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WAR TOKENS FOR SILVER? QUANTIFYING THE EARLY BRONZE ISSUES OF IONIA

What follows is a first attempt to look into the quantities involved with the earliest bronze coins of western Asia Minor and their survival rate, which may throw light on the circumstances of their introduction in *c.* 400.¹ Bronze was first used as a metal for coinage in the Greek world sometime in the second half of the fifth century. Some of the earliest bronze coins were produced by casting by mints of Sicily and the Black Sea.² Mints of other regions were quick to adopt base metal and by the first quarter of the fourth century most active mints struck their own bronze coins.³ It is generally believed that it was a practical response to the increasing use of coinage in everyday transactions⁴. Tiny silver coins were being replaced by bigger coins made of bronze whose bullion value was a fraction to that of silver. But bronze coinage, on the other hand, did not enjoy the same level of confidence among users and was even regarded with suspicion when it was first introduced.⁵ During the first wave of bronze issues, however, not all ancient mints struck chunky bronze coins.⁶ In Asia Minor, for instance, some of the earliest bronze coins were almost as small as the silver fractions they were replacing as will be described below. The exact circumstances which led to the introduction of base metal coins remain obscure, but the little evidence we have suggests that it often coincided with times of crisis such as war or periods of economic instability.⁷ It is interesting to note that some of the earliest bronze issues were struck by Persian officials such

* I am grateful to Professor John H. Kroll for his useful suggestions.

¹ All ancient dates are BC.

² Price 1968, 94-98; see articles in Anon. 1979.

³ For the silver plated base metal coinage of Athens, see Kroll 1993, 32.

⁴ For a discussion of early Greek bronze coinages, see Price 1979 and Price 1968.

⁵ In mid-fifth century Athens, for instance, one Dionysios proposed a law to replace the impractical small fractions in silver by a coinage in bronze. The law failed to meet approval and Dionysios was nicknamed 'Chalkous' as the Athenians preferred to maintain the reputation of their fine silver coinage: Deipn. 15.669d. Towards the end of the third century, the citizens of Gortyn in Crete were apparently so reluctant to use the new bronze coins of their city that a law became necessary to force them to accept these bronzes as legal tender under pain of a fine of five silver staters (note that the fine was levied in silver!): *IC*, iv, 63. Athenians were equally reluctant to adopt bronze coins as can be judged from Aristophanes' comedies and the late introduction of an Athenian bronze coinage, see Figueira 1998, 497ff.

⁶ South Italian and Sicilian mints, among the first to strike bronze coins, produced heavy coins, some of which were cast. The same applies to Black Sea mints such as Olbia and Istros.

⁷ Cf. anecdotes in the Pseudo-Aristotelian *Oeconomica* and in Polyaeus' *Stratagems* (see below). Picard 1989, 680.

as Tissaphernes,⁸ satrap of Lydia (†395), Pharnabazos⁹ satrap of Daskyleion (412-390) and possibly Prokles and Eurysthenes, dynasts of Teuthrania.¹⁰ It is around that time that cities of Mysia, the Troad and Aeolis also began to mint bronze. Further south in Caria, Mylasa, Iasos and Halikarnassos seem to have started minting bronze in the final years of the fifth century.¹¹

As far Ionia is concerned, a new piece of evidence has recently surfaced in the shape of a hoard which offers a unique insight into the first bronze coins of western Asia Minor. It was reportedly discovered by metal detectorists in 1997 on a hill-top site facing the Ionian town of Phygela.¹² As with most discoveries made by treasure hunters the hoard was dispersed without a full record of its content, although I have been fortunate to study a few batches which appeared in 1998, 1999 and 2000. The largest group of coins from the hoard came into the London market through a dealer from Munich. It consisted of 165 coins from Ephesos, Phygela, Samos, Priene, Myous, Magnesia on the Maeander, Kolophon, Chios, Miletos, Assos, Pergamon and Iasos. Further groups from the hoard were purchased locally in 2000 and 2001 by Muharrem Kayhan, a licensed Turkish coin collector from Söke, a modern town not far from Phygela. These coins were published in the *SNG Kayhan (Turkey 1)* volume which also includes a further group of 13 bronzes of Phygela auctioned by Classical Numismatic Group, 51 (1999). The CNG catalogue comprised a further group of 37 coins (see table below). A final group that I was able to study consisted of several purchases made by a British collector who kindly sent me photographs of his coins. Altogether I have managed to record some 329 specimens from the hoard, however many other such coins have since appeared in sales catalogues and on the World Wide Web and the chances are that they also belong to the same hoard.¹³ Since the purpose of this article is not to publish a full account of the hoard,¹⁴ I will just give for our purposes a summary of its content and illustrate on pl. XX the main coin types (the following eight specimens are from the London group):

1. Ephesos: *Obv.* Bee with curved wings; linear circle.

Rev. E-Φ; head of stag r.; all in round incuse. 0.66g, 05H.

