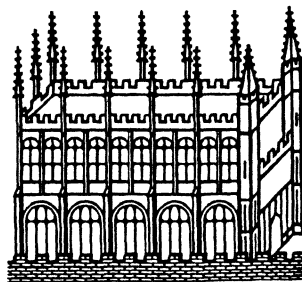


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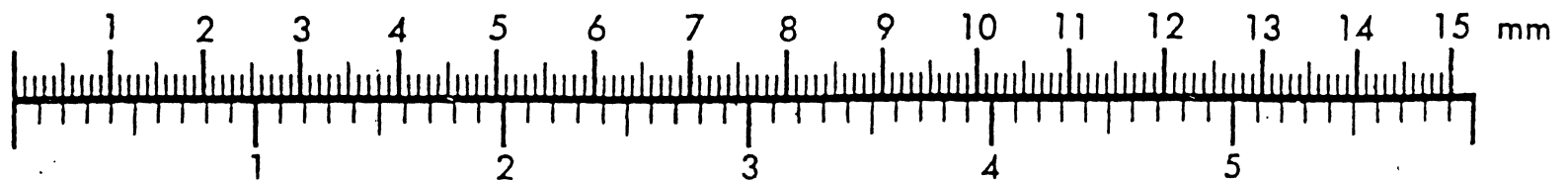
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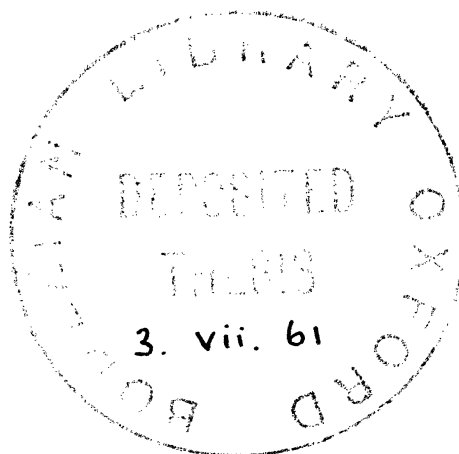
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THESIS SUBMITTED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY  
IN THE UNIVERSITY OF OXFORD

THE HISTORY OF SAMOS TO 439 B.C.

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II



Balliol College  
Oxford  
Hilary Term  
1961

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## **APPENDICES**

## APPENDIX A

## The Son of Hyllis

In his study of 'Ibycus' Poem in honour of Polycrates', Page remarks, 'The handsomest of Homer's Achaeans was Nireus: in Ibycus, the honour falls not to him but to "the son of Hyllis", a person about whom nothing further - not even his name - is known.'<sup>1</sup> I hope to show that his name can be discovered, and to suggest that this discovery may be used to support the ascription of the poem to Ibykos. Hitherto this has been made upon two separate grounds: in the first place, its style and structure, metre and language; and in the second place, the knowledge (Suidas, s.v. Ἰβύκος) that the poet visited Samos in the reign of one Polykrates, whose name was borne by the recipient of the poem.

The relevant part of the text is as follows:<sup>2</sup>

- 
1. Aegyptus xxi (1951) 168 and n.2, dismissing the suggestion of K. F. W. Schmidt, Götting. Gel. Anz. clxxxvi (1924) 5ff.
  2. I give the text of the papyrus (P.Oxy. xv 1790), except in line 41, where it reads  $\tau\acute{\upsilon}\nu \dots \tau\epsilon\omega\iota\lambda\acute{\alpha}\nu$ . The poetic sense requires that the son of Hyllis, not the casually introduced Troilos, be thought supreme. My attention was drawn to this point by Mr. Lobel.

36 [.....]ος ἀπ' Ἀργεος Str.  
 [.....]ε ἔς Ἥλιον  
 [.....]  
 [.....] . [.] .

40 [.....] ὃ χρυσεοστεροφ[ος] Ant.  
 ἄλλῃς ἐγήνατο τὸν δ' [ἀ]πὸ Τρωίῳ  
 ὡς κὲ χρυσοῦν ὄρει-  
 χάλκῳ τρεῖς ἔπεφθο[ν] ἦδη

Τρῶες Δ[α]ναοὶ τ' ἐρό[ε]σσεν Ep.  
 45 κορῶν μὲν εἶσκον ὅμοιον.

The mutilated lines 36-40 follow a passage in which a list of Achaian heroes at Troy has been begun. So far Agamemnon, Menelaos, Achilles, and Telamonian Aias have been named.<sup>1</sup> It is clear from the fragments of lines 36-7 that the list was continued, and Lobel accordingly supplemented [.....] Τύδεος υἱ]ος ἀπ' Ἀργεος in line 36. To judge from the scholion at the foot of the column, referring to Teukros, it would seem that the name of Telamonian Aias' brother is lost in the lacuna; and we may conjecture that that of Hyllis' son appeared there also.

1. Lines 20-34.

The name Hyllis occurs in Stephanos of Byzantion, s.v.

Ἑλλίς ... καὶ παρὰ Κάλυμνῶν Ἑλλίς Ἑλλίδος, ὑπὸ Ἀργείας μίαις  
τῶν νυμφῶν Hyllis, then, was Kallimachos' name for an  
Argive nymph.<sup>1</sup>

In his account of Sikyon, Pausanias tells us that towards  
the end of the monarchy Phaistos became king. Φαίστου δὲ  
κατὰ μάλιστα μετακλήσαντος εἰς Κρήτην βασιλεύσει Λέγεται  
Ζεύξιππος Ἀπόλλωνος υἱὸς καὶ νύμφης [Σ] Ἑλλίδος.<sup>2</sup>  
The son of Hyllis may therefore be recognized as Zeuxippos  
of Sikyon.

A momentary problem remains. It is certain from the  
context that in our poem the 'son of Hyllis' was present  
before Troy. Yet, according to Pausanias, after Zeuxippos'  
death his successor Hippolytos became a vassal<sup>of</sup> Agamemnon.<sup>3</sup>  
Since that king was murdered immediately upon his return  
from Troy, and since the Homeric Catalogue names Sikyon among  
his dominions,<sup>4</sup> Zeuxippos would seem to have been dead before

1. Kall., Fr. 712 Pf.

2. Paus. II vi 7. The dittography of sigma was noticed and  
corrected by K. O. Müller long before the discovery of the  
Ibykos poem: Die Dorier<sup>2</sup> (Breslau, 1844) 82 and n.1, giving  
no reason for the change; cf. Wilamowitz, Phil. Untersuch 1:  
Aus Kydathen (Berlin, 1880) 147.

3. Loc.cit.

4. Iliad 11 572.

the Trojan War began. Ancient notices of the kings of Sikyon produce not a family tree but a genealogical jungle. But an important tradition emerges which is different from that on which Pausanias drew. This is the Sikyonian king-list compiled by Kastor of Rhodes, probably derived from Menaichmos, and now preserved by Eusebios.<sup>1</sup> Kastor agrees fairly well with Pausanias upon the earlier kings, but towards the end of the list they differ. Hippolytos is not mentioned at all by Kastor, and Zeuxippos is entered as the last king. As Eusebios' text stands the fall of Troy is set in the time of Polypheides, two reigns before Zeuxippos. But Jacoby has shown that this is not what Kastor believed. For he synchronized the reign of the first king of Sikyon, Aigialeus, with that of the second king of Assyria, Ninos, and gave the duration of each successive reign thereafter. When the synchronism is restored we find that Zeuxippos was king from 1192/1 to 1162/1 B.C., embracing the traditional Alexandrian date of the fall of Troy, 1183.<sup>2</sup>

According to this tradition, then, Zeuxippos will have

- 
1. FGrHist 250 F 2, and Jacoby's comm. (II D, pp. 819ff); Eusebios, ed. Schoene, i cols. 174f, cf. App. i col. 7. Menaichmos is FGrHist 131.
  2. FGrHist II D, p. 821; cf. F. Pfister, Rhein. Mus. lxxviii (1913) 529ff.

led the Sikyonian contingent to Troy, and we may restore his name in line 40 of our poem. Fourteen letters are missing: [καὶ Ζεὺς ἴππος δὲ] ἡ χρυσεόστροφ[ος] | ὕμνῳ ἐγίνετο.

The discovery of Zeuxippos assists our conclusions about the authorship and date of the poem. We already knew that Ibykos expressed, or even invented, unorthodox views about Sikyon.<sup>1</sup> For, although Eumelos and Hesiod had previously canonized King Lamedon's son-in-law Sikyon as a member of the Athenian royal family, we learn from Pausanias that Ibykos so far contradicted the tradition as to make him the son of Pelops.<sup>2</sup> Secondly, Strabo informs us that Ibykos made the Sikyonian River Asopos flow under the sea from its source in Phrygia.<sup>3</sup> Our poet has already been identified stylistically as Ibykos: now we find that he too invented or added to tradition about a king of Sikyon. This helps to confirm the identification.

Bowra has argued that the references to Pelops as Sikyon's father and to the River Asopos must come from a poem written for the Sikyonians before Ibykos crossed to Samos.<sup>4</sup>

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1. Cf. C. M. Bowra, Greek Lyric Poetry 255ff.

2. Paus. II vi 5; 1 l.

3. Strabo 271 (seclusit Meineke).

4. Loc.cit.

But that our poem was a later composition, written after his arrival in the island, is shown by the concluding lines 46-8:

τοῖς μὲν πᾶσι κάλλος εἶεν  
καὶ σύ, Πολυκράτης, κλέος ἀφθιτον ἔσσις,  
ὥς καὶ εἰσιδὼν καὶ ἔμὸν κλέος.

The comparison with Polykrates and, even more, the poet's final claim that his own reputation will ensure Polykrates an undying name for beauty are seen to have special meaning in the light of Bowra's suggestion. Ibykos has just reached Samos. The last section of his poem is a manifesto: 'There were beauties in Sikyon; but Samos' prince shall be even more celebrated for his beauty, so long as he employs me to sing of him.'

The hypothesis that there were two tyrants called Polykrates, already argued in the text, makes it unnecessary to discredit Suidas' dating of Ibykos' arrival

in Samos.<sup>1</sup> The poem in honour of Polykrates, therefore, was written about the 54th Olympiad, 564-60 B.C.

1. V.sup., pp.212f.

Note. the identification of Hyllis' son as a Sikyonian may help to restore an extremely mutilated scholion at the foot of the last column of the poem's text. In the fourth line Hunt read ]θα τι δλ[...] τοῦ Λαομέ[δο]ντος με[.....] ἔστρα[...]/[τενσεν κτλ. Schmidt's version (loc.cit.) was ἔλαβ' Ἀργυμυλίδων [τῆν] Ἀδρά[στ]οῦ γούν(δῖκα). I consulted Mr. Lobel as to the reading, and he confirmed διγιδλ, preceded by ]γγ or ]τγ, but dismissed the rest of Schmidt's restoration. He himself could see του λα...[.] γενόμε[.....] ἔστρα[...]/[τενσε κτλ. So, if Laomedon's name is present it is abbreviated (cf. κ(ατα)λαβ (εἶν line 2). Both Laomedon and the Aigial- group of names are connected with several different places, but there is one area in which they occur together. Aigialeus was the first king of what later became Sikyon, and the city was named Aigialeia or Aigiale after him (Paus. II v 6). Years later, Aigialeus and Aigialeia were son and daughter of the Argive-Sikyonian king Adrastos (Hdt. v 68.2; Iliad v 412; cf. Hofer, RE 'Aigialeus'; Knaack, ib. 'Aigiale' No.2). Six Laomedontes are known to mythology. But only one belongs to the Argolid, 'Lamedon', a king of Aigiale who gave his daughter Zeuxippe (note the name) in marriage to the hero Sikyon (Paus. II vi 5; for the others, Gunning, RE 'Laomedon' Nos. 1-5). The scholiast, then, may have found occasion to speak of Sikyon in commenting on this passage. He gives his authority as ]ίμαχος ἐπὶ περὶ Τεύκεου, and we recall that it is Kallimachos whom Stephanos cites for the nymph Hyllis. But R. Pfeiffer rejects Hunt's Καλλιμάχος in favour of Crönert's Λυσιμάχος : 'Callimachus enim librum περὶ Τεύκεου scripsisse vix credibile' (Callimachus i (Oxford, 1949) 498, referring back to his Callimachi Fragmenta Nuper Reperta (Bonn, 1923) 121; Crönert, Lit. Zentralblatt lxxiii (1922) 399f; cf. Wilamowitz, Pindaros (Berlin, 1922) 511 n.1). The argument is not conclusive; and the form of the title of -imachos' work may be paralleled in Kallimachos Fr. 412Pf (Schol. Theokrit. ii 120a), Καλλιμάχος ἐπὶ τῷ περὶ Λογέδωρ - an even less likely title, one would have thought.

## APPENDIX B

## The Perinthian Dedication

The date of the inscription quoted on p. 258 is now no longer in question. Dr. Jeffery has set it in its context in the development of the Ionic script, and concluded that it was carved c.525 B.C.<sup>1</sup> Its meaning, however, remains somewhat obscure. I begin by translating what is uncontroversial:

Meniskos the son of Xenodokos and Demis the son of Pythokles, Perinthian οἰκῆτοί, dedicated to Hera as a tithe a golden γαργυρήν, a silver σέλυον, a silver dish, and a bronze lamp-stand, the total value/expenditure being two hundred and twelve Samian staters, including the cost of the stone.

The inscription lacks a commentary of value, for the earlier publications of it followed Klaffenbach's quite impossibly high dating.<sup>2</sup>

οἰκῆτοί is worthy of note. Klaffenbach suggested that the word is equivalent to οἰκιστάι, hence his early dating. It is more proper to argue that since the inscription cannot be so old, the word must have another meaning. Sra Guarducci thought that there was no dittography to be

---

1. Local Scripts of Archaic Greece 35.

2. G. Klaffenbach, Mitt. des deutschen arch. Inst. vi (1953) 15ff.

excised. The photograph (PLATE XII 3) suggests a Γ in place of the second | : this is clearly impossible, so why not read Ἦ, comparing the equally careless 7 of Ἦ in the last line?<sup>1</sup> we should then have οἰκνητῆροι. I have examined the stone, and come to the conclusion that the photograph is misleading and that the dittography is real. The best interpretation of the word is that of L. Robert, that it means 'kindred', necessarii.<sup>2</sup>

What of the objects dedicated? The dish and the lamp-stand give no trouble: they are ordinary pieces of temple furniture. Γοργόνη and σείρη have been thought to be miniature figures of a Gorgon and a Siren respectively. Sirens were often thought of as masculine in the East: hence they are here attributes of Hera as a chthonic deity. That is a possible interpretation. But there is an alternative. In Photios, s.v. σείρηνα, we read

καὶ σείρηνα ἡ λατρεῖα καὶ διαφάνης χιτῶν ...  
 ἢ ἐνίοτε μὲν χωρὶς τοῦ ἰ γράμματος σείρηνα.

- 
1. M. Guarducci, Studi in On. di A. Calderini e R. Paribeni 1 23-7.
  2. In a letter to Klaffenbach, quoted by Jeffery, loc.cit. n.4. She herself suggests that the Perinthians may have had charge of an οἶκος 'treasury', like those at Olympia and Delphi. For 'treasuries' at the Heraion, cf. JHS I(111) (1933) 286.

Thus the second offering may possibly have been a fine chiton of silver thread.<sup>1</sup>

Γοργύρη is a Samian word, and certainly does not mean 'Gorgon'. Hesychios explains it (s.v.) as γόργος ἐν Σάμῳ, ἐν ᾧ Διόνυσος Γοργυραῶς τιμᾶται. Herodotos says that Maiandrios kept his brother Charilaos imprisoned ἐν γοργύρη, in a gorgyre, and that διακύψε διὰ τῆς γοργύρης, through the gorgyre, Charilaos was able to see the Persian grandees sitting in state.<sup>2</sup> Pollux says that γοργύρη is the Ionian word for a prison.<sup>3</sup> But there is no reason to think that he had any authority for this opinion beyond the passage of Herodotos just cited. Alkman is said to have used the word for an underground sewer - if we can believe it.<sup>4</sup> So far we have found nothing which would make a subject for a dedication in gold.

We return to Hesychios, where we read

Ἀεθάλια· τοὺς πυθμένους τῶν κερειδῶν, οὓς ἔνιοι γοργύρας καλοῦσιν.

---

1. The Heraion kept a stock of robes for the goddess in the fourth century: Ath. Mitt. lxxviii (1953) 47.

2. Hdt. iii 145.

3. Onom. ix 45.

4. Alkman, Fr. 132 Bergk (Et. Mag. s.v. Γεργύρα ).

Ἄρδανια· αἱ πῶν κερκιδῶν γάστρα, ἐν δὲ τὰ  
 βοσκήματα ἐπόπιον, ὃ Δωριεῖς κύμβαλα καλοῦσι·  
 ἐτίθετο δὲ πρὸ αἷς θύρα πῶν τετελευτηκότων  
 τοῖς εἰσιούσι καὶ ἐξιούσι ἵνα περιρραίνωνται.

In the light of this I would suggest that all the objects which the Perinthians dedicated were for ritual use in the temple: a golden perirrhanterion, a silver or silver-embroidered chiton, a silver dish, and a bronze lamp-stand. Two hundred and twelve staters (presumably of the old ekectrum currency) were not at all an excessive price to pay.

## APPENDIX C

De Aetate Pythagorae

The chronology which I follow for the life of Pythagoras is basically that argued by A. Rostagni, Atti della R. Accademia delle Scienze di Torino xlix (1914) 373ff, 554ff.

For the skeleton, Rostagni takes from Synkellos the statement that Pythagoras lived for 99 years; from Iamblichos, that he returned from his first period of exile, in Egypt and Babylon, at the age of 56; and from the same source, that he presided over his Italian school for 39 years.  $56 + 39 = 95$ : accordingly, R. allows four years between Pythagoras' return from his first exile and his departure for the second. The latter event R. dates to 529, and the skeleton at once finds an absolute chronology. The whole system is as follows:

99 yrs <sup>1</sup>	56 yrs <sup>2</sup>	589	Birth of Pythagoras. <sup>4</sup>
		571	Pythagoras leaves Samos, aged 18. <sup>5</sup>
		571-67	Travels and studies with Thales. <sup>6</sup>
		567-45	22 years in Egypt. <sup>7</sup>
		545-33	12 years in Babylon. <sup>8</sup>
		533-29	Samos, Krete, Sparta, etc. <sup>9</sup>
	39 yrs <sup>3</sup>	529-09	20 years at Kroton. <sup>10</sup>
		509-490	19 years at Metapontion. <sup>11</sup>
		490	Death of Pythagoras.

Rostagni's system does not account for the statement of Iamblichos (iv 19) that Pythagoras was taken prisoner in Egypt by Kambyes, i.e. in 525; nor that of Timaios (FGrHist 566 F 14) that Empedokles was his pupil, i.e. about the middle

- 
1. Synkellos i 469.
  2. Iamblichos iv 19.
  3. Ibid. xxxvi 265.
  4.  $529 + 4 + 56 = 589$ .
  5. Iambl. ii 11.
  6. Ibid. iv 19 with ii 11.
  7. Ibid. iv 19.
  8. Ibid.
  9.  $99 - (56 + 39) = 4$ .
  10. Justin xx 4.
  11.  $39 - 20 = 19$ .

of the fifth century. Both these statements form the basis of a reconstruction by A. Delatte, Musée Belge xviii (1920) 5ff. But they are irreconcilable with the major part of the tradition.

I accept Rostagni's detailed argument, but raise all his dates by two years, since I set Pythagoras' final exile not in 529 but in 531, the year of the foundation of Dikaiarcheia.

## APPENDIX D

## The List of Thalassocracies in Eusebios.

I take as a basis the reconstruction of the list made by Sir John Myres and corrected by Dr. J. K. Fotheringham.<sup>1</sup>

The first problem to be solved is, of what is this a list? Myres believed that it was a system of East Mediterranean sea-powers, explaining thereby the omission of Corinth, Kerkyra, Kyme, Syracuse, Taras, Carthage, and Tyrrhenia, among the West Mediterranean powers.<sup>2</sup> This goes some of the way towards providing an answer. But if it is a list of Greek thalassocracies, then why, for instance, do Phoinikia and Egypt occur? If, on the other hand, non-Greeks are included, why is there no mention of Persia? Herodotos states that the acquisition of the Phoinikian fleet gave them supremacy at sea.<sup>3</sup> They controlled Ionia, including a considerable Ionian fleet. Again according to Herodotos, they had 3000 ships, 1207 of

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1. J. L. Myres, JHS xxvi (1906) 84-130; J. K. Fotheringham, JHS xxvii (1907) 75-89; J. L. Myres, ibid. 123-130.

2. JHS xxvii 125.

3. Hdt. i 143.1.

them triremes, for Xerxes' expedition,<sup>1</sup> against 378 triremes of the whole Greek fleet at Salamis.<sup>2</sup>

The clue lies in the much discussed X Cares.<sup>3</sup> Myres rightly excised Cares and reinserted them at the head of the list, comparing Diodoros v 84 (μετὰ δὲ τῆν Τροίαν Ἰλυσιν Κέρου ... ἰθαλασσοκράτου) and v 53, with Herodotos i 171 and Thukydides i 4. But he did not see what had happened to the text. The original list contained intervals, but no absolute dates. I suggest that it was a conflation of two lists, the one of Milesian composition and dealing with East Mediterranean sea-power from the fall of Troy to the thalassocracy of Miletos under Thrasyboulos,<sup>4</sup> the other of Aegean Greek sea-power from the rise of Mytilene to the invasion of Xerxes and the beginning of Athenian supremacy, perhaps compiled by Hellanikos of Lesbos. All that has happened is that during the conflation the Karian entry was wrongly copied

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1. Id. vii 89, 97; following Aisch., Pers. 341ff.
  2. Hdt. viii 48; cf. (slightly different) Aisch., Pers. 338ff.
  3. I do not accept the emendation of 'Karians' to 'Megarians' proposed by A. R. Burn, 'Greek Sea-power, 776-540 B.C.', JHS xlvii (1927) 165-177.
  4. The precise dates 604/3 to 586/5 for the Milesian period delimit the period between the ending of the Lydo-Milesian war by Periander's arbitration and the collapse of the tyranny and beginning of the two generations of stasis which ended in 525: cf. supra, p. 185.

at the head of the latter list, and subsequently omitted from the former.

The early list as reconstructed by Myres from the Chronographia may be adopted:

I (x)	Cares	1184/3 128 1046/5
II (i)	Lydi, qui et Maeones	92
III (ii)	Pelasgi	954/3 85 869/8
IV (iii)	Thraces	79 790/89
V (iv)	Rhodii	23 767/6
VI (v)	Phryges	25 742/1
VII (vi)	Cyprii	33 708/8
VIII (vii)	Phoenices	45 664/3
IX (viii)	Aegyptii	60 604/3
X (ix)	Milesii	18 586/5

What are we to say of the second list? Since it was originally separate from the first, there is no reason why the two should not have overlapped. We shall not therefore reject the 96-year duration of the Lesbian period given by the Armenian version of the Canones. The dates given by this source are all five years too low. When its list is restored and collated with the figures of the Chronographia, we obtain the following results:

XI	Lesbii	676/5 96
XII	Phocaeenses	580/79 44/5
XIII	Samii	535/4 17
XIV	Lacedaemonii	518/7 2
XV	Naxii	516/5 10
XVI	Eretrienses	506/5 15
XVII	Aeginetae	491/0 10 481/0

The Samian numeral is lost from the Chronographia, and the figure 17 is calculated from the Armenian Canones. It may not be quite accurate, though it should be nearly so. The probability is that the Samian thalassocracy was made to commence with the accession of Polykrates II. The list does not tolerate an interregnum, and the power of Phokaia is allowed to continue despite the city's fall to Harpagos in 539/8.

It is not hard to produce a rough reconstruction of the list. Its reliability, especially for the earlier period, is a separate and unanswered question.

## APPENDIX E

The Horoi

I begin by cataloguing the horoi which are at present available for examination. The information as to their places of discovery I owe to the kindness of Professor Buschor. Horoi which are recorded in early publications, but which cannot now be traced, are here omitted.

I Athens.

1. Heraion Inv. No.214; SEG 1 375; Schede, Ath. Mitt. xliv (1919) 2 No.1; PLATE XVII 2.  
[HO]POΣ : TEME[NOC] | [A]ΘENAIAΣ | AΘENON | MEΛEOCEΣ  
Marble. From the Heraion. (10½); 15¾; 5: ⅞-1.<sup>1</sup>
2. Heraion Inv. No.225; PLATE XVII 1.  
HOPOΣ : TEMENOC | AΘENAIAΣ | AΘENON | MEΛEOCEΣ  
Marble. 'From an old church half an hour's walk to the North. (22½); 15½; 4½: ⅞-1.
3. Heraion Inv. No.136; SEG 1 376; Schede, op.cit. 3 No.2; CIG 2246; PLATE XVIII.2  
OPOΣ TE | MENEOC | AΘHNAΣ | AΘHNΩN | MEΛEOCEHΣ  
Poros. From the Heraion. (9¾); 12⅞; 6⅞: 1⅞.

