

# THE ELECTRUM AND SILVER COINS OF CHIOS,

ISSUED DURING THE SIXTH, FIFTH AND FOURTH  
CENTURIES, B. C.

A CHRONOLOGICAL STUDY

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THE coinage of the Island of Chios issued at the mint of Chios, its chief city, which was situated on the eastern coast opposite Erythrai on the Ionian mainland, does not seem to have been particularly abundant when compared with the coinages of other important Ionian mints, Miletos, Samos, Ephesos, Smyrnai, Phokaia and Erythrai. All of these cities, and perhaps Teos also, issued coins in electrum in the earliest period ca. 700-550 B. C. (see Head's comparative table in *B. M. C. Ionia*, pp. lii-lv, and, for Teos, Babelon's *Traité II*<sup>1</sup>, nos. 169-176, Pl. V, 1-4, and Head, *H. N.*<sup>2</sup>, p. 595, and *B. M. C. Ionia*, p. xxi), but the electrum money of Chios, a very rare and plainly incomplete series, does not seem to reach back much earlier than ca. 550 B. C.

The five distinct types of the archaic electrum known to us, and all but two of the extant specimens, are represented on Pl. I, nos. 1-12, and none of these coins, with the possible exception of nos. 1 and 2, are of sufficiently archaic style to permit of an earlier date than the middle of the Sixth Century. The silver coinage (no. 13, Pl. I — no. 26, Pl. VI) probably does not commence at an earlier date than the electrum series, though the two earliest coins of the silver didrachm series, like the two earliest electrum staters, appear considerably more archaic than the succeeding coins in both series. The so-called Aiginetic staters (Head's table, *B. M. C. Ionia*, p. liii, and *H. N.*<sup>2</sup>, p. 599, our Pl. VII, 4-7) once attributed to Chios and belonging doubtless to the period 550 B. C., or earlier, are surely not Chian in origin, — a point which will be discussed below.

The practically complete absence of coinage, then, in the earliest period, partially accounts for the disparity in the quantity of coins issued by Chios as balanced against that of other Ionian towns of like political and commercial importance. Only partially, however, for a greater disparity is seen to exist when we turn to the other end of the series. Chios is very weak in her Imperial coinage, in which series Ephesos, Samos and Smyrnaï are notably rich. In general, at no period does the Chian coinage show itself prolific, nor is it as continuous throughout as that of Miletos, Samos, Ephesos and Erythrai. The archaic electrum issues, as indicated above, are very scanty, a fact which may be due in part to the hazards of survival; and, as is the case with the Lampsakene electrum coinage, the only electrum issue subsequent to 500 B. C. is represented by a single type. For Chios, the Fifth-Century electrum is known to us only by the unique example in Berlin (Pl. IV, 11). The silver coins exist in an unbroken and fairly abundant series which extends, according to our opinion, from ca. 550—ca. 330 B. C. After this date there is a decided falling off in the coinage, though one must not assume an absolute lacuna as given in Head's table, B. M. C. Ionia, p. liii, for there were some straggling issues in bronze, as is suggested in this same work, p. 332, and, as I hope to show, in silver as well, for the period 330 B. C. and later.

Our reason for advancing the lower limit of the period here discussed down to 330 B. C. contrary to Babelon, who says categorically that the mint was closed in 356 B. C. (*Traité* II<sup>2</sup>, p. 1045) and to Head, who gives 350 B. C. as the lower limit, is to be found in the evidence presented by the hoard of coins discovered at Pithyos on the Island of Chios (*Zeit. f. Num.* 1887, pp. 148-157). The analysis of the contents of this find, which will be given in detail, makes the later date a practical certainty.

There were no Lysimachian or cistophoric coinages at Chios as at some of the Ionian cities during the period following the Battle of Ipsos, 301 B. C., but after the defeat of Antiochos at Magnesia, 190 B. C., or perhaps somewhat earlier, Alexandrine tetradrachms took the place of local autonomous issues at Chios as elsewhere. With the revived autonomous issues in silver and bronze which began according to Head after ca. 84 B. C. and with the coinage of Imperial times, our inquiry is of course not concerned. Mr. J. Mavrogordato, who is also engaged upon a paper on Chios for the *Numismatic Chronicle* will deal with the whole of the Chian coinage down to the latest time.

Our purpose is here, with the aid of as large a number of examples as it has been possible to collect, to analyze in greater detail than is given in the B. M. C. Ionia or Babelon's *Traité*, the coinage of the Sixth, Fifth and Fourth Centuries B. C. which, by reason of the fairly close continuity of style throughout, forms a convenient whole, and which has not thus far been adequately studied on account of the great rarity of the specimens.

The present inquiry was conceived and the material therefor assembled under the stimulus presented by a chronological study of the electrum coinage of Lampsakos which necessitated an investigation of the Chian series for the period here surveyed, i. e., from the earliest times to the almost complete cessation of coinage in the latter part of the Fourth Century. In my paper on the Electrum Coinage of Lampsakos (1914) the main points in the new chronological order will be found capitulated.

The following public and private collections have been consulted for the present study: the museums of London, Cambridge, Glasgow, Paris, Berlin, Munich, Dresden, Vienna, Brussels, The Hague, Copenhagen, New York and Boston, and the private collections of Messrs. Jameson, Newell, Mavrogordato and Sir Hermann Weber. While it cannot be claimed that the specimens here collated, the majority of which are figured on Pls. I-VI, constitute a corpus, the national collection of Athens not being included, and Berlin only represented for the archaic and transitional epochs,\* still, with the inclusion of examples from the sale catalogues, the list of the known types here given must be fairly representative. Where there are gaps recognizable between the issues, these may with justice be put down rather to the accidents of survival, or actual lacunae in the coinage, than to omissions of actual extant examples. That is to say, this assemblage has some fair claim to the name of corpus though we do not propose so to designate it.

On Pl. VII are figured various coins bearing the Sphinx type not belonging to Chios, some of which have formerly been attributed thereto, as well as others, whose attribution is more or less uncertain, for which a different geographical locality is herein tentatively suggested; also one coin, Pl. VII, 12, whose reverse is like that of the

\* Mr. J. Mavrogordato kindly informs me that the Berlin collection contains no tetradrachms with magistrate's names differing from those in the collections which I have consulted, except one with the name  $\text{ΑΠΙΞΤΗΞ}$ , and no unpublished drachms, so that my inability, owing to the war, to include all of the Berlin specimens does not seem to have caused any great handicap. The published specimens of the Berlin cabinet have been included.

coins, nos. 8-11 of this plate, and the coin, Pl. VII, 18, which is a new denomination of the earliest coins of Idalion, Kypros (type, B. M. C., Pl. V, 1-3), known hitherto only in the stater denomination.

The coinage of Chios is unique among all Greek autonomous coinages in the following respects, namely, that it bears one obverse type, the Sphinx, continuously throughout its whole period.\* As far as I am aware, such immutability of type is not elsewhere found on any autonomous series, certainly not on one covering such a long period as that of Chios, though of course invariability of type, or types, exists on regal series, the coinage of Kroisos and the Persian Kings, and on other regal and dynastic issues and the coinages of leagues. Even the coinages of Athens, Aigina, Korinth and Rhodes, all long series, exhibiting a considerable uniformity of type, do not quite equal the peculiarity of Chios in never abandoning the regular obverse type for another one. Doubtless similar cases may be found on civic coinages which lasted for a brief period only. Chios, like Athens, had no Imperial coinage proper, but was allowed to issue a quasi-autonomous coinage during Imperial times, thus being enabled to continue the main type as an obverse instead of striking coins with Imperial heads.

For the period which we are considering, the Sphinx, at first alone, and later with the adjuncts, the amphora, and bunch of grapes added successively to the main type, constitutes the only type properly speaking. After the transitional period, the reverse which had previously been the natural incuse square struck by a roughly made punch with four projections, becomes shortly a stylized incuse, bearing subsequently the name of a magistrate, which, in a certain sense, may be termed a type.

The later evolution of the type may be outlined briefly as follows: the Sphinx and bunch of grapes, or Sphinx alone, continues as the obverse type, while the amphora is transferred from its position as adjunct on the obverse to that of main type on the reverse. Some few exceptions to the amphora reverse are found, first, on the rare bronze of the latter part of the Fourth and beginning of the Third Centuries B. C., and, second, on the bronze of Imperial times.

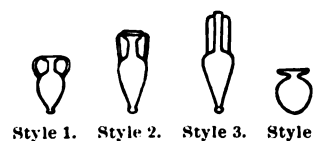
\* The bronze coin noted by Imhoof-Blumer, *Monn. gr.*, p. 298, no. 136, as bearing a horseman nude riding l. on the obverse, and  $\chi\iota\omicron\varsigma$ , and a thyrsos, ornamented with taeniae, enclosed in a wreath of ivy, would form a notable exception to the regular use of the Sphinx as obverse type. So far as I know, this is a unique case and a unique coin. Whence came the horseman type? The reverse is one which is found, with the ethnic plus the magistrate's name abbreviated, on bronze coins in the B. M. C. Ionia, nos. 44, 45, combined, however, with the regular Sphinx obverse.

The evolution of the obverse type on the coins which come within the limits of this discussion may be described in the following manner. On the archaic electrum series, the Sphinx alone constitutes the type, and she is seated, with but one exception (Pl. I, 7, 8) to the right. On the types nos. 7, 8, and 9-12, Pl. I, the Sphinx raises the farther foreleg. On the silver coinage, the Sphinx, seated invariably to the left, is at first represented without the two stock adjuncts, the amphora and bunch of grapes (Pl. I, 13-23). On the succeeding issues the amphora appears at first raised high in the left field (Pls. I, 24, 25; II, 1-21), then gradually assumes a lower position (Pl. II, 22-27, and on nos. 26, 27, a more squat form), until it rests firmly on the ground (Pls. III, 2—VI, 26). The bunch of grapes is not added to the type until the amphora has received its position of resting on the ground, and is first found on coins which are transitional in style (Pl. III, 8 ff.), not occurring on the archaic series, and is maintained on the rest of the group of coins here considered.

The form of the amphora varies from one that is small in proportion to the Sphinx, rather round, round-handled and not extremely pointed (Pls. I, 24, 25; II, 1-25), style 1, to one that is larger in relation to the Sphinx, more elongated, straight-handled and more pointed (Pls. III, 8-30; IV, 1-10), style 2, and, finally, to one with neck and handles much longer in proportion to the body, and also exceedingly pointed (Pls. IV, 11 ff.—VI, 26), style 3. The amphora of unusual shape found on nos. 26, 27 of Pl. II, style 4, is a casual exception to the usual type of this period. It is doubtless intended for an amphora, or two-handled vase, of the earlier oval shape, but handles are visible only on coin, no. 27, Pl. II. The amphorae on nos. 2-6 of Pl. III are intermediate in type between styles 1 and 2.

The vine wreath is never found enclosing the type on the archaic electrum, but occurs on the Fifth-Century electrum type which is extant in a single specimen only (Pl. IV, 11). On this coin the Sphinx has the right foreleg raised, a variation of the type already noted on the archaic electrum, and touches with her raised foreleg a bunch of grapes hanging from the vine directly over the amphora. This is an ingenious device of the die-engraver for working in the essential elements, Sphinx, amphora and grapes, the traditional type, with the new element of the enclosing wreath.