2. Phygela *Obv.* Head of Artemis Munychia facing, turned slightly l., wearing stephane;

⁸ Cahn 1985, 587-594 and Cahn 1989, 97-106.

⁹ Winzer 2005, 32.

¹⁰ See below note 29.

¹¹ See Ashton 2006. The earliest bronze is probably from Kamiros in Rhodes struck before 408/7 (pre-synocism).

¹² This information came from a reliable metal detectorist active in that area; another informant later confirmed the find-spot. This led me to call it the 'Phygela hoard' in Konuk 2002, index 6.

¹³ It should be borne in mind that the 329 specimens gathered by me is certainly a considerable underestimate of the original total number of coins in the hoard. Ashton 2006, 53, n. 33 reckons that the hoard must have comprised around a thousand or more coins. He believes that coins of Mylasa were also part of the hoard. See also Kinns 2004, 71.

¹⁴ I am preparing a detailed study of the hoard which should appear shortly; it includes the die study referred to in this article.

- dotted border.
Rev. ΦΥΓ above bull butting r.; below groundline, pecten shell. 0.62g; 04H.
3. Samos *Obv.* Prow of ship (*samaina*) r.
Rev. Amphora within olive wreath; Σ-A. 0.59g; 06H.
4. Magnesia: *Obv.* Laureate head Apollo l.
Rev. M-A; thorax/cuirass. 0.63g; 06H.
5. Priene: *Obv.* Head of Athena wearing Corinthian helmet r.
Rev. Ear of corn; Π-P. 0.54g; 12H.
6. Myous: *Obv.* Laureate head of Apollo r. within wreath.
Rev. Bird (duck?) standing r.; MY-H; all within circular Maeander pattern. 0.65g; 03H.
7. Miletos: *Obv.* Forepart of roaring lion r. with head turned back; outline of its back between jaws.
Rev. Starlike floral design in square incuse. 0.71g.
8. Kolophon: *Obv.* Head of Apollo r. wearing tainia.
Rev. Kithara within rectangular frame; K-[O]-Λ. 1.08g; 12H.

The coins of Ephesos (152, see table) are by far the largest group represented in the hoard, followed by the coins of Phygela (71) and Samos (56). These three mints are neighbours of each other, Ephesos being the chief city of Ionia. The other mints are underrepresented: Priene, Myous, Magnesia and Miletos are also neighbour cities, but Kolophon and Chios are situated a little further north. Remarkably enough almost all the coins in the hoard were struck to the same standard, a bronze denomination with an average weight of just a little over half a gram. I have been able to do a die study of the coins of Ephesos which proved to be a very difficult task owing to their tiny size and often careless striking; many coins are also in a poor condition. The 150 or so coins recorded for Ephesos have been struck with no less than 52 obverse and 89 reverse dies. I say no less because only 122 coins could be subjected to a die investigation, the remaining ones being impossible to identify either because they were too corroded or the type was too much off-centre. I have no doubt that the die numbers would have been higher had all the coins been die-identified. In order to have an idea about what the original number of dies might have been from that sample, I have used Carter's simplified method which yielded 75 obverse dies (75,25 to be precise).¹⁵ This figure is surprisingly high given that these coins were virtually unknown before the discovery of the hoard. I could only trace two published coins of Ephesos,¹⁶ four of Samos;¹⁷ the coins of Phygela, and Magnesia were unknown.¹⁸ The coins of the remaining

¹⁵ Carter 1983, 195-206. $D = nd/(1,124n-1,016d)$, if $2d \leq n \leq 3d$.

¹⁶ Cabinet des Médailles, BN: Babelon 1910, 1896; Klose 1995, 34.

¹⁷ Barron 1966, 198; pl. 17.

mints are equally uncommon with a few published specimens, with the exception of Kolophon.¹⁹ This raises the question of the survival rate of these supposedly rare coins. The Ephesian bronzes struck with at least 52 (75 estimated) obverse dies should be a much more common type in numismatic collections; the only two specimens known before the hoard do not correspond to an issue which must have been struck in very large numbers, perhaps in hundreds of thousands of specimens.²⁰ We have naturally to take into account the fact that tiny bronze coins of small-value were less likely to be hoarded than coins of higher value. Even so, the survival rate of these coins is far too low and one wonders whether another reason might not explain this perplexing case. I would be tempted to associate this unexpectedly low survival rate to the particular circumstances during which these coins were issued and their exceptional nature.