- 
1. The measurements, in inches, are of height, breadth, thickness, and of the height of letters, in order.
  2. Schede (op.cit. 2) found an identical example in the chapel of Ayios Nikolaos, less than a kilometer SSW of the Heraion. He took it to be CIG 2246, but that was found prope Iambrasum. The stone at Ayios Nikolaos had disappeared by 1924.

II Ion.

4. Vathy Inv. No.5;
- BCH
- viii (1884) 160; PLATE XIX 2.

HOPOC | TEMENOC | IONOC | AΘENEΘEN

Poros. From Khora. (0.44); 0.315; 0.155; 0.03-0.055.<sup>1</sup>

5. Vathy Inv. No.6; PLATE XIX 1.

[HO]POC | [TE]MENOC | IONOC | AΘENEΘEN

Poros. From Tigani. (0.43); 0.28; 0.14; 0.025.

III Eponymoi.<sup>2</sup>

6. PLATE XX 1.

HOPOC | TEMENOC | EPONVMON | A ENE [E]N

Poros. From the chapel of Ayios Yeoryios, just over two kilometers NNE of the Heraion.  $38\frac{1}{4}$ ; 13;  $7\frac{3}{4}$ ;  $1\frac{1}{8}$ - $1\frac{1}{4}$ .

7. PLATE XX 2.

[HO]POC | [TE]MENOC | EPONVMON | AΘENEΘEN

Poros. Found with No.6. ( $27\frac{3}{4}$ );  $14\frac{1}{2}$ ;  $7\frac{1}{2}$ ;  $1\frac{1}{8}$ - $1\frac{1}{4}$ .

The places of discovery suggest that the temenos of Athena lay close to the Heraion; that that of Ion perhaps lay between Tigani and Khora; and that the temenos of the Eponymoi was situated near the Heraion or to the North of it.

The content of the inscriptions gives little clue to their date. The significance of the word *Aθeneθev* has been considered above, p.411, in connexion with the identity of

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1. Measurements in metres.

2. Cf. IGA 8, which is perhaps an inaccurate copy of No.6.

the Eponymoi. The cult title of Athena Ἀθηνῶν μετέουσα may occur in the Kolophon decree of c.450.<sup>1</sup> It occurs too in the new decree of Themistokles which purports to belong to the year 480.<sup>2</sup>

Turning to epigraphic arguments, Nos. 1 and 2 are written in good Attic script, Nos. 4 and 5 in Attic script of a lower standard, Nos. 6 and 7 in a mixture of Attic and Ionic (notice the appearance of omega). All these, so far as this argument goes, should certainly be earlier than 403/2, and, to judge from the three-barred sigmas, not much later than the middle of the fifth century. Only No.3 does not fit into this pattern. It is carved in Ionic script throughout.<sup>3</sup> Its style is markedly later than that of the Eurymedon 'casualty-list' at Samos (PLATE XV 1), and later than that of the Eponymoi horoi, which seem to be of local workmanship. This solitary example should be thought of as a replacement dating from the last years of the Peloponnesian War, when Samos was an Athenian base.

No.4, however (the more complete horos of Ion), is

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1. IG i<sup>2</sup> 14-15; SEG x 17.13.

2. Hesperia xxix (1960) 199, lines 4-5 (Plut., Them. x). There is some doubt as to the authenticity of this decree; alternatively, as to the authenticity of this part of it. Cf. also Aristophanes, Eq. 763, cf. 585.

3. Not Attic script of later than 403/2: note the uncontracted form τημερεος.

clearly a late copy: though the letter-forms are superficially those of the fifth century - with the exception of the vertical-sided M - the unattached end of each stroke has the triangular termination which first came into use in the fourth century and was always retained thereafter in varying degrees of exaggeration. I would not wish to suggest the date at which this copy was made: the mere fact that it is a copy dismisses it from the present argument. The other horos of Ion, however, is undoubtedly a genuine work of the fifth century, and must be considered here.

Of the earlier horoi, those of Athena (by two hands, but clearly of the same date)<sup>1</sup> have  $\Lambda EEMN\text{N}R\zeta$  ; that of Ion has  $EMN\text{N}\zeta$  ; those of the Eponymoi (by two contemporary hands) have  $EMNMP\zeta\gamma\Lambda$ . The form of rho which they share suggests that the horoi of Athena and of the Eponymoi are contemporary: P and R are common, but R is rare. Consequently, it is fair to assume as an hypothesis that all three temene were marked out at the same date. We are dealing with the work of a number of hands, and must not expect too much uniformity. But for a stylistic parallel I propose the Attic Erechtheid casualty-list of 460 or

---

1. They share size, material, and letter-forms  $\Lambda$  and R ; they are distinguished by E and E , N and N .

459.<sup>1</sup> This too is by more than one hand; and it provides parallels for most of the letter-forms noted above, notably of epsilon, my, ny, sigma, and ypsilon. Of those for which no parallel is provided,  $\Omega$  is Ionic and we expect none.<sup>2</sup>  $\Lambda$  occurs nowhere else on stone.  $\text{P}$  is found in the heading of the fourth tribute quota-list, 451/0, and might suggest a rather later date than 460. But the form is so rare that we cannot trace its vogue;<sup>3</sup> and the significance of its occurrence on one horos of the Eponymoi is more than counter-balanced by the appearance on the other of  $\text{M}$ , a well-known archaic form, obsolete by c.470. I conclude that the epigraphic evidence is in agreement with - and even favours - a date in the early fifties of the fifth century.

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1. IG 1<sup>2</sup> 929; Tod, GHI 1<sup>2</sup> 26; ATL iii 174 and n.53.

2. This omega is the fifth variety in Dr. Jeffery's stylistic analysis, Local Scripts of Archaic Greece 325.

3. It also occurs with  $\zeta$ , for instance, on IG 1<sup>2</sup> 923 (see W. Peek, Ath. Mitt. lxxvii (1942) 147ff, Taf. ix 1).

## APPENDIX F

## Euagon Fr.5?

There are two unanswered questions, not necessarily related to one another. Did any contemporary Samian account of the Revolt of 440 survive to be used by later writers on the subject, such as Douris?<sup>1</sup> What was the latest event covered by the Samian history of Euagon?<sup>2</sup>

Section 9 of the anonymous Life of Sophokles (Oxford Classical Text, p. xix) runs as follows:

καὶ Ἀθηναῖοι δ' αὐτὸν ζθ' ἔτων ὄντα σφραγιστὸν ἔδουτο  
πρὸ τῶν Πελοποννησιακῶν ἔτεσιν ἡ' ἐν τῇ πόλει  
Ἰνδρίου πολέμῳ.

ζθ' A:        ζε' rec:    περὶκοντα πέντε    Lessing  
η') ἐννέα    Bergk : γ' vel θ'    Ribbeck  
Ἰνδρίου    A rec : Ἀνδρίου    Boeckh : fortasse Ἀνδρίου

Boeckh's emendation is palaeographically excellent,

- 
1. Apart from Thukydides, we know that Stesimbrotos wrote of the Revolt in some detail: cf. FGrHist 107 F 8 (Plut., Per. xxvi 1).
  2. FGrHist 535 Ff 2-4 relate to Homer, the Meliac War, and Aesop.

better than *Σαμίων*.<sup>1</sup> Historically it is acceptable, since the exiled Samian oligarchs made their attack from Anaiia when they began the second part of the Revolt,<sup>2</sup> and since they retired thither after the final failure of their attempt.<sup>3</sup>

The use of this phrase to describe the Samian Revolt is distinctive.<sup>4</sup> It could only have been so used while the defeated oligarchs were still at Anaiia, and then only by a Samian of the opposed party, actually resident on the island. The Geomoroi had returned by 412, for there was a democratic rising against them in that year.<sup>5</sup> They were still in exile in 427, when we find them giving advice to the Spartan Alkidas.<sup>6</sup> Their return lies between the two dates; and a Samian account of the Revolt, calling it the 'war against the Anaiians', was composed before their return, but after 439.

This is just the period at which the first of the Samian

- 
1. For Sophokles' part in the Samian Revolt, Androtion, FGrHist 324 F 38; Ion, ibid. 392 F 6; Plut., Per. viii 8.
  2. Cf. Thuk. i 115.4; supra, p. 451.
  3. Cf. Thuk. iii 32.2; iv 75.1.
  4. Cf. 'the War between the States' for the American Civil War.
  5. Thuk. viii 21.
  6. Id. iii 32.2.

local historians wrote his book: according to Dionysios of Halikarnassos, πρὸ τοῦ Πελοποννησιακοῦ πολέμου.<sup>1</sup>

Trying to find his context in the development of local historiography, Jacoby sets Euagon between Herodotos and Thukydides.<sup>2</sup> I suggest, then, that the Life of Sophokles preserves a new fragment of Euagon, and that the historian carried his narrative down to the end of the Samian Revolt. At any rate, it seems certain that some local writer produced a nearly contemporary account of these events, whether or not he was Euagon. This account may join Stesimbrotos' history as a possible source for Douris and other late authorities outside the Thukydideian tradition. Accordingly they may carry more weight than has been allowed.

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1. De Thuc. 5 (FGrHist 535 T 1).

2. Ibid. III B Komm. p. 457.

**SUPPLEMENT**

**The Silver Coinage of Samos  
to 365 B.C.**

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**P A R T I**

**The Internal Evidence**

## I THE ARCHAIC PERIOD

Few one-sided silver coins have any serious claim to be considered Samian. The earliest variety is represented by a piece in the British Museum (a), whose types are: obverse, the forepart of a cow to right; reverse, rough incuse square. The weight of this coin, 8.75gm., proclaims it to be a half stater of that particularly heavy version of the Euboic standard which was employed for the earlier Samian electrum.<sup>1</sup> Of similar date is another rare piece, an eighth of the heavy Euboic stater (b), weighing 2.12gm. Its types are: obverse, the head and neck of a cow; reverse, a rough incuse square. Rather later, a sixth takes the place of the eighth, and the obverse type is replaced by that of a lion's scalp facing (c).<sup>2</sup> The weight varies considerably, and it is impossible to decide whether the standard is Euboic or Lydo-Milesian.

The first two-sided coins are struck on the Lydo-

- 
1. Recorded weights of staters: 17.35, 17.32, 17.43, 17.23gm.
  2. Attribution to Samos: (a) probable; (b) possible; (c) certain.

Milesian standard. They are quarters of the stater: I shall call them drachms ( and use similar names for other fractions), rather for convenience than from any belief that this name was already used in Samos. Their types are: obverse, a winged boar to right or left; reverse, a lion's scalp facing, within a border either of dots alone or of dots between double lines. What is their relation to the staters of Samian weight? We consider first the end of the series. It might be argued that the drachms must continue parallel to the last of these staters; for the latter are not a sparse issue, and without the 'boars' there would be no corresponding drachms. Yet even the rare series of Attic weight - which I shall show to be later - has drachms to correspond. The 'boars' therefore must come to an end before these last - as, indeed, one would suppose from their weight. But although it is hard to find stylistic parallels between the scalps on these 'boar' drachms and those on the tetradrachms, yet it may be remarked that the workmanship of the former is much rougher and more untidy; while those few which are



'Winged Boar' Drachms

Table 1.

Weight	TOTAL	OBSERVE		REV. ORDER	
		Boar to left	Boar to right	Det. only	Det. only
2.90	1	1			1
3.00	3	3			3
3.10	11		11		11
3.10	13	13			13
3.20	18		18		18
3.20	17	17			17
3.30	8		8		8
3.30	5	5			5
3.40	13		13		13
3.40	18	18			18
3.50	20		20		20
3.50	24	24			24
3.60	21		21		21
3.60	14	14			14
3.70	4		4		4
3.70	2	2			2
3.80	2		2		2

comparable show more affinity with the earlier series of tetradrachms than with the later 'constant olive' series.

When did the 'boars' begin? The frequency table 1 gives their most common weight as 3.46-3.56gm., with minor gatherings at 3.35-3.40gm. and 3.10-3.20gm. We use objective criteria of style to suggest that this does not represent inaccurate weighing but coinage upon two different standards. In the heavier of the two groups, at 3.34gm. or more, boars to the left outnumber boars to the right in the proportion 4:3, and reverse borders of dots and lines outnumber borders of dots alone by 2:1. But in the lighter group, 3.27gm. or less, boars to right outnumber boars to left 3:1, while all but one of the reverse borders are of dots alone, and that one belongs to the heaviest coin of the group. Clearly we have two distinct standards and periods. The lighter series in fact represents one quarter of the Samian stater or tetradrachm of 13.00-13.10gm., to which therefore these coins will be the corresponding 'drachm' (e). All examples of the latest style of

scalp are of this weight. But identity of type argues that the heavier coins had nevertheless the same name as the lighter - and they form no rational fraction on the Samian scale. Their weight represents one quarter of the Lydo-Milesian stater of 14.20gm. maximum (d). On grounds of scalp-style they are earlier than the lighter. Since they are the only Samian two-type currency of this weight, they should be placed between the single-type coins of Euboic weight and the first two-sided coins of native standard.

As to the duration of the heavy series, the fact that there are considerably more of these than of the lighter coins should not lead us necessarily to suppose a longer period of issue; for in the absence of staters and half-staters the quarters must have formed the main bulk of currency. A duration of, say, fifteen years would amply suffice if they are <sup>a</sup> regular issue, or considerably less if, as may appear possible from the external evidence, both series were emergency issues to pay military expenses. The poverty of their style suggests a large but hurried issue.

The least stylistically developed scalps on these 'drachms', and so presumably the earliest of the series, have a border of dots alone. And among the most developed the proportion of triple borders of dots and lines is much higher than over the series as a whole. This compels us to place immediately after the Lydo-Milesian 'boars' the short series whose types are: obverse, the forepart of a cow to right; reverse, a lion's head to right within a border of dots between double lines, the whole in an incuse square. The 'trihemiobol' has a reverse border of dots alone. The weight of these coins is the first or heavy Samian standard, a regular and precise equivalent to that of the stylistically latest heavy 'boars', at whose date the Lydo-Milesian standard tended towards progressive debasement. I have called the present series short because drachms (g) and trihemiobols (h) are rare, while all of the four didrachms known to me are from the same obverse die. The probable duration to be allowed upon this evidence is no more than a couple of years.

Close to these coins must be placed a rare piece with types: obverse, the forepart of a winged boar to

right; reverse, the head and neck of a cow to right, truncation dotted, within a border of dots between faint double lines. The style of both sides is unquestionably Samian; but the weight, 2.69gm., seems to mark the piece as a sixth of Attic weight - though it is conceivably intended for a Samian-weight quarter (j).

We come to what are henceforth the standard types at Samos; obverse, a lion's scalp facing; reverse, the head and neck of a cow to right or left. Since of all coins of these types only one denomination, a triobol, has the triple border of dots and lines which we have been considering, and since, as we shall observe in the case of tetradrachms, the tendency is to lose, not to gain the patterned border, we shall date this coin closely after the end of the 'obverse cow' series as the earliest two-sided example with obverse lion's scalp (k).

Two other distinctive features of this coin are that the obverse scalp is surrounded by a border of dots (here a square), and that on the reverse the cow's ear is seen erect against the field, not lying against the neck. Both these features reappear on staters 1-2

which, however, have a reverse border of dots alone. The uniquely small size of the incuse square suggests that these coins are earlier than stater 3, the only other stater to show the cow's ear erect. On the latter coin the obverse circle of dots forms the rim of a boss upon which the scalp is now placed. Five more staters, three of them from the same obverse, all from different reverse dies, have a dotted square reverse border (4-8). But the obverse bears neither border nor boss, and the border only once reappears. These coins come next in the series.

There are fractional coins of the same basic types as these. On every specimen the cow's ear is shown erect; and since it is unlikely that a difficult convention already abandoned on the stater would be retained where smaller scale offered greater difficulty, we must place all these earlier than the staters 4-8. They form three groups: the first consisting of triobols and diobols, has the obverse circle of dots, but lacks the reverse border - an awkward convention for small coins, here allowed to lapse in advance of the stater. The obverse border argues a close connection

with staters 1-2. The second group, diobol and obol, resumes the reverse dotted square, but apparently lacks the obverse border. The third, and clearly the last, group, represented by an obol, has neither obverse nor reverse border. One cannot decide upon the relative date of the first and second groups: I have tentatively disposed them in that order on either side of the third stater.

To the group of staters 4-8 belongs the hemiobol BM 81. The cow's ear is probably no longer erect, but the heavy treatment of the ears of the lion is a conclusive argument against such a late date as Head gives it in his Catalogue.

Of the same general date will be the lighter series of 'boar' drachms (e). Of Samian weight, their fabric however is primitive, the placing of the obverse die is careless, and they almost all have a reverse border of dots. The two or three specimens which have no such border will serve to link the end of the series precisely to the date at which this feature was abandoned on the tetradrachms.

Two varieties with dotted square reverse borders

remain to be considered. The first is the winged boar triobol with reverse type of a lion's head to left or right (l); the second a diobol with obverse type of a panther's head to right within a circle of dots, and reverse, a ram's head to left or right (m). They should not be contemporary with any of the first three staters discussed above, for these are already supplied with small denominations of their own type. And the diobol's obverse circle of dots shows that it, at least, should not be as late as 3ff. It should, therefore, precede the obverse lion's scalp issue; and since we have placed the obverse cow series immediately before this, the diobols may be placed in the last years of progressive debasement of the Lydo-Milesian standard. This<sup>is</sup> supported by their weight: all but one of the four specimens known to me are heavier than the normal Samian diobol of 1.08-1.09gm. (The exception weighs 1.08gm.) There is no reason why the earliest triobols should not be contemporary; for the lion's head on their reverse is of early style with receding 'chin', a feature even more marked here than on the heavy Samian obverse cow series. Of the

specimens known to me one exceeds the normal Samian triobol of 1.63-1.64gm. maximum, itself weighing 1.80gm. The others - 1.63 to 1.33gm. - belong to the period of the later series of 'winged boar' drachms.

I conclude, therefore, that the relative chronology of the archaic two-sided coins is as follows:

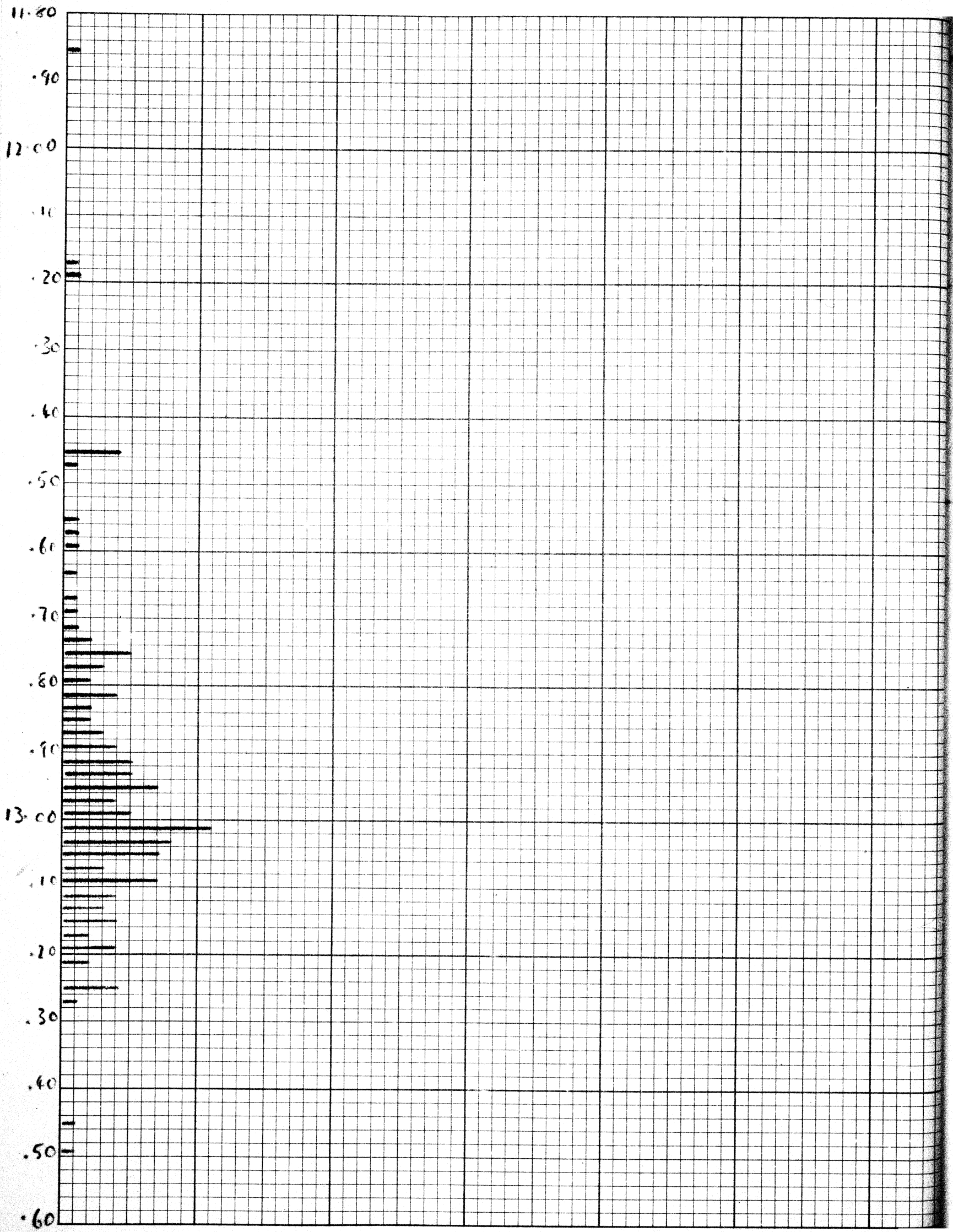
1. 'Winged boar' drachms of Lydo-Milesian weight (d), joined by triobols and diobols (l m).
2. Short series with forepart of cow as obverse type (f g h), together with the rare 'boar and cow' issue (j).
3. The series of coins with lion's scalp obverse:
  - a. Triobol with triple bordered reverse (k);
  - b. Tetradrachm with obverse border of dots (1-2);
  - c. Triobol and diobol with obverse border of dots;
  - d. Tetradrachm with obverse boss (3);
  - e. Diobol and obol with dotted square reverse;
  - f. Obol with no borders;
  - g. Tetradrachms with neither border nor boss on obverse, nor erect ear on reverse, but retaining reverse border (4-8); hemiobol with no borders.

4. Soon after the above, the 'boar' drachms of Samian weight (and 'boar' triobols), with dotted reverse border first present, omitted at last (e).



Tetradrachms of Samian Weight, all series

Table 2.



## II THE FIFTH CENTURY

### 1. Tetradrachms: 13.00-13.10gm.

The remaining staters of Samian weight are differentiated from those which I have already discussed by two factors. They are all without the dotted reverse border - with the erect ear, the last relic of the orientaling artists' anxiety to fill the whole field - and, as far as can be observed, almost all (with the exception of those inscribed ΕΥΒΑΤΙΟΞ ) have the ethnic ΖΑ or a fuller form of it. They may be divided into two main classes, those which always carry an olive branch as an adjunct to the reverse type (Class II, the 'constant olive' series), and those which never carry an olive branch (Class I). There can be no doubt on grounds of style and fabric that the fine coins of Class II are later than the lumpy and often carelessly struck coins of Class I. These classes may be subdivided:

I 1, having the reverse type within an incuse square;

I 11, having the type within an incuse circle, usually in association with a changing symbol. Again their style argues that I 11 coins are later than I 1, and this is confirmed, as will be seen, by the fact that I 11 must directly precede II 1.

II 1, 'constant olive' with no serial letter or symbol;

II 11, similar, but having a serial letter or symbol (of which latter only one certain example is preserved);

II 111, similar, inscribed ΕΠΙΒΑΤΙΟΣ.

I shall try to establish the internal chronology of these subdivisions before considering their duration.