The vine wreath occurs also on the silver coinage, first on the Paris coin, no. 6, Pl. II, again, on the Jameson piece, no. 25, Pl. II, both of



Style 1. Style 2. Style 3. Style 4. (Pls. III, 8-30; IV, 1-10), style 2, and, finally, to one with neck and handles much longer in proportion to the body, and also exceedingly pointed (Pls. IV, 11 ff.—VI, 26), style 3. The amphora of unusual shape found on nos. 26, 27 of Pl. II, style 4, is a casual exception to the usual type of this period. It is doubtless intended for an amphora, or two-handled vase, of the earlier oval shape, but handles are visible only on coin, no. 27, Pl. II. The amphorae on nos. 2-6 of Pl. III are intermediate in type between styles 1 and 2.

the archaic epoch, and again on the London coin, no. 30, Pl. III, of the transitional period. Its use on the coins of both metals is thus sporadic.

Another wreath occurs on certain early archaic coins, nos. 24, 25, Pl. I and nos. 1-5, Pl. II. This is not a vine wreath, and may be ivy.

These same coins, nos. 24, 25, Pl. I and 1-5, Pl. II, and the following, nos. 6(?), 7 and 27, Pl. II, bear the type on a raised disk, a feature of the type not elsewhere found on the archaic series, but peculiar to the transitional series, cf. nos. 8-30, Pl. III, where it is very pronounced.

After its introduction on transitional coins, the raised disk remains a constant feature of the type, though in some cases it becomes so flat as almost to be lost, virtually disappearing on the latest issues of tetradrachms, nos. 1-8, Pl. VI,\* but is still found with definite accentuation on the drachms, nos. 13-26, Pl. VI, which close the Fourth-Century series. The raised foreleg is to be noted also on the coins, nos. 19-23, Pl. I. The coins, nos. 20-23, Pl. I, have the type enclosed in a border of dots.

A few symbols are found on the following early coins, a rosette, in front of the Sphinx on nos. 13 and 14, Pl. I, both from same die; a cock's head l., beneath the Sphinx on nos. 21-23, Pl. I, all from different dies (apparently not found on no. 20, Pl. I, though this is doubtful); and a lotus flower on no. 9, Fig. 2, of the text.

These symbols, which are so few that they can scarcely be said to form a series, are perhaps best explained as magistrate's marks, though their appearance at this early date is decidedly unusual. The rosette however has a different air, and the type on which it occurs has such a very archaic appearance that the suggestion made by Mavrogordato (Num. Chron. 1911, p. 90) that we have here a case of primitive *horror vacui* seems to me very fitting. He writes, "the rosette looks like a pure ornament in the Ionian manner made for the purpose of filling a blank space in the field."

The reverse of the Chian coinage from the earliest times to the period when magistrate's names begin to appear is uniformly an incuse square divided by two intersecting cross-lines into four square, and rather deep, compartments. The quadripartite division is very clearly seen on the most primitive-looking electrum pieces, nos. 1, 2, Pl. I. On the succeeding coins, nos. 3-6, Pl. I, this division into squares is largely obscured through breakage of the die, the projecting square ends of the punch becoming chipped off, and the appearance of "filling-up" with the metal ensuing. There can be no manner of doubt, however, that

\* The disk is still visible on the obverse of no. 2, Pl. VI.

the punch which made the coins, nos. 3-6 was originally, before becoming worn, of approximately the same form as that which was used to strike the earliest coins of the series. A study of the reverses of nos. 7-12, Pl. I, shows this very positively, for there we note in coin no. 12, Pl. I, how the quadripartite division (cf. nos. 9-11, Pl. I, of the same type) has been obscured by process of breakage of the die almost past recognition. This reverse was misunderstood when this single specimen was described apart from the others by Regling, *Samm. Warren*, p. 255, no. 1736, "Unregelmässig vertieftes Quadrat geviertelt," for the type of the reverse is an incuse square divided regularly into four square compartments by fine cross-lines (still visible), but, through the accidents of wear on the die, the incuse of this particular specimen shows up now as very irregular. That the original form of the dies employed to strike the coins, nos. 3-6, Pl. I (whose reverses seem actually rather far removed from those of the other staters on Pl. I), was always quadripartite, will become, I think, perfectly convincing as we carry the study of the reverses down through the silver coins of the Transitional period. On no. 4, Pl. I, may be discerned, even from the plate, a last remaining trace of the horizontal cross-line dividing the upper and lower left-hand squares.

In the silver series the quadripartite division of the reverse is clearly marked on the two earliest coins, nos. 13, 14, Pl. I, and obscure again on the coins immediately following, nos. 15-18, Pl. I. That all these reverse dies, in their pristine state, were punches of four level, projecting squares seems to me an imperative inference from the analogy of the sequence of the reverses of the electrum coins, nos. 1-12 of Pl. I, of which series, nos. 1 and 2, both from the same die, show plainly the four depressions but slightly obscured by die-breakage, as do also nos. 13 and 14. The reverses of nos. 15 and 16 show little trace of the quadripartite division, but the break in the left outline of the square on no. 16 shows just how the outside edge of the punch got broken off, as well as the inside edges, a result also noticeable on no. 12, Pl. I. The following coins, nos. 19-25, Pl. I; nos. 1-27, Pl. II; nos. 1-30, Pl. III; nos. 1-10, Pl. IV, exhibit a great variety of incuses, several of which, no. 25, Pl. I; nos. 3-10, 19, 21, 26, 27, Pl. II; nos. 1 and 26, Pl. III; no. 3, Pl. IV, and others, were struck with dies only slightly injured by striking. Therefore, I think, we are justified in concluding that the form of the incuse of all the archaic and transitional coins was one and the same, and the style of the obverses of nos. 1, 2, 13 and 14, Pl. I, renders any theory of an evolution from an irregular square incuse, not

divided, to one with quadripartite divisions an absolute impossibility. The only alternative supposition possible, namely, that the earlier quadripartite incuse was abandoned for an irregular, undivided square is an unlikely hypothesis. Even on the coin, no. 17, Pl. I, it seems possible to discern the traces of the horizontal dividing lines just in the center of the incuse.

The incuse of no. 11, Pl. IV, is of the Kyzikene pattern, an isolated exception which will be discussed later in connection with the date of this coin.

With the coin no. 16, Pl. IV, begins the series of stylized incuses. The form which the stylization takes on this piece is an evolutionary step which can readily be traced from the reverse of the preceding coin, no. 15. The regularity of the roughened surfaces of the squares of no. 16, and the even way in which each quadripartite division is neatly fitted with a smaller roughened, raised surface shows that the die was tooled to produce this effect. The reverses of Abderite coins show how the aspect of a natural incuse gave rise to a stylized incuse in a similar manner (cf. nos. 2, 3 and 6, Pl. I, *Antiken Münzen Nord-Griechenlands, Thrakien*). The later development of the reverses of the coins of Abdera is also interesting to compare with that of the Chian series.

All of the following reverses, nos. 25-29, Pl. IV; nos. 1-10, Pl. V; nos. 1-26, Pl. VI, are veritable types (modifications, however, of the original Chian incuse) consisting of an incuse square divided by two intersecting wide bands, on one of which the magistrate's name is placed, into four square compartments whose surfaces are artificially striated, horizontally or vertically; or granulated, no. 10, Pl. V; no. 100, Fig. 13, no. 108, Fig. 14, no. 110, Fig. 15 in the text, and nos. 13-26, Pl. VI. The remaining coins, nos. 11-31, Pl. V, exhibit likewise the original Chian incuse stylized by granulation of the surface of the squares. An exceptional treatment of the reverse occurs on nos. 25-28, Pl. V, on which the cross-lines are broader and the squares somewhat deeper. These coins however by the style of their obverses seem to belong only here, and not with nos. 17-24 of Pl. IV, which belong to the group of coins where the reverse is not stylized, being apparently contemporaneous with nos. 12-15 of Pl. IV.

The fabric of the Chian coins, electrum and silver alike, is especially thick and globular. Most of the silver coins may be described as bullet-shaped. The incuse of the electrum coins is at first smaller and deeper than on the succeeding issues. This is also the case with the



incuses of the electrum coins of Chian fabric struck by Lampsakos and Abydos when they joined Chios in the issue of the Ionian Revolt coinage. Specimens showing analogous stages in the evolution of the reverse dies are shown on Pl. II, nos. 1-3f, and 4, 4a of my Electrum Coinage of Lampsakos. A study of the reverses of the coins on this same Plate II is instructive, and throws light upon the originally quadripartite nature of the Chian incuse. The reverse of no. 4, Pl. II (*op. cit.*), is a small, deep incuse with somewhat obscure quadripartite divisions, with cross-lines nevertheless discernible. The Lampsakene staters nos. 3a-3e, Pl. II (*op. cit.*), all from the same die, show unobscured quadripartite divisions, while the staters no. 3f, and nos. 4a-11, Pl. II (*op. cit.*), show the same sort of irregularity produced by breakage of dies as has already been observed in the Chian series.

The flans of many of the silver coins of Plates I-III are oval or bean-shaped. No. 5, Pl. II and nos. 1, 10 and 14, Pl. III and the coin described under no. 40f of the text have, in addition to their elongated shape, a straight edge which renders the aspect of their flans most bizarre, that of no. 40f being more oblong than on any Greek coin I have ever remarked.

The denominations of the coins are as follows. In electrum there are staters, nos. 1-12, Pl. I, of archaic style, and no. 11, Pl. IV, of transitional style, and no sub-divisions (cf. p. 14).

The earliest silver coinage consists of didrachms, the only denomination issued during the archaic period (nos. 13-25, Pl. I; nos. 1-27, Pl. II; nos. 1-7, Pl. III). In the transitional period there are didrachms (nos. 8-30, Pl. III), and tetrobols (nos. 1-10, Pl. IV). The coins of the Fifth Century consist of tetradrachms, nos. 12-16, 25-29 of Pl. IV, drachms, nos. 17-23, Pl. IV, and a single hemi-drachm, no. 24, Pl. IV. For the ensuing period, end of the Fifth and Fourth Century, the coins are likewise tetradrachms, nos. 1-10, Pl. V; 1-8, Pl. VI, and drachms, nos. 11-30, Pl. V, nos. 9-26, Pl. VI, and again one sole representative of the hemi-drachm, no. 31, Pl. V.

The weight-standards may next be considered. The archaic electrum staters are struck on the Milesian standard which is of course identical with that called "Phoenician" by Head in the B. M. C. Ionia, and Hist. Num., and which has sometimes been called "Asiatic." Babelon gives 14.56 gr. as the maximum weight of the Milesian stater and 13.92 gr. as a minimum. Our staters actually range in weight from 13.85 gr. to 14.14 gr. The only stater which falls below Babelon's minimum is no. 11, Pl. I, the Munich coin, which is rather worn.

Of the later electrum stater, Pl. IV, 11, we shall speak in discussing the tetradrachm standard.

