-called Athenian Standards Decree (*ATL* II, D 14), issued any time between 445 and 413 BC, all members of the Athenian alliance, apart from those using electrum coinage, were forbidden to produce their own silver coinages but had to use Athenian coinage instead. They were to bring their old coinage to the mint of Athens and have it re-minted for a fee. Heralds were sent to the cities where the decree was to be published in the market place and members of the Athenian Council had to swear that they would enforce the decree. It is the first time we hear of an ancient city attempting to establish its coinage as exclusive legal tender.³⁷ Unfortunately, we have no evidence that the Athenians were successful. Regardless of the date of the decree, which we do not know, there is no numismatic evidence for a sudden break of local coin production or of non-Athenian coins disappearing from hoards at any time in the fifth century. As we just saw, many independent mints either had ceased minting by 445 BC. The best explanation available is that, despite heavy penalties imposed on negligent magistrates, the law was unenforceable.

The motivation for the decree is as uncertain as its success. Arguably, the Athenians introduced it for their own convenience, since the administration of the empire, especially the maintenance of the fleet, involved many purchases and payments. There may have been special reason to unify the coinage when Athenians switched the obligation of tribute payment to raising a harbour tax in each allied harbour between 413–410 BC.³⁸ The

³⁵ Kraay (1976): 74, with Thuc. VIII, 29.

³⁶ Wartenberg (1995): 25–7; Howgego (1995): 44–6, for discussions and further literature; the term Standards Decree is preferable to the common title 'Coinage Decree', because it referred to Athenian weights and measures as well as to coinage.

³⁷ Another example is an inscription from Olbia in southern Russia, which decreed that within the city only the city's own silver and bronze coinage was allowed to be used. Sales and purchases in other coinages were restricted to take place 'at the stone in the Assembly building'. (*SIΓ* 218, mid-fourth century BC); cf. Carradice and Price (1988): 96 f.; Figueira (1998): 57.

³⁸ Thus Kallet-Marx (2001): 195–226.



Figure 3: Imitation of an Athenian tetradrachm of the fourth/third century BC issued in Arabia

Athenians may also have hoped to gain silver, and make money from the fee charged for re-minting foreign coins into their own species. Many scholars have emphasized the hegemonic aspect of the decree.³⁹ Such a policy would have fitted the early 440s, when Athens was popular and successful, or the 420s when its assembly was dominated by imperialist politicians such as Cleon. The attempt to make a profit from the fee, or to consolidate the coinage for administrative purposes, would have been more typical for the last ten years of the empire.

Scholars who emphasize that the Standards Decree curbed monetary sovereignty among the allies against their will argue that local mint production re-emerged soon after the loss of the empire.⁴⁰ But there is equally compelling evidence that, despite the revival of some mints in the Cyclades, Athenian currency continued to dominate the Aegean after the Peloponnesian War. In the passage quoted above, Xenophon stressed the exceptional desirability of Athenian coinage in the mid-fourth century (*Por.* III.2; see above). Athenian coins dominate fourth-century coin hoards by a notable margin.⁴¹ The production of valid imitations peaked in the first quarter of the fourth century with more, and more remote, issuers producing staters in Athenian style.

Figureira (1998) has argued that already in the fifth century Athenian coinage was extremely popular so that the Standards Decree consolidated rather than enforced Athenian currency domination, greatly to the benefit of the allied cities themselves. By establishing Athenian coinage as legal tender in local markets, these markets became more attractive to traders and

³⁹ For a discussion of these views, Howgego (1995): 45 f.

⁴⁰ For example, Kraay (1976): 48; 73. ⁴¹ Ober (2008): chap. 6: 240.

thus more highly frequented. Although Figueira's textual reconstruction of the decree has been rejected, his emphasis on the currency dynamics in the fifth and fourth century adds an important aspect to the discussion.⁴² Whatever the motivations for the Standards Decree, and however successfully it was enforced, it would have confirmed rather than imposed Athenian currency domination.