Ii embraces five obverse and six reverse dies distributed among eleven specimens, Nos. 9-19. There is no means of deciding the relative order of the obverse dies, since none is linked by reverse die to another. Two reverse dies are linked to one another. The fact that die B 8 lacks ethnic inscription suggests that it precedes the others. The style is careless, and very different from that of the last archaic tetradrachms. The coins were evidently struck during a shortage of

silver, for only three reach a weight of 13gm. Nos. 9 and 10 are overstruck on adjusted coins of Aigina. No. 9 is particularly plain, with the turtle's head, flippers, and bulging shell well preserved, as well as the incuse 'Union Jack'. Further, the weight of No. 12, 11.86gm., betrays a similar origin.

I ii has at least fifteen obverse and thirty-three reverse dies among forty-eight coins.<sup>1</sup> There is no apparent regularity of die positions. Most of the coins have a reverse symbol adjunct, of which either eleven or twelve are known.<sup>2</sup> Eleven or twelve specimens are without symbol, of which three have the ethnic unabbreviated  $\Sigma\text{AMION}$ .<sup>3</sup> Linkages of dies, style, or fabric allow us to distinguish two main groups among these coins, containing twenty-one and nineteen coins respectively.

In the former of the two groups (a 20-40) the reverse adjuncts linked are helmet to wheel, and wheel to  $\Sigma\text{AMION}$ ; an earlier obverse die was engraved for the helmet (A 11 = A 14), but its use was discontinued (presumably it was mislaid), then resumed for the later

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1. I omit Nos 21-23 from this calculation.
  2. It is impossible to decide whether No. 27 bears a symbol.
  3. No.41 probably has no symbol.

ΣΑΜΙΟΝ coins, where it reappears gradually breaking up until the beginning of the eye issue, after which it was replaced for the remainder of this issue. The order of this group, then, is helmet, wheel, ΣΑΜΙΟΝ, and eye.

The other main group (f 49-57) is demonstrably the last of the series; for its final obverse die A 25, much broken, appears with a reverse olive branch, instead of the usual changing symbol (70). That this coin is the first of the 'constant olive' series, and not merely the bearer of another symbol, will be argued when we consider coins of Class II. Before the adoption of the olive branch this obverse die is used with (in retrogressive order) the symbols of B 45-6 a shield and B 44 a plant which appears to be iris tuberosa.<sup>1</sup> In its new state, however, it appears on coins with no reverse symbol (B 41-3). On these latter the cow is all but indistinguishable from that on other coins without symbol, whose obverse scalp A 23 is of the same general style as the last

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1. An oil extracted from its root was the basis of Corinthian scent. The best came from Leukas and Elis, Pliny NH 21.6.9. The plant grows in Samos.

die. This die was previously used with the symbol of an astragalos; and earlier still with that of a bird (51); and both obverse and reverse dies are closely similar to those of the peacock symbol coin 50; the shape of the lion's forehead, and the long, narrow neck of the cow are the best indications. This stylistic link is confirmed by the similarity of fabric between Nos. 49-50 and 52: instead of the usual pre-flattened flan (cf. No.43) these coins, and these only, are struck upon a globule of metal, with the result that much of the type is lost. The peacock's obverse die A 22 is used previously for a coin on which a symbol can be seen to be present, though all but its tip is off the flan. The order of the second group, then, is uncertain symbol, peacock or other bird, astragalos, no symbol, iris tuberosa, shield. Only two of these symbols (peacock and shield) have two reverse dies preserved, whereas the coins without symbols are from six. This indicates either a specially numerous issue without symbol, or the relative duration of the issues.

There remain three or four symbols not linked

by dies or conclusive criteria of style. They are a coin which probably bears no symbol (b 41), the amphora (c 42-44), the Samaina (d 45-46), and the 'hook' (e 47-48). I have placed them all in the midst of the series, where their style seems at home. But I would not maintain that these arbitrarily assigned places, rather than any others, are rightfully theirs.

Of Class II i I have recorded thirty-nine specimens. Five of these (a 68-72), from four obverse and five reverse dies, retain the incuse circle and lumpy fabric of I ii, from which only their olive branch distinguishes them. The remaining examples of this Class (b 73-92 and c 93-106) are of higher artistic standard, and their types are set more centrally upon a flatter and altogether tidier flan, while the reverse punch becomes square instead of circular. At the same time the use of fixed dies was introduced, and is henceforth regular, the commonest relation in this period being  $\uparrow \leftarrow$  or  $\uparrow \rightarrow$

We have to establish that the more primitive coins

do in fact belong to this and not to the symbol series. This is not difficult: apart from the greater number of their obverse dies - four, whereas no single symbol occupies more than two - and the inherent likelihood that so considerable an issue of 'olive' coins belongs to the 'constant olive' period, the stylistic evidence is unmistakable. One of the examples of group a, No.72 in Copenhagen, has the lighter type of cow which is regular from b onwards, and is stylistically identical with the second reverse die of b, B 53. The rather more weighty animal, however, which is usual on earlier coins, appears (though now with forelegs) on the first stater of b, No.73 in Boston. Cover the legs, and the similarity is striking. Its heavy stance and lowered head are manifestly copied for the third reverse die B 54 (No.76), as is the scalp for the obverse A 30, showing that the style of the Boston coin No. 73 is neither isolated nor fortuitous. But the original Boston scalp apparently follows the style of the symbol series, as is argued by its greater compactness and smaller scale. There is thus evidently no gap between groups a and b, and

since No. 68 is linked by its obverse die A 25 to the symbol series I 11, there can have been no effective lapse of time between the latter and the 'constant olive' series. This is most important, in that it restricts our choice of absolute dates for the coins. We shall require a period when striking was politically and economically possible, long enough to accommodate both series.

Groups b and c (reverse incuse square) may be differentiated in that the latter shows the cow wearing an ornamental collar. This feature does not reappear before the Attic-weight coins. The group contains fourteen specimens, all from the same obverse and four reverse dies - a single issue, but of considerable volume. These coins cannot precede group b, because this position is occupied by group a, as we have already demonstrated. Do they follow b, or are they part of it? The obverse die of group c (A 35) is, apart from its 'widow's peak', of identical style and certainly by the same hand as one of the obverse dies of group b, A 33. Notice particularly the treatment of the hair on either side, the set of the eyes, and the moulding of the forehead.

I have therefore placed the die A 33 at the end of b,<sup>1</sup> and followed it with c. To the careful observer, A 35 will appear more mannered than A 33 - but the whole inspiration is more pretentious, with 'widow's peak' obverse, and the prettily designed collar worn by the cow - while A 37 is a studied return to a more simple form.

There are otherwise no links between the obverse dies of group b, and the order of A 31 and A 32 must remain a matter for conjecture. The group contains twenty coins, from six obverse and twelve reverse dies.

Class II ii comprises the lettered series, Nos 107-156.<sup>2</sup> There are forty-seven specimens lettered from B to F, a sequence of fourteen letters including digamma. A further three specimens (Nos 105-127) have a panther's head in place of the sequence letter, and the wear of their common obverse die shows that they belong between I and H. We may suppose that each letter marks a fixed period, and that I had to be

- 
1. Except for No 92 whose obverse is of similar style with 'widow's peak'. The reverse, however, shows a very poor cow, rather cramped.
  2. Together with Nos 157-8, which I cannot at present account for.

abandoned because the moneyer, whose work this letter distinguished, was replaced in mid-term; but that H was already allotted and could not be employed before its proper time. The head, then, represents a part of I.

The presence of a sequence letter enables us to examine the validity of the die-linkage principle. There are eight obverse and twenty-one reverse dies. It will be seen that, if the coins are ranged by letter, a single obverse die is in use at any one time, its wear is progressive, and it is replaced only when it wears out. The sole exception is the second obverse die of Γ, A 38 = A 41, which is rested throughout Δ and E, just as the earlier helmet die A 11 A 14 was rested in the symbol series. All the surviving obverse dies except the second of E ( A 40) last for more than one letter-period: A 44 covers three letters (M - I ); A 38 A 41, part of a fourth besides ( Γ, E, I, H ).

The dies form a coherent stylistic series, both obverse and reverse. The cows of the lettered series have sharper muzzles and are less heavily bearded than

their predecessors; and the scalps show no affinity with those of II ib and c, with two exceptions. The obverse die A 36, the first of the lettered series, shows the scalp with 'widow's peak', as does A 35, the obverse of group c: the two dies are in fact by the same artist. He was also responsible for the last die of b, A 34, and for the second die of the lettered series, A 37. These two are distinguished only by the distance to which the roots of the ears project down the forehead, and by a slight difference in length of hair: even the number of locks on either side is identical. This evidence serves to demonstrate the sequence ib - ic - ii, and to suggest further that group c represents the missing <sup>A</sup> of the lettered series, the only letter not represented on surviving pieces. The ornamental collar would be commemorative of an event from which counting of the series might start after a later decision to do so when its significance had become clear. More specimens survive of c than of any lettered issue. But against their four reverse dies we may set three of E; while both B and E wore out more than their single obverse die.

The importance of the lettered series lies in the fact that if we can discover the temporal duration of one letter, we shall know immediately the duration of the sequence, and shall have the means of making a rough calculation of the duration of other issues, by comparing the number of dies which they employ. The most obvious hypothesis is that each letter represents a year - as Dr. Robinson has shown to be the probable significance of the same device on the coins of the Samian exiles at Zankle.<sup>1</sup> It will however be objected that a single obverse die is not likely to have lasted for the whole coinage of two or three years, unless there was remarkably little metal to coin; and that one should think rather in terms of months. This argument will leave the objector in the position of having to maintain that about 20% of the surviving staters of Samos were struck in a period of fourteen months, and of having equally to contract other series whose die-ratios are similar. The decisive consideration is one of style. If the letters represent months, the stylistic development is less likely to show constant

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1. E.S.G. Robinson, JHS lxvi (1946), 15.

progress than fluctuation. But in fact the development is constant. First, the scalp; after the high achievement of A 37, copied by the different hand of A 38, the carving of the hair becomes gradually coarser, ending with the remarkably coarse and summarily carved hair of A 44, while the slits of the eyes become wider. As for the cow, after I the head grows less sharp, and is lowered to fit the new incuse circle more neatly; at the same time the protome is shortened, until on N and F coins the hoof of the bent leg actually reaches behind the truncation. On these last two the head and neck are both lowered, and this feature is repeated on all subsequent staters, even when the incuse square has been resumed. The long, elegant olive branch is not only shortened but becomes thicker from K onwards. It is difficult to imagine all this development as occupying only a little more than a year. But it would be reasonable for a decade and more. We may therefore take it that each letter represents a year.

II iii contains two coins, 159-160, struck from the same pair of fixed dies. The ethnic is omitted,

and the legend ΕΠΙΒΑΤΙΩΣ takes its place. This is probably to be read as two words, 'in the time of Batis'. The absence of ethnic recalls the exile issue at Zankle, and may here similarly mark an issue by an opposition party in refuge on the mainland coast or elsewhere. The shape of the scalp proves these coins considerably later than the lettered series: the treatment is still largely linear, but the forehead has already assumed the squareness it displays on the coins of Attic and Rhodian weight. These latter, however, are plastic rather than linear in feeling. For the first time the cow's hoof is shown cloven, with the two parts represented on different levels in receding perspective. ΕΠΙΒΑΤΙΩΣ, therefore, should stand in its own - well after II ii, but closer to it than to the next series.

Having established the succession of the several issues, we pass to consider their duration. An absolute figure can only be reached on the basis of the known duration of one issue; and the calculations which follow are founded upon the premise that the series (A) -  $\bar{\text{F}}$  occupied fifteen years. As a basis for these

calculations obverse dies are clearly the more reliable; for in their case one deals with the whole life of each die, which is not replaced until outworn; whereas, in the lettered and symbol series at least, an almost new reverse die might be abandoned because it was time to change the sequence mark. Further, since reverse dies are less hard-wearing and so more numerous than the obverse, the number of specimens found will make a greater difference to the number of reverse dies recorded. So in the case of the scantily preserved Class I 1, for instance, (eleven coins, five obv., six rev.) calculation from reverse dies would make it seem less numerous than the obverse dies show it to have been.

The following table gives the total number of specimens, obverse, and reverse dies of each series, with its duration calculated from obverse dies before allowance is made for any other factors, taking the lettered series as fifteen years' issue

Coins Rev.Dies Obv.Dies Duration					
I 1	Α, rev.inc.sq.	11	6	5	8.3
I 11	Symbols.	46	33	14	23.3
II 1a) b)	'Const.olive', no letter.	25	17	9	15.0
II 1a) 11)	Collar <A>; B-Ξ	14) 50) 64	4) 21) 25	1) 8) 9	15.0
II 111	ΕΡΙΒΑΤΙΟΞ	2	1	1	

As before, I omit Nos 22-3 and 157-8 from the calculation.

I class the first obv.die of II; (A 25) with I 11, since it is already much worn from use in the latter Class by the time it is used for the single specimen of II; on which it appears.

This basic calculation takes no account of two important factors (it has been presumed that the average life of a die is fairly constant), the inaccuracy due to the different number of specimens found, and the possible difference of volume of coinage in different periods. Correcting the former factor, we suggest that

II ia-b in fact lasted rather longer than fifteen years. For the latter factor, we may examine whether there are any indications of a greater volume of production, and so of temporally shorter die life, in any period. If it were admitted by analogy that each symbol lasted for a year, the duration of the symbol series might be checked against the number of symbols remaining. Of these there are twelve, thirteen if we include *ΣΑΜΙΟΝ*. There is besides a group of ten coins, out of forty-six, which are without symbol, from three obverse and six reverse dies; whereas the three preceding and two succeeding symbols between them only use one obverse die which is not also used by the coins without symbol. Since the coins without symbol must have worn out each die before proceeding to a fresh one, we must allow the plain coins a time-value at least equivalent to that of three symbols. It is reasonable to suppose further that one or two symbols are lost here.<sup>1</sup> In the light of these corrections we may assign to the original series a duration of eighteen to twenty years. And

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1. The apparent extra duration to be deduced from the fact that fewer symbols are linked among I ii than letters among II ii (more symbols lost) may be counted against the apparently greater volume - and so shorter duration - to be deduced from the fact that seven symbols use more than one obverse die, whereas only two letters do so.

this is reasonable stylistically. Such a period does not, of course, include any year in which no coins were issued.

The dies of I 1 are of workmanship inferior to their successors and archaic predecessors, suggesting that they were engraved hastily for a voluminous issue (like the archaic drachms), during five or six rather than eight years. It would be idle to attempt further corrections, and we may conjecture finally the following durations: I 1, 5-6 years; I 11, 18-20 years; II 1a-b, 16-17 years; II 1c-11, 15 years.

2. Drachms: 3.18-3.28gm.

There are no coins of this denomination which can be assigned to the present period.

3. 'Triobols': 1.54-1.64gm.

Numerous coins bear the general types, obverse, the forepart of a winged bear to right or left; reverse a lion's head gaping to right or left. Seven different issues may be distinguished. The first five have the reverse type in an incuse square, (1) with dotted square border, (2) without border or further device, (3) with ethnic inscription  $\Sigma\Lambda$ , (4) with ethnic and olive branch, (5) with olive branch alone. The remaining two issues have the reverse type in an incuse circle with ethnic inscription, with (7) or without (8) the symbol of a dolphin.

The first issue has already been assigned to the archaic period on the ground of its reverse border, and this will later be confirmed by external evidence of style. Its weight varies from 1.3 to 1.8gm., greatest frequency at 1.4gm., and these coins are certainly

triobols, mostly of Samian weight, but a very few of Lydo-Milesian.

The greatest frequency of the remaining issues, however, is between 1.20 and 1.30gm., and examples even as light as 1.10gm. are not rare. It would formally be possible to suppose that the general practice of striking fractional coins considerably under the correct weight was exaggerated here, even to a deficiency of 22%. But the more accurate weight of diobols and other fractions in the same period, which we shall observe, makes such an hypothesis untenable. The alternative interpretation is not far to seek. The Samian stater is a progressively debased version of the Lydo-Milesian, and if one of these 'triobols' is added to a Samian stater it makes up the latter's weight to that of a Lydo-Milesian stater, useful for certain foreign trade, and easily commensurable with Athenian coins.<sup>1</sup>

The vicissitudes of type and incuse shape of these coins reflect, in general, the changes in these features between the various series of tetradrachms throughout

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1.  $13.0 + 1.2 = 14.2$ ;  $14.2 \times 6 = 85.2$ ;  $85.2 \div 5 = 17.04$ .

Classes I and II. The formal treatment of the olive spray both here and on the diobol (see below) is identical with that discussed under the heading of trihemibols and securely dates both denominations to this general period.

4. Diobols: 0.99-1.09gm.

Obverse, a panther's head to right or left; reverse, a ram's head to right or left. Here five issues can be observed, four with reverse incuse square and one with incuse circle: (1) with border of dots, (2) without border, (3) with ethnic, (4) with ethnic and olive spray; (5) no ethnic. The majority of specimens of the first issue exceed 1.10gm., and have already been assigned to the Lydo-Milesian standard in the archaic period. Almost all the remainder weigh less than 1.00gm., though only slightly underweight, at 0.92-1.00gm. greatest frequency. The distinctive features of the several issues evidently follow those of the 'triobol' change-pieces, and two more corresponding issues should perhaps be conjectured.

5. Trihemiohols: 0.82gm. maximum.

I class as trihemiohols of this period the coins of actual weight frequency 0.52-0.62gm. whose types are: obverse, the prow of a Samaina to right; reverse, an amphora between an olive branch on one side and the letters  $\Sigma A$  on the other. They are lighter than one would expect: the normal standard weight should be 0.72-0.82gm. But, granted that they are of Samian standard, what are the alternatives? They are too consistently overweight to be ohols, the normal maximum of which should be 0.55gm. only three specimens are lighter than this, whereas many are heavier. Besides, as we shall see, the place of the ohol is to be filled by coins of other types. The amount of the weight deficiency is similar to that of the diohol.

The weight of these coins would favour their ascription as ohols to the Attic or Rhodian period. Indeed, Babelon favoured the latter.<sup>1</sup> But stylistic considerations forbid. The olive leaves on the coins

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1. Traite II ii 1820.

we consider are represented in outline, by a raised line around their edge, the main area of the leaf not rising above the level of the field. But on all staters both of the Attic - and of the Rhodian - weight series the whole leaf is always raised above the surrounding field, whereas the linear treatment of our coins is only to be paralleled on pieces of Samian weight. The same conclusion is argued by the difference of the Samaina prow on these coins from that on the Rhodian diobols, and from that which appears as a symbol on one of the Attic-weight tetradrachms.

The only apparent solution is to regard these coins as Samian-weight trihemiobois. As to their date in relation to the tetradrachms, the olive branch adjunct suggests that they belong to the 'constant olive' series; and the fact that one specimen has the reverse type in an incuse square, not a circle, as do the others, might lead us to suppose that the beginning of the series was contemporary with the middle of the lettered series of tetradrachms, perhaps 0 or 1.

6. Obols: 0.55gm. maximum.<sup>1</sup>

This must be the denomination of certain rare coins whose recorded weights are 0.57, 0.50, 0.48, and 0.43gm. (A tritemorion, if it were to exist, should weigh a maximum of 0.41gm.) Allowing a margin of variance of 0.10gm., these coins are close to correct weight. Their types are: obverse, a lion's scalp facing; reverse, head and shoulder of a cow to right, within an incuse circle.

The style of the scalp is closely similar to that of the lettered series of tetradrachms. The incuse circle suggests that these obols are contemporary with the second division of the series, and this suggestion is confirmed by the appearance of the cow. The unbroken edge of the dewlap on BM 80, compared with the scalloped edge on BM 79, for instance, may argue that the two stand close to the change in this feature between tetradrachms K and N. The reverse of BM 80, in fact, appears to be by the artist of reverse B 86 (the first die, B 85, is by the different hand of the obverse, A 44) - notice

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1. I omit the obol Traite Pl. cl 10 (see my catalogue); the reverse type of a ram's head is horned, an unconvincing way of distinguishing this piece from the superficially very similar diobol.

particularly the rounded swelling over the cheek-bone. The ~~hump of the neck~~ on the obol is no more than an attempt to fill the field more satisfactorily, a consideration made unnecessary on the tetradrachm by the presence of the ethnic inscription.

The obol BM 80 is not the first of the series, as we may understand from the apparently greater wear of its obverse die: there was at least one and probably several more reverse dies, to say nothing of the possibility of yet more dies, both obverse and reverse. Although this particular specimen must have been struck at the time of  $\mathcal{M}$ , the style of its obverse die takes the series back to  $\wedge$  certainly, and perhaps to  $K$ . There is thus a very strong possibility that both obols and trihemibols were added to the currency together, at some time close to the letter  $\mathcal{O}$  or  $I$ .

7. Hemiobol: 0.27gm. maximum. 7

The hemiobol catalogued as BM 81 by Barclay Head has already been reassigned to the archaic period, the heavy form of the lion's ears being a conclusive argument. There do not appear to be any other pieces which might be hemibols of the present period.

## [8. Bronze.]

Head also assigned to this period as BM 125 a bronze coin with types: obverse, the prow of a Samaina to right; reverse, an amphora between the letters  $\Sigma A$ , surrounded by an olive wreath. There are other examples of this coin elsewhere. The same argument which compelled us to place the trihemiobol in this period - the treatment of the olive leaf, which on the bronze is wholly raised - forbids us to make these coins contemporary. The great dissimilarity of the shape of the amphora argues the same conclusion, as does the obvious inconvenience of allowing coins of similar size and type, but of very different value, to circulate together.

## III COINS OF ATTIC WEIGHT

1. Tetradrachms; c.17.00gm.

The types of these coins are generally similar to those of the 'constant olive' series; but the cow has the ornamental collar, the ethnic is written  $\Sigma\text{AM}\iota$ , and instead of a sequence letter, the field usually contains a monogram,  $\text{A}$  or  $\text{H}$ , or the prow of a Samaina. All but two of the  $\text{A}$  coins are from a single hoard: most are overstruck, probably on pieces of Thrake-Makedonian origin. The style of the lion's scalp throughout shows the square forehead, such as we have met on the  $\text{E}\Pi\text{B}\text{A}\text{T}\iota\text{O}\varsigma$  coin, but with a less linear, more lumpy, treatment of it and of the locks of hair. This is most pronounced on the  $\text{H}$  monogram coins, which may, therefore, be the latest. The whole style of both obverse and reverse is close to that of the Rhodian-weight series, and the present pieces must have been minted at a date nearer to these than to earlier coins. In particular we notice that the olive leaf now for the first time takes its new convention of

being wholly raised from the field. The cow's hoof continues to be shown cloven and in perspective, while the dots which line the truncation become heavier. The head remains lowered. The dies suggest a brief issue of considerable volume.

2. Drachms: c.4.25gm.

Drachms were minted of the same types as the tera-drachms, but with the olive branch behind the cow replaced by a spray in front. A variety has the letter A between the cow's legs, and is linked by obverse die to unlettered specimens.

3. Triobol: c.2.13gm.

There is in the British Museum an uncatalogued and apparently unique coin of weight 2.02gm., whose types are: obverse, a lion's scalp facing; reverse, the head and shoulder of a cow to right, ΣA above, the whole surrounded by a wreath of olive, in an incuse circle. The arguments for assigning it to the present period are as follows: on grounds of weight alone it

could be a tetrobol of Samian standard (2.08-2.18gm.), or a triobol of either Attic or Rhodian weight (c.2.13gm. and 1.82-1.92gm. respectively). But since it shows the whole surface of its olive leaves in relief, it cannot belong to the series of Samian weight, on which they are always merely outlined. That it is unlikely to be a Rhodian triobol is argued not only by the fact that it would be overweight, but that the magistrate series already contains triobols of types identical with those of the tetradrachms. Allowing our usual margin of error of 0.10gm., this coin may suitably be placed as an Attic triobol. This conclusion is supported by the style of the lion's scalp, which, despite the different proportion of length of muzzle to height of forehead, is nevertheless very close to the style of the scalp on the  $\mathcal{A}$  tetradrachms. In particular, the pair of triangular projections from the root of the nose upwards into the forehead, almost universal among the Rhodian-weight coins, is here absent; and they are absent too from the tetradrachms of Attic weight. The forehead is correctly lumpy, and the hair still retains a certain quality of formality.

#### 4. Bronze.

The identification of the above triobol is the best argument in favour of assigning to this period the bronze pieces which I consider under section 8 of the last chapter, and there rejected. Their types are: obverse, the prow of a Samaina to right; reverse, an amphora between the letters  $\Sigma A$ , surrounded by an olive wreath. The composition of the types vividly reflects that of the triobol, and the prow of the obverse recalls the appearance of the same symbol in the reverse field of one of the tetradrachms - as earlier the panther's head obverse of the diobol had been borrowed for use as a symbol on a tetradrachm in the course of the lettered series. Again, the coins are unlikely to belong to the Rhodian series, which is already otherwise supplied with bronze of this size.<sup>1</sup> Besides, after  $\text{H}^{\text{H}}\Sigma\text{I}$ , the die-relation of fourth-century coins appears to be regularly  $\uparrow\downarrow$  or  $\uparrow\uparrow$ .<sup>2</sup>

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1. This is the date given by Babelon, Traite II ii 1821.
  2. This is true of bronze, not only of silver: cf. SNG Copenhagen, Ionia 1692-6.