For her silver, Chios did not employ the same standard as for electrum, but used a standard known as the Chian because it appears to be peculiar to Chios, or at least is not known to have originated elsewhere. In Head's *Hist. Num.*<sup>2</sup>, p. 599, it is stated regarding the silver didrachm coinage, "One very archaic specimen, weighing 130 grains, found in Egypt, and now in the British Museum, proves that the Euboic standard was sometimes used at Chios." The coin here meant is no. 1*a* of our catalogue and its weight in grams is 8.42. This is, indeed, considerably in excess of the maximum weight of a Chian didrachm whose theoretical maximum is 7.97 gr. (123 grains). But this coin, no. 13, Pl. I, is of identical type and also die as no. 14 of this same plate, whose weight, 7.73 gr., is well within the norm, and hence Head's "Euboic" stater can only be an ordinary Chian didrachm which chances to be of excessive weight. There are very few series of coins which do not offer parallel cases of specimens of over-weight, though they are naturally rare, (cf. the Lampsakene stater cited in *Electrum Coinage of Lampsakos*, p. 8, note 1, weighing 15.48 gr., whereas the normal maximum of the Lampsakene electrum does not exceed 15.36 gr.).\*

The didrachms whose weights are here recorded range from 7.24 gr. to 7.96 gr., leaving out of account the two specimens of extreme under- and over-weight (6.81 gr. and 8.42 gr.). Of the sixty-four weights here given, eight are 7.90 gr. or more, forty-nine lie between 7.70 and 7.89 gr., leaving only seven coins of lower weight than 7.70 gr. There are twenty-four specimens which weigh 7.80-7.89 gr. and twenty-five weighing 7.70-7.79 gr. The average weight is therefore ca. 7.80 gr. (ca. 120 grains) for the didrachm. This would give a tetradrachm of ca. 15.60 gr. (ca. 240 grains) and a drachm of ca. 3.88 gr. (60 grains).

The supposed Chian staters of Aiginetic standard, wt. 188 grains, nos. 4-7, Pl. VII, will be disposed of below as non-Chian issues. There remains one more standard to banish from the Chian silver series which in the revised edition of the *Hist. Num.* has already been done away with, but which will perhaps still cause difficulty as it appears in Head's table in the *B. M. C. Ionia*, p. liii. There exists in our didrachm series one coin strikingly under weight, namely, the coin 4*a* in the Weber

\* An example of excessive weight in a coin presumably of the transitional period is cited in *Cat. Merzbacher*, Nov., 1909, no. 3099, 8.28 gr.

collection, figured on Pl. I, 17. This coin weighs as low as 6.81 gr. (105 grains), and its deficiency in weight caused it originally to be classed as a didrachm of the "Phoenician," i. e., Milesian, standard, which is lighter than the Chian. Dressel, however, had already pointed out that one could not deduce a change of standard on the basis of a single specimen, (*Zeit. f. Num.* 1900, pp. 231-258). So that for the didrachm and tetrobol series of the archaic and transitional epochs there is but one standard, first and last, the Chian. There follow the tetradrachms, drachms and hemi-drachms of the Fifth and Fourth Centuries. The tetradrachms are sometimes called "Phoenician" in our sale catalogues, a name which should be dropped, for the same Chian standard continues to be employed when the didrachm and tetrobol series comes to an end, and a new denomination, the tetradrachm, is struck, with a new divisional system into fourths and eighths, giving the drachm and hemi-drachm, in place of the old Ionian system of division by thirds which is the relation of the didrachm (12 obols) and tetrobol group. One of our tetradrachms, no. 54*a*, reaches a maximum of 15.55 gr., or 240 grains, which is of course about double the didrachm norm of 120-123 grains. The majority of the tetradrachms are far below this weight, though the three which are undoubtedly the earliest coins in the series are fairly well up to the norm, 53*a*, 15.26 gr.; 53*b*, 15.40 gr.; 53*c*, 15.37 gr. A considerable number (nos. 62ff.), average around 15.00 gr., slightly above or below, until we come to those of distinctly later style (nos. 91 ff.) which must belong pretty well along in the Fourth Century, when the weights show a marked reduction, the highest record which we have not passing 13.70 gr., while the lowest weight is 12.90 gr. Of the weights of the drachms and hemi-drachms there is nothing noteworthy to record.

The weight of the electrum stater, no. 11, Pl. IV, has been described as corresponding to the Kyzikene standard, (Head, *H. N.*<sup>2</sup>, p. 600, and B. M. C. *Ionia*, p. xxx). This is probably not the case however, for its weight, 15.34 gr., is rather too low for the Kyzikene standard of which the stater ranges in weight from 16.00 gr. to ca. 16.50 gr. Babelon has suggested that the weight was that of the Lampsakene electrum staters, which he calls "reduced Phokaic" and of which the maximum does not exceed 15.36 gr. (*Traité II*<sup>1</sup>, p. 193.) The reason for assuming identity of weight-standard between this Chian stater and the Lampsakene staters was that the two Fifth-Century issues at Chios and Lampsakos were regarded, on grounds of style, as contemporary. The relation of the Chian coin to the Lampsakene series has

been fully discussed in my paper on the latter coinage, and must again be referred to here when we come to discuss its date. In regard to the weight-standard, I would merely point out here that it now occurs to me that we need not necessarily follow Babelon in assuming that the standard of this perplexing stater is Lampsakene after all. Why may it not be struck on the usual Chian standard for tetradrachms? It is certainly sound metrology, I believe, to assume that such could be the case.

After this survey of the main type and its variations; of the reverse type and its evolution; as well as of the fabric, denominations and weight-standard of the Chian coinage; we may next proceed to the minute study of the style of the coins by means of the catalogue of types, after which the justification of our order may follow, and the uncertainties, if any, in our sequences may be argued, and the chronological limits of the coinage as a whole and in its several divisions may be debated.

As an appendix to this paper on Chian coins proper, we shall discuss the coins figured on Pl. VII, already referred to on page 3.

#### ELECTRUM STATERS

1. Sphinx, winged, seated to the right; rounded-end wing, in three sections, one nearest body granulated, others feathered; long hair falling in a mass on neck, divided vertically into two parts, and horizontally in granulated tiers; from the crown of the head springs a vine-tendril; both fore-legs visible; ground-line composed of row of dots between two straight lines.

Rev. Small, deep incuse square, divided by two intersecting cross-lines into four square compartments.

*a.* 20mm. 14.05 gr. Paris.

Pl. I, 1.

Babelon, *Traité II*<sup>1</sup>, no. 331, pl. VIII, 6. Rev. Num. 1856, pl. II. 1.

*b.* 20mm. 14.11 gr. Paris (Waddington).

Pl. I, 2.

Babelon, *Traité II*<sup>1</sup>, no. 332, pl. VIII, 8. Inv. Wadd., Rev. Num. 1897. no. 1999.

*a.* and *b.* different obv., but same rev. dies.

2. Sphinx as before; head thrown back; hair in a mass on neck composed of four articulated, dotted strands; no vine-tendril; forelegs seen as one; no ground-line.

Rev. Deep incuse square, slightly larger, divided by fine cross-lines into four square compartments, original outline of which almost obliterated, through breakage of punch and consequent filling up with metal.

- a.* 20mm. 13.99 gr. Pl. I, 3.  
Cat. Late Collector, no. 370, pl. VII (S. W. & H., May, 1900).
- b.* 20mm. 14.02 gr. Jameson, Paris. Pl. I, 4.  
Jameson, Rev. Num. 1911, pl. I, 1. Cat. Jameson (1912) no. 1519, pl. XCV. From the Vourla (Klazomenai) Find, 1910.
- a.* and *b.* different obv., but same rev. dies.
3. Sphinx as before, head not thrown back: hair in dotted mass cut in high relief from neck; wing of different form, in three sections as above, much finer style; no ground-line. Rev. Similar.
- a.* 20mm. 14.04 gr. London. Pl. I, 5.  
B. M. C. Ionia, under Early Electrum, p. 7, no. 31, pl. I, 19; and also p. 328, no. 1, pl. III, 19; Num. Chron. 1875, pl. VII, 6.
- b.* 20mm. 14.04 gr. Berlin (Imhoof-Blumer). Pl. I, 6.  
*a.* and *b.* same obv. and rev. dies.
4. Sphinx, winged, seated to the left, right foreleg raised; hair in finely dotted mass on neck; round earring; farther wing visible beyond nearer one; no ground-line. Rev. Incuse square as before, quartering perfectly discernible.
- In the Philipsen and Jameson catalogues, the Sphinx is described as holding a club in the raised r. forepaw, and, in the Montagu catalogue, as holding a flower, but what might appear to be an object held in the raised paw is really the paw itself turned inwards, the ankle joint protruding.
- a.* 20mm. 14.14 gr. Pl. I, 7.  
Rev., very small, deep incuse, fabric very globular.  
Cat. Prowe, no. 1087, pl. XVIII (Egger, May, 1914).
- b.* 19mm. 14.12 gr. Jameson, Paris. Pl. I, 8.  
Cat. Jameson, no. 1520, pl. LXXVI; Cat. Philipsen, no. 2241, pl. XXVI (Hirsch, Nov., 1909); Hirsch, VIII (1903), no. 1295, pl. VII.
- c.* 20 mm. (poorly preserved). Paris.  
*d.* 19mm. 13.99 gr.  
Cat. Montagu, no. 589, pl. VIII, obv. only (S. W. & H., March, 1896).
5. Sphinx, winged, seated to the right, left foreleg raised; hair as before; round earring, and stephane; vine-tendril; nearer wing only, visible. Rev. Incuse square similar, slightly larger.
- a.* 19mm. 14.09 gr. Jameson, Paris. Pl. I, 9.  
Cat. Jameson, no. 1520A, pl. XCV; Cat. Lambros, no. 701, pl. XI (Hirsch, Nov., 1910).
- b.* 19mm. 14.00 gr. Copenhagen. Pl. I, 10
- c.* 20mm. 13.85 gr. Munich. Pl. I, 11.  
Sestini, Stateri Antichi, p. 89, no. 1, pl. IX, 7. Mionnet, Descr. des Méd. VI, p. 616, no. 25. Brandis, Münz-Mass-u. Gewichtswesen, p. 399.

*d.* 19mm. 13.99 gr. Boston (Greenwell-Warren).

Pl. I, 12.

Regling, Samml. Warren, no. 1736, pl. XXXVII.

*a.* — *d.* same obv., but different rev. dies.

The stater in St. Petersburg, see Fig. 1, and Babelon, *Traité*, II<sup>1</sup>, no. 334; Imh.-Blumer and O. Keller, *Tier und Pflanzenbilder*, pl. XIII, 8,



Fig. 1.

is undoubtedly false, see p. 29 of my *Electrum Coinage of Lampsakos*. The type itself betrays the forgery, the bunch of grapes never occurring on the archaic electrum coinage, and having only been introduced into the Chian coin-type after the amphora. The style is un-antique and very obviously bad on both obverse and reverse, note the form of the wing, vine-tendril and diadem (?), as well as concave obverse flan.

There are no fractions of these Chian staters, the supposed hemi-hekte in the Paris cabinet (Babelon, *Traité*, II<sup>1</sup>, no. 335, pl. VIII, 7), not bearing a Sphinx to the right, before which is the letter X, but a griffin to the left in front of which is +, as on the "twenty-fourth" figured in the *Traité* II<sup>1</sup>, pl. III, 13, and in B. M. C. *Ionica*, pl. I, 15, and belonging to the class of Early Ionian electrum of uncertain attribution, (cf. my *Electrum Coinage of Lampsakos*, note 2, pp. 1 and 2).

#### SILVER DIDRACHMS

##### A. Type without amphora.

1. Sphinx of very archaic style, winged, seated to the left; wing in *two* sections, very roughly done; hair long, in a mass on neck; large coarse vine-tendril; fore-legs seen as one; in left field, a rosette; dotted ground-line. Rev. Incuse square divided by two intersecting cross-lines into four square compartments.

*a.* 15/16mm. 8.42 gr. London.

Pl. I, 13.

Head. *Hist. Num.*<sup>2</sup>, p. 599. Found in Egypt, Sakha Find, 1897, cf. below.