The Phygela hoard, table of recorded specimens

	London	<i>SNG Kayhan</i>	CNG 51 (1999)	British coll.
Ephesos (152)	85	42	21	4
Phygela (71)	27	41 ²¹	(13)	3
Samos (56)	34	15	7	-
Priene (14)	4	-	-	2
Myous (14)	1	5	-	2
Kolophon (17)	3	4	9	1
Magnesia/M. (6)	3	2	-	1
Chios (3)	2	1	-	-
Miletos (3)	1	2	-	-
Kyzikos (1)	1	-	-	-
Pitane (1)	-	1	-	-
Assos (1)	1	-	-	-
Pergamon (1)	1	-	-	-
Iasos (2)	2	-	-	-
Halikarnassos (1)	-	1	-	-
TOTAL (329)	165	114	37	13

The hoard appears to be connected with the events taking place in 400 and the following years during which Sparta opposed Persian authority in western Asia Minor. After

¹⁸ This reminds us of the hoard of archaic fractions from Kolophon which yielded a very high number of dies: 393 dies (estimated: around 500) for 903 coins, see Kim and Kroll 2008, 54. But these fractions are quite common in collections, the Kayhan collection for instance includes 13 specimens which are likely to be single finds, see Konuk 2002, pl. 14.

¹⁹ Kinns 1979, 4-6 (dated to 400-375).

²⁰ de Callatay 2000, 99. An estimate of about 1 surviving coin for every 5,000 struck is advanced. With the Phygela hoard, if we take for the mint Ephesos the figure of 75 dies and an average of 30,000 coins per die we would have a survival rate of about 1 to 18,500. Before the hoard, with only two recorded specimens, the survival rate would be a staggering 1 to 1,125,000.

²¹ Of which 13 are from CNG 51 (1999), 424 (multiple lot).

the defeat and death of the rebellious Cyrus at Cunaxa, Artaxerxes II appointed Tissaphernes in 400 to take over all the districts in Asia Minor over which Cyrus had been governor. Heading an army of 1000 Spartan and 4000 Peloponnesian soldiers together with 300 Athenian cavalrymen, the Spartan general Thibron was sent to help Greek cities of Asia Minor cope with this threat.²² He also recruited locally from Greek cities; we may assume that these were mainly men from Ionian cities which were under threat and because he enrolled these men while at Ephesos, his first stopover in Asia.²³ From Ephesos which Thibron used as his base, he advanced to Magnesia on the Maeander which was under the government of Tissaphernes. He captured the un-walled city at the first assault and he advanced to Tralles but failed to take it as the city was better defended.²⁴ He returned to Magnesia and fearing that at his departure Tissaphernes would get control of it, he moved its inhabitants on neighbouring Mount Thorax which had a stronger position. The Phygela hoard has revealed a previously unknown type which depicts a laureate head of Apollo on the obverse and a thorax/cuirass on the reverse between the letters MA. As much as the obverse is a well-known type, the reverse is very unusual. It is evidently a pun on the name of Mount Thorax on the summit of which the population of Magnesia on the Maeander was moved by the Spartan general Thibron in 399.²⁵ The date of this historical event would perfectly fit the dating suggested for the other coins from the hoard. The curved wings of the bee depicted on the Ephesian bronzes would indicate *c.* 405-390.²⁶ Barron suggested *c.* 412-405 for the few coins of Samos known before the hoard.²⁷ The early coinage of Magnesia is not well known, but an Attic standard hemiobol issue can be assigned on the basis of style to the middle of the fifth century.²⁸ The obverse depicts a male head to the right (Apollo?) and a bull butting to the right on the obverse; these are the usual civic types for Magnesia, the male head being later replaced by a horseman. Already in the fifth century, Magnesia had adopted the bull as a reverse type which would remain its civic type well into the middle Hellenistic period. The decision to depict a thorax on the city's first bronze coinage instead of the usual bull must refer to something significant which the move of 399 would correspond perfectly. If we come back to the historical events, following the move to Thorax, Thibron let his soldiers plunder the Great King's territory. At this point, about five thousand of the mercenaries who had served in the campaign of Cyrus, the celebrated 'Ten Thousand' joined Thibron's forces

²² Xen., *Hell.*, 3.1.4. This is Thibron's first campaign in Ionia which covers the years 400/399-398. He returned for a second expedition during which he was killed in 396. For these events, see Westlake 1986.