And this relation is certainly not preserved by the present bronze pieces. Thus, since the appearance of the wholly raised olive leaf precludes an early date, the coins must go with the Attic-weight series.

## IV COINS OF RHODIAN WEIGHT

In the assignation of dates to the coins of Rhodian weight, we are free of one difficulty which beset us in dealing with the earlier issues, that of arguing both the duration and the sequence of a number of different series. The present coins fall into two classes, the first embracing all the tetradrachms of now familiar types, together with all fractions inscribed with the name of an individual (the 'magistrate series'); the second containing solely tridrachms (or double siglei) of a <sup>a</sup>legue, inscribed  $\acute{\epsilon}\nu\nu(\mu\alpha\chi\omega\nu)$ .<sup>1</sup> Since the latter are not paralleled in denomination by any coins of the magistrate series, and are unaccompanied by other denominations of their own types, there is, in principle, no reason why they should not be contemporary with part of that series. It has usually been assumed that they are earlier, but the assumption is quite groundless: we shall require evidence. There are, besides

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1. Obv. Herakles strangling two snakes,  $\acute{\epsilon}\nu\nu$ , circular border; Rev. Lion's scalp facing,  $\acute{\epsilon}\Lambda$  below. The other members of the legue, sharing obv. type but with national rev., were Rhodes, Knidos, Iasos, Ephesos, Byzantion, Kyzikos, and possibly Lampsakos: G.L. Cawkwell, NumChron. 1956, 69ff.

these two classes, a number of fractional pieces (of value less than a triobol) of this period. But it will not be possible to give an exact date for them within the period. We may only say, as we may say of the bronze, that those coins which have the reverse type of a lion's scalp above the letters  $\Sigma A$  must be later than the  $\Sigma V N$  issue. For whereas on the latter the idea of placing the scalp on the reverse with the ethnic inscription was due to the necessity of commemorating the league in an obverse type common to all the allies, in the case of the fractions and bronze there is no such motive for the scalp's relegation, the obverse type being novel, and specifically Samian - the head of Hera, or some symbol. Reference to representative specimens of all the fractional denominations will be found in the catalogue

The surviving magistrate tetradrachms carry twenty-one names (if  $\text{H}\Gamma\text{H}\Delta\text{I}$  ) is separate from  $\text{H}\Gamma\text{H}\Sigma\text{I}\text{A}\text{N}\text{A}\text{E}$  ).<sup>1</sup> The coins are from about twenty-nine obverse and forty-eight reverse dies.<sup>2</sup> Of these no fewer than nine

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1. Following the die-sequence they are separate: I suggest that the latter name was written in full to distinguish it from the former,  $\text{H}\Gamma\text{H}\Sigma\text{I}\Sigma\text{I}\text{P}\text{A}\text{N}\text{O}\Sigma$  or a similar name.
  2. I say 'about' since I have not been able to examine every specimen. The actual figure may possibly be one or two more.

obverse and fifteen reverse belong exclusively to coins inscribed  $\text{H}\text{H}\Sigma\text{I}\text{A}\text{N}\text{A}\text{F}$  . The sequence of the series may be recovered to a considerable degree. Besides the linkage of dies, there are other trustworthy criteria. Occasionally we meet moneyers' marks (  $\text{A}$  or a bee<sup>1</sup> ). Their exact interpretation depends upon whether the name at the head of the coin belonged to the annual eponymous Head of State, or merely to the moneyer. I conclude that the name is that of the magistrate from the fact that it is allowed to occupy a more important position on the coin than does the ethnic inscription; and the mark is that of moneyer (contractor), not of artist, since the same mark occurs on coins of widely difference style. Coins bearing the same moneyer's mark should be placed together in the series. Again, the style of representation of the cow changes abruptly between  $\text{Φ}\text{Ρ}\text{Α}\Sigma\text{I}\text{Τ}\text{Η}\text{Ρ}$  and  $\text{Γ}\text{Υ}\text{Θ}\text{Ω}\text{Ν}\text{Ν}$  : for the first half of the series we meet, with little change, the noble animal which

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1. The first mark represents a name beginning  $\text{A}\Sigma\text{~}\text{A}\text{M}$  , since it appears as  $\text{A}$  on the drachm, further abbreviated for the smaller scale; the circle must be merely a border, not  $\text{O}$  , for the name is not likely to have begun  $\text{A}\text{O}$  ... The second mark probably represents a name like  $\text{M}\text{E}\text{A}\text{I}\Sigma\text{I}\text{O}\Sigma$  or, more symbolically,  $\text{A}\text{P}\text{T}\text{E}\text{M}\text{I}\text{D}\text{O}\text{R}\text{P}\text{O}\Sigma$  .



Name of Magistrate      Number of Specimens      Obverse Dies      Reverse Dies      Moneyer's Mark      Style

	Name of Magistrate	Number of Specimens	Obverse Dies	Reverse Dies	Moneyer's Mark	Style
1	ΡΡΩ-ΡΡΩΤΗΣ	1/2		1/2	-	Incuse square L <sub>1</sub> C <sub>1</sub>
2	Α]ΛΤΗΣ	2		1	-	L <sub>1</sub> C <sub>1</sub>
3	ΗΓΗΣΙ-	4		1	-	L <sub>1</sub> C <sub>1</sub>
4	ΑΜΦΙ-	4 om. 191		2	-	L <sub>1</sub> C <sub>1</sub>
5	ΗΓΗΣΙΑΝΑΞ	32 om. 224-6	9	15	Ⓜ	L <sub>1</sub> C <sub>1</sub>
6	ΛΕΛΞ	2	2	1	Ⓜ	L <sub>1</sub> C <sub>1</sub>
7	ΑΡΙΣΤΗΙΩΝΗΣ	2		2	Ⓜ	L <sub>1</sub> C <sub>1</sub>
8	ΠΕΙΡΑΝΔΡΙΩΝΗΣ	2		2	Ⓜ bee	L <sub>1</sub> C <sub>1</sub>
9	ΛΟΧΙΤΗΣ	3	2	3	bee	L <sub>1</sub> C <sub>1</sub>
10	ΙΗΝΕΙΟΣ <sup>1</sup>	1	1	1	-	L <sub>1</sub> C <sub>1</sub>
11	ΗΡΙΟΣ	1	1	1	-	L <sub>1</sub> C <sub>1</sub>
12	ΦΡΑΣΤΩΡ	1		1	-	Incuse circle L <sub>1</sub> C <sub>1</sub>
13	ΡΥΘΙΩΝ	2		2	-	Inc. sq. L <sub>1</sub> C <sub>2</sub>
14	ΑΙΚΜΕΩΝ ΗΓΕΜΟΝΕΣ	4		2	-	L <sub>2</sub> C <sub>2</sub>
15	ΛΕΟΝΤΙΕΚΟΣ	1		1	-	L <sub>2</sub> C <sub>2</sub>
16	ΡΥΘΑΓΟΡΗΣ	1 om. 248		1	-	Incuse circle L <sub>2</sub> C <sub>2</sub>
17	ΔΗΜΗΤΡΙΟΣ ΑΥΤΙΑ	1	1	1	-	L <sub>2</sub> C <sub>2</sub>
18	ΔΗΜΩ <sup>2</sup>	1	1	1	-	L <sub>2</sub> C <sub>2</sub>
19	ΕΡΙΚΡΑΤΗΣ ΕΡΙΚΡΑΤΗΣ ΑΧΕΛΩΙΟ	1 2	1 1	1 2	-	L <sub>2</sub> C <sub>2</sub>
20	ΙΗΝΟΟ[ΟΤΟΣ ΜΑΝΔΡΑΒΟΥΡΟ	1	1	1	-	L <sub>2</sub> C <sub>2</sub>
21	ΜΟΙΡΙΩΝΗΣ	1	1	1	-	L <sub>2</sub> C <sub>2</sub>

1. Not ΚΑΡΝΕΙΟΣ, as Gardner, op.cit. 88; Traité II ii 1838 and n.6.

2. Restored from drachm, von Aulock 491/7: given as ΔΗΜΩ in SNG Copenhagen.

appeared on the Attic-weight tetradrachms ( $\text{€}_1$ ). But the second half, engraved with less care, carries the tired and drooping beast which we meet on the third century silver ( $\text{C}_2$ ). At about the same time the lion's scalp undergoes a change of style: the broad visage ( $\text{L}_1$ ) is reduced in scale to a neater, and later more decadent, mask ( $\text{L}_2$ ), while the fine square outline of the forehead, ultimately deriving its inspiration from the metopes of the Parthenon, gives place to the shape of a Tudor arch. For the reverse, the lowered head, the parted hoof, the heavy dots at the line of truncation, and the raised olive leaf, are all retained throughout the series. Finally, the incuse square is replaced by a circle in the second half of the series.

The evidence for the order of the sequence of magistrate may be seen from the accompanying table. Nos 1-4 are placed first not only on grounds of style and of the use of abbreviation:  $\text{ΠΡΩ}$ ,  $\text{ΠΡΩΤΗΣ}$ ,  $\text{ΑΝΤΩΣ}$  and  $\text{ΚΡΗΣΙ}$  have not yet adopted the normal fourth-century die-relation of  $\uparrow\downarrow$  or  $\uparrow\uparrow$ , so must come first; and they

take  $\Lambda\text{M}\phi\text{I}$  with them by die linkage. The group 5-9 comes next in style; and for the rest the table is self-explanatory upon the criteria of sequence proposed above. To the twenty-one names recorded in the table we must add, from fractional coins  $\Lambda\text{E}\rho\text{T}\omega\text{H}\acute{\epsilon}$  ,  $\text{A}\text{I}\rho\text{V}\rho\text{T}\omega\text{S}$  and  $\text{A}\rho\text{T}\text{I}\rho\text{O}\text{V}\acute{\epsilon}$  , the latter with reverse incuse circle.

How long did the series last? If, as seems likely, the names are those of magistrates, then, since they form an ordered sequence, and apparently do not occur in groups of contemporaries,<sup>1</sup> we should expect each issue to belong to a single year - even that of  $\text{H}\text{I}\text{H}\acute{\epsilon}\text{I}\text{A}\text{N}\text{A}\text{E}\text{I}$ . The series therefore lasted for at least twenty-four years. Since technical methods may have changed, it is unsafe to use the method of calculation from number of dies which we used in the fifth century. Six names occur uniquely, and eleven have no die link with others. So it is reasonable to suppose that enough are missing to give the series a duration of thirty years or a little longer, including years in which no coins were struck at all.

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1. This would be represented by concurrent, not consecutive die-sharing.

The dies of the  $\epsilon\nu\nu$  'tridrachms', however, indicate that theirs was a much shorter series, lasting no more than a couple of years. The style of their reverse scalp may be closely paralleled from the tetradrachms: it is very similar, in general, to the first few issues of the series; and, in particular, it recalls the neater, more compact treatment of  $\text{H}\Gamma\text{H}\Sigma\text{I}\text{A}\text{N}\text{A}\text{E}$ , especially die A 62, rather than the somewhat freer and more abandoned lions of  $\text{P}\text{P}\Omega\text{T}\text{H}\Sigma$  and  $\text{A}\text{M}\text{Q}\text{I}$ - (A 52 - A 54). The date which we assign to the alliance, therefore, will determine the date of the magistrates.

**P A R T   I I**

**The External Evidence**

**Conclusions**

## I THE FOURTH CENTURY

Before we consider the crucial question of the date of the alliance coins, we may examine the other indications provided by the history of the period, and by the hoard evidence.

At the end of the Peloponnesian War Athens specially sought to retain Samos alone of her Empire.<sup>1</sup> She was bound to make this request, for the Samians were now legally Athenian citizens;<sup>2</sup> and Athens besides owed Samos her last years of resistance.<sup>3</sup> Sparta refused, and brought back Geomoroi from the exile which they had suffered ever since the counter-revolution of 412.<sup>4</sup> Among them was Kleomedes, whose lands the democrats had then seized.<sup>5</sup> In 365 Timotheos reduced Samos after a siege, the people were driven out, and the land given

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1. Plutarch, Moralia 233D.

2. Tod, GHI 1<sup>2</sup> 96.

3. Thukydides viii passim; Xenophon, Hellenika II ii 6.

4. Ibid. iii 6-7; Thukydides viii 21.

5. IG I<sup>2</sup> 101, Athenian ratification of measures noted by Thukydides viii 21. For Kleomedes' collaboration with Sparta, cf. Pausanias X ix 10-11.

over to Cleruchs from Athens.<sup>1</sup> They remained until the return of the natives more than forty years later, after the death of Alexander.<sup>2</sup> Since our coins are of Samian types, they were certainly not issued between 365 and 322.. That they were struck in the first half of the century, and not after the return, is argued by the hoard evidence presently to be discussed. The correctness of this general date is also shown by the occurrence of the inscription ΕΠΙΚΡΑΤΗΣ ΑΧΕΛΩΙΟ towards the end of the series: -ο gave way to -ου by the middle of the century, as we see from coins of Pixodaros of Karia, sometimes inscribed ΠΙΞΩΔΑΡΟ sometimes ΠΙΞΩΔΑΡΟΥ, whereas at an earlier date we always find ΜΑΤΙΞΩΔΑΡΟ.<sup>3</sup> We thus have a period of less than forty years in which to place a series which lasted for approximately thirty years. Seldom is the possible margin of error so narrow.

It will be of little profit to argue from the prosopographical evidence of the magistrates. The names

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1. Isokr. xv 111, cf. IG II 1 531 (Erythrai 366/5), ii 699.20.
  2. Diodoros xviii 18.9.
  3. Gardner, Samos 56f.

of some do occur in inscriptions, but not in the capacity of chief magistrate; nor can we be sure that we are dealing with the same individuals, and not merely with others of the same name. Conjecture in this field might help to identify a generation, but could not make the minute adjustment which we now require.<sup>1</sup>

Hoard evidence, equally, can do no more than to confirm that we are dealing with the right period: it cannot give the necessary accuracy to three or four years. But for the sake of certainty upon what it can tell us, I give here the relevant hoards.

1. Chalki (island near Rhodes) 1903; S.P. Noe, 'A Bibliography of Greek Coin Hoards'<sup>2</sup> Numismatic Notes and Monographs 78 (New York 1937), No.234 (otherwise unpublished, noted by Regling): burial, c.390. This hoard contained, besides 135 Rhodian and 92 Chian coins, an Athenian triobol and five Samian tetradrachms. All are in Istanbul, and at least three of the five Samian pieces bear the name of Hegesianax (information from Dr. E.S.G. Robinson).

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1. Cf. ibid. 89f for this and later periods.

2. Cilicia; Noe, op.cit.No.252. One tetradrachm of Hegesianax was found, together with coins of Salemis (acc.411), and thirty-five Athenian tetradrachms earlier than 407 B.C. and one later than 397. The latest surely attributed coins were of Tiribazos at Malles and Soloi 386-380, and the common coins of his successors Datames and Pharnabazos were absent. The date of this burial should therefore be c.380.<sup>1</sup>
3. Durasalar (near Bigadic, Balikesir), acc.534 of the Istanbul Archaeological Museum, 8.i.1957; Cevriye Artuk, Ann.Arch.Mus.Ist.viii (1958) 85. This hoard contained a tetradrachm of Aristides (without visible Monogram, and perhaps from the same dies as Nos.229), together with one coin of Kyzikos, cf. BMC Mysia, Pl.ix.14; seven Ephesian tetradrachms which according to Artuk resemble BMC Ionia Pl.ix.7; the earlier type with curved wings of the bee, although one of the magistrates named, Aristodemos, appears on a straight-winged variety in London (BMC 52.33);<sup>2</sup> two coins of Rhodes, one identical with

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1. E.T. Newell, Num.Chron. 1914, 26f. rightly rejects Babelon's dating of 'Series VI' of this hoard thirty or forty years later than Tiribazos.

2. Further, Pheraios in Paris, Hekataios (Æ) in Milan: not seen.

BMC Carad pl. xxxvi 6, and one similar; and, finally, one hundred Persian sigloi resembling BMC Persia Pl. cxxf and Noe, Two Hoards of Persian Sigloi (1956). It seems likely that this interesting hoard was buried in about 350.

4. Epios came from a hoard which also contained a coin of Miletos inscribed  $\epsilon\kappa\alpha$ , presumably struck early in the fourth century, by or in the time of the Karian king Hekatomnos.<sup>1</sup>
5. Pademlik (distr. Dadia); Noe, op.cit. No. 781. This hoard also in Istanbul, contained a tetradrachm of Moiriades (information from Dr. E.S.G. Robinson), together with sixty-seven Ephesian staters and four coins of Mausollos (acc. 377 B.C.).

The date of the alliance to which the  $\Sigma\psi\psi$  coins belong has recently been reconsidered by Mr. Cawkwell, and I find myself in agreement with his conclusion.<sup>2</sup> This, following Waddington,<sup>3</sup> is that the coins belong

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1. Waddington, Mel.de Num. 15; quoted by Gardner, op.cit. 56
  2. G.L. Cawkwell, 'A Note on the Herakles Coinage Alliance of 394 B.C.', NumChron. 1956, 69ff.
  3. Rev.Num. 1863, 223f: for other views, see Cawkwell, loc.cit.

to 'the period between the battle of Cnidus in 394 and the Spartan recovery in 381', and were issued by a military, not monetary, alliance, as is amply demonstrated by their common type of Herakles strangling the serpents to represent 'the victory of light over darkness, of good over evil', and inspired by the painting by Zeuxis of which Pliny tells us.<sup>1</sup>

Suggestions of a later date - in the sixties of the fourth century - must be rejected at once on stylistic grounds. Mr. Cawkwell has already remarked that the Rhodian coins belong to the early part of the century, for they do not yet show a stem with bud to the right of the rose, a regular feature later; and that the Ephesian examples show the bee's wings curved as in the fifth century, whereas in the fourth they are straight.<sup>2</sup> To this we may add that the Samian scalp is closest to the Hegesienax tetradrachms at the beginning of the series,

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1. B.V. Head, Hist. Num. 97; Pliny, NH xxxv 63: probably painted soon after 400 (Zeuxis floruit 397, Pliny). This persuasive argument should not be obscured by the consideration urged by Mr. Cawkwell that an alliance of minting powers, Accame's alleanza monetale a scopo di commercio (La guerra corinzia 99 n.2) could not refer to its members as κομμηται. True: but however likely to be right, the supplementation ΣΥΝ (ΚΑΧΩΝ) is merest conjecture. We only know that some sort of association is commemorated.

2. Op.cit. 71; cf. Ephraim, Bull. de la Soc. Fr. de Num., Nov. 1948.

and bears no resemblance whatever to the second half of this thirty-year series which must have ended in or before 365. The Samian numismatic evidence therefore demands a date in the first fifteen years of the century, and the only date politically likely within that period for the beginning of the League coinage is 394.

In the light of stylistic coincidence already noticed, the hypothesis that the coins of Hegesianax belong to the same year is immediately suggested. And the needs of the League at its first formation offer an explanation of the unparalleled volume of issue. The extra silver required may have been taken from the Heraion. Since four names (linked by obverse dies) precede that of Hegesianax, it is reasonable to suppose that the series began in 398, when the island had had time to recover a little from the effects of the War. The series must end by 365, and we have enough dies and names to argue a duration of some thirty years. The remaining three years or so perhaps lacked coins altogether, not necessarily successively, but distributed between the years of the last recorded magistrates whose issues are so sparse.

## II THE ARCHAIC AND FIFTH CENTURY COINS AND COINS OF ATTIC WEIGHT

### 1 Evidence.

The evidence of hoards and of style is to be considered. The latter type of evidence, it will be apparent, is highly dangerous, unless we remember a well-known but often forgotten principle, that the art of coins is necessarily conservative. We must, therefore, be led to no rash chronological conclusions by the reflection that the best parallel for the cow of the later symbol series is the bull on a bi-lingual vase of the Lysippides painter, belonging to the last years of the sixth century.<sup>1</sup> Insofar as the comparison is at all relevant, it will persuade us to date the beginning of the symbol series no earlier than the second decade of the fifth century.

The late Dr. Jacobsthal noticed that there is among the 'constant olive' coins no trace of influence of the Parthenon sculptures, whereas such traces became

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1. ABV 255 No.6: Boston 99.538; Pfuhl, Mal.und Zeich. Figs 266,316.

universal very soon after the sculptures were on view. It would not be unreasonable to conjecture that the impulse to portray the lion's scalp with square forehead came from observation of this feature among the metopes of the Parthenon. This squareness first appears on the ΕΠΙΒΑΤΙΟΣ coin, more noticeably on the series of Attic weight. The metopes were in place by 438, and this date, therefore, may fall between the end of the lettered series and the ΕΠΙΒΑΤΙΟΣ issue.

Parallels from Samian art should be more safely instructive. But there are not enough of these to be of much assistance. It is not wise to compare the lions and oxen from the Roman restoration of the alter frieze; for while we know that the old composition was reproduced, we cannot be sure that details of style were closely copied. A relevant original work, however, is the Samian bronze disk decorated with a lion's head in profile, belonging to the last quarter of the sixth century: this is closely similar to the reverse of a 'winged bear' triobol, with the head within a dotted border (Cat. of Fractions, class 1, p.627).<sup>1</sup>

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1. W.L. Brown, The Etruscan Lion, Pl. xxvii b, and pp. 76f.

The only indisputably significant stylistic parallel to be adduced is from coins of Samian make for which a precise date can be given. The only ones in this period are those of the oligarch exiles at Zankle. The coins have an obverse scalp, and so are directly comparable. They are uniform in style, though there are slight differences of scale. Since we know that Miletos fell in 494 and that the exiles departed at once, the series must be dated 494/3 to c.489, provided that Dr. Robinson's interpretation of the coins' sequence letters as annual is correct.<sup>1</sup> At any rate there is no doubt when the issue began, nor that it was of short duration. It must be admitted that the Zankle issue is not really closely similar to any one Samian die: but it is not hard to see what is its proper place in the Samian sequence. The extremely narrow eye-slits, becoming upward-running grooves at their outer corners, are only paralleled by Samian obverse A6, the first of Class I i, which also has the central furrow of the forehead. Every other Samian scalp has considerably wider eye-holes.

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1. JHS lxvi (1946) 15.

The Zankle scalp is set on a boss, like Samian obverse A 2. The style of hair, with several rows of short straggling locks spreading quite sharply outwards from an inverted arch over the forehead, is found once at Samos on obverse A 5, and then not again before the 'constant olive' period. On the reverse of the coins of Zankle the type is still surrounded by a border of dots, as it is at Samos to the end of the archaic period. There is little point in comparing the Zanklaian Samaina with that used on the symbol coins: they are similar, but we should be surprised if they were not so. The proper conclusion is that the Zankle issue is later than the archaic dies A 1-5, and that it stands close to the first die of I 1 (A6), there being no conclusive evidence as to whether it is earlier or later. Since such influences as these coins share cannot have arisen later than the departure for Zankle in 494, that is then the stylistic approximate date for Class I 1. It is strikingly confirmed by the evidence of Hoard 3, described below.

The evidence of hoards confirms that we are dealing with the right general period. Those relevant to the present coins are as follows:

1. Delta 1887; Noe, op.cit. No. 362. Burial, date given by Noe as c.500. Most of the twenty-four silver coins recorded are earlier than that date, though a few are rather later, notably those of Tyre (W. Greenwell, Num.Chron. 1890, Pl. i 3-4). There was one Samian single-type sixth (cf. p. 499, (c)).
2. Sakha 1897; Noe, op.cit. No.888. Burial, undated. A sixth similar to the preceding, in a hoard of more than seventy-two archaic coins including Wappenmünzen.
3. Zagazig 1901; Noe, op.cit. No.1178. Burial, undated. Among eighty-four mainly archaic silver coins were a tetradrachm of the Samians at Zankle, and a coin of our Class I 1 (H. Dressel and K. Regling, Z.fur Num. xxxvii (1927) 128 No. 241; ibid. 127 No. 240 - our No. 19).