*b.* 15/16mm. 7.73 gr. Berlin.

Pl. I, 14.

Dressel, *Zeit. f. Num.* 1900, p. 238, no. 30, pl. VIII, 6. Babelon, *Traité* II<sup>1</sup>, no. 474, and fig. From the Sakha Find.

*a.* and *b.*, same obv. and rev. dies.

2. Sphinx similar, less rude style; wing in *two* sections; both forelegs visible; vine-tendril heavy, but not drooping so low as on no. 1; ground-line, dotted (?). Rev. Incuse square, as before: apparently irregularly roughened, but probably originally divided by cross-lines into four squares, as on nos. 3, 4 and 5 of Pl. I, in the electrum series.

*a.* 15mm. 7.36 gr. Sir Herman Weber, London.

Pl. I, 15.

Weber, Num. Chron. 1899, p. 276, no. 14, pl. XVI, 2. Dressel, Zeit. f. Num. 1900, p. 239, no. 31. Babelon, *Traité II*<sup>1</sup>, no. 472. From the Sakha Find.

3. Sphinx similar; wing in *two* sections; coarse vine-tendril; probably no ground-line. Rev. Similar.

*a.* 15mm. 7.84 gr. Berlin.

Pl. I, 16.

4. Sphinx similar, less rude; ground-line. Rev. Similar.

*a.* 15/17mm. 6.81 gr. Sir H. Weber, London.

Pl. I, 17.

Greenwell, Num. Chron. 1890, p. 4, pl. I, 16. Babelon, *Traité II*<sup>1</sup>, no. 473 and fig. From the Nile Delta Find, ca. 1887.

5. Sphinx similar, head smaller; ground-line. Rev. Similar.

*a.* 16mm. Berlin.

Pl. I, 18.

Nos. 4 and 5 same rev. die.

6. Sphinx, winged, seated l., r. foreleg raised; wing in *three* sections, that nearer body granulated, other feathered; hair long, falling in a mass of four articulated dotted strands. Rev. Incuse square divided by two intersecting cross-lines into four square compartments.

The wing of the Sphinx on the electrum coins is always in three sections; on the silver coinage, the wing shows two sections on the earliest coins, nos. 13-18, Pl. I, and thereafter always three sections.

*a.* 16 mm. 7.48 gr. Sir H. Weber, London.

Pl. I, 19.

Weber, Num. Chron. 1899, p. 277, no. 15, pl. XVI, 3. Babelon, *Traité II*<sup>1</sup>, no. 476. From the Sakha Find.

7. Sphinx as before: she wears stephane, earring and vine-tendril; whole in circle of dots; no symbol between Sphinx's legs is visible. Rev. Similar.

*a.* 15/18mm. 7.24 gr. Sir H. Weber, London.

Pl. I, 20.

Weber, Num. Chron. 1899, p. 277, no. 16, pl. XVI, 4. Zeit. f. Num. 1900, p. 239, no. 32. Babelon, *Traité II*<sup>1</sup>, no. 476. From the Sakha Find.

8. Similar, between the Sphinx's legs, | Rev. Similar.  
a cock's head.

*a.* 18/12mm. 7.88 gr. J. Mavrogordato, Hove, Eng. Pl. I, 21.  
Mavrogordato, Num. Chron. 1911, p. 92, no. 7, Pl. VII, 1. Cat. Philipsen, no. 2242, pl. XXVI (Hirsch, Nov., 1909).

*b.* 15/17mm. 7.86 gr. Berlin. Pl. I, 22.  
Dressel, Zeit. f. Num. 1900, p. 239, no. 33, pl. VIII, 7. Babelon, *Traité II*<sup>1</sup>, no. 475 and fig. From the Sakha Find.

*c.* 16/14mm. 7.75 gr. Cambridge (McClean). Pl. I, 23.  
Mavrogordato, Num. Chron. 1911, p. 92, no. 6, pl. VII, 2. From the Sakha Find.  
Dotted ground-line visible.

*a.* — *c.*, different obv. and rev. dies.

9. Similar, between the Sphinx's legs, | Rev. Similar.  
a lotus flower.



Fig. 2.

*a.* 18/15mm. 7.84 gr. Fig. 2 (obv.).

Cat. O'Hagan, no. 587, Pl. X (S. W. & H., May, 1908). Mavrogordato, Num. Chron. 1911, p. 92, no. 8.

## B. Type with amphora.

10. Sphinx, winged, seated l.: hair | Rev. Similar, larger square, and heavier  
long, falling in a bunch on nape of neck; cross-lines.  
no vine-tendril: both forelegs visible; in  
l. field, amphora; ground-line; type on a  
raised disk enclosed within a wreath, of  
ivy(?).

*a.* 17mm. Berlin. Pl. I, 24.

Amphora off the flan.

*b.* 17mm. Berlin. Pl. I, 25.

Amphora visible.

*c.* 17mm. The Hague.

*d.* 18mm. Paris. Pl. II, 1.

Mionnet, *Descr. des Méd.* III, p. 265, no 5, pl. XLIV, 2.

*e.* 18mm. 7.93 gr. New York, Metropolitan Museum (Ward). Pl. II, 2.

Hill, Cat. Ward, no. 678, pl. XVI.

*b.* and *c.* same obv. die: *a.* and *b.*, *d.* and *e.*, similar, but not identical obv. dies;  
*a.* — *e.* different rev. dies.



**11.** Sphinx as before; amphora slightly larger, placed a trifle higher; both fore-legs visible; raised disk in higher relief; heavier ground-line. Rev. Similar.

*a.* 17mm. Berlin.

Pl. II, 3.

*b.* 16mm. 7.77 gr. Cambridge (McClean).

Pl. II, 4.

*c.* 19mm. 7.96 gr. Boston (Greenwell-Warren).

Pl. II, 5.

Regling, Samm. Warren, no. 1140.

*d.* 17mm. 7.93 gr. Sir H. Weber, London.

*e.* 16mm. 7.70 gr. Paris.

Babelon, *Traité II*<sup>1</sup>, no. 466, pl. XII. 2.

*f.* 17mm. 7.90 gr.

Cat. Hirsch XIX, no. 547, pl. XIV (Hirsch, Nov., 1907).

*g.* 18mm. 7.91 gr.

Regling, Samm. Warren, no. 1141, pl. XXVI.

*a.* — *c.*, and probably also *d.* — *f.*, same obv. die.

**12.** Sphinx as before, amphora similar; narrow ground-line; type, possibly on raised disk, enclosed within vine wreath. Rev. Similar.

*a.* 18/11mm. 7.89 gr. Paris.

Pl. II, 6.

Babelon, *Traité II*<sup>1</sup>, no. 465, pl. XII, 1. Mionnet, *Descr. des Méd.*, III, no. 3, pl. XLIV, 1.

*b.* In commerce, 1913.

*a.* and *b.* struck on very irregular, oval flans.

**13.** Sphinx similar to no. 11, seated 1. on fine ground-line; amphora placed considerably lower and slanting; type on raised disk, but no wreath. Rev. Similar.

*a.* 17mm. 7.82 gr. Cambridge (McClean).

Pl. II, 7.

**14.** Sphinx as before, body more elongated, crouching rather than seated; amphora placed higher than on no. 13, but lower than on nos. 11 and 12; wing broader than heretofore; fine ground-line and no raised disk. Rev. Similar.

*a.* 18mm. 7.71 gr. Cambridge (McClean).

Pl. II, 8.

*b.* 18mm. 7.83 gr. Paris (Waddington).

Pl. II, 9.

Inv. Wadd., *Rev. Num.* 1897, no. 2000. Babelon, *Traité II*<sup>1</sup>, no. 467, pl. XII, 3.

*c.* 17mm. 7.95 gr. Cambridge (McClean).

Pl. II, 10.

*d.* 18mm. Berlin.

Pl. II, 11.

- e.* 18mm. Munich. Pl. II, 12.  
*a.* and *b.*, *c.*—*e.*, same obv. dies.
15. Sphinx similar to that of no. 13, but better seated; amphora similar, and similarly placed; no ground-line. Rev. Similar.
- a.* 18mm. Berlin. Pl. II, 13.  
*b.* 18mm.  
 Cat. Vicomte de Sartiges, no. 359, pl. XX (Paris, 1910).
16. Sphinx similar, smaller type; amphora lower. Rev. Similar.
- a.* 13mm. 7.49 gr. London. Pl. II, 14.  
 B. M. C. Ionia, no. 4.
17. Sphinx as before, body less elongated than on nos. 14 and 15; forelegs seen as one; no ground-line. Rev. Similar.
- a.* 17mm. 7.87 gr. Vienna. Pl. II, 15.  
*b.* 17mm. 7.77 gr. Cambridge (Leake). Pl. II, 16.  
*c.* 16mm. 7.79 gr. Glasgow (Hunter). Pl. II, 17.  
 Macdonald, Cat. Hunter. Coll. II, p. 396, no. 1, pl. LIII, 5.  
*d.* 16mm. 7.70 gr. London. Pl. II, 18.  
 Amphora hardly visible.  
 B. M. C. Ionia, no. 3.  
*b.* and *c.*, same obv. die.
18. Sphinx as before; r. foreleg seen beyond l.; ground-line. Rev. Similar.
- a.* 17mm. 7.88 gr.  
 Cat. Prowe, no. 1088, pl. XVIII (Egger, May, 1914).
19. Sphinx similar; amphora placed a trifle lower; ground-line only certain for *a.* Rev. Similar.
- The round earring which the Sphinx often wears is plain on this variety as well as on no. 20, cf. also nos. 8, 10 and 17 of this same plate. On nos. 20 and 21 of Pl. II, a necklace is visible, as also probably on nos. 22-24 of the plate.
- a.* 17mm. 7.90 gr. Paris (de Luynes). Pl. II, 19.  
 Feet and ground-line double struck.  
 Babelon, *Traité II*<sup>1</sup>, no. 468, pl. XII, 4.  
*b.* 17mm. Berlin. Pl. II, 20.  
*c.* 16mm. 7.93 gr. London. Pl. II, 21.  
 B. M. C. no. 2, pl. XXXII, 1.  
*b.* and *c.* some obv. die.

**20.** Sphinx similar; amphora placed lower; ground-line. | Rev. Similar.

*a.* 19/13mm. 7.74 gr. New York, Metropolitan Museum (Ward). Pl. II, 22.  
Hill, Cat. Ward, no. 679, pl. XVI.

*b.* 17mm. 7.80 gr. Newell, New York. Pl. II, 23.

*c.* 21/14mm. 7.93 gr. Jameson, Paris. Pl. II, 24.

Feet and ground-line double struck.

Cat. Jameson, no. 1521, pl. LXXVI. Cat. Delbeke, no. 195, pl. VI (S. W. & H., April, 1907).

*a.* — *c.* same obv. die.

**21.** Sphinx as before; amphora placed higher; type enclosed in a vine wreath. | Rev. Similar.

This reverse has been wrongly described as containing a X in one of the incuse squares. No coins of Chios bear this letter on the reverse, nor does the ethnic appear at all before the Fourth Century B. C. (cf. however note to no. 87 below).

*a.* 17mm. 7.78 gr. Jameson, Paris. Pl. II, 25.

Feet and ground-line double struck.

Babelon, Rev. Num. 1912, pl. III, 7. From the Tarentum Find, 1910.

**22.** Sphinx as before: in l. field, low, wide amphora, placed low; ground-line (?). | Rev. Similar.

*a.* 16mm. 7.74 gr. Berlin. Pl. II, 26.