In 375/4 BC the Athenians once again legislated about Athenian coinage. According to the law of Nicophon, the money testers sitting beside the bankers' tables in the agora and the Piraeus should test all coins brought forward to be deposited or exchanged. They should make the bankers accept any genuine Athenian coins; foreign silver coins with the Athenian stamp should be approved, but returned to their owners, while imitations with a base-metal core or counterfeit coins should be confiscated and destroyed.⁴³ Money testers (public slaves) are known to have tested Athenian coins as early as the mid-fifth century BC. Yet now there seems to have been a new need to distinguish clearly between genuine Athenian coins, imitations of pure silver, and counterfeit coins. Many scholars believe that the law was made to control exchange in the market; in fact it instructed bankers how to deal with a variety of different quality Athenian coins. It shows a collective concern for the trust to be put in coins that purported to be Athenian. Good imitations were permitted as legal tender. Although they were not exchanged by Athenian bankers into genuine Athenian coins, they were returned to their owners who could use them for transactions wherever they wanted. Athenian coinage had ceased to be a token of merely local identity and ownership. It had turned into a widespread economic medium that was controlled by the Athenian government in order to increase trust in it, which meant more security in the market and thus more efficient exchange. As Ober suggests, 'Athens was extremely productive in comparison with rival *poleis*. For much of the fifth century, Athenian productivity is at least in part a function of coercive imperialism and violent (or at least potentially violent) resource extraction. But in the early democracy that preceded the imperial period and in the post-imperial fourth century, Athens had no empire from which to extract major resources. During these pre- and post-imperial eras, high Athenian productivity depended primarily on domestic production and exchange.'

⁴² Figueira's re-reading of section xii of the decree prescribing that Athenian coins, weights and measures should be valid *alongside* local coinages, rather than exclusively (1998: 392–410), has been rejected for epigraphical reasons; see the review by H. Mattingly *AJA* 103 (1999): 712.

⁴³ *RO* 25 with ed. comment p. 118 and Stroud *Hesp.* 43 (1974): 158–88; see also Ober (2008): 220–39 for the impact of this law on the efficiency of the Athenian economy.

The law [of Nicophon] revealed much about the design of Athenian legal institutions, suggesting that the Athenians explicitly sought to facilitate market exchanges by using government institutions to lower transaction costs.⁴⁴

BEYOND ATHENS

The expansion and contraction of ancient currency networks cannot be adequately understood, if only the top currencies are taken into consideration. Beyond the Athenian currency network Taras dominated Southern Italy, as Syracuse dominated Sicilian weight standards in Greek, Phoenician and native towns. In the Achaemenid empire, there was no standardization of coinage, weights and measures, and so individual satrapies, dynasties and cities had the chance to integrate themselves in any monetary network most suitable for them. Among the cities that opened, or re-opened, local mints in the fourth century were the Aegean islands which adopted neither the Athenian nor their former Aeginetan standard, but a new one related to Chios or Rhodes. Chian-standard coins were prevalent along the coast of Asia Minor, and in the Black Sea and Hellespontine area where electrum coinage retained a dominant influence.⁴⁵

The somewhat curious spread of the Chian weight standard in some parts of the Aegean in the first half of the fourth century throws further light on the interplay of political and economic factors, and of weight-standard and coin design in the formation of monetary networks. Through the experience of the Athenian imperial coinage, the advantages of a united weight system, and coinage, must have become generally recognized. Chios had been a rich island from the archaic period onwards, drawing its wealth from the substantial wine production which was distributed all over Greece. It was highly monetized by the fifth century because of its production of one of the most important cash-crops.⁴⁶ As a non-tributary ally of Athens, Chios minted substantial local coinage. But only in the fourth century did the Chian weight-standard spread. This is an interesting development, since there is no evidence for a notable growth in the Chian economy, or change in its trading pattern. One advantage of the Chian coinage may have been that its weight was compatible with the Aeginetan standard, which continued to play some role in the Aegean during the fourth century. According to Thucydides, forty Chian tetradrachms were equal to one

⁴⁴ Ober (2008): 215 and 217 ff. ⁴⁵ Carradice and Price (1988): 92 f.; Kraay (1976): 249.

⁴⁶ Horden and Purcell (2000): 216, for the link between Chian wine production and monetization.

Aiginetan mina (Thuc.VIII 99). However, temporary political conditions triggered the particular attractiveness of the Chian standard.