4. Babylon; E.S.G. Robinson, 'A "Silversmith's Hoard" from Mesopotamia', Iraq XX i (1950) 44ff.  
The hoard, to be dated 'about the middle of the first quarter of the fourth century', contained the symbol stater No. 49, together with coins of Salamis c.500-480, Lykia c.450, Aigina (land tortoise) c.400, Arados and Tyre early fourth century.
5. Naukratis ?1880; Noe, op.cit. No.729, 'The Silversmith's Hoard'. Burial, date given by Noe as c.439. The hoard contained fifteen coins, together with forty-two ounces of silver bullion. Most of the coins were of the early fifth century. There were three Samian tetradrachms. Two (unidentified) are said to be like Gardner, Samos Pl.i 14, that is, among the last of the symbol series, our Nos. 58-63. The other (our No. 105) is of the 'constant olive' issue with ornamental collar. The date quoted by Noe is evidently derived from that of the latest Samian piece.
6. Samos c.1953; unpublished, dispersed, our Nos. 163-169 and possibly 173-175. No details are available, except that the hoard was of about ten coins. Nos. 173-174 reached the market at about the same time as the others, which are certainly from the hoard. Attic-weight tetradrachms.

Hoard 1, 2, and 5 are informative. They suggest that the one-sided sixths were minted in the second half of the sixth century; and that the symbol staters and the 'constant olive' issue were in circulation together not much later than the middle of the fifth century. I have already commented on the significance of Hoard 3.

The few recognizable overstrikes are noted in the Catalogue. The original can in no case be dated with sufficient precision to contribute further to our chronological evidence.

### 11 An Absolute Date.

Now that we have a date for the magistrate series which, even if the equation of Hegesianax with the  $\Sigma\psi\omega$  issue is wrong, cannot be inaccurate by more than about three years, we are in an excellent position to give an absolute date for earlier issues.

The fifth century coins fall into four groups: the Attic weight series, lasting a very few years;  $\epsilon\pi\iota\beta\alpha\tau\iota\omicron\varsigma$  ; the combined symbol and 'constant olive' issues, lasting for about fifty years;<sup>1</sup> Class I 1 (similar to the symbol series, but with reverse incuse square), lasting for about six years. The latter issue may immediately precede the symbol series, or there may be a short interval. The stylistic gap between lettered coin  $\epsilon$  and  $\epsilon\pi\iota\beta\alpha\tau\iota\omicron\varsigma$  is rather less than that between  $\beta$  and  $\epsilon$ , while that between  $\epsilon\pi\iota\beta\alpha\tau\iota\omicron\varsigma$  and the Attic weight coins appears greater. The gap between the Attic weight coins and the magistrate issue appears roughly comparable with that between  $\bar{\epsilon}$  and  $\epsilon\pi\iota\beta\alpha\tau\iota\omicron\varsigma$ .

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1. See pp. 523ff for the duration of each component Class: (in years) symbols, 18-20; 'constant olive', unlettered, 16-17; 'Olive' with collar or letters, 15; total 49-52.

In terms of years we reach the following result:

I 1

c. 6 years

Possible short gap

Symbols

'Constant olive'

No coins

c.50 years

c.10 years

ΕΠΙΒΑΤΙΟΞ

No coins

15-20 years

Attic weight

4-6 years

No coins

c.10 years

Rhodian weight

398 B.C.

The implications of this for absolute dating are clear enough. The Attic weight series will belong to the years immediately following the Athenian occupation in 412. ΕΠΙΒΑΤΙΟΞ will be dated c.430. The joint series of symbols and 'constant olive' will last from c.490 to c.440, and the short series I 1 be dated at some time between 500 and 490. All these dates are subject to a variation of up to five years, owing to

undiscerned fluctuations in the volume of coinage issued, and the possibility that some years lacked coins altogether.

These results have now to be examined in the light of the known political and economic history of Samos in the period. Samos joined the Ionian Revolt, expelling the tyrant Aiakes in 499.<sup>1</sup> The island's treachery at Lade brought the Revolt to an end in 494, and the tyrant was restored.<sup>2</sup> In 492 Mardonios expelled the Ionian tyrants and set up democracies.<sup>3</sup> Samos fought for Persia in the second war, 480-479, but was prominent in the movement for the liberation of Ionia in the latter year.<sup>4</sup> Work on Polykrates' Heraion was interrupted during the Ionian Revolt, but was resumed almost immediately afterwards, and continued without a break until c.470, when it was abandoned until Hellenistic times.<sup>5</sup> This argues a high degree of general prosperity during these years, and a need for

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1. V. sup., p. 359.

2. V. sup., pp. 368, 383.

3. V. sup., p. 364.

4. V. sup., pp. 388 ff.

5. V. sup., p. 401.

coinage. Samos played its part in the activities of the Delian Confederacy, whose Treasury was moved to Athens in 454 on a Samian motion.<sup>1</sup> In 441/0 the oligarchic government caused Samos to withdraw from the Confederacy, and the ensuing revolt was crushed in 440/39 after an expensive siege, Samos being set to pay an indemnity though she never declined to tributary status. A democratic government was set up.<sup>2</sup> In 427 the Spartan admiral Alkidas put in at Ephesos and was met by the Samian oligarchs, still in exile at Anaia.<sup>3</sup> At some later date, probably in 412, they returned to power; for in that year a democratic counter-revolution took place, and the island was prepared for its long resistance at Athens' side.<sup>4</sup>

Thus it appears that breaks and changes in the issue of coinage are linked to the important events of Samian history. The series I 1 I I take to be the coinage of the Ionian Revolt rather than of the period immediately following, on the ground of its untidy and

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1. V. sup., pp. 421f.

2. V. sup., p. 468.

3. Thukydides 111 32.

4. Id. viii 21; Diodoros xiii 34.2 gives 412 as the date of a revolt against Athens.

hastily engraved dies. The adoption of ethnic inscription now for the first time marks the work of the new republican government. Then came Aiakes' return for two years of consolidation, perhaps without coinage, followed by his second expulsion, and the beginning of the half-century sequence. The same event which caused the abandonment of construction of the Heraion c.470 was perhaps associated with the abandonment of changing symbols, and the adoption of the 'constant olive'. The lettered sequence will end in the Attic year 440/39 with the crushing of the revolt, having begun with Β in 453/2; while the event celebrated by the ornamental collar took place in 454/3. I have suggested that the <sup>power since c.470, and having adopted the olive branch as</sup> democrats, in the symbol of their close association with Athens,<sup>1</sup> overreached themselves in their enthusiasm for the transfer of the Treasury; that this was seen as the wilful loss of that position of near-equality which Samos had enjoyed in fact as well as in theory; and that in the following year the Geomoroi seized their opportunity

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1. It should, however, be noted that the olive branch is retained on the 'oligarch' coins. By this time its first significance was forgotten, and it had come to be thought of as part of the Samian type. Similarly, the meaning of the ornamental collar was forgotten by the time it reappeared on the Attic weight coins. Cf. *supra*, pp. 409ff.

and became masters of the island, from which event they dated their years of rule, and so also their coins. The crushing of the revolt brought their power to an end, and with it coinage ceased.

ΕΠΙΒΑΤΙΟΞ, without ethnic inscription, may have been issued by the Geomoroi at Anasia near the time of Alkidas' visit. Finally, as we have already said, the Attic weight coins belong early in the last decade of the century.

It is sufficiently clear on stylistic grounds that earlier dates for these coins are improbable, and this conclusion is supported by the impossibility of finding an uninterrupted half-century for the main sequence. But what of a later date? It has been suggested that the olive branch was adopted as a token of submission in 439.<sup>1</sup> This suggestion would match with the belief that the unlettered 'constant olive' coins represent missing A. But enough has been said to demonstrate that this issue lasted as long as did the lettered series. If the sequence letters are

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1. Gardner, Samos 43f, 'it is hardly rash to see in this adjunct the sign of the Athenian conquest ...'

indeed annual - on stylistic and other grounds the only likely hypothesis - there would be no room for the development of ΕΠΙΒΑΤΙΟΞ and the Attic weight coins between 409 and 398. Alternatively, it might be proposed to date the lettered sequence itself 439-425, numbering the years of the indemnity. The time for subsequent stylistic evolution would still be too short, however; and while a gap between the clearly archaic tetradrachms with dotted reverse border and Class A1 is on the other grounds not impossible, yet the economic evidence provided by the continuation of work on the temple, and by the existence of a Samian fleet at Salamis, is decisive against an intermission from before 490 to c.475.

It is harder to assign absolute dates to the archaic coins. The lighter series of winged boar drachms abandons the reverse dotted border towards its close, and should therefore come between the archaic tetradrachms and those of Class A1. But their poor workmanship again denotes a hasty issue, and I should suppose

them also to be coins of the Ionian Revolt, struck for naval pay. The three issues of archaic tetradrachms, then, together with their fractions, will be coins of Aiakes, to be dated to the last decade of the sixth century, after work on the temple had recommenced following its interruption throughout the reign of Syloson. Immediately before these coins came the triobols of similar types but with triple-bordered reverse. The heavy Samian 'obverse cow' issue will be dated c.515, as the first coinage of Aiakes (or conceivably as a late issue of Syloson). It is most unlikely that any coins were struck for some years after the fall of Haliandrios c.519; so that we may confidently date the Lydo-Milesian 'winged boar' to the reign of Polykrates, carelessly struck and once more an issue for military pay. It may not be too fanciful to suppose that the new government resumed the types for the Ionian Revolt as a symbol of its intention to recapture Polykrates' independence.

Of the few one-sided coins which can be ascribed

to Samos with any confidence, the half-stater with type of a cow will belong to the period following the fall of Sardeis, and the sixths with lion's scalp between that time and the adoption of the Lydo-Milesian standard in Samos.

## CHRONOLOGICAL TABLE

Date	Government & Politics	Evidence	Heraion <sup>1</sup>	Coins
533	Power seized by Polykrates and his brothers.	Hdt.iii 39; Buseh	Building started	
c530	Banishment of Pythagoras; sole tyranny of Polykrates.	Strabo 638, etc. Hdt. <u>1</u> , c.		Lydo-Milesian 'winged boar' issue.
525	Egyptian expedition of Kambyses; Samian aid.	Hdt.iii 44-5.		
524/4	Spartan attack on Samos: unsuccessful.	Hdt.iii 46, 54ff		
522	Murder of Polykrates; Maiandrios succeeds.	Hdt.iii 120-5; 142f.		
c519	Maiandrios expelled by Otanes; Syloson tyrant.	Hdt.iii 144ff.	Building stopped.	
c515	Aiakes succeeds.			Heavy Samian 'obverse cow' issue.
c513	Aiakes and other tyrants on Dareios' Skythian expedition; Samian Mankokles bridges the Bosphoros.	Hdt.iii 138; JHS 1951, 215; Hdt. iv 88		Types of lion's scalp and forepart of cow now regular: triobol with triple rev. border.
c510			Work re-commenced	First tetradrachm

1. The information contained in this column I owe to the kindness of Professor L. Buschor.

c508			Work re- commenced	Second tetra- drachm.
c503				Third Tetradrachm
499	Aiakes expelled: Ionian Revolt.	Hdt.vi.13	Inter- ruption.	Tetradrachm Cl. <u>I i</u> ; lighter 'bear' drachms and triobol.
495	Battle of Lade, return of Aiakes.	Hdt.vi. 6-17,25,	Work re- sumed.	
494	Fall of Miletos: Samians to Zankle	18ff. 22ff.		
491	Ionian tyrants ex- pelled, democracies established by Mardonios.	Hdt.vi. 43		'Symbol' series and fractions.
480	Salamis; Samos aids Persia; Theomestor made tyrant.	Hdt.viii 85; Diod. xi 3.		
479	Mykale: Ionia freed.	Hdt. ix		
c470		90ff.	Work now abandoned till Hel- lenistic period.	'Constant Olive'
c468	Eurymedon: death of Samian commander Maiandrios.	Hill, <u>Sources</u> <sup>2</sup> B 123.		
c459	Expedition to Egypt: Samian contingent.	<u>Ibid.</u> , B 113.		

454	Disaster in Egypt; transfer of Delian Confederate treasury to Athens after Samian proposal.	Thuk.i 109f; 1st Quota list; Flu. Arist.xxv 3.	
453	<u>Ol</u> igarchs seize power		Ornamental collar.
452			β
449	Peace of Kallias.	Diod.xii 4.4.	Ε
440	Revolt of Samos	Thuk.i 115-7; cf. Schol.Ar. Vesp.283.	Ν
439	Revolt crushed; democracy established; indemnity to be paid.	Thuk. <u>ibid.</u>	Ϝ
427	Oligarchs still in exile at Anaia.	Thuk.iii 32.2.	ΕΠΙΡΑΤΙΟΣ
415	Samians take part in Sicilian expedition.	Thuk.vii 57.4.	
412	Oligarchic revolution.  Democractic counter- revolution. Athenians make Samos their base.	(Diod.xiii 34) Thuk.viii 21; IG i <sup>2</sup> 101,102.	Attic-weight tetradrachms, drachms, etc.
404	Samos taken by Iys- ander: return of the Geomoroi	Xen.Hell. ii 3.3, 6.	
398			Magistrates ΠΡΩΤΗΣ
397			ΑΑΤΗΣ

396				ΗΓΗΣΙ
395				ΑΜΦΙ
394	Battle of Knidos: Alliance of Samos with Rhodes and others.	Xen. <u>Hell.</u> iv 3.11ff		ΗΓΗΣΙΑΝΑΞ <sup>syn</sup> alliance coins
391				
365	Timotheos captures Samos, makes it an Athenian klerouchy; Samians expelled.	Isokr. xv 111; cf. IG II 1 531 11 699.20.		
323	Death of Alexander.			
322	Return of the exiles.	Diod. xviii 18.9.		

## APPENDIX A

## The Lion and the Cow

The two basic types of all Samian tetradrachms are the obverse lion's scalp and the reverse forepart of a cow. If, therefore, coin-types are to be credited with any religious significance, one or both of these should symbolize the most important local deity. And there can be no doubt that this was Hera. I shall first discuss the types separately, and then in conjunction.

The Lion's Scalp.

What evidence is there to connect Hera with the lion? Gardner, though evidently more attracted by the idea of a link between Hera and Kybele or Atergatis, nevertheless offered some evidence of the occurrence of the lion in association with Hera in an Hellenic context.<sup>1</sup>

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1. Samos 13ff, largely derived from Overbeck, Griechische Kunstmythologie iii 35-6. Unhappily Gardner observes 'the appositeness of the line of Homer ... in which Hera is herself called a lion -  $\xi\pi\epsilon\iota\ \sigma\epsilon\ \lambda\epsilon\omicron\nu\tau\alpha\ \gamma\upsilon\nu\alpha\ \xi\iota\nu$   $\text{Ζεύς θῆκεν καὶ ἔδωκε κτακτῶμεν ἦν κ' ἔθ' ἄγεθ'}$  - where the reference no doubt is to Hera's functions in child-birth'. (Iliad xxi 483). In fact the words are spoken not to Hera, but by her to Artemis. The irony of their meaning needs no emphasis.

In an apparently early scene of the Judgement of Paris, Aphrodite carries a flower and Athena an owl, while Hera is preceded by a lion and a bird.<sup>1</sup> A red-figure scene of the same subject shows Hera holding a lion in her hand.<sup>2</sup> But in both these cases the lion probably represents Hera's offer to Paris of domination over Asia - as in the latter scene Athena carries a helmet to represent prowess in war, and Aphrodite an eros for love. Thus the lion would be symbolic of the occasion portrayed, rather than of Hera generally.

The most important evidence was not yet known when Gardner wrote. He could indeed refer to Tertullian's account of 'a statue of Hera at Argos beneath the feet of which was a lion's skin'. But he failed to draw even legitimate conclusions from it. Tertullian's words are:<sup>3</sup>

Iunoni uitem Callimachus induxit; ita et Argis signum eius palmitē redimitum subiecto pedibus corio leonino insultantem ostentat nouercam de exuuiis utriusque priuigni.

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1. Recorded by Welcker, Alte Denkmaler v 388 no.22, as in Agrigento.
  2. Berlin 2536: ARV 772; Gerhard, Antike Bildwerke Pl.33; photograph in Brunn-Bruckmann, text to Pl.660, p.6. See Welcker, op.cit. 398, cf.388.
  3. De Corona vii.

The phrase ita et Argis introduces a description of a statue of Hera other than that mentioned by Kallimachos, of which, however, at least one feature is the same: palmite redimitum. The run of Latin makes it clear that Kallimachos' statue, too, had the lion's skin. Tertullian, then, adds that the symbols of lion's skin and vine belonged to an Argive state of Hera, as well as that about which Kallimachos wrote. And it was already known that the poet had in fact written of the Samian cult-statue.<sup>1</sup> But the conclusion does not depend upon such conjecture; for there has come to light a papyrus paraphrase of Kallimachos, written in the second century A.D., which gives part of the passage to which Tertullian refers. It reads as follows:<sup>2</sup>

Ἡρα τῆς Ἐπιγῆς περὶ μὲν τείχεα ἄμπελος ἔειπεν.  
 {λέγετα ὡς} τῆ Σαμιά Ἡρα περὶ ἔειπεν ἔ-  
 λαβε τὰ τείχεα ἄμπελον, πρὸς δ' ἐδά-  
 φει λουρῆν βεβλήθη, ὡς λειψυδ  
 τῶν Διὸς νόθων παιδῶν, Ἡρακλε-  
 οῦς καὶ Διονύσου

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1. Plutach, Περὶ τῶν ἐν Πλάτ. δειδ. fr.10 (Mor vol.vii p.49 Bern.), Aitia iv fr. 100 Pfeiffer.
  2. M.Norsa e G.Vitelli, Διήγησις δι Ποημὶ δι Callimaco (Florence 1934) iv 30. 3 ἄμπελος ; 4 βεβλήθη. The textual superfluities are, of course, due to a confusion of the two constructions of indirect speech.

The important similarity between the Samian and Argive statues should not arouse our suspicions. Indeed it was to be expected, for we read in Athenagoras that ἡ δὲ ἐν Ἐφέμῳ Ἥρα καὶ ἐν Ἄργεϊ Σμίλιδος χεῖρες (sc. αἰεὶν).<sup>1</sup> It is to Smilis' statue, not to the chryselephantine work of Polykleitos, that Tertullian should be understood to refer. That it survived the fire which destroyed the archaic Heraion may be indicated by Pausanias, who speaks of the Polykleitan statue, then mentions two much earlier ones.<sup>2</sup> One is described as εἰς κίονος ἄγλμα Ἥρας δεξιῶν ; the other ἀεχμώτατον and made of pear-wood, was κλεθρόνιον ἄγλμα οὐρέα, and had been pirated from Tiryns. We must reject Pausanias' relative dating: the statue on a pillar will be of the eighth century, the seated figure the seventh-century cult-statue of Argive Hera at Tiryns.<sup>3</sup> It is with the latter that

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1. Pro Christianis xvii. Kallimachos Aitia iv fr.100 Pf. calls Smilis Skelmis. It may be thought suspicious that αἰεὶν is a knife (first in Ar.Thesm. 779), later a sculptor's chisel (AP vii 429); cf. αἰετώματα, Ar.Ran. 819.
  2. II xvii 5.
  3. H.L. Lorimer, Homer and the Monuments, 444, with references to further discussion.

we are concerned, since it alone may be of Smilis' date.<sup>1</sup>

The cult-statue, however, will only help our case if it is not only itself earlier than the coins of which we treat, but also if the lion's skin at its feet was an original - or at least early - feature. Fortunately there can be no doubt of the former, and little of the latter condition. For in addition to its manifestly archaic style, as evidenced by its representations upon imperial coins,<sup>2</sup> a miniature relief of it occurs punched on to the reverse of an electrum piece of the early sixth century, while a second punch-mark apparently contains a grape vine. Further, the rough obverse type can readily be recognised as a lion's head or scalp.<sup>3</sup>

But the significance of the lion is harder to explain. Ideally, the explanation should account for its presence at Argos also, and give a good reason for

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1. He is contemporary with Daidalos, Paus. VII iv 4, whom Diod. iv<sup>7</sup> appears to assign to the mid-seventh century, making him responsible for the transition from primitive xoanon to early kouros type.
  2. See, for instance, BMC Ionia Pl. xxxvii 1, 2, 5, 6.
  3. Plate XLIII 3: Babelon, Traite II i 206f, no. 356, Pl. ix. 3: cited by R. Pfeiffer, Callimachus i 106, whom I follow here.

the sculpturally more difficult skin, rather than merely the lion itself.

We must understand both the Diegesis and Tertullian - and so, presumably, Kallimachos himself - to say that the lion's skin represented λέωνος, exuviae, of Herakles, while the vine was λείωνος of Dionysos. And the lion's skin is in art the regular garment of Herakles. But for this very reason it may be thought that Kallimachos' whole interpretation is a learned Alexandrian fiction, and should be rejected. Instead, we should return to an explanation more fashionable with another generation. Here in Samos is an hellenization of the great goddess of Asia Minor, and no special argument is necessary to connect the latter with lions. That the Greeks did sometimes identify this goddess with Hera is shown by pseudo-Lucian, who speaks of ἱεὴ ἡρῆς ἡγεῖσθαι Ἀσσυρίων at Hierapolis. Later he completes our case: τῆς μὲν ἡγεῖσθαι λέωνος φέρονται.<sup>1</sup> To this we may add that the horned polos which the Samian cult-statue wears is Syro-Hittite of the late

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1. De Dea Syria 1, 31

Bronze Age, and belongs properly to Astarte.<sup>1</sup> It occurs in no other Greek city, and so forges a special link between Samian Hera and the East.<sup>2</sup> An unpublished dedication from the Samian Heraion is the statuette of a recumbent lion, dedicated to Hera in the second quarter of the sixth century by Eumnastos of Sparta. He, at least, thought such an offering appropriate.

The reason for the presence of the empty skin of the lion is, I believe, simple. It was, I would suggest, not part of the sculpture, but an actual lion's skin; as, in the same way, the goddess' clothes were real clothes in which her naked wooden form was ceremonially robed.<sup>3</sup>

The weakness of the above explanation of the lion is that it gives no connection with Argos. But if my notion of the reality of the skin is right, it will have been an added feature, brought to Argos at a later date under Samian inspiration.<sup>4</sup> At any rate, any

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1. BMC Ionia Pl. xxxvii 2, 5, 6 (not a vase with handles); cf. Ch. Kardara, AJA lxxiv (1960) 350 ff
  2. For Samian connections with the East in this period, see for instance T. J. Dunbabin, The Greeks and their Eastern Neighbours, London 1957, 28, 37, 50, giving further references.
  3. Cf. inscription, Abh. Mitt. lxxviii (1953) 46 ff. Taf. 9-10.
  4. Unless, of course, Smilis worked first to Samian specifications, and then duplicated this feature of his Samian statue.

explanation which followed Kallimachos would awkwardly presuppose an Heraklean rather than Heraic significance.<sup>1</sup>

1. It is, perhaps worth considering the form of an explanation along the lines suggested by Kallimachos. There is an obvious link between Hera and the lion's skin which Herakles wore. It was surely that of the Nemean lion. Apollodoros, it is true, states that the skin was taken from the lion of Kithairon which ravaged the flocks of Amphitryon and Thespios, and which Herakles slew in his early years, before the period of the Labours (Bibl. II iv 10). But he is contradicted by Diodoros and Hyginus, both of whom say that it was the Nemean lion whose skin Herakles wore (Diod. IV xi 4; Hyg. Fab. xxx 2. Pfeiffer, o.c. 1 445, prefers to believe Apollodoros. But here (II v 1) is the version of the story which features Molochos, and this cannot be traced further back than Kallimachos: cf. Probus in Verg. Georg. iii 19, 'sed Molochi mentio est apud Callimachum in Ἰωνίων libris'; and Kallim. fr. 59.16Pf. Ἰου τῆς Μολοχίου : cf. also RE xvi 13 s.v. Molochos (J. Pley), 'die Sage hat ihre Verbreitung gefunden durch Kallimachos'. The version is known to several later writers, at least two of whom were confessedly acquainted with Kallimachos' version, cf. Tibullus I ii 253, Martial IV xxiii 4, X iv 12. Kall. would only know that the lion in Samos was that whose skin Herakles wore: that he confused the identity of the lion does not invalidate his interpretation in general). The authority for the ascription of the skin to the Nemean lion was Peisandros of Kameiros (Eratostr. Cataster. xii λέγει δὲ περὶ αὐτοῦ (sc. τοῦ Νημείου λέοντος) Πείσανδρος ὁ Πάριος ὅτι καὶ τῆς Μολοχίου λέοντος ἐκεῖν ... οὐδέ τις ἐστὶν ἐν Νημέῳ ἢ ἐν Σάμῳ ἀναμνηστικόν. Clem. Alex. Str. vi 25.2 accuses Peisandros of plagiarism from Peisandros of Lindos, of whom, however, nothing more is known). This is important, in that Peisandros may well have been a contemporary of Smilis, Suidas gives his date as OL. xxxiii (648-645 B.C.), while others, he says, made the poet a contemporary of Eumolpos, and earlier than Hesiod. This chronology is questioned (cf. RE xix 144 s.v. Peisandros), the

most important argument being that features of the *crochy* of Herakles ascribed to the invention of Peisandros are said by Athenaios to be innovations of Stesichoros (512f-513a). But inasmuch as Stesichoros was better known, we may feel inclined to trust those who, surely aware of the latter, nevertheless ascribed the inventions to Peisandros. The arguments against a seventh-century date are not at all conclusive.