Cat. Philipsen, no. 2243, pl. XXVI (Hirsch, Nov., 1909).

**23.** Sphinx similar, apparently on raised disk. | Rev. Similar.

*a.* 15/19mm. 7.69 gr. Paris. Pl. II, 27.

Babelon, *Traité II*<sup>1</sup>, no. 469, pl. XII, 5.

**24.** Sphinx as before, but not so well seated; larger type; amphora placed low, as on no. 20; ground-line. | Rev. Similar.

*a.* 17mm. 7.83 gr.

Cat. Merzbacher, no. 3098, pl. 29 (Merzbacher, Munich, Nov., 1909).



Fig. 3

**25.** Sphinx similar; earring visible; amphora placed higher, apparently also on raised disk. | Rev. Similar.

*a.* 17mm. 7.60 gr. Fig. 3.

Cat. von Schemmis, no. 847, pl. XX (Hirsch XXXIII, Nov., 1913).



Fig. 4.

- |  |  |
|--|--|
| <p><b>26.</b> Sphinx similar, wearing round ear-ring and vine-tendril; middle section of wing broad; in l. field, an amphora (?) placed low.</p> <p><i>a.</i> 15mm. 7.84 gr. Fig. 4.<br/>Cat. Benson, no. 696, pl. XXIII (obv. only) (S. W. &amp; H., Feb., 1909).</p>                 | <p>Rev. Similar.</p>   |
| <p><b>27.</b> Sphinx similar.</p> <p><i>a.</i> 21/16mm. 7.75 gr. (much worn).<br/>Babelon, <i>Traité II</i><sup>1</sup>, no. 470, pl. XII, 6.</p>  | <p>Rev. Similar.</p> <p>Paris. Pl. III, 1.</p>                                 |
| <p><b>28.</b> Sphinx as before; amphora slender and taller, resting on ground-line.</p> <p><i>a.</i> 16mm. 7.79 gr. Boston (Greenwell-Warren).<br/>Regling, <i>Samm. Warren</i>, no. 1139.</p> <p><i>b.</i> 15mm. Berlin.</p> <p><i>a.</i> and <i>b.</i>, same obv. and rev. dies.</p> | <p>Rev. Similar, but smaller square.</p> <p>Pl. III, 2.</p> <p>Pl. III, 3.</p> |
| <p><b>29.</b> Sphinx similar, head looking down, wing different style.</p> <p><i>a.</i> 16mm. The Hague.</p>   | <p>Rev. Similar.</p>   |
| <p><b>30.</b> Sphinx similar; hair long, falling in bunch on nape of neck as on all preceding coins beginning with no. 10, but type less archaic in style than the coins immediately preceding.</p> <p><i>a.</i> 15mm. 7.72 gr. Cambridge (McClellan).</p>                             | <p>Rev. Similar.</p> <p>Pl. III, 4.</p>  |
| <p><b>31.</b> Sphinx as before; amphora awkwardly placed.</p> <p><i>a.</i> 15mm. 7.74 gr. Brussels.</p>  | <p>Rev. Similar.</p> <p>Pl. III, 5.</p>  |
| <p><b>32.</b> Sphinx as before; amphora low, probably on ground-line.</p> <p><i>a.</i> 16mm. Paris.</p>  | <p>Rev. Similar.</p> <p>Pl. III, 6.</p>  |
| <p><b>33.</b> Sphinx as before, apparently with vine-tendril; amphora on ground.</p> <p><i>a.</i> 15mm. 7.73 gr. (much worn). Copenhagen.</p>  | <p>Rev. Similar.</p>   |
| <p><b>34.</b> Similar.</p> <p><i>a.</i> 13/17mm. (much worn). Munich.</p>  | <p>Rev. Similar.</p> <p>Pl. III, 7.</p>  |

C. Type with amphora and bunch of grapes above it; whole on raised disk.

35. Sphinx of transitional style, winged, seated l.; wing in *three* sections; hair short; both forelegs visible; in l. field, long amphora resting on ground, above which a bunch of grapes on stem; ground-line; whole on raised disk.

Rev. Similar.

a. 15mm. 7.84 gr. Vienna.

Pl. III, 8.

b. 16mm. 7.82 gr. New York, American Numismatic Society.

Pl. III, 9.

c. 19/13mm. Paris.

Pl. III, 10.

a. and b., same obv. die.

36. Sphinx as before, wing and body more elongated; bunch of grapes awkwardly placed close in front of Sphinx's head.

Rev. Similar.

The amphora from now on until the tetradrachm issues begin, appears regularly with a lid, which may also be remarked on nos. 1 and 2 of Pl. III. On the coins subsequent to the transitional period, the lid is seldom clearly distinguished.

a. 14mm. 7.77 gr. Cambridge (McClean).

Pl. III, 11.

b. 12/17mm. 7.79 gr. (worn). Copenhagen.

c. 15mm. (worn). Paris.

Pl. III, 12.

b. and c., same obv. die.

37. Sphinx similar; amphora larger; bunch of grapes better placed.

Rev. Similar.

a. 17mm. Berlin.

Pl. III, 13.

38. Sphinx similar; amphora placed higher, not on the ground-line.

Rev. Similar.

a. 15mm. 7.78 gr. London.

Pl. III, 14.

(Recent acquisition, not in B. M. C.)

39. Sphinx similar; amphora on ground; bunch of grapes with three grape leaves attached to stem.

Rev. Similar.



Fig 5.

a. 15mm. 7.85 gr. Fig. 5.

Cat. Rhousopoulos, no. 3817, pl. XLIII (Hirsch, XIII, May, 1905).

- 40.** Sphinx, amphora, etc., as before in line transitional style; bunch of grapes with three grape leaves attached to stem. | Rev. Similar.
- a.* 16mm. 7.87 gr. London. Pl. III, 15.  
B. M. C. Ionia, no. 7, pl. XXXII, 3.
- b.* 16mm. Berlin. Pl. III, 16.
- c.* 16mm. 7.78 gr. London. Pl. III, 17.  
B. M. C. Ionia, no. 11.
- d.* 15mm. Munich.
- e.* 15mm. 7.76 gr.  
Cat. Philipson, no. 2245, pl. XXVI (Hirsch XXV, Nov., 1909).
- f.* 19/12mm. 7.90 gr. (flan oblong).  
Cat. Percy Barron, no. 572, pl. XVIII (Hirsch XXX, May, 1911).
- g.* 17mm. 7.81 gr. Boston (Greenwell-Warren).  
Regling, Samm. Warren, no. 1143.
- a.* — *g.*, same obv. die.
- 41.** Sphinx similar, but different die. | Rev. Similar.
- a.* 14mm. Berlin. Pl. III, 18.
- b.* 16mm. Berlin. Pl. III, 19.
- a.* and *b.* same obv. die.
- 42.** Sphinx similar; no grape leaves on stem. | Rev. Similar.
- a.* 16mm. Berlin. Pl. III, 20.
- b.* 14/17mm. 7.77 gr. Paris. Pl. III, 21.
- c.* 17mm. 7.74 gr. Sir H. Weber, London. Pl. III, 22.
- d.* 16mm. 7.85 gr. Cambridge (McClean). Pl. III, 23.
- e.* 16mm. 7.71 gr. Newell, New York.
- a.* — *e.*, same obv. die; *b.* and *c.*, same rev. die.
- 43.** Sphinx similar, but type larger. | Rev. Similar.
- a.* 16mm. 7.82 gr. Brussels. Pl. III, 24.
- b.* 16mm. 7.84 gr. Brussels.
- c.* 14/17mm. 7.86 gr. New York, American Numismatic Society. Pl. III, 25.
- d.* 16mm. 7.80 gr. London. Pl. III, 26.  
B. M. C. Ionia, no. 9.
- e.* 16mm. 7.82 gr. (worn). London.  
B. M. C. Ionia, no. 8.
- f.* 17mm. 7.88 gr.  
Cat. Prowe, no. 1090, pl. XVIII (Egger, May, 1914).
- a.* — *f.*, same obv. die.
- 44.** Sphinx similar, smaller type. | Rev. Similar.
- a.* 16mm. 7.87 gr. London. Pl. III, 27.  
B. M. C. Ionia, no. 6.

- b.* 16mm. Berlin. Pl. III, 28.  
*c.* 15mm. 7.74 gr. London. Pl. III, 29.  
 B. M. C. Ionia, no. 10.  
*d.* 14mm. (much worn, barely legible.) Paris.  
*a.* — *d.*, same obv. die.
- 45.** Sphinx similar, type enclosed in a vine wreath. | Rev. Similar.
- a.* 16mm. 7.76 gr. London. Pl. III, 30.  
 B. M. C. Ionia, no. 12, pl. XXXII, 4.

## SILVER TETROBOLS

- 46.** Sphinx similar to nos. 15–17 of Pl. III; no grape leaves on vine stem. | Rev. Similar.
- a.* 11mm. Berlin. Pl. IV, 1.  
*b.* 11mm. Paris.  
*c.* 10mm. 2.60 gr. Sir H. Weber, London.  
*d.* 10mm. 2.60 gr. Paris.  
 Babelon, *Traité II*<sup>1</sup>, no. 479, pl. XII, 9.
- 47.** Sphinx similar to nos. 18 and 19, Pl. III. | Rev. Similar.
- a.* 10mm. Berlin. Pl. IV, 2.
- 48.** Sphinx similar, head slightly thrown back. | Rev. Similar.
- a.* 10mm. Berlin. Pl. IV, 3.
- 49.** Sphinx similar. | Rev. Similar.
- a.* 10mm. 2.54 gr. London. Pl. IV, 4.  
 B. M. C. Ionia, no. 15, pl. XXXII, 5.  
*b.* 10mm. 2.58 gr. (much worn.) Paris. Pl. IV, 5.  
 Babelon, *Traité II*<sup>1</sup>, no. 471, pl. XII, 7.  
*a.* and *b.*, apparently same obv. die.
- 50.** Sphinx similar. | Rev. Similar.
- a.* 10mm. Paris.  
*b.* 10mm. 2.57 gr. London. Pl. IV, 6.  
 B. M. C. Ionia, no. 14.  
*a.* and *b.*, (much worn) apparently same obv. die.
- 51.** Sphinx similar, various dies not easily distinguishable. | Rev. Similar.
- a.* 11mm. Munich. Pl. IV, 7.

- b.* 10/13mm. Munich. Pl. IV, 8.  
*c.* 10mm. 2.34 gr. London. Pl. IV, 9.  
 B. M. C. Ionia, no. 16.  
*d.* 10mm. 2.62 gr. London. Pl. IV, 10.  
 B. M. C. Ionia, no. 13.  
*e.* 10mm. 2.55 gr. Newell, New York.

## ELECTRUM STATER

52. Sphinx seated l. on narrow ground-line; short hair; wing in *three* sections, first granulated, others feathered; in l. field, long-necked amphora similar to that on tetradrachms and drachms following; above, a bunch of grapes, which depends over amphora from the vine wreath which surrounds the type, and is touched by Sphinx's r. forepaw; not on raised disk. Rev. Mill-sail incuse of Kyzikene pattern.

- a.* 19mm. 15.34 gr. Berlin. Pl. IV, 11.  
 von Sallet, Kgl. Münzkabinet, no. 82. Babelon, *Traité II*<sup>1</sup>, no. 336, pl. VIII, 9.