Shortly after the Peloponnesian War some towns on the mainland and islands along the coast of the Eastern Mediterranean produced a common coinage marked with the letters ΣΥΝ ('[coin] of the *syn[machoi]* (allies)').⁴⁷ The obverse had a common design – Heracles strangling snakes and the letters ΣΥΝ – but on the reverse each city chose its own type. The coinage was probably the result of a brief alliance formed under the command of the Spartan admiral Lysander at the end of the Peloponnesian War. The weight of the stater was carefully chosen, for it was equal to three Chian drachmas as well as two Persian sigloi. Apparently the coinage was intended to be compatible in both adjacent systems. Yet it also reflects and affected the new importance of the Chian weight standard. Before the federal coinage, the Chian standard had been current only locally in Chios, Ephesus and Rhodes. Immediately after the minting of the alliance coinage, it was adopted by Cos, Caria, Smyrna, Colophon, Iasos and Idyma, Aenos and Thasos. By 375 Abydos, Miletus, Assos, Tenedos, Erythrai and the Persian satrapies joined in; twenty-five years later it had been adopted by the Achaemenid royal mint. Of the over 1,000 coins which have been found in hoards deposited in Halikarnassos c. 341/0 BC, all were struck on the Chian standard.

Apart from making the Chian standard more popular, the temporary alliance coinage marks a turning point in the way ancient cities resolved the tension between local and regional identities in terms of coinages. For the first time the alliance coinage was a locally produced coinage, allowing for some local identification with the stamp on the reverse, while transcending local meaning and function by a common type and by its deliberate compatibility with more than one weight standard. The alliance coinage, moreover, was among the first that were produced in combination with civic coinages in the same city; the cities that issued the federal coinage retained their home issues. These civic issues were not even linked to the federal coinage by a shared denominational structure, but circulated independently in what must have been a two-currency system in the cities in which they were produced. In the fifth century, some towns had produced small change while using a more powerful coinage as inter-regional currency. Now, however, even larger communities (such as Rhodes) combined their local with an inter-regional coinage. By the mid-fourth century BC

⁴⁷ Examples are known from Cyzicus, Ephesus, Samos, Cnidus and Rhodes; see Meadows (unpublished) also for the following; the material and examples can be found in *CH* 9 co-edited by the same author.

Philip II adopted Attic-standard coinage for external transactions, while local Macedonian mints continued to produce coinages on various local standards for internal purposes. Such bi-monetarism, which became the pattern in the Eastern Mediterranean from the fourth century onwards until well into the Roman period, reflects two important developments. Firstly, local monetary networks based on small civic coinages and weight standards continued to exist side by side with inter-regional networks connected through a top currency. Secondly, inter-regional transactions, whether commercial or political in nature, were increasingly conducted by means of such top currencies that were either related to the power of one state, or had some inter-regional political meaning. Examples of the former are the coinage of the Athenians and the denarius of the Romans; an example of the latter is the posthumous Alexander coinages that were minted in all Hellenistic kingdoms except Egypt after the death of Alexander.

CHANGING POLITICS AND CHANGING CURRENCIES

The fourth century saw the transformation of the Greek world from one dominated by independent *poleis* into a conglomeration of leagues and empires. Although civic identities were strongly defended and maintained, autonomy had become more precarious and beyond the control of civic governments. The decline in political autonomy of Greek *poleis* created favourable conditions for the circulation of money and the expansion of monetary networks. In addition, new cities and mints were founded by Alexander the Great, creating new places of production as well as use of the powerful Macedonian coinage. Still, the ease with which Alexander coinage by the end of the fourth century took over the role of an international currency needs explanation. The power of Macedonia is only one factor. Others were the wise decision of Philip II to adopt the Attic standard for his coinage, which made it compatible with the currency with which it competed most. Yet another factor was the great mobility of Greek troops, mercenaries and, eventually, civilians who created close-knit ethnic sub-groups in the countries of conquest. The Hellenistic period also witnessed new degrees of monetization as a result of new degrees of monetary taxation, urbanization, mercenary warfare and access to new precious-metal resources.⁴⁸ The amount of silver captured by Alexander from the Persian treasury between 333 and 330 BC is said to have been worth 180,000 talents

⁴⁸ Von Reden (2007b).