The identification of the lion at Hera's feet with the Nemean lion gives a plausible connection with Argos. The beast had been Hera's nursing in the Argive hills, as Hesiod reminded the literary public (Theog. 327-32; cf. Bakchylides, Epinikoi, ed. Snell 1949, 9(8)6ff.). But she had herself deliberately sent it to attack Herakles (Schol. Germ. Arat. p. 72, l. Breys, 'leomen ... ad Herculis exitium demissum caelo a Iunone.'). For him to lay its skin at her feet, therefore, was a symbol of reconciliation. And the feature was appropriate at Samos also. For though Hera was the chief deity, Herakles was probably *ἱώνων κτίστης*: he was so revered at Perinthos, a Samian colony (Gardner, o.c. 14, 34; Pl. v 13). And we learn that in gratitude for their deliverance from Persia the Samians employed no less an artist than Myron to make statues for the Heraion - of Zeus, as chief of the gods; of Athene, as patroness of the liberators of Greece; and of Herakles (Strabo 637: they were *ἕνεκα κολλοεικῶν ἰδουμένων καὶ μὲν Ἀίωνα*). The motive for the dedication and the consequent interpretation seems a reasonable inference in the light of the period of Myron's activity. I cannot think of the statue of Herakles as a tribute to Sparta). The best interpretation of the Herakles statue is that here too he was *ἱώνων κτίστης*. So the obverse symbol would be both an Heraic symbol (though somewhat vicariously) and a symbol of Ionian unity. And it would have application at Argos. But I cannot seriously believe that all this occurred to anyone in the seventh century, and prefer the explanation already put forward in the text.

The Forepart of a Cow.

It has been usual to call the animal a bull rather than a cow on general grounds of appearance, 'the thickness of the neck,' as Gardner observed, 'being a strong indication.'<sup>1</sup> But the conclusion is most unsafe: anyone who has compared the head of, say, a Hereford cow with that of a Guernsey bull will know how much faith to put in that sort of argument. Even among the bull-like beasts on the early tetradrachms, one coin shows an unmistakable cow.<sup>2</sup> And the animals of the 'Constant olive' series certainly look as much like cows as their predecessors look like bulls. We must for the moment leave this question to be decided in the light of the most attractive interpretation of the type.

Our first instinct will be to see here another symbol of Hera. She was clearly connected with oxen. White cows were sacrificed to her.<sup>3</sup> The Argive Heraion lies

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1. Op.cit. 16, whence (et seqq.) all quotations of Gardner in the present section.
  2. No. 13.
  3. Schol. Pindar Ol.vii 152, with Seneca Agamemno 364f.

lies at the foot of the hill Euboia.<sup>1</sup> The handles of krateres dedicated in the Heraion at Samos were commonly in the form of an ox's head.<sup>2</sup>

We seek an obvious, straightforward, allusion, intelligible to all who handled the coins. Gardner wisely did not 'venture to pronounce for the soundness of the view that Hera  $\beta\omicron\omega\mu\epsilon$  was in early days represented with the head of a cow like the Egyptian Athor and Isis.' A more crucial question is whether, even if this had been the case, the Samians in the latter part of the sixth century would have been aware of it. I doubt this.<sup>3</sup> Nevertheless I suggest that the 'cow' was adopted quite simply as a canting badge inspired by the  $\beta\omicron\omega\mu\epsilon$  ποτριά 'Μην of epic verse,

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1. Pausanias II xvii 1.

2. Several have been found, only one published: E. Buschor, Alt-samische Standbilder figs 224f.

3. There was at Samos a cult τῷ κεχηνότοσ Διονύσου (Aelian, de Nat. Animal. vii 48, from Eratosthenes and Euphorion.) Pliny, NH viii 56-8, explains that it was initiated by one Elpis who had extracted a bone from a lion's jaw. On the strength of this A.B. Cook, JHS xiv (1904) 108-9, suggests that the story only has point for the cult-epithet if Dionysos was himself thought of as a lion. I suggest rather that Elpis gave Dionysos the epithet merely because he had supposed the docile lion to be the god in disguise. But if (more probably) the story is false, we no longer have any lion to explain. I would connect the story with the reverse type of the 'winged bear' triobols.

as the owl of Athenian coins recalled the other epic heroine, γλαυκῶνας Ἀθήνην.<sup>1</sup> In Homeric usage, βούς means 'cow' unless qualified by the addition of τῶρος or ἄρην.<sup>2</sup> Βοῶνας therefore means 'cow- faced', for otherwise Homer would have written τῶρῶνας. Now this is just what Nonnos did write: he speaks of a cult τῶρῶνδος Ἥρας (not at Samos),<sup>3</sup> and yet there is no example of the use of τῶρος or its derivatives for any but the male animal. Fortunately, he uses the same epithet of Io,<sup>4</sup> of the sex of whose mythical shape there is no doubt: his usage is loose, and a matter of metrical convenience.

Let us examine the alternatives. Painstakingly avoiding the obvious, Gardner suggested alternatively that the 'bull' might be a river-god, truncated because half-submerged, like the River Gela, or like the fountain Hypereia at Pherai, which 'issues as a half horse from rocks.' But the Geloan coins are no parallel, because the bull's significance is there unmistakable only in virtue of his human head. A didrachm, possibly

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1. Was Samos inspired by the Athenian example? Certainly, if the didrachm BMC Ionia 350.8 is not Samian. If it is, then the new date of the Athenian 'owls' (NC 1956 43ff) rules this out.
  2. Cf. Iliad 17.389; 20.495: but regularly feminine.
  3. Dionysiaca 47.711.
  4. Ibid. 32.69.

of Samos, in the British Museum, has as its obverse type a 'bull' often supposed to be man-headed.<sup>1</sup> But if the 'bull' is indeed man-headed (which I do not believe), that will be a conclusive against the coin's being Samian. As for Hyperesia, at Pherai the fountain is in fact very suitably represented 'sous la forme d'une tete de lion de la gueule duquel jaillit une nappe d'eau',<sup>2</sup> an ordinary water-spout, that is, of the kind regularly affixed to temples. The horse is a common type throughout Thessaly, and is therefore likely to be symbolic of Poseidon Hippios, who was widely worshipped.<sup>3</sup> Again, a canting badge. At Pherai the horse issues from rocks, no doubt recalling the god's creation of the first horse:<sup>4</sup>

Primus ab aequorea percussis cuspidе saxis  
Thessalicus sonipes, bellis feralibus omen,  
exsiluit.

No happier is Gardner's suggestion that a connection might be sought not with Hera but with Artemis. 'There was a temple of Artemis Tauropolos at Samos,' he asserts,

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1. BMC Ionia 350.8, Pl.xxxiv 3.
  2. Traite II i col.1024, Pl.xliii 17-20: on the last the water is actually shown flowing.
  3. Evidence in RE viii coll.1718-9, s.v. Hippios.
  4. Lucan Phars. vi 396ff. cf. Et.M. s.v. ἵππος ὁ ἰσχυρὸς; Paus. VII xxi 8.

citing Stephanos of Byzantion as his authority. A glance at Stephanos' text furnishes the following information: Ταυροπόλιον ἢ Σίφυς Ἀρτέμιδος ἱερὸν. Στραβῶν ἰδ'. There is no reason to credit Stephanos with clairvoyance passing the authority of his source: Strabo in Book xiv (639) does indeed mention a temple of Artemis Tauropolos. But the scene has already shifted to the neighbouring island of Ikaria (four sentences previously), and the mention of the city of Oinoe in the sentence in question should have recalled this fact even to Stephanos. Strabo does not use the epithet or any cognate formation elsewhere in Book xiv, and only once more in the whole of his work, this time for Artemis at Ikaros in the Euphrates estuary.<sup>1</sup> No other writer mentions a Tauropolion at Samos, and we shall look in vain for any evidence to support Gardner's assertion that festivals of Artemis Tauropolos 'are not unknown in the history of the island'.

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1. 766.

Having shown the likelihood of a connection between Hera and these two coin-types separately, we are in a position to argue the same conclusion from their conjunction. When Rhoikos built the first great Heraion in the first half of the sixth century, not long after the striking of the electrum coin with cult-statue, vine, and lion's scalp, he constructed an altar of the goddess in front.<sup>1</sup> This altar was retained for the second great temple, begun c.530, and was finally replaced in marble in Roman times, the original poros having decayed. The restorers were careful to copy the design of the archaic altar in precise detail, and their accuracy may be seen by comparing the surviving fragments of architectural ornament of the archaic altar with those from its successor. Fragments of a frieze from the marble restoration survive, on which the principal motif appears to involve lions and oxen. These are very close in style to the earliest of the lion/cow coins with which we are concerned; and it would seem likely that the types were adopted directly from the

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1. E. Buschor, 'Heraion von Samos: Porosfriese', Ath.Mitt. lviii (1933) lff, Beil. 1-iii.

altar, whose subject must itself have been chosen for its appropriateness to the goddess honoured.<sup>1</sup>

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1. Our interpretation of the 'cow' is challenged by the appearance of a whole bull on an almost certainly Samian gold coin of c.320 (Num.Chron. 1932, Pl.xvi 6). But a trident above expressly marks it as the bull of Poseidon.

## APPENDIX B

## Summary of Weight-Standards in Use at Samos

	Suboic	Lydo-Milesian	Heavy Samian	
Tetradrachm	17.40gm.max.	14.20gm.max.	13.40gm.max.	Stater
Didrachm	8.70gm.	7.10gm.	6.70gm.	1/2
Drachm	4.35gm.	3.55gm.	3.35gm.	1/4
Tetربول	2.90gm.	2.37gm.	2.23gm.	1/6
Triобol	2.18gm.	1.78gm.	1.68gm.	1/8
Diобol	1.45gm.	1.18gm.	1.12gm.	1/12
Trihemioбol	1.09gm.	0.89gm.	0.84gm.	1/16
Obol	0.73gm.	0.59gm.	0.56gm.	1/24
Tritemorion	0.54gm.	0.44gm.	0.42gm.	1/32
Hemioбol	0.36gm.	0.30gm.	0.28gm.	1/48

	Samian	Attic	Rhodian	
Tetradrachm	13.00-13.10gm.	c.17.00gm.	15.25-15.35gm.	Stater
Didrachm	6.45- 6.55gm.	8.50gm.	7.58- 7.68gm.	1/2
Drachm	3.18- 3.28gm.	4.25gm.	3.74- 3.84gm.	1/4
Tetroбol	2.08- 2.18gm.	2.83gm.	2.46- 2.56gm.	1/6
Triобol	1.54- 1.64gm.	2.13gm.	1.82- 1.92gm.	1/8
Diобol	0.99- 1.09gm.	1.43gm.	1.18- 1.28gm.	1/12
Trihemioбol	0.72- 0.82gm.	1.06gm.	0.86- 0.96gm.	1/16
Obol	0.45- 0.55gm.	0.71gm.	0.54- 0.64gm.	1/24
Tritemorion	0.31- 0.41gm.	0.53gm.	0.38- 0.48gm.	1/32
Hemioбol	0.17- 0.27gm.	0.37gm.	0.22- 0.32gm.	1/48

## APPENDIX C

## Who was Batis?

I have dated the coins inscribed ΕΠΙΒΑΤΙΟΣ c.430, and tentatively ascribed them to the Geomeroi in exile at Anais. What is to be said of the inscription? Presumably it records the name of the man under whose authority the coins were struck. Again, presumably, the record represents ἐπι and the genitive of the name ΒΑΤΙΣ.<sup>1</sup> The name occurs later as that of the Persian governor of Gaza in the time of Alexander,<sup>2</sup> and so might here belong to an official appointed by Pissouthnes to oversee the Samian community. On the other hand, it is quite possible that a Samian leader is referred to: - is a common enough termination for Samian names.

But I think it may be possible to identify Batis more closely. Suidas, s.v. Βάτις κείνης says

ἐπὶ τῶν Πιθίων καὶ Δυαίων. καὶ δεσποτῆν  
ὁ ἐξ Ἰουδαίων ἦν.

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1. Gardner, op.cit. 46, adduces contemporary parallels from Abdera. Cf. Herodotean usage, vi. 98, viii 44 etc.
  2. Arrian, Anabasis ii 25.4.

Hesychios, under the same lemma, gives the following:<sup>1</sup>

δύο τὰυτὰ ὀνόματα ἐπιγέγραπται ἃ εἰσι ἀνεπίματος  
 ἐν ἔργῳ ἐν τῷ μῦθῳ ἠὲ καὶ ἰσχυρῶ οὖν. Βάττα κίερα  
 ἐξήμιος ἠὲ γὰρ τῶνδε διήενν ἀνέθηκα.

We have no notion of the date of the inscription to which Hesychios refers; though it is unlikely that anyone collected inscriptions to illustrate proverbs after the first century B.C. Hesychios and Suidas both tell us that Βάττα and κίερα are two separate words. What can have been the grounds for this belief? The collector of the inscription may have noted a mark of punctuation between them; or it may be that in popular usage the phrase was so pronounced, with two accents. This belief can only have been right if one of the words is in the genitive. The accentuation Βάττα suggests that this word is a Doric genitive, and this interpretation was favoured by ancient opinion. But it is opposed by the Ionic dialect of the second half of the inscription, which is emphasized by the occurrence of ἠὲ καὶ in the preceding explanation. Now there is, on the other hand, no reason to rule out Βάττα, and we notice that Βάττα

---

1. His cod.unicus has Βάττα κίερα . . . Βάττα κίερα : emendation from Suidas and (acc. Latte's app.crit.) Proverbia Bodleiana.

in Arrian has the first syllable short. I suggest that it is more likely - since the lexicographers can only have guessed at the answer - that the genitive is contained in a corrupt reading of  $\text{ΚΑΡΟΣ}$  or  $\text{ΧΑΡΟΣ}$ . The former is geographically suitable, while the latter occurs as the name of a ruler of Teichoussa in the sixth century. And Teichoussa is only about thirty miles from Anaia and Samos.<sup>1</sup>

It seems unlikely that the name  $\text{Βάρτα}$  is native Samian. But the coin has the genitive of  $\text{Βάρτις}$ , and is Samian; and we meet  $\text{Βάρτις}$  later as the Greek form of a barbarian (Persian) name. I suggest therefore that  $\text{Βάρτα}$  and  $\text{Βάρτις}$  were the successive names of a foreign immigrant who obtained Samian nationality. I cannot explain why  $\text{Βάρτα}$  should have become  $\text{Βάρτις}$  in particular. But Bardiya was thought equivalent to the already all but Samian  $\text{Σμάρτις}$ ,<sup>2</sup> and  $\text{Δάρτις}$  is the Greek form of Datweh. The Greek termination -  $\text{τις}$  for barbarian -  $\text{a}$  is also, in

- 
1. For this contraction of -  $\text{τις}$  at an even earlier date, cf. Tod, GHB i<sup>2</sup> 4,  $\text{ΨΧΗΜΑΤΙΧΩΙ ΝΟΙ ΟΥΟΚΛΟΣ}$ .
  2. Kyros' son, and the Magos, Id. iii 61; Smerdies, Aelian VH ix 4.



It is therefore not unreasonable to suppose that Batis was the leader of the exiled Geomoroi at Anaia, that is, their eponymous magistrate. He would, of course, be sadly out of place in this aristocracy of birth.<sup>1</sup> But that may be the very reason for the survival of his otherwise undistinguished name in proverb - a democratic reproach to the Geomoroi.

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1. For the definition of the Geomoroi, v. sup., pp.166ff.

## APPENDIX D

## The Samians at Zankle

The purpose of this Appendix is not to give a complete account of the Samian coinage issued at Zankle. Useful studies already exist,<sup>1</sup> and I wish only to catalogue enough examples to facilitate the stylistic comparison which I proposed on pp. 557f. The value of the coins in hoard evidence has already been noted on p. 559.<sup>2</sup>

I take it that the beginning of the series is to be set in 494 or 493, since the Samians left for the West immediately after the Battle of Lade in 495.<sup>3</sup> The coins fall into two groups, an unlettered issue of indeterminate duration, and four or five issues

- 
1. H. E. Gielow, 'die Silberprägung von Zankle-Messana', Mitt. der Bayer. Num. Ges. xlviii (1930), 36ff. with full references to the earlier literature; E. S. G. Robinson, 'Rhegion, Zankle-Messana, and the Samians', JHS lxvi (1946).
  2. For completeness I must mention the Messina hoard of 1875, from which the Samian tetradrachm No. 45 was wrongly said to have come (Babelon, Rev. Num. 1894, 278; following von Sallet, Z. für N. 1876, 135; and 1878, 103; Noe, o. c. No. 685.).
  3. Hdt. vi 22ff; T. J. Dunbabin, The Western Greeks (1948) 390ff, 433f, for discussion of the date.

distinguished by a letter in the field.<sup>1</sup> The unlettered coins are of rather more primitive workmanship than the lettered. But there is no evidence from die-linkage to show whether the letters form an alphabetic sequence. On historical grounds Dr. Robinson has shown it to be likely that the letters mark years of issue.<sup>2</sup> Thus the series would come to an end by c.489, taking the unlettered coins to be a single preliminary issue.

I catalogue all examples of tetradrachms known to me, together with representatives of the fractional denominations.

- 
1. A, B, and C have been found: D and E have been conjectured.
  2. Op.cit. 15, v.sup., pp.379f.

## OBVERSE

## REVERSE

Lion's scalp facing, upon  
a boss.

Prow of a Samaina to left,  
within circular dotted border,  
the whole in an incuse circle.

ZA 1

ZB 1

Z 1

17.05gm: Berlin.  
Gielow No.85, Pl.vii;  
Z.für Num.iii (1876), Pl.ii 6.

ZA 2

Z 2

17.20gm: Untraced.  
Gielow No.84;  
Jameson 643;  
Hess 7.x.1907, 604 (Berlin dupl.);  
Imhoof-Blümer Coll.

ZB 2

Z 3

17.31gm: London, BM.  
Gielow No.83;  
Gardner 41 No.1, Pl.i 17;  
Hill, Hist.Gk Coins (1906), Pl.ii 12.

ZA 3

ZB 3

Z 4

16.86gm: London, BM.  
Gielow No.82, Pl.vii;  
SNG ii (Lloyd) 1081;  
Neville i (Pozzi 1920) 318;  
Evans Coll.

ZA 4

ZB 4

Z 5

17.22gm: Berlin.  
Gielow No.86, Pl.vii;  
Z.für Num.xxxvii (1927) Pl.v 241;  
Zagazig Hoard.

ZB 5

Z 6

17.20gm: Untraced.  
Gielow No.87;  
Feuardent 9.v.1910, 551.



FRACTIONS.

Types as tetradrachm.

## Trihemiobol

- 1.10gm: Berlin.  
Gardner, Pl. i 18;  
Imhoof-Blüner Coll.
- 1.04gm: Oxford, Ashmolean Mus.  
Both dies different.

--- In field, a helmet.

- 1.06gm: Oxford, Ashmolean Mus.  
M.u.M. A.G., Basel, Liste 155.5;  
Same obverse, different reverse.
- 1.26gm: London, BM.  
SNG 11 (Lloyd) 1082.

## Tritartemorion

--- No symbol.

- 0.48gm: Cambridge, Fitzwilliam Mus.  
SNG Fitz. Mus. (iv) 1064.

## Tetartemorion

- 0.14gm: Oxford, Ashmolean Mus.
- 0.13gm: Cambridge, Fitzwilliam Mus.  
SNG Fitz. Mus. (iv) 1065;  
same obverse, different reverse.

C A T A L O G U E  
O F  
T E T R A D R A C H M S





- A 10
- B 13 As last
- 19 ← 13.45gm: Leningrad, Hermitage 583/905.  
Hirsch xxv (1909) 2263;  
ex G.Philipsen, Copenhagen;  
Hirsch vii (1902) 371;  
Zagazig Hoard, 1901; Z.für Num.  
xxxvii (1927) 127 No.240.
- I 11 Lion's scalp facing. Head and shoulder of cow to  
right, truncation dotted,  $\Sigma A$   
above; above or behind, a  
changing symbol; the whole  
within an incuse circle.
- a A 11 B 14 -- above, a helmet  
20 to right; incuse square.
- ⇒ 12.60gm: Berlin.  
Prokesch-Osten Coll.
- B 15 -- above, a helmet to  
right; incuse circle.
- 21 12.75gm: Oxford, E.S.G.Robinson.  
Chandon de Briailles Coll.;  
Hirsch xiii (1905) 3834.
- (22) 12.81: von Gonzenbach.  
Hist.Mus.St Gallen;  
dies unknown.
- (23) 12.87: Untraced.  
(Winterthur cast);  
dies unknown.
- A 12 B 16 -- above, a crested  
helmet to right.
- 24 ← 13.22gm: London, BM.  
BMC 353.34, Pl.xxxiv 15.
- 25 ✓ 13.02gm: London, BM.  
BMC 353.35.
- B 17 As last.
- 26 ↗ 12.73gm: Berlin.  
Imhoof-Blümer Coll.

B 18 No symbol visible.

27 13.08gm: Glasgow, Hunter Coll.  
Cat. Samos 1, Pl. liii 17.

B 19 -- above, a wheel.

28 → 13.12gm: Copenhagen, Danish Nat. Mus.  
SNG Copenhagen, Ionia 1680.

A 13

B 20 As last, very faint.

29 ↓ 12.80gm: Boston 86.822.  
Brett 1953;  
from Naukratis.

B 21 As last.

30 ↓ 12.76gm: Oxford, E.S.G. Robinson.  
Chandon de Briailles Coll.

31 ↓ 13.04gm: London, BM.  
BMC 353.37.

32 ← 13.15gm: London, BM.  
BMC 353.36.

33 ← 12.87gm: Cambridge, McClean Coll.  
Cat. 8404, Pl. 293.1.

B 22 -- above, ΣΑΜΙΟΝ.

34 ↗ 12.75gm: London, BM.  
BMC 354.41;  
Gardner 42 No. 3, Pl. i 13.

A 14

(A 11 resumed)

B 23 -- above, ΣΑΜ.

35 → 13.50gm: Munich.

B 24 -- above, ΣΑΜΙΟΝ.

36 ← 12.95gm: Paris 2237.  
Traite II ii 1780, Pl. cl 3.

B 25 -- above, a right eye.

37 ↘ 12.92gm: Copenhagen, Danish Nat. Mus.  
SNG Copenhagen, Ionia 1679;  
Proschowsky 1924.

- A 15 B 26 As last; by the same hand.
- 38 ↙ 13.01gm: Oxford, E.S.G. Robinson.  
Kricheldorf, Stuttgart, 28.v.1956 1089.
- 39 ↙ 13.09gm: London, BM.  
BMC 353.38.
- 40 : Vienna.
- b A 16 B 27 Probably no symbol.
- 41 ↙ 12.90gm: London, BM.  
BMC 353.32.
- c A 17 B 28 — behind, an amphora upright.
- 42 ↑ 13.15gm: Cambridge, Leake Coll.  
SNG Fitzwilliam Mus.  
Cat. Leake, 'Insular Greece' 38.
- 43 ↙ 13.14gm: London, BM.  
BMC 353.29;  
Num. Chron. 1956, Pl. 11 c.
- B 29 As last.
- 44 12.82gm: Paris 2236.  
Waddington 2040;  
Traite II ii 1799, Pl. cl 2.
- d A 18 B 30 — behind, the prow of a Samaina to right.
- 45 12.84gm: Berlin 158/1877.  
Traite II i 463, Pl. xi 30 (wrongly said to be in Paris);  
Zeit. für Num. v 103ff, Taf. ii 6;  
Rev. Num. 1894, 278, Pl. x 14.
- A 19 B 31 As last.
- 46 ↙ 12.92gm: London, BM.  
BMC 353.30;  
Gardner 41 No. 1, Pl. i 17;  
Traite II i 464.