## SILVER TETRADRACHMS

53. Sphinx seated l.; hair short; wing of conventionalized style, in three sections, one nearest body consisting of parallel rows of raised and depressed lines at r. angles to section; middle and outer sections, of feathers cross-hatched, and overlapping like the slats of a fan; long-necked amphora, above which a bunch of grapes on stem; no ground-line visible; type on raised disk. Rev. Incuse square divided by two fine intersecting cross-lines into four shallow, square compartments.

- a.* 22mm. 15.26 gr. London. Pl. IV, 12.  
 B. M. C. Ionia, no. 5, pl. XXXII, 2. Babelon, *Traité II*<sup>2</sup>, no. 1956, pl. CLIV, 12.  
*b.* 22mm. 15.40 gr. Boston. Pl. IV, 13.  
 Regling, *Samm. Warren*, no. 1142, pl. XXVI.  
*c.* 22mm. 15.37 gr. Brussels. Pl. IV, 14.  
 Cat. Bunbury, pt. ii, no. 221, pl. II (ex Whittall) (S. W. & H, Dec., 1896).  
*a.* and *b.*, same obv. and rev. dies; *c.* different.

54. Sphinx similar; ground-line; in r. field, astragalos. Rev. Similar.





Fig. 6.

*a.* 23mm. 15.55 gr. Fig. 6.

Cat. Ashburnham, no. 194, pl. IV (S. W. & H., May, 1895). (ex Cat. Northwick, no. 1073, S. W. & H., Dec., 1859). (obv. only).



Fig. 7.

*b.* 23mm. Munich. Fig. 7.

Imhoof-Blumer and O. Keller, Tier- und Pflanzenbilder, pl. XIII, 9. (obv. only).

*a.* and *b.*, different obv. dies.

55. Sphinx similar, human breast indicated; ground-line; in r. field, a dolphin l. downwards.

Rev. Similar, heavy cross-lines.

*a.* 22mm. 15.30 gr. Sir H. Weber, London.

Pl. IV, 15.

56. Sphinx similar, two breasts indicated; hair in negligent style, one loose lock falls on neck in front; in r. field, dolphin l. downwards; raised disk in flatter relief.

Rev. Similar, cross-lines narrower; surface of squares artificially roughened, producing almost effect of later granulated surface.

*a.* 22mm. 15.05 gr. Jameson, Paris.  
Cat. Jameson, no. 1522, pl. LXXVI.

Pl. IV, 16.

## DRACHMS

57. Sphinx similar to that on tetradrachms nos. 12-14, Pl. IV.

Rev. Incuse similar to that of nos. 12-14, Pl. IV.

*a.* 13mm. 3.97 gr. Cambridge (Leake).

Pl. IV, 17.

*b.* 13mm. 3.63 gr. Cambridge (Leake).

Pl. IV, 18.

*c.* 14mm. 3.77 gr. New York, Metropolitan Museum (Ward).  
Cat. Ward, no. 680, pl. XVI.

Pl. IV, 19.

*a.* and *b.*, same obv. die.

- 58.** Sphinx similar, larger type. | Rev. Similar.  
*a.* 15mm. 3.58 gr. Newell, New York. Pl. IV, 20.  
 Cat. Prowe, no. 1095, pl. XVIII (Egger, May, 1914).
- 59.** Sphinx similar, hair long (?). | Rev. Similar, cross-lines broad.  
*a.* 13mm. 3.43 gr. London. Pl. IV, 21.  
 B. M. C. Ionia, no. 18.
- 60.** Sphinx similar; in r. field, a dolphin l. downwards. | Rev. Similar, cross-lines broader.  
*a.* 13mm. 3.29 gr. London. Pl. IV, 22.  
 B. M. C. Ionia, no. 23.  
*b.* 13mm. 3.40 gr. London. Pl. IV, 23.  
 B. M. C. Ionia, no. 22.  
*a.* and *b.*, same obv. and rev. dies; rev. die identical with that of no. 59.

## HEMI-DRACHM

- 61.** Sphinx similar, larger type. | Rev. Similar.  
*a.* 12mm. 1.67 gr. Cambridge (McClellan). Pl. IV, 24.

## TETRADRACHMS

- 62.** Sphinx as on nos. 12-14, Pl. IV; | Rev. Incuse square divided by two  
 hair short; ground-line. | wide intersecting bands, on one of which  
 ΘΕΟΔΩΡΟΣ; in squares, horizontal striation.  
*a.* 23mm. 14.94 gr. Paris (Waddington). Pl. IV, 25.  
 Inv. Wadd., Rev. Num. 1897, no. 2002. Cat. John Huxtable, no. 181, "from the Thomas collection," (S. W. & H., May, 1859).
- 63.** Similar. | Rev. Similar, with ΟΗΡΩΝ.  
*a.* 22mm. 15.08 gr. Paris (Waddington). Pl. IV, 26.  
 Inv. Wadd., Rev. Num. 1897, no. 2003.
- 64.** Similar. | Rev. Similar, with ΑΕΩΧΟΣ, and point  
 | on vertical band.  
*a.* 24mm. 14.94 gr. Vienna. Pl. IV, 27.  
 Kubitschek, Num. Zeit. 1908, p. 130, pl. VIII, 3.
- 65.** Similar, no ground-line. | Rev. Similar, striation vertical, with  
 | ΗΡΑΓΟΡΗΣ.  
*a.* 23mm. 14.15 gr. London. Pl. IV, 28.  
 B. M. C. Ionia, no. 30.

66. Similar, ground-line. | Rev. Similar, striation horizontal, with  
|  $\Gamma O \Xi E I \Delta I \Gamma \Gamma O \Xi$ .  
*a.* 24mm. 14.91 gr. Paris (Waddington). Pl. IV, 29.  
Inv. Wadd., Rev. Num. 1897, no. 2004. Babelon, *Traité* II<sup>2</sup>, no. 1964, pl. CLIV, 20.
67. Sphinx similar, hair rolled, dotted | Rev. Similar, striation vertical, with  
strands fall on neck; ground-line. |  $\Gamma O \Xi E I \Delta I \Gamma \Gamma O [\Xi]$ .  
*a.* 23mm. 14.87 gr. London. Pl. V, 1.  
B. M. C. Ionia, no. 23. = (?) Cat. Northwick, no. 1074, "ex. Thomas 2273," (S. W. & H.,  
Dec., 1859).
68. Sphinx similar; hair short; ground- | Rev. Similar, striation horizontal, with  
line. |  $E P M A P X O \Xi$ .  
*a.* 23mm. 15.04 gr. Paris (Waddington). Pl. V, 2.  
Inv. Wadd., Rev. Num. 1897, no. 2001.
69. Sphinx, similar hair short; ground- | Rev. Similar, striation vertical, with  
line. |  $A \Xi M E N O \Xi$ .  
A tetradrachm from the de Molthein collection, no. 2332, pl. XVII, 24mm., 11.30 gr., with  
 $I A < M I N O \Xi$  (*sic*), a blundered inscription, is plainly a forgery. The peculiarities of this piece  
are the treatment of the eye which suggests the archaic style, whereas all of the signed tetra-  
drachms have definitely emerged from the transitional style; poor style of Sphinx's legs, chiefly,  
the paws; and the letters  $\Xi$  and  $\Omega$ , under wing and between the legs, respectively, =  $[X I] \Omega N$  (?).  
The magistrate's name may be copied after the above coin bearing  $A \Xi M E N O \Xi$ . One can very  
easily imagine an unskillful forger copying the inscription on the genuine coin of Asmenos, and  
obtaining a result similar to that on the Molthein coin.
- a.* 22mm. Paris. Pl. V, 3.
70. Similar. | Rev. Similar, striation vertical (?), with  
|  $I \Gamma \Gamma I H \Xi$ .  
*a.* 22mm. 14.12 gr. (much worn). Glasgow (Hunter). Pl. V, 4.  
Macdonald, Cat. Hunter. Coll. II, p. 397, no. 4.
71. Sphinx similar, head thrown for- | Rev. Similar, striation vertical, with  
ward; position crouching rather than sit- |  $\Delta H M O K P A T H \Xi$ .  
ting; no ground-line.  
*a.* 22mm. 14.74 gr. London. Pl. V, 5.  
B. M. C. Ionia, no. 29.
72. Sphinx similar, hair rolled, straight | Rev. Similar, striation horizontal, with  
locks falling on neck; ground-line. |  $B A \Xi I A E I \Delta H \Xi$ .  
*a.* 24mm. 15.03 gr. London. Pl. V, 6.  
B. M. C. Ionia, no. 28, pl. XXXII, 8.



Fig. 8.

73. Sphinx similar; hair similar.

Rev. Similar, striation horizontal, with  
ΑΜΦΙΜΗΔΗΣ.

a. 23mm. 13.84 gr. Fig. 8.

Cat. Philipsen, no. 2247, pl. XXVI (Hirsch, Nov., 1909).

74. Similar; ground-line.

Rev. Similar, striation horizontal, with  
ΕΡΜΟΦΑΝΤΟΣ.

a. 22mm. 15.16 gr. Vienna.

Pl. V, 7.

75. Similar; ground-line.

Rev. Similar, striation vertical, with  
ΕΟΡΥΝΟΜΟΣ.

The magistrate's name 'Εορύνομος is a dialectical variation, common in Ionic, for Εύρύνομος. Other examples of the confusion of *eo* and *eu* occur in the Chian series, e. g. Θεῦττις for Θεόττις, the inverse change (no. 103g); \*Εονομος for Εύνομος on the coin illustrated in Fig. 19 of the text, and Θεῦπομπος for Θεόπομπος, or Θεύπορπος, see discussion below. For further examples of this confusion in spelling, which resulted from the practical identity of sound of the two sets of vowels, see Collitz, *Samm. d. griech. Dialekt-Inschriften*, III. 2.

a. 22mm. 15.09 gr. Vienna.

Pl. V, 8.

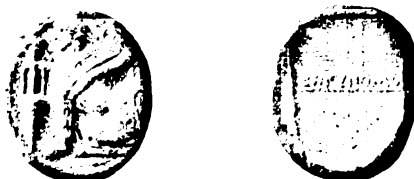


Fig. 9.

76. Similar; no ground-line.

Rev. Similar, striation horizontal, with  
ΕΟΡΥΝΟΜΟ[Ξ].

a. 23mm. Paris. Fig. 9.

Babelon, *Traité II*<sup>2</sup>, no. 1964, pl. CLIV, 18.



Fig. 10.

77. Similar; no ground-line.

Rev. Similar; striation vertical, with  
ΚΑΛΛΙΚΛΗΣ.

- a.* 22mm. 15.23 gr. London. Pl. V, 9.  
 B. M. C. Ionia, no. 31.
- b.* 22mm. 14.15 gr. Fig. 10.  
 Cat. Benson, no. 698, pl. XXIII (S. W. & H., Feb., 1909). Cat. Rhusopoulos, no. 3821, pl. XLIII (Hirsch XIII, May, 1905).
- a.* and *b.*, different obv. and rev. dies.
- 78.** Sphinx similar; ground-line. | Rev. Similar, four squares roughened rather than striated, with  $\Phi\text{OIN}|\Xi$ .  
*a.* 23mm. 15.00 gr. Paris (Waddington). Pl. V, 10.  
 Inv. Wadd., Rev. Num. 1897, no. 2005.