²³ Xen., *Hell.*, 3.1.4; Diod. 14.36.2: 'Thibron, after going to Corinth and summoning soldiers from the allies to that city, set sail for Ephesos with no more than five thousand troops. Here he enrolled some two thousand soldiers from his own and other cities and then marched forth with a total force of over seven thousand'.

²⁴ Diod. 14.36.3; Xen. *Hell.*, 3.2.19; Debord 1999, 236-239.

²⁵ At least one thorax-coin was found on the summit of Mount Thorax. It is published with other finds in Konuk, forthcoming.

²⁶ See the Hecatombus Hoard: Ashton *et al.* 2002, 98-100.

²⁷ Barron 1966, pl.17.

²⁸ Known so far in one example: Konuk 2002, 392.

under the leadership of Xenophon. With such a strong army he managed to take several cities in the north among which Pergamon, Teuthrania, Halisarna, Gambreion, Myrina and Gryneion; he failed to take Larissa 'the Egyptian'.²⁹ But he soon was forced to retreat to Ephesos as Tissaphernes was advancing and on their way Thibron's forces looted the Great King's country. From Ephesos, Thibron was called back to Sparta and on account of his mediocre achievements, Derkyllidas was sent in his place to pursue the fight in Asia Minor. Derkyllidas chose to avoid a direct confrontation with Tissaphernes and campaigned in the north against Pharnabazos.³⁰ Derkyllidas was successful in taking nine cities in eight days.³¹ He seized a substantial amount of treasure, which reduced but did not remove his difficulties in securing pay for his large army.³² Among the cities 'liberated' by Spartan forces, Ephesos was clearly used as the headquarters of Thibron's and Derkyllidas's campaigns. This is consistent with the evidence provided by the hoard in which coins of Ephesos are by far the most numerous. The composition of the Phygela hoard, made of bronzes minted by various cities engaged in the fight between Sparta and Persia, leads us to think that it was probably deposited by someone involved in that war (a soldier, mercenary or merchant) who did not survive to retrieve his savings.

In discussing the circumstances which led to the minting of these bronzes, an enquiry into their weights might provide some food for thought. The Phygela hoard coins were struck according to a light and a heavy weight standard. In the sample (329 coins) under study virtually all bronzes follow a light standard of just over half a gram (the median weight range is 0.55g-0.65g, but many specimens in good condition weigh around 0.35-0.40g). These low-standard coins were issued by Maeander valley and nearby mints (Ephesos, Phygela, Myous, Priene, Samos and Miletos) as well as coins from Carian mints (Iasos, Halikarnassos and perhaps Mylasa). The single specimens of Pitane, Assos and Pergamon seem to have been also struck on the light standard. Their size is also quite regular (7-9mm in diameter). Their uniform appearance and synchronicity give the feeling that they might have been issued under some higher authority or for some common purpose.³³ Coins from mints situated in northern

²⁹ It is noteworthy that the first bronze coins of some of these cities were probably struck during these years. There is also a series of small bronzes attributed to the dynasts Prokles and Eurysthenes struck at Teuthrania, see Babelon 1910, 42; Winzer 2005, 31-32; Ashton 2006, 8. These coins were independently dated to c. 400 and they should now be placed in the context of Thibron's campaign.

³⁰ It is interesting to note that, besides his silver coinage, Pharnabazos issued tiny bronzes at Kisthene in Mysia similar in weight to the Phygela hoard coins, see Winzer 2005, 32.

³¹ Xen., *Hell.*, 3.2.1. Larissa, Hamaxitos, Kolonai, Sepsis, Kebren, Gergis, Ilion, Neandria. Again many of these cities initiated a bronze coinage during these years. I would rather believe that this is not coincidental.

³² Xen., *Hell.*, 3.1.28.

³³ I would not go as far as call them an 'alliance coinage', but one is tempted to draw a parallel with the contemporary pro-Spartan ΣΥΝ coinage, for an up-to-date study, see Ashton *et al.* 2002. The Hecatomnus hoard has confirmed that the ΣΥΝ coins must belong to the 405/4 years in the context of the Spartan Lysander's activities. Calling our bronzes a 'cooperative coinage' would perhaps be more appropriate; for these questions, see Mackil and Van Alfen 2006.