- e A 20 B 32 -- behind, a long hook.  
47 ↓ 12.45gm: Oxford, E.S.G. Robinson.  
Glendining 7.iii.1957 289.
- A 21 B 33 As last.  
48 : Kiphissia, Mme Vaframoglou.
- f A 22 Circular B 34 -- above, trace of a  
dotted border. symbol.  
49 ↓ 12.93gm: London, BM.  
Iraq XII i (1950) 44ff, Pl.xxiv 8;  
Babylon Hoard;  
struck on blank striated on one side.
- B 35 -- above, and a  
peacock standing to right.  
50 ↓ 13.26gm: London, BM.  
BMC 353.33.
- A 23 B 36 -- above, a bird standing  
to right.  
51 13.00gm: Oxford, E.S.G. Robinson.
- B 37 -- above, an astragalos.  
52 ↓ 12.97gm: Berlin 28714.
- 53 ⇒ 13.02gm: London, BM.  
BMC 353.39.
- B 38 No symbol.  
54 ↑ 13.10gm: Paris 2239.  
Luynes 2681;  
Traite II ii 1777.
- B 39 No symbol.  
55 13.10gm: Untraced.  
R.C.Lockett, SNG iii 2871;  
Neville i (Pozzi 1921) 2551;  
Neville v (1923) 2596;  
Ratto 4.iv.1927 2001.
- 56 ↑ 13.25gm: New York, ANS.  
E.T.Newell Coll.



II 1-111'Constant Olive'II 1a

B 47 -- behind, an olive branch.

68

← 13.13gm: London, BM.  
BMC 353.40;  
 Gardner 42 No.6, Pl.1 16.

A 26

B 48 As last.

69

↓ 12.75gm: Munich.

B 49 As last.

70

↑ 12.97gm: New York, B.Y.Berry.

A 27

B 50 As last.

71

↘  
 : Frankfurt 1204.  
 G.Räppell Coll.1862.

A 28

B 51 As last.

72

⇒ 12.99gm: Copenhagen, Danish Nat. Mus.  
SNG Copenhagen, Ionia 1678;  
 Lambros 1894.

Forepart of cow to right, right leg bent under her; at truncation, a row of dots, sometimes between double lines; above,  $\Sigma A$ ; behind, an olive branch; the whole in an incuse square.

II 1b

A 29

B 52

73

← 13.04gm: Boston 95.154.  
 Brett 1960;  
 Perkins 494;  
 Sotheby, Carfrae 1894, 263; Pl.ix 9.

A 30

B 53

74

← 12.60gm: London, BM.  
BMC 358.91.

75

← 12.81gm: Stockholm, Royal Coin Cabinet  
 Inv.25315 (1955).  
 Basle, Liste 150 Oct.1955 No.15.

## B 54

76 ← 12.97gm: London, BM.  
BMC 358.89.

## B 55

77 13.21gm: Untraced.  
Hirsch xvi (1906) 648.

## B 56

78 → 12.95gm: Oxford, E.S.G. Robinson.

## B 57

79 ↑ 12.58gm: Leningrad, Hermitage 583/905.

## B 58

80 → 13.01gm: Paris, Niggeler Coll.  
Jameson 1527;  
ex Mirabaud.

81 → 12.94gm: New York, B.Y. Berry.

## A 31

## B 59

82 → 13.11gm: Oxford, E.S.G. Robinson.

83 13.06gm: Gulbenkian Coll.  
Neville v (1923) 2599;  
BM duplicate, BMC 358.88;  
ex Borrell.

84 ← 13.01gm: London, BM.  
BMC 358.87;  
Gardner 44 No.9, Pl.ii 3;  
overstruck on adjusted Athenian  
tetradrachm.

85 ↑ 13.02gm: Paris, Chandon de Briailles 579.  
Neville v (1923) 2598;  
Sotheby 22.iv.1909 234;  
White King, ex Rhousopoulos;  
Hirsch xiii (1905) 3837;  
overstruck on adjusted coin of Aigina.

## A 32

## B 60

86 : Newcastle.

A 33

B 61

- 87 → 12.95gm: Paris 2266;  
Luynes 2687;  
Traite II ii 1796, Pl.c1 17.
- 88 ← 13.05gm: New York, Metropolitan Museum.  
Hill, Cat.Ward Coll. 684;  
Bunbury ii 226.
- 89 ← 12.88gm: London, BM.  
BMC 358.90.

B 62 -- above, ≥A.

- 90 → 12.94gm: Vienna 18027.
- 91 ← 12.55gm: Oxford, E.S.G.Robinson.  
Sambon, 14.iii.1923, 504;  
Hirsch xiii (1905) 3838.

A 34 'Widow's peak' B 63

- 92 12.92gm: Untraced.  
Weber Coll.6294;  
ex Rollin & Feuardent;  
ex Wigan Coll.

II ic

A 35 As last.

B 64 -- ornamental collar about  
the cow's neck.

- 93 ← 13.06gm: London, BM.  
BMC 358.84.
- 94 ← 13.00gm: Paris 2254.  
Traite II ii 1796, Pl.c1 18.
- 95 → 13.13gm: London, BM.  
BMC 357.83.
- B 65 As last.
- 96 13.20gm: Untraced.
- 97 → 13.05gm: Paris 2255.
- 98 12.89gm: Untraced.  
Neville xii (1926) 1824.
- 99 ← 13.01gm: Leningrad, Hermitage 15791.

- B 66 As last.
- 100 ← 13.16gm: London, BM.  
BMC 357.82.
- B 67 As last.
- 101 ← 13.03gm: Berlin 21567.
- 102 ← 12.86gm: Gillet Coll.  
Sotheby, Benson 3.ii.1909 701.
- 103 ← 13.00gm: Boston 04.1055.  
Brett 1959;  
Regling 1152.
- 104 ↔ 13.00gm: Paris, Nanteuil Coll. 631.  
Amateur Athenien 12.xii.1921 76.
- 105 → 12.80gm: Boston 86.819.  
Brett 1958;  
Head, Num. Chron. 1886, 6, Pl. i 8  
(Naukratis, 'Silversmith hoard').
- 106 → 13.02gm: London, BM.  
BMC 358.85.

II ii

----- below, a changing letter  
or symbol.

- A 36 As last.                      B 68                      8
- 107 → 13.00gm: Berlin.  
Imhoof-Blüner Coll.
- A 37                                      B 69                      8
- 108 → 13.04gm: Paris 2266<sup>a</sup>.  
Lynes 2688;  
Traité II ii 1797, Pl. cl 19;  
Dupré Coll.
- B 70                      7
- 109 → 12.96gm: Untraced.  
Cahn 1951;  
Sotheby, O'Hagan (1908) 591;  
Montagu Coll.
- 110 ← 12.72gm: Berlin.  
Fox Coll.

- A 38 B 71 Γ
- 111 ← 12.77gm: London, BM.  
BMC 358.92.
- A 39 'Widow's peak'. B 72 Δ
- 112 ← 12.77gm: Oxford, E.S.G. Robinson.  
Glendining 7.iii.1957 291.
- B 73 E
- 113 ← 13.10gm: Aberdeen, Newnham Davis Coll.  
SNG I ii Pl.xvi 287;  
Sotheby 25.ii.1862 830;  
ex Gen.Miles Coll.
- A 40 B 74 E
- 114 → 13.10gm: London, BM.  
BMC 358.93;  
Gardner 45 No.13, Pl.ii 5.
- 115 ← 12.88gm: Berlin.  
Fox Coll.
- B 75 E
- 116 ← 13.02gm: Berlin 28408.
- 117 ↓ 13.01gm: Oxford, E.S.G. Robinson.  
Schulman, Amsterdam, 30.i.1956 2021;  
Cahn 80 (1933) 347;  
Hamburger 11.vi.1930 339.
- 118 ↓ 12.94gm: Paris 2256.  
Traite II ii 1799, Pl.cl 20.
- 119 12.91gm: Untraced.  
Hirsch xxi (1908) 3050;  
Helbing 9.iv.1913 581.
- 120 12.7 gm: Untraced.  
Schlessinger xiii (1935) 1303.
- 121 ↓ 12.48gm: Copenhagen, Danish Nat. Mus.  
SNG Copenhagen, Ionia 1681;  
Stilianopoulos 1888.

A 41  
(A 38 resumed)

B 76 [

122 → 12.83gm: New York, ANS.  
Jean B. Camman Bequest, April 1955.

B 77 I.

123 12.45gm: Untraced.  
Helbing 31.i.1930 316.

124 ← 12.92gm: Paris 2257.  
Traite II ii 1800, Pl.c(2).

B 78 -- below, a panther's head.

125 ← 13.19gm: London, BM.  
BMC 358.86, Pl.xxxv 1;  
Gardner 45 No.11, Pl.ii 4.

126 → 12.78gm: Oxford, E.S.G.Robinson.  
Karl Kress 1955 227;  
Schlessinger xiii (1935) 1302.

127 12.73gm: Untraced.  
Hirsch xxv (1909) 2271;  
Helbing 9.iv.1913 580.

B 79 H.

128 ← 13.04gm: London, BM.  
BMC 358.94.

129 13.20gm: Untraced.  
Hirsch xxxiii (1913) 849;  
Ratto 21.v.1927 2009.

130 13.13gm: Berlin.  
Prokesch-Osten Coll.

131 12.95gm: Untraced.  
Hamburger 29.v.1929 373.

132 → 13.03gm: Paris, Chandon de Briailles 580.

A 42

B 80 ©

133 ← 13.08gm: London, BM.  
BMC 358.95

B 81 I

134 ← 13.53gm: Berlin.  
Fox Coll.

----- Incuse circle.

A 43

B 82 K.

- 135 ← 13.25gm: London, BM.  
BMC 358.96.
- 136 : Kiphissia, Mme Vafiramoglou.
- 137 ← 13.05gm: Paris 2259.  
Waddington 2041;  
Traite II ii 1802, Pl.ci 22;  
ex Borrell 51.
- 138 ↑ 12.90gm: Bryn Mawr, King Coll.126.  
Num.Chron.1956, 38, Pl.xi 126.

B 83 Λ.

- 139 ↖ 12.94gm: London, BM.  
BMC 359.98.
- 140 ↖ 13.15gm: Copenhagen, Danish Nat.Mus.  
SNM Copenhagen Ionia 1682;  
Hollin.
- 141 ↖ 13.1 gm: Cambridge, McClean Coll.  
Cat.8405, Pl.293.2.

B 84 Λ.

- 142 ↑ 13.04gm: London, BM.  
BMC 359.97;  
Traite II ii 1803.

A 44

B 85 Μ.

- 143 ↑ 13.96gm: Cambridge, Leake Coll.  
SNM Fitzwilliam Mus.  
Cat.Leake, 'Insular Greece' 38.

B 86 Μ.

- 144 ↑ 13.20gm: Berlin.  
ex Dannenberg.
- 145 13.01gm: London, BM.  
BMC 359.99
- 146 13.01gm: Untraced.  
Münzhand.Basel 8 (1937) 363;  
Schlessinger xiii (1935) 1304.

147 12.95gm: Untraced.  
Naville xv (1930) 969.

148 → 12.98gm: New York, ANS.  
F.T. Newell Coll;  
Fay Coll. 6.

148 → 13.00gm: The Hague 6057.

B 87 N.

150 ✓ 13.03gm: Paris 2232.  
Traite II ii 1805, Pl. cl 23.

151 ✓ 13.10gm: Untraced.  
Glendining 15.vii.1929 428;  
Naville iv (1922) 874.

152 ✓ 13.09gm: Berlin.  
ex Lübbecke.

153 ✓ 12.79gm: Berlin.  
Fox Coll.

B 88 E.

154 13.12gm: Untraced.  
Hirsch xix (1907) 552;  
Egger xlvii 1111.

155 ↑ 12.75gm: Paris 2260.  
Traite II ii 1806, Pl. cl 24.

156 12.45gm: Untraced.  
Helbing Nachf., 31.i.1930 316.

-----

A 45 Style of A 43. B 89 -- below centre f; right,  
an ivy leaf; style of B 87.

157 12.98gm: Berlin.

-----

A 46 B 90 -- no letter visible.

158 12.86gm: Berlin.

II 111 A 47

B 91 -- above and below,  
ΕΤΙΒΑΤΙ - ΟΣ; the whole in  
an incuse circle; no ethnic.

159 ↗ 12.64gm: Paris 2272.  
Traite II ii 1807, Pl.ci 25;  
Gardner 45 No.12, Pl.ii 8.

160 ↘ 12.18gm: London, BM.

T E T R A D R A C H M S O F A T T I C W E I G H T

Lion's scalp facing. Forepart of cow to right, right  
leg bent under her, wearing  
ornamental collar; truncation  
dotted; behind, an olive  
branch; above, ΣΑΜΙ; below, a  
changing monogram or symbol;  
the whole in an incuse square.

A 48

B 92 A.

161 ↗ 16.87gm: London, BM.  
BMC 361.126, Pl.xxxv 11;  
Gardner 44 No.7, Pl.ii 1.

162 17.07gm: Copenhagen, Danish Nat. Mus.  
SNG Copenhagen, Ionia 1685;  
ex Kambanis 1901;  
overstruck.

B 93 A.

163 ↗ : Istanbul, H.von Aulock 491.720.  
Athens market.

164 ↗ 16.95gm: Untraced.  
Athens market, May 1958;  
overstruck.

165 ↘ 17.07gm: New York, B.Y.Berry.

B 94 A.

166 ↘ 16.84gm: New York, B.Y.Berry.  
overstruck.

167 ↗ 17.13gm: Athens, John Passas.  
overstruck.

## B 95 R

- 168 17.03gm: Untraced.  
Athens Market;  
(Winterthur cast).
- 169 : Gulbenkian Coll.  
Athens Market, 6.viii.1953.

Nos 163-169 come from a single hoard, found in Samos c.1953.

A 49 B 96 — prow of a Samaina  
to right.

- 170 ← 16.97gm: Paris 2261.  
Waddington 2034;  
Traite II ii 1808, Pl.ci 26.

A 50 B 97 — above and below, ethnic  
divided; no monogram or  
symbol.

- 171 ↘ 17.15gm: Berlin.  
ex Lübbecke.
- 172 ↘ 17.04gm: Berlin.  
Prokesch-Osten Coll.

A 51 B 98 HP.

- 173 ↗ 16.80gm: Oxford, E.S.G.Robinson.  
Spink 1954.

B99 HP.

- 174 ↘ 17.06gm: Oxford, E.S.G.Robinson.  
Spink 1954.

- 175 : Untraced.  
M.u.M. A.G. Liste 183 (1958) 25.

173-174 probably, and 175 possibly, come from the same  
hoard as 163-169.

## THE FOURTH-CENTURY TETRADRACHMS

Lion's scalp facing.

Forepart of cow to right,  
right leg bent under her,  
wearing ornamental collar;  
truncation dotted; behind,  
an olive branch; above, the  
name of a magistrate; below  
right, ΞΑ; the whole in an  
incuse square.

A 52

B 100 ΓΡΩ.

176

↖ 15.39gm: London, BM.  
BMC 362.130;  
Gardner 55 No.2, Pl.iv 2.

B 101 ΠΡΩΤΗΣ.

177

↘ 14.20gm: Paris 2269.  
Traité II ii 1840, Pl.cli 13.

A 53

B 102 ΠΡΩΤΗΣ.

178

↑ 14.84gm: London, BM.  
Gardner 55 No.2;  
ex Bunbury.

B 103 ΑΛΤΗΣ.

179

← 15.09gm: Untraced.  
Hirsch xiii (1905) 3840.

180

← 15.00gm: Berlin.  
Traité II ii 1845;  
Imhoof-Blümer Coll.

B 104 ΗΓΗΣΙ.

181

→ : Paris, Chandon de Briailles 582.

182

↑ 14.55gm: London, BM.  
BMC 362.132.

183

15.19gm: Vienna 35912.

184

14.84gm: Untraced.  
Sotheby, B.C.Prichard, 21.ii.1929 79.

185

↓ : Untraced.  
Platt, Paris, April 1959.

- B 105 AMΦI.
- 186 15.29gm: Untraced.  
Weber Coll.6303.
- A 54 B 106 AMΦI
- 187 ↑ 14.87gm: London, BM.  
Mavrogordato Bequest.
- 188 ↓ 15.07gm: Paris 2264.  
Waddington 2036;  
Traité II 11 1823, Pl.c11 5.  
(A specimen in Berlin, 14.20gm,  
is a cast of this piece.)
- 189 ↑ 15.15gm: Copenhagen, Danish Nat.Mus.  
SNG Copenhagen, Ionia 1686;  
Proschowsky 1930.
- 190 ↓ 14.25gm: Berlin.  
ex Lübbecke.
- B 107 (perhaps = B 105) AMΦI.
- 191 15.00gm: Untraced.  
ex Lambros;  
(Winterthur casts).
- A 55 B 108 ΗΓΗΣΙΑΩΑΞ
- Ⓜ below centre.
- 192 ↓ : Brussels.
- 193 ↑ 15.33gm: New York, ANS.  
E.T.Newell Coll.;  
Cilicia Hoard.
- B 109 ΗΓΗΣΙΑΩΑΞ
- Ⓜ below right.
- 194 ↑ 15.27gm: Athens, Empedokles Coll.
- 195 15.30gm: Gulbenkian Coll.  
Jameson 1529;  
Hirsch xviii (1907) 2468.

A 56

B 110 ΗΙΘΕΙΛΑΛΛΑΞ

Ⓜ below centre.

196

15.40gm: Untraced.

Hirsch xviii (1907) 2469;

Hirsch xxxii (1912) 544.

B 111 ΗΙΘΕΙΛΑΛΛΑΞ

Ⓜ below right.

197

↓ 15.29gm: Untraced.

Hess 207 (1931) 578.

198

↓ 15.31gm: Athens, A.A.Rhomanos Coll.

199

↓ 14.69gm: Brussels, de Hirsch 1531.

A 57

200

↑ 14.94gm: Oxford, E.S.G.Robinson.

B 112 ΗΙΘΕΙΛΑΛΛΑΞ

Ⓜ below right.

201

15.00gm: Untraced.

Hirsch xxxiii (1913) 850.

202

15.30gm: Untraced.

Hamburger 96 (1932) 147.

20 3

↑ : Paris, Nanteuil Coll.

204

14.80gm: Paris 2267.

Traité II ii 1825, Pl.cli 7.

20 5

15.23gm: Gulbenkian Coll.

Platt, Paris, 3.v.1933, 117.

B 113 ΗΙΘΕΙΛΑΛΛΑΞ

Ⓜ below right.

206

14.42gm: Untraced.

B 114 HIRIYAWAE  
below centre.

- 207 15.00gm: Boston 97.401.  
Brett 1962;  
Perkins Coll.495;  
Sotheby, Montagu 1896, 593.
- 208 ↑ 14.92gm: Copenhagen, Danish Nat.Mus.  
SNG Copenhagen, Ionia 1688;  
Lambros 1895.
- 20 9 15.36gm: Untraced.  
Sotheby 5.vii.1910, 101.

B 115 HIRIYAWAE  
below centre.

- 210 ↑ 15.36gm: Cambridge, General Coll.274.  
SNG Fitzwilliam Mus.  
given 1933 by Alfred A.de Pass;  
ex Seltman 4.vii.1922.

A 58 B 116 HIRIYAWAE  
below centre.

- 211 15.33gm: Gulbenkian Coll.  
Neville xiii (1928) 873;  
Neville i (Pozzi 1921) 2555.

A 59

- 212 15.20gm: Gulbenkian Coll.  
Neville xii (1928) 874;  
Rosenberg 9.iii.1914, 125.
- 213 15.13gm: Untraced.  
R.C.Lockett, SNG iii 2873;  
Neville iv (1922) 875.

B 117 HIRIYAWAE

- 214 ↓ 15.07gm: London, BM.  
BMC 362.133.
- 215 14.93gm: Untraced.  
Cahn 66.327.

B 118  
below right.

- 216 15.35gm: Untraced.  
Neville xiv (1929) 377.

A 60

B 119 ΗΙΗΞΙΑΝΑΞ

Ⓜ below centre.

217

↓ 14.75gm: Cambridge, McClean Coll.  
Cat. 8407.

218

↑ 15.27gm: London, BM.  
BMC 362.134, Pl. xxxv 14.

A 61

B 120 ΗΙΗΞΙΑΝΑΞ

Ⓜ below centre.

219

↑ 15.27gm: Munich.

A 62

B 121 ΗΙΗΞΙΑΝΑΞ

Ⓜ below centre.

220

15.23gm: Cambridge, Leake Coll.  
SNG Fitzwilliam Mus.

221

14.87gm: Glasgow, Hunter Coll.  
Cat.

A 63

B 122 ΗΙΗΞΙΑΝΑΞ

Ⓜ below right.

222

15.20gm: Untraced.  
Rosenberg 72 (1932) 633.

223

↑ 15.33gm: Berlin.  
Imhoof-Blümer Coll.

224

15.34gm

225

15.03gm Istanbul. dies unknown.

226

15.12gm (Chalki Hoard)

A 64

B 123 ΑΕΔΞ

Ⓜ below centre.

227

↓ 15.45gm: Brussels, de Hirsch 1529.

A 65

228

15.29gm: Untraced.  
Weber Coll. 6305.



A 72

B 133 ΗΠΙΟΞ

238

15.16gm: Paris 2263.  
Waddington 2037;  
Traité II ii 1822, Pl.cli 4.

A 73

B 134 ΦΡΑΣΤΩΡ (inc.circle).

239

14.52gm: Paris 2271.  
Waddington 2038;  
Traité II ii 1844, Pl.cli 15.

B 135 ΡΥΘΙΩΝ

240

↓ 15.33gm: Copenhagen, Danish Nat.Mus.  
SNG Copenhagen, Ionia 1689;  
Yazakopoulos 1917;  
Vejledning p.47.

B 136 ΡΥΘΙΩΝ

241

14.30gm: Paris.  
Traité II ii 1839, Pl.cli 12.

A 74

B 137 ΑΛΚΜΕΩΝ  
ΗΓΕΜΩΝΕΣ

242

↓ 15.27gm: Oxford, E.S.G.Robinson.  
Hess 15.iv.1957, 274;  
Hirsch xxv (1909) 2275.

243

↓ 15.18gm: Paris 2268.  
Traité II ii 1829, Pl.cli 9.

244

↑ 15.16gm: Cambridge, McClean Coll.  
Cat.8408;  
Feuardent 9.v.1910, 552.

B 138 ΑΛΚΜΕΩΝ  
ΗΓΕΜΩΝΕΣ

245

14.94gm: Untraced.  
Neville xii (1926) 1825;  
Weber Coll.6306.

B 139 ΑΛΚΜΕΩΝ  
ΗΓΕΜΩΝΕΣ

246

↓ 15.18gm: New York, B.Y.Berry Coll.

—— the whole within an  
incuse circle.

B 140 ΓΥ]ΘΑΓΟΡΗΣ

- 247 ↓ 15.12gm; Paris 2270.  
Traité II ii 1842, Pl. cli 14.

Dies unknown

- 248 15.25gm; Vienna, Schottenstift Coll.  
(Winterthur cast).

A 75 B 141 Δ]ΗΜΗΤΡΙ[ΟΕ  
ΑΝΤΙΑ

- 249 ↑ 15.16gm; Berlin.  
Imhoof-Blüner Coll.

- 250 ↓ 15.12gm; London, BM.  
BMC 362.131.

A 76 B 142 ΔΗΜΩ[Ν

- 251 ↑ 15.17gm; Copenhagen, Danish Nat. Mus.  
SNG Copenhagen, Ionia 1687;  
ex Lambros 1900.

A 77 B 143 ΕΡΙΚΡΑΤΗΣ

- 252 ↑ 15.10gm; Cambridge, General Coll. Y.948.  
SNG Fitzwilliam Mus.

A 78 B 144 ΕΡΙΚΡΑΤΗΣ  
ΑΧΕΛΩΙΟ

- 253 ↓ 14.66gm; New York, B.Y. Berry Coll.

B 145 ΕΡΙΚΡΑΤΗΣ  
ΑΧΕΛΩΙΟ

- 254 ↓ 15.12gm; London, BM.  
BMC 362.135;  
Gardner 55 No.3, Pl. iii 3;  
ex Borrell.

A 79 B 146 ΙΗΝΩΔ[ΟΤΟΣ  
ΜΑΝΔΡΑΓΟ[ΡΟ

- 255 15.26gm; Untraced.  
Weber Coll. 6304.

A 80 B 147 ΜΟΙΡΙΑΔΗΣ

- 256 ↓ 14.77gm; London, BM.  
ex Lawson 1898.

Another, 15.15gm,  
dies unknown, Istan-  
bul. Pedagogik Museum

C A T A L O G U E

o f

F R A C T I O N A L C U R R E N C Y

## THE ARCHAIC PERIOD

## OBVERSE

## REVERSE

- (a) Forepart of a cow to right.                      Rough incuse square.