## DRACHMS

- 79.** Sphinx similar, head thrown back. | Rev. Incuse square divided by fine cross-lines intersecting, into four square compartments, surface of which is artificially roughened, i. e. not by gradual breakage of die, but worked on die.  
*a.* 13mm. 3.66 gr. London. Pl. V, 11.  
 B. M. C. Ionia, no. 17.
- b.* 13mm. 3.70 gr. Paris. Pl. V, 12.  
 Babelon, *Traité II<sup>2</sup>*, no. 1958, pl. CLIV, 14.
- a.* and *b.*, different obv. and rev. dies.
- 80.** Sphinx similar, head as usual. | Rev. Incuse similar; roughened surface of squares presents regular, fine granulation.  
*a.* 13mm. 3.60 gr. Vienna. Pl. V, 13.  
*b.* 15mm. 3.47 gr. Vienna. Pl. V, 14.  
*c.* 13mm. 3.60 gr. Vienna. Pl. V, 15.
- 81.** Sphinx similar, hair short. | Rev. Similar.  
*a.* 14mm. 3.60 gr. Cambridge (McClean). Pl. V, 16.  
*b.* 14mm. 3.67 gr. Sir H. Weber, London. Pl. V, 17.  
*c.* 15mm. 3.70 gr.  
 Cat. Merzbacher, no. 714, pl. 12 (Munich, Nov., 1910).
- 82.** Sphinx similar, hair long; very poor style, note length of handles of amphora. | Rev. Similar, granulation somewhat coarser than on nos. 13-17, Pl. V.  
*a.* 13mm. Paris. Pl. V, 18.  
*b.* 13mm. 3.64 gr. London. Pl. V, 19.  
 B. M. C. Ionia, no. 24. (Obv. defaced by cuts).
- 83.** Similar. | Rev. Similar, granulation much coarser than on nos. 13-17, Pl. V.

- a.* 14mm. 3.62 gr. Cambridge (McClellan). Pl. V, 20.  
*b.* 14mm. Paris. Pl. V, 21.  
*a.* and *b.*, same obv. and rev. dies.
- 84.** Similar; in r. field, K. | Rev. Similar, granulation less coarse.  
*a.* 14mm. 3.58 gr. Glasgow (Hunter). Pl. V, 22.  
 Macdonald, Cat. of Hunter. Coll. II, p. 396, no. 2.  
*b.* 13mm. 3.71 gr.  
 Cat. Philipsen, no. 2248, pl. XXVI (Hirsch, Nov., 1909).
- 85.** Similar; in r. field, E. | Rev. Similar.  
*a.* 14mm. 3.48 gr. Paris. Pl. V, 23.  
 Babelon, *Traité II*<sup>2</sup>, no. 1959, pl. CLIV, 15.  
*b.* 13mm. Munich. Pl. V, 24.  
*a.* and *b.*, different obv. and rev. dies.
- 86.** Similar, head thrown back; in r. field,  $\Delta$  | Rev. Incuse square divided by broad intersecting cross-lines into four square compartments.  
*a.* 13mm. 3.79 gr. Brussels. Pl. V, 25.  
*b.* 14mm. 3.59 gr. London. Pl. V, 26.  
 B. M. C. Ionia, no. 19.  
*a.* and *b.*, same obv., but different rev. dies.
- 87.** Similar, head thrown back; in r. field, H | Rev. Similar.  
*a.* 14mm. 3.49 gr. London. Pl. V, 27.  
 B. M. C. Ionia, no. 20.  
*b.* 14mm. 3.41 gr. London.  
 B. M. C. Ionia, no. 21, pl. XXXII, 6.  
*c.* 15mm. 3.28 gr. Cambridge (McClellan).  
*d.* 15mm. Paris. Pl. V, 28.  
*a.* — *c.* same obv. and rev. dies; and rev. die of *a.* — *c.*, identical with that of 86 *b.*
- A drachm with  $\Theta$  in r. field, and X in one of the four granulated compartments is described by Imhoof-Blumer in *Monn. gr.*, p. 297, no. 134, ~ 14mm. 3.72 gr. This coin, if it actually bears the initial letter of the ethnic of Chios, would be a unique instance in the series which is without designation of the mint-name until the bronze issues of the latter part of the Fourth Century (B. M. C. Ionia, p. 332, nos. 40ff.).
- 88.** Similar, no letter or monogram. | Rev. Similar to no. 22, Pl. V, granulation coarse.  
*a.* 13mm. 3.67 gr. Dresden. Pl. V, 29.
- 89.** Similar, hair short. | Rev. Similar.  
*a.* 14mm. 3.02 gr. (much worn). London. Pl. V, 30.  
 B. M. C. Ionia, no. 25.

*b.* 13mm. 2.62 gr. (surface pitted). London.

B. M. C. Ionia, no. 26.

*c.* 13mm. Munich.

## HEMI-DRACHM

90. Sphinx similar; ground-line; the whole on raised disk as on drachms; in r. field,  $\overline{\text{K}}$  | Rev. Similar.

*a.* 11mm. 1.87 gr. London.

Pl. V, 31.

B. M. C. Ionia, no. 27, pl. XXXII, 7.

In the Cat. Weber, no. 3025, another example of a triobol is cited, 11mm., 1.83 gr.

## TETRADRACHMS

91. Sphinx of later style, head thrown back; ground-line; raised disk so flat as practically to disappear. | Rev. Similar to that of nos. 60ff; striation horizontal, with  $\text{KH}\Phi\text{I}\Sigma\text{OKPI}$ .

*a.* 21mm. 13.61 gr. Glasgow (Hunter).

Pl. VI, 1.

Macdonald, Cat. Hunter. Coll. II, p. 397, no. 5, pl. LIII, 6.

*b.* 20mm. Paris.

Pl. VI, 2.

*a.* and *b.*, different obv., but same rev. dies.

92. Similar.

| Rev. Similar, striation vertical, with  $\text{KH}\Phi\text{I}\Sigma\text{OKPIT}$ .

*a.* 20mm. 13.70 gr.

Cat. Weber, no. 3026, pl. XXXX (Hirsch XXI, Nov., 1908, the magistrate's name given as  $\text{KH}\Phi\text{I}\Sigma\text{OKPIT}$ , though last letter seems uncertain from the plate).

*b.* 20mm. 13.10 gr. London.

Pl. VI, 3.

B. M. C. Ionia, no. 32.

*a.* and *b.*, different obv. and rev. dies.



Fig. 11.

93. Similar.

| Rev. Similar, striation horizontal, with  $\text{KH}\Phi\text{I}\Sigma\text{OKPIT}$ .

*a.* 20mm. 13.39 gr. Boston (Greenwell-Warren). Fig. 11.

Regling, Samm. Warren, no. 1144, pl. XXVI.

## DRACHM (of Kephisokritos).

94. Similar.

| Rev. Similar, striation vertical, with  $\text{KH}\Phi\text{I}\Sigma\text{OKPITO}\Sigma$ .

*a.* 14mm. Paris.

Pl. VI, 9.

Babelon, *Traité II*<sup>2</sup>, no. 1965, pl. CLIV, 22.

## TETRADRACHMS

95. Similar.

Rev. Similar, striation vertical, with  
ΞΚΥΜΝΟΞ.*a.* 22mm. Paris.

Pl. VI, 4.

Babelon, *Traité* II<sup>2</sup>, no. 1964.

## DRACHMS (of Skymnos)

96. Similar.

Rev. Similar, striation (?), with ΞΚΥΜ-  
ΝΟΞ.*a.* 15mm. 3.24 gr.

Cat. W. de Moltheim, no. 2335 (Rollin et Feuardent, Paris, March, 1895).

97. Similar.

Rev. Similar, striation vertical, with  
ΞΟΥΜΥΧΞ.*a.* 13mm. 3.57 gr. London.

Pl. VI, 10.

B. M. C. Ionia, no. 35, pl. XXXII, 9.

## TETRADRACHMS

98. Similar.

Rev. Similar, striation vertical, with  
ΗΠΙΔΑΝΟΞ.*a.* 20mm. Paris.

Pl. VI, 5.

*b.* 20mm. 13.70 gr. Sir H. Weber, London.

Pl. VI, 6.



Fig. 12.

*c.* 20mm. 13.47 gr. Fig. 12.

Cat. Benson, no. 699, pl. XXIII (S. W. &amp; H., Feb., 1909).

Cat. Montagu (ex Carfrae), no. 591 (S. W. &amp; H., March, 1896).

*a.* and *c.*, different obv. and rev. dies.

99. Similar.

Rev. Similar, striation horizontal, with  
ΗΠΙΔΑΝΟΞ.*a.* 20mm. Paris.

Pl. VI, 7.

*b.* 20mm. 13.51 gr. Glasgow (Hunter).

Pl. VI, 8.

Macdonald, Cat. Hunter. Coll. II, p. 397, no. 3.

*a.* and *b.*, different obv., but same rev. dies.

Fig. 13.

100. Similar.

Rev. Similar, roughly dotted or granu-  
lated squares, with ΗΠΙΔΑΝΟΞ.



*a.* 21mm. 12.90 gr. Fig. 13.

Cat. Prowe, no. 1096, pl. XVIII (Egger, May, 1914).

### DRACHMS (of Eridanos and others)

**101.** Similar.

Rev. Similar, striation vertical, with  
HPIΔANOΞ.

*a.* 15mm. 3.32 gr. Vienna.

Pl. VI, 11.

From (?) Cat. Weber, no. 3027 (Hirsch, Nov., 1908).

*b.* 15mm. 3.40 gr. London.

Pl. VI, 12.

B. M. C. Ionia, no. 34.

**102.** Similar.

Rev. Similar, squares granulated, with  
APTEMΩN.

*a.* 14mm. 3.52 gr. Paris (Waddington).

Pl. VI, 13.

Inv. Wadd., Rev. Num. 1897, no. 2006.

**103.** Similar.

Rev. Similar, with ΘΕΟΤΤΙΞ.

*a.* 13mm. 3.47 gr. Vienna.

Pl. VI, 14.

*b.* 14mm. 3.49 gr. Paris.

Pl. VI, 15.

[Θ]ΕΟΤΤΙΞ. Inv. Wadd., Rev. Num. 1897, no. 2007.

*c.* 15mm. 3.73 gr. Berlin (Löbbecke).

Löbbecke, Zeit. f. Num. 1887, p. 153, no. 3, pl. VI, 1. From the Chian Find (see below).

*d.* 14mm. 3.70 gr.

Cat. Rhousopoulos, no. 3824, pl. XLIII (Hirsch XIII, May, 1905).

*e.* 15mm. Paris.

Pl. VI, 16.

*f.* 14mm. 3.35 gr.

Cat. Prowe, no. 1097, pl. XVIII (Egger, May, 1914).

*g.* 14mm. 3.66 gr. Berlin (Löbbecke).

Löbbecke, Zeit. f. Num. 1887, p. 153, no. 4. ΘΕΥΤΤ[ΙΞ]. From the Chian Find.

*c.* and *d.*, apparently same obv. and rev. dies ; *e.* and *f.*, apparently same obv. and rev. dies.

**104.** Similar ; no ground-line.

Rev. Similar, with ΦΗΞΙΝΟ[Ξ].

*a.* 14mm. 3.45 gr. Cambridge (Leake).

Pl. VI, 17.

**105.** Similar.

Rev. Similar, with ΙΓΓΙΑΞ.

*a.* 14mm. 3.48 gr. London.

Pl. VI, 18.

B. M. C. Ionia, no. 37.

*b.* 14mm. Paris.

*c.* 15mm. 3.51 gr. Dresden.

Pl. VI, 19.

*d.* 15mm. London.

Pl. VI, 20.

Not in B. M. C. Ionia.

*e.* 12mm. 3.72 gr.