Ionia (Chios, Kolophon) were struck according to a heavier standard of just over a gram, which is the usual weight for a chalkous in Asia Minor (10-12mm).³⁴ Should we also consider the Maeander valley coins as chalkoi, but struck on a lighter standard?³⁵ It is rather puzzling that coins made of bronze should be so light given their very low bullion value.³⁶ Such tiny coins would not have helped to increase the confidence of users who, in addition, were unfamiliar with bronze coins and would have certainly preferred to be paid in silver. This, of course, would not have been a problem if they were meant to be eventually exchanged for silver. Be it a hemiobol or an obol, or some other denomination, the size or weight of these tokens would not have mattered anyway.³⁷

Ancient sources, in particular the Pseudo-Aristotelian *Oeconomica*, tell us that coins struck in base metal (bronze, lead or iron) were often introduced as an expedient when silver was difficult to obtain, usually in times of war or economic crisis. There is an interesting anecdote in the *Oeconomica* which describes how Timotheos of Athens resorted to such a measure: “When Timotheos of Athens was campaigning against the Olynthians and found himself short of silver coin, he struck bronze (coins) which he used to pay his troops. The soldiers were very angry; but he told them that the merchants and tradespeople would sell to them just as before, while he forewarned the merchants that whatever bronze coin they received they should use again to buy country produce and any booty that was driven in (rustled livestock). Whatever bronze coin was left over at the end they should bring to him and he would exchange it for silver”. Remarkably enough, Robinson and Price identified the coins in question and observed that the number of dies was surprisingly high for such a small issue (and very low survival rate) with three obverse and eight reverse dies for eight specimens (Type 1) and two obverse and three reverse dies for three specimens (Type 2).³⁸

This example illustrates that, in case of emergency, bronze could be used to replace silver, coin users being forced by circumstances to accept a ‘token’ currency.³⁹ Timotheos

³⁴ Picard 1998, 10.

³⁵ A few heavy weight bronzes of Ephesos (same type with curved wings bee) struck on the heavy standard (1.00-1.30g, 10-12mm) have been reported; they may belong to the hoard, however none was present in our sample.

³⁶ Bronze was about one hundred or so times less valuable than silver: Seaford 2004, 144; Price 1979, 363. Our bronze coins weighing about half a gram would have been equal to c. 0,005g of silver (200th of a gram or of a Milesian-weight silver obol).

³⁷ By token, here, I mean a base metal issue whose intrinsic worth is virtually non-existent and which stands for a coin of high intrinsic value (i.e. a regular silver denomination). *Contra* Seaford 2004, 144 who argues that the Greeks did not develop token money. One should not disregard clear examples of token coinages given in Pseudo Aristotle's *Oeconomica* (Timotheos, Klazomenians, and Dionysios of Syracuse), see below note 38.

³⁸ Robinson and Price 1968, 3-4.

³⁹ Another instance of a token currency at Klazomenai to pay off mercenaries is reported in *Oeconomica*, 2.2.16: Klazomenians owing their mercenaries twenty talents of pay and being unable to find that sum resorted to striking an iron coinage of twenty talents, bearing the face value of silver (this corresponds to our definition of a token issue). These irons tokens were distributed among the wealthy citizens who gave in exchange the same amount in silver. Through this expedient, the private citizens possessed a currency which was good for the daily

could persuade users to accept bronze 'tokens' against a promise of ultimate repayment in silver, and his soldiers could thus be paid in worthless pieces in the knowledge that the traders would accept them. Here, the notion of repayment or redeemability might very well explain the abnormally low survival rate observed for the coins of the Phygela hoard. The lack of surviving coins of the type contained in the hoard may well have to do with the fact that they were perhaps given back in exchange for real coins, that is made of silver. As I have tried to demonstrate, the Ionian campaign of Thibron may well have been the occasion for issuing these bronze 'tokens'. Xenophon and Diodorus report that as soon as Thibron set foot in Ephesos, he hired troops locally from cities which took part in the efforts against Persia.⁴⁰ It is conceivable that these cities, under Thibron's authority, would have initiated a cooperative coinage for a common purpose: providing a wage for those of their citizens recruited by the Spartan general.

needs, and the state was relieved of its debt. The iron coins were later recalled and in return silver was paid with interest. No iron token seems to have survived (presumably because these worthless pieces were all exchanged for silver with interest!), but one cannot exclude a hoard to turn up one day, much like the Phygela hoard. Another token issue is mentioned at Syracuse (*Oecon.*, 2.2.20): "On another occasion being in straits for silver he (Dionysios) minted a coinage of tin, and summoning a public assembly, spoke at length in its favour. The citizens perforce voted that everyone should regard as silver, and not as tin, whatever he received". See also Psoma 2000 for another story in Polyainos involving Timotheos who adulterated the silver content of coins he used to pay for his soldiers.

⁴⁰ See above note 23.

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