8.75 gm: London, BM.  
BMC 350.8, Pl. xxxiv 3.

- (b) Head and neck of a cow to right.                      Rough incuse square.

2.12 gm: London, BM.  
BMC 350.11, Pl. xxxiv 6;  
 Gardner 27 no.2, Pl. 1 6;  
 ex Whittall Coll.

- (c) Lion's scalp facing.                      Rough incuse square.

2.53 gm: London, BM.  
BMC 350.10, Pl. xxxiv 5;  
 Gardner 27 no.1, pl. 1 5.

2.33 gm: Untraced.  
Sir H. Weber Cat. 6288  
Num. Chron. 1890 Pl. 1 17;  
 Delta Hoard, 1887.

2.82 gm: Untraced.  
 Hirsch xxv (1909) 2262.

## OBVERSE

## REVERSE

(d) Forepart of a winged boar  
to left.

Lion's scalp facing, within  
a dotted square, the whole  
in an incuse square.

3.75 gm: Untraced.

Sir H. Weber Cat. 6295.

3.55 gm: Boston 04.1053.

Brett, Cat. 1956;

Regling 1150.

3.48 gm: Untraced.

Baronowski iv ( ) 678.

Type right.

3.43 gm: London, BM.

BMC 354.46, Pl. xxiv 17;

Gardner 47 no.15, Pl. ii 10.

3.54 gm: Untraced.

Jameson Coll. 1526;

(Dies as last).

3.49 gm: Untraced.

Rizzi 1921, 826.

Type left.

Type within a border of  
dots between lines.

3.56 gm: London, BM.

BMC 354.42, Pl. xxxiv 16;

Gardner 47 no.15, Pl. ii 9.

3.34 gm: Untraced.

Sir H. Weber Cat. 6297.

3.38 gm: Untraced.

SNG iii (R. C. Lockett Coll.) 2868;

Naville i (Pozzi 1920) 2553.

3.56 gm: Boston 04.1052.

Brett, Cat. 1955;

Regling 1149.

## OBVERSE

## REVERSE

Type right.

- 3.4 gm: Untraced.  
Hirsch xiii (1905) 3836;  
(Same reverse die as last).
- 3.54 gm: Oxford, E. S. G. Robinson,  
PLATE XLIV 5.  
(Same obverse die as last).
- 3.75 gm: Untraced.  
Naville i (Pozzi 1920) 2554;  
(Same reverse die as last).

(e) Type right.

Type with border of dots alone.

- 3.25 gm: Paris 2244, PLATE XLIII 4.  
Traité Pl. cl 4.
- 3.23 gm: Paris 2241, PLATE XLIII 5.  
Traité Pl. cl 5.

Similar, developed style.

- 3.18 gm: London, BM.  
BMC 354.49.
- 3.15 gm: London, BM.  
ex N. Zitelli 1925.

Type left.

Type with border of dots alone.

- 3.25 gm: Paris 2245.
- 3.19 gm: Paris 2246.
- 3.10 gm: Paris 2247.

Type right.

Lion's scalp facing, no border.

- 3.20 gm: London, BM.  
BMC 354.47.

## OBVERSE

## REVERSE

- (f) Forepart of a cow to right; a row of dots between lines at truncation. Head of a lion to right, within a square border of dots between lines, the whole in an incuse square.
- 6.77 gm: Aberdeen, Newnham-Davis Coll.  
SNG I ii 286.
- All from same obv. die 6.56 gm: London, BM.  
BMC 352.23, Pl. xxxiv 10.
- 6.65 gm: Paris 2233.  
Traité.  
Waddington 2027.
- 6.66 gm: Berlin.  
Traité.
- (g) As last. As last.
- 3.37 gm: London, BM.  
Sir H. Weber Cat. 6290;  
H. Weber, Num. Chron. 1896, 24.45.  
Dr. Fenerly Bey, Istanbul 1891.
- (h) Head and neck of a cow to right; a row of dots between lines at truncation. Head of a lion to right, within a square border of dots, the whole in an incuse square.
- 0.81 gm: London, BM.  
BMC 352.27, Pl. xxxiv 13.
- 0.81 gm: Leningrad, Hermitage 15962.  
(Dies as last).
- 0.97 gm: Vienna 36704.  
(Dies as last).
- 0.78 gm: Leningrad, Hermitage 15963.

## OBVERSE

## REVERSE

- (j) Forepart of a winged boar to right.  
Head and neck of a cow to right, truncation dotted, within a square border of dots between lines; the whole in an incuse square.  
2.69 gm: Oxford, E. S. G. Robinson Coll.  
Cahn, M.u.M. Liste 180 (1958) 30.
- (k) Lion's head facing within a square border of dots.  
Head and neck of a cow to left, truncation dotted, within a square border of dots between lines; the whole in an incuse square.  
1.53 gm: Vienna 33443.  
: Cambridge, Leake Collection.  
SNG Fitzwilliam Mus.  
(Same dies as last).  
1.43 gm: Leningrad, Hermitage 15960.  
(Same dies as last).
- (l) Forepart of a winged boar to left.  
Head of a lion to left within a square border of dots, the whole in an incuse square.  
1.48 gm: Cambridge, McClean Collection.  
Cat. 8401.  
1.80 gm: London, BM.  
BMC 355.54.  
1.41 gm: London, BM.  
BMC 355.55, Pl. xxxiv 18.
- Type right.  
1.35 gm: Paris 2250.  
Traité Pl. cl 7;  
Waddington 2029.
- Type right.  
1.39 gm: London, BM.  
BMC 355.56.  
1.33 gm: London, BM.  
BMC 355.57.

## OBVERSE

## REVERSE

(m) Head of a panther  
to right, within  
a circle of dots.

Head of a ram to right, within  
a square border of dots, the  
whole within an incuse square.

1.38 gm: Untraced.  
Sir H. Weber Cat. 6302;  
W. S. Lincoln, 1888.

1.11 gm: London, BM.  
BMC 356.65; Gardner Pl. ii 16.

Type left.

1.12 gm: Paris 2240, PLATE XLIII 9.  
Coll. de Luynes 2684;  
Traité II ii 1786, Pl. cl 9.

Type left,  
no dots.

Type right.

1.08 gm: Cambridge, McClean Collection.  
Cat. 8403.

Pp. 9-10, No.3

(c) Lion's scalp  
facing, within  
a circle of dots.

Head and neck of cow to left,  
truncation dotted, within an  
incuse circle.

Triobol 1.60 gm: Vienna

As last.

Type right.

Diobol 1.15 gm: Leningrad, Hermitage 15961.

1.10 gm: London, BM.  
BMC 352.26.

Type left.

0.91 gm: Vienna 130769.

## OBVERSE

## REVERSE

Type on a boss with  
dotted rim (cf.  
Tetradrachm no.2)

Type right

1.06 gm: Athens, Nat. Mus. 5541.

(e) As last, no boss or  
border

Type left, square border  
of dots.

Diobol

1.00 gm: Berlin  
Traité II i 452.

As last.

As last.

Obol

0.58 gm:  
SNG 111 (R. C. Lockett) 2872;  
Traité II i 453;  
ex Bunbury Coll.

(f) As last.

Type right, no border.

0.43 gm: Berlin  
Traité II i 454;  
Gardner 28 no.12, Pl. 1 12.

(g) As last.

As last.

Hemiobol

0.23 gm: London, BM.  
BMC 357.81.

## THE FIFTH CENTURY

## OBVERSE

## REVERSE

## 'Triobols'

Forepart of a  
winged boar to  
right.

Head of a lion to right,  
in an incuse square.

- (2) 1.23 gm: BMC 355.63. (Rev. type left)  
 1.36 gm: BMC 355.58.  
 1.10 gm: BMC 355.60.  
 1.45 gm: BMC 355.61.  
 1.41 gm: BMC 355.62.  
 1.26 gm: BMC 355.59, Pl. xxxiv 19.
- (3) Above,  $\Sigma A$   
 1.26 gm: BMC 360.107, Pl. xxxv 6.  
 Same obverse die as last.  
 1.23 gm: BMC 360.106.  
 1.22 gm: BMC 360.108.
- Above,  $\Sigma A^*$   
 1.30 gm: BMC 360.105.  
 1.25 gm: Traité II ii 1815, Pl. cl 30:  
 PLATE XLIII 30.
- (4) Behind,  $\Sigma A$  ; beneath an olive  
 branch.  
 1.30 gm: BMC 359.103; Gardner Pl. ii 15.  
 1.23 gm: BMC 359.104, Pl. xxxv 5.
- (5) Above, an olive branch.  
 1.29 gm: BMC 359.101.  
 1.24 gm: BMC 359.102, Pl. xxxv 4.

## OBVERSE

## REVERSE

(6)

Head of a lion to right,  
in an incuse circle.

Above, Λ 3

- 1.30 gm: BMC 360.109, Pl. xxxv 7.  
 1.30 gm: BMC 360.110.  
 1.20 gm: BMC 360.111.  
 1.25 gm: Paris 2281.  
Traité II ii 1814, Pl. cl 28: PLATE XLIII  
 28.  
 1.21 gm: Paris 2289.  
Traité II ii 1814, Pl. cl.29: PLATE  
 XLIII 29.

Above, Σ A

- 1.30 gm: BMC 360.112.  
 1.16 gm: BMC 360.113.  
 1.12 gm: Paris.  
Traité II ii 1815, Pl. cl 31: PLATE  
 XLIII 31.  
 1.20 gm:  
Sir H. Weber Cat. 6300.  
 C. G. Thieme, Leipzig 1888.

Incuse circle noticeably concave:  
Above, Σ A

- 1.26 gm: BMC 360.116.  
 1.10 gm: BMC 360.117.  
 1.28 gm: BMC 360.118.  
 1.10 gm.  
Sir H. Weber Cat. 6301;  
Sotheby, Carfrae 1901.

(7)

Above, Σ A and a dolphin.

- 1.20 gm: BMC 360.114.  
 1.28 gm: BMC 360.115.

## OBVERSE

## REVERSE

## Diobols

- (2) Head of a panther to right. Head of a ram to right, in an incuse square.  
0.99 gm: BMC 356.66.
- Type left.  
0.96 gm: BMC 356.68.  
0.89 gm: BMC 356.69.
- (3) Traces of ethnic inscription.  
0.98 gm: BMC 356.67.
- (4) Above, ; beneath, an olive branch.  
0.85 gm: BMC 360.119, Pl. xxxv 8.  
0.92 gm: Traité II ii 1818, Pl. cl 33: PLATE XLIII 33.  
0.95 gm: Ibid. 1819, Pl. cl 34: PLATE XLIII 34.  
1.00 gm: SNG Copenhagen, Ionia 1684.
- (5) Type in an incuse circle, no ethnic or olive branch.  
0.87 gm: BMC 356.70; Gardner, Pl. ii 17.  
0.87 gm: BMC 356.71, Pl. xxxiv 21.  
0.81 gm: BMC 356.72.  
0.97 gm: Hirsch xxv (1909) 2269.  
0.93 gm: Traité II ii 1817, Pl. cl 32: PLATE XLIII 32.

## OBVERSE

## REVERSE

## Trihemibols

Prow of a Samaina  
to right.

An amphora upright, between  
left and an olive branch right.

Type in an incuse square.

0.60 gm: BMC 361.122; Gardner, Pl. ii 19.

Type in an incuse circle.

0.71 gm: BMC 361.120, Pl. xxxv 9.

0.61 gm: BMC 361.121.

0.57 gm: Yale University.

0.54 gm: American Numismatic Society.

An amphora upright, between an  
olive branch left and right.

0.60 gm: BMC 361.123.

0.53 gm: BMC 361.124.

0.54 gm: Paris 2288, PLATE XLIII 35.  
Traité II ii 1820, Pl. cl 35;  
Waddington 2033.

0.56 gm: American Numismatic Society.

## Obols

[Lion's head  
to right.]

[Ram's head, horned, to right.]

0.55 gm: Traité II ii 1787, Pl. cl 10:  
PLATE XLIII 10.

Lion's scalp  
facing.

Head and shoulder of a cow to  
right, in an incuse circle.

0.43 gm: BMC 357.80, Pl. xxxiv 24.

0.48 gm: BMC 357.79.

0.50 gm: Vienna 39162.

## COINS OF ATTIC WEIGHT

OBVERSE

REVERSE

## Drachms

Lion's scalp facing.

Forepart of cow to right, right leg bent under her, wearing ornamental collar; truncation dotted; above,  $\Sigma AMI$ ; below right, an olive spray; the whole in an incuse square.

4.15 gm: Paris 2262.

Traité II ii 1810, Pl. cl 27:

PLATE XLIII 27.

Waddington 2035.

4.17 gm: BMC 361.127, Pl. xxxv 12.

Same dies as last.

---; below, between legs,

4.07 gm: Cambridge, McClean Coll.

Cat. 8406;

Same obverse die as last, more worn.

4.23 gm: Boston 04.1056.

Brett, Cat. 1961;

Regling 1153;

Same reverse die as last.

: Mrs. Vairamoglou, Kiphissia.

Same dies as last.

4.22 gm: American Numismatic Society.

E. T. Newell Coll.;

Same obverse die as last.

4.00 gm: BMC 361.128.

## OBVERSE

## REVERSE

## Triobol

Lion's scalp facing.

Head and shoulder of a cow  
to right; above, ;  
surrounded by a wreath of  
olive; the whole in an  
incuse circle.

2.02 gm: London, BM.

## Bronze

Prow of a Samaina  
to right.

Amphora upright between the  
letters , the whole surrounded  
by a wreath of olive.

: BMC 361.125, Pl. xxxv 10.

0.58 gm: Untraced.  
Sir H. Weber Cat. 6308.

## THE FOURTH CENTURY

## OBVERSE

## REVERSE

Double-siglos, or Rhodian-weight tridrachm.

The infant Herakles, nude  
but for crepundia about  
his body, strangling a  
serpent with either hand:  
he kneels to right on a  
base-line; about him,  
ΣVΛ within a plain circle.

Lion's scalp facing;  
beneath, ΣA

11.29 gm: Untraced  
Jameson 1528.

11.18 gm: Paris 2277  
Traité II ii 1812, Pl. cli 2;  
Waddington 2042.

11.53 gm: London, BM.  
BMC 362.129, Pl. xxxv 13  
Gardner 54 no.1, Pl. iii 1.

## OBVERSE

## REVERSE

## Drachms

Lion's scalp facing.

Forepart of cow to right,  
right leg bent under her,  
wearing ornamental collar;  
truncation dotted; above,  
the name of a magistrate;  
below right, <sup>Z</sup>A : the whole  
in an incuse square.

ΑΜΦΙ

3.85 gm: Paris 2265.  
Traité II ii 1824, Pl. cli 6.

3.85 gm: Untraced.  
Jameson 1530.

ΗΦΗΖΙΑ : below right, Ⓐ

3.85 gm: Paris 2274.  
Luynes 2689;  
Traité II ii 1826, Pl. cli 8.

3.82 gm: London, BM, PLATE XLV 4.  
BMC 363.136, Pl. xxxv 15.

: Boston  
Brett, Cat. 1963.

: Oxford, Ashmolean Museum.  
Feuardent 9.v. 1910, 553.

ΔΗΜΩΝ: type in incuse circle.

3.50 gm: Istanbul, H. von Aulock 491/7.

ΜΟΙΡΙΑΔΗΕ : behind, olive  
branch: circ.

3.50 gm: Istanbul, H. von Aulock 491/8.

## OBVERSE

## REVERSE

## Triobols

As drachm.

As drachm.

HCHΞI

- 1.76 gm: Berlin }  
 1.55 gm: Berlin } Traité II ii 1828.

ΑΡΙΣΤΗΔΗΣ : below right, Ⓐ

- 1.83 gm: London, BM.  
BMC 363.137.

- 1.82 gm: Oxford, E. S. G. Robinson Coll.

- 1.68 gm: American Numismatic Society.  
 Same obv. die as last; the  
 magistrate's name is missing, but  
 the monogram is present.

ΑΟΧ

- 1.68 gm: London, BM, PLATE XLV 5.  
BMC 363.139;  
 Gardner, Pl. iii 5.

ΑΟΧΙΤΗΣ

- 1.77 gm: Paris 2273.  
Traité II ii 1834, Pl. cli 11;  
 Waddington 2039.

- 1.86 gm: Cambridge, Fitzwilliam Museum.  
 Loscombe Sale 398.

- 1.80 gm: Istanbul, H. von Aulock 491/65.

ΑΡΤΙΡΟΒΣ

- 1.69 gm: Paris 2279.  
Traité II ii 1847, Pl. cli 17;  
 Waddington 2045.

ΑΕΠΤΙΩΝΗΣ

: Cambridge, Leake Collection.

## OBERVERSE

## REVERSE

## Diobols

Lion's scalp facing.

Prow of a Samaina to right;  
below,  $\Sigma^A$  : the whole in an  
incuse circle.

- 1.04 gm: London, BM.  
BMC 363.140, Pl. xxxv 17.
- 1.04 gm: London, BM, PLATE XLV 6.  
BMC 363.141;  
Gardner Pl. iii 6.
- 0.94 gm: London, BM.  
BMC 363.142.
- 1.18 gm: Paris  
Traité II ii 1850, Pl. cli 18.
- 1.00 gm: Untraced.  
Sir H. Weber Cat. 6307.
- 0.99 gm: Untraced.  
Hirsch xxv 2279.
- 0.97 gm: Untraced.  
Egger xlvi 1112.
- 1.03 gm: Istanbul, H. von Aulock 491/9.

## Trihemiobols

Head of Hera to  
left, wearing  
stephane, earrings,  
and necklace.

Lion's scalp facing; below  $\Sigma^A$  :  
the whole in an incuse circle.

- 0.81 gm: Paris  
Traité II ii 1852, Pl. cli 19;  
Gardner, Pl. iii 7;  
Luynes Coll.

Type right.

- 0.83 gm: Untraced.  
Sir H. Weber Cat. 6309.

## OBVERSE

## REVERSE

## Obols

Lion's scalp facing

Head and shoulder of a cow to right, truncation dotted; below, ζA : the whole in an incuse circle.

: New York, B. Y. Berry Collection.

The above is to be distinguished from Traité II ii 1851 (BMC 357.79-80), obols of the mid-fifth century, wrongly placed here by Babelon.

## Bronze

Head of Hera to left or right, with stephane, necklace, and earrings.

Lion's scalp facing, sometimes ζA below, in an incuse circle.

Four sizes of these tokens are to be distinguished.

(1) Type right.

Below, ζA

16 mm. approx: Traité 1853, Pl. cli 20, 21.  
Cahn 84, 371.

(2) Type left.

No ethnic.

14 mm. approx: Traité 1854, Pl. cli 22, 23.  
BMC 364.147, Pl. xxxv 18.  
Sir H. Weber Cat. 6310, 6311.

(3) Type left.

Below, ζA

11 mm. approx: Gardner 58 no.12, Pl. iii 10.

(4) Type right.

No ethnic.

10 mm. approx: Sir H. Weber Cat. 6313.

The weight of the tokens is of no significance: (2) has a variation between 1.89 and 3.0 gm., while pieces of (1) are only slightly heavier than those of (2).

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## II INSCRIPTIONS

The archaic inscriptions in the following list are for the most part included in Dr. L. H. Jeffery's forthcoming book, The Local Scripts of Archaic Greece, here referred to as 'J', which see for fuller bibliography. (For the gravestones I have repeated J's dates; but they should probably be raised: see discussion, pp. 294ff, and J's comments, her p. 331).

Graffito from rim of 'Rhodian' dinos, c.650-600.

Tigani, from Heraion: Ath. Mitt. 11v (1929) 65; 1viii (1933) 109f; J 328 No.1.

Ship relief, c.625-600.

Heraion: unpublished. PLATES X, XI.

Gravestone of Demandros, c.600-575.

From Myli nekropolis: IGA 383; SGDI 5718; DGE 713; Ath. Mitt. 1viii 24f; J 328 No.2.

Graffiti from the Heraion at Naukratis, c.600-550.

Naukr. ii 67, Nos. 841-8, Pl. xxii; J 328 No.3a.

Double-eye bowl from precinct of Aphrodite at Naukratis, dedicated by Rhoikos c.600-575.

Naukr. ii 65 No.778, Pl. vii; J 328 No.3b.

Hera of Cheramyes, c.570-60.

Louvre 686, from the Heraion: IGA 384; SGDI 5710; DGE 715; Buschor, Altsam. Abb. 86-9, 107; J 328 No.4.

Kouros of Leukios, c.575-50.

Vathy, from precinct of Apollo near Glyphada: SGDI 5705; DGE 715 (1); J 329 No.5. PLATE XXVI.

Group by Geneleos, c.560.

Vathy, from the Heraion: J 329 No.6. PLATES XXII-XXIV.

Kouros of Cheramyes, c.540.

Buschor, Festschr. Schweitzer 97ff; J 329 No.7.

Grave-stele of Gordiamos, c.550-540.

Tigani: Ath. Mitt. lviii 26 No.1, Abb. 2; J 330 No.8.

----- of Diagoras, c.540-520?

Vathy: Boehlau, Nekr. 41, 153f, Taf. 1; Ath. Mitt. lviii 31f No.1, Beil. xi; J 329 No.9.

----- of Aris, c.540-20?

Vathy: Boehlau 31f, 40, 154, Taf. 1; Ath. Mitt. lviii 24 No.2; J 329 No.10.

----- of (An) themis, c.540-20.

Tigani: Ath. Mitt. lviii 30, Beil. x; J 329 No.11.

----- of Protodikos, c.540-20.

Vathy: Ath. Mitt. xxxi (1906) 185; lviii 24f No.3; J 329 No.12.

Dedication of Amphidemos, c.540-30.

Vathy B 423, from the Heraion: unpublished.  
PLATE XII 1-2.

Perinthian dedication at the Heraion, c.525.

Tigani: Mitt. Deutsch. Arch. Inst. vi (1953) 15ff.  
PLATE XII 3.

Dedication of Aeakes, c.510 (c.525 J).

Tigani: Ath. Mitt. xxxi 151ff; DGE 714; SEG xiv 556; J 330 No.13. PLATE XIII.

Grave stele of Konche, c.520-500?

Vathy: Boehlau 35, 154, Taf. 1; Ath. Mitt. lviii 25 No.5. J 329 No.14.

Bronze hare dedicated to Apollo Prie(n)eus by Hephaistion, c.500.

London, BM: IGA 385; BMC Bronzes 237; DGE 715 (2); J 330 No.15.

Base of grave statue of Aischros, c.500-490.

PAE 1953, 70f, figs. 8-9; J 330 No.16.

Base of Bronze statue dedicated to Apollo, Delphoi, 500/499.

Delphoi, Inv. 1790: Klio xv (1918) 60f No.87; SIG<sup>3</sup> 20; J 330 No.17. PLATE XIV.

Grave-stele of Technandros, c.475?

Vathy: Ath. Mitt. lviii 22ff No.7; J 329 No.18.

- Base of statue to Euthymos the Lokrian at Olympia, 472.  
Olympia Mus. 357; IGA 388; SEG xiv 354; J 331 No.19.
- Fragmentary 'casualty-list' of Eurymedon, c.469; dedication to Maiandrios, Hellenistic.  
Heraion: Ath. Mitt. li (1926) 26ff, 155; Philologus lxxxvi (1930) 424ff; JHS liii (1933) 97ff; J 331 No.20. PLATE XV.
- Horoi of Athena, Ion, and the Eponymoi - see APP. PLATES XVII-XX.
- Fragmentary dedication referring to the Egyptian campaign, c.454.  
Heraion: Klio xxxii (1939) 289ff; J 331 No.21. PLATE XVI 2.
- Gravestone of Panes, son of Amorgios.  
Tigani: unpublished (see p. 116).
- Heraion treasury inventory, 346/5.  
Ath. Mitt. lxviii (1953) 46ff.
- Decree of Lysagores, son of Kaios, c.300.  
Ath. Mitt. lxxii (1957) 190f.
- Dedication honouring Berenike, 281-260.  
Ath. Mitt. xliv 21 No.8; SEG i 369. PLATE XVI 1.
- Expenses of the Samian Revolt, 440/39 B.C.  
SEG x 221; Hill, Sources<sup>2</sup> 61.
- Regulations for Samos after Revolt, 439/8 B.C.  
SEG x 39; ATL D 18; Hill, op.cit. B62.
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Hill, op.cit. B 63.

Rescript of Lysimachos, c.300.

OGIS 13; Inschr. von Priene 209, No.500.

Arbitration of Rhodian tribunal, early second century B.C.

SGDI 3758; Inschr. von Priene 37ff, No.37.

List of Aisymnetai at Miletos.

Milet I iii No.122.

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