Cat. Lambros, no. 742, pl. XI (Hirsch, Nov., 1910).

*f.* 14mm. 3.52 gr. Newell, New York.

Cat. Rhousopoulos, no. 3823, pl. XLIII (Hirsch XIII, May, 1905).

*a.* — *e.*, probably same obv. die; *a.* — *e.*, same rev.; *d.* — *e.* same rev. die, *f.* different.

**106.** Similar.

| Rev. Similar, with ΙΞΧΙΜΑ[...].

*a.* 15mm. Munich.

Pl. VI, 21.

Coin is pierced. = (?) Cat. Montagu, Sec. Port. no. 270. wt. 3.62 gr. (S. W. & H., March, 1897).

**107.** Similar.

| Rev. Similar, with ΞΩΞΤΡΑ[...].

*a.* 14mm. Paris.

Pl. VI, 22.

Babelon, *Traité II*<sup>2</sup>, no. 1965, pl. CLIV, 23.

*b.* 14mm. 3.52 gr. London.

Pl. VI, 23.

B. M. C. Ionia, no. 38, pl. XXXII, 10.

*c.* 15mm. 3.70 gr.

Cat. Vicomte de Sartiges, no. 360, pl. XX (Paris, 1910). Cat. Philipsen, no. 2250, pl. XXVI (Hirsch, Nov., 1909). Cat. Hobart Smith, no. 104, pl. ii (S. W. & H., May, 1897).

*a.* — *c.*, same obv. die.

**108.** Similar.

| Rev. Similar, squares finely dotted or granulated, with ΓΕΡΩΞ.

*a.* 14mm. Paris.

Pl. VI, 24.

Babelon, *Traité II*<sup>2</sup>, no. 1965.

*b.* 15mm. 3.75 gr. Berlin.

Imhoof-Blumer, *Gr. Münzen*, p. 654, no. 374. From the Chian Find. (cf. *Z. f. N.* 1887).



Fig. 14.

*c.* 14mm. 3.69 gr. Boston (Perkins). Fig. 14.

Cat. Catherine Page Perkins Coll. no. 493. This example shows the initial letter Γ which is not visible on *a.* and *b.* The Paris specimen *a.* is read as ΤΕΡΩΞ in the *Traité II*<sup>2</sup>, no. 1965.

**109.** Similar.

| Rev. Similar, still finer granulation, with ΕΓΑΙΝΕ[...].

*a.* 14mm. 3.68 gr. London.

Pl. VI, 25.

B. M. C. Ionia, no. 36.

*b.* 13mm. Munich.

Pl. VI, 26.

*c.* 13mm. 3.63 gr. Berlin.

Babelon, *Traité II*<sup>2</sup>, no. 1965. Imhoof-Blumer, *Gr. Münzen*, p. 654, no. 373. From the Chian Find. (cf. *Zeit. f. Num.* 1887).

**110.** Similar.

| Rev. Similar, with ΦΑΝΟΚΛΗ[Ξ].

*a.* 14mm. 3.74 gr. Berlin (Löbbecke). Fig. 15.

Löbbecke, *Zeit. f. Num.* 1887, p. 153, no. 5, pl. VI. 2. From the Chian Find.



Fig. 15.

*b.* 14mm. Berlin (Imhoof-Blumer).

ΦΑΝΟΚΛ. Löbbecke, Zeit. f. Num. 1887, p. 153, no. 6. From the Chian Find.

*c.* 15mm. 3.37 gr.

ΦΑΝΟΚΛΗΞ Cat. Prowe, no. 1098 (Egger, May, 1914) - (?) Cat. Bunbury, no. 224.  
wt. 52 grains = 3.368 gr., ΠΑΝΟΚΛΗΞ (*sic*).

The chronological arrangement of the archaic electrum coins, nos. 1-12, Pl. I, here proposed, based upon the form of the incuse and style of the obverse, seems unquestionable. The smaller and deeper incuses of nos. 1 and 2 are followed by the slightly larger incuses of nos. 3-6 whose irregular form of homogeneous style has already been discussed. From the style of the Sphinx on nos. 3 and 4, of which no. 3 has the head thrown farther back than no. 4, and therefore bears a closer analogy to nos. 1 and 2, there can be no doubt that these two coins are intermediate between nos. 1 and 2 on the one hand, and nos. 5 and 6 on the other. The form of the wing of nos. 3 and 4 is also closer to that of nos. 1 and 2 than the form seen on nos. 5 and 6. There would seem to be a slight interval of time between the issues, nos. 1 and 2, nos. 3 and 4, nos. 5 and 6, respectively, as the transition in the style of the Sphinx is somewhat abrupt, the gap being greater between the second and third groups, as the change in the style of the wing and upright position of the Sphinx's head on nos. 5 and 6 would indicate. Nos. 7 and 8 are of similar style and type, the former being earlier, as obverse style and the smaller and deeper incuse prove. Their reverses are later than those of the preceding staters, and earlier than those of the following. Nos. 9-12 bear the Sphinx in same pose as nos. 7 and 8, but directed to the right, and the larger incuse is again an evidence of the later date of this group. Nos. 7 and 8 exhibit the peculiarity of showing the far wing beyond the near one, an unique feature in the Chian series. The ornament on the Sphinx's head which Babelon, rightly to my thinking, has called the vine-tendril, appears with perfect certainty on no. 1, is doubtful on no. 2, and is not again visible until we come to the group nos. 9-12.

The lower date of these electrum coins is very definitely fixed by a comparison of the reverse types of nos. 9-12 with that of the group of coins issued at the time of the Ionian Revolt, ca. 500-494 B. C., accord-

ing to Gardner's theory (Coinage of the Ionian Revolt, Jour. Hell. Studies, 1911, pp. 151 ff.), also independently elaborated by Jameson (Rev. Num. 1911, pp. 60 ff.). This theory which Gardner so brilliantly elucidated has recently been discussed by me in the examination of the date of the Lampsakene staters of the Revolt class (Electrum Coinage of Lampsakos, pp. 26 ff.), and therefore scarcely needs any further comment here. With the material which we have at hand, in the form of extant coins and historical evidence, the theory seems to me to stand the test. The style of the obverses of these staters, nos. 9-12, whose reverses appear undoubtedly contemporary with the other coins of the Revolt class (cf. Gardner, *op. cit.*, B. M. C. Ionia, pl. I. 19-26, and Pl. II of my paper on Lampsakos) is of precisely that degree of archaism which one would expect at the date required, ca. 500 B. C. When we turn to the silver drachm series, we shall see how this date for the Chian Revolt staters fits in with the chronological grouping of the archaic silver coins. With our lower limit as a point of departure, we may work backwards and, in imagination, reconstruct a series of staters extending back over a period of years with gradual transitions in style,—that is, fill in the lacunae adequately, for our present series is most evidently incomplete,—and we should reach a period probably not earlier than 550 B. C. Now I can quite conceive that it may be objected that the staters, nos. 1 and 2, Pl. I are separated from all the other specimens by an immensely wider lapse of time than is here allowed, and I grant that, if we did not fortunately possess the staters, nos. 3 and 4, this gap would appear so wide as to be accounted for only by a theory of a discontinuation of the electrum coinage at a given early date, and its later resumption at a date very close to the Fifth Century B. C. It should be noticed that the Jameson stater no. 4 occurred in the Trouville de Vourla (Rev. Num. 1911, pp. 60 ff.) in company with staters of the Ionian Revolt class and other coins dating ca. 500 B. C. This fact and its style couple this stater (and, of course, no. 3) rather closely with the rest of our extant specimens, nos. 5-12, which all probably date within the last quarter of the Sixth Century.

It is certainly curious that in the silver didrachm series we happen to possess a type, nos. 13 and 14, Pl. I, (both specimens from the same die) which is also apparently of much earlier style than the didrachms next in order chronologically. But, though the difference in style is undeniable, and, at first glance, gives an impression of great difference in time between these more archaic looking electrum and silver coins and the succeeding coins in the respective groups, yet a closer study of the

types, to my mind, lessens this first impression of a great lacuna in both cases. The electrum stater no. 3 does not seem to me further removed in time from nos. 1 and 2 than no. 5 does from no. 4, and we must remember that no. 4 was found with staters of the class, nos. 9-12. Again, when one scrutinizes the treatment of the wing of the Sphinx on the silver didrachms, nos. 15-17, Pl. I, and observes the heavy vine-tendrils (cf. especially no. 16) and awkward pose of the forelegs, these coins do not appear so immeasurably removed in style from the type represented by nos. 13 and 14, Pl. I, as at first view.

It may of course be argued by those who give credence to the theory that the Persian Kings would not countenance the issue of a coinage in gold or electrum by any of the Ionian towns under their suzerainty that, as there could have been no staters issued at Chios between 545 and 500 B. C., the period of Persian domination over Asia Minor, the staters, nos. 3-12, must all be given to the years 500-494 B. C., the date of the Revolt, and that the more archaic specimens, nos. 1 and 2, which are surely too early for this date, must be placed before 545 B. C., thus allowing for a break of half a century between nos. 1 and 2 and the following staters. The hypothesis of the Persian monopoly or exclusive right to issue coins in the precious metal has however been rejected by Babelon (*Traité II<sup>2</sup>, Introd. Gén.*), and it rests upon a mere assumption not supported by any ancient authority nor, in my opinion, by the evidence of our extant coins. This question is discussed with reference to the Lampsakene electrum issues in my article on this coinage, and there decided in favor of Babelon's view. The Lampsakene staters figured on Pl. I, nos. 1-11, and in Figs. 1 and 2 of the text, of my paper were surely issued during the period 545-500 B. C. as their style in itself would demonstrate, and as the argument based on the comparison of the style of the latest coins of this group, nos. 10 and 11 of Pl. I (cf. the Lampsakos paper) with that of the Revolt issues of Lampsakos (*op. cit.* Pl. II, 1-3 f.) tends conclusively to establish. Finally, if we compare the treatment of the wing on the electrum staters of Lampsakos (*op. cit.* Pl. I, 1-11) with that on the staters of Chios, nos. 1 and 2 of our Pl. I, it would appear self-evident that the Lampsakene and Chian electrum coinages are roughly contemporaneous. The Chian series may have begun some twenty years earlier, but on fine points like this it is exceedingly difficult to decide, especially in the case of animal figures. It is sufficient for our purpose to establish the period of these coinages as falling approximately within the limits of the second half of the Sixth Century.

If one compares the human head of our Sphinx on the coins, nos. 1 and 2, with the earliest staters of Kyzikos bearing human heads in profile, the following points of contact are found. The Kyzikene staters, figured on Pl. II, 13-15 of von Fritze's *Kyzikos* and discussed on p. 22 of his monograph, bear many traits in common with the Sphinx heads on coins, nos. 1 and 2, the same retreating forehead, disproportionately large ear, full cheeks and thick lips, prominent, almond-shaped eye in facing position, which, as von Fritze remarks, characterize the Athena heads on the earliest tetradrachms of Athens now commonly assigned to the middle of the Sixth Century B. C. (*Zeit. f. Num.* 1897, pl. V, 3, 4, 6, 7).

In Figs. A — C are shown specimens of Athenian tetradrachms of



the genuinely early, archaic style taken from the *Cat. Rhousopoulos*, pl. XXIV, 1938, 1940, 1941 (*Hirsch XIII*, May, 1907).

In the enlarged Fig. D is shown the earliest Chian electrum stater where the human head of the Sphinx may be better studied.



Now, the head of this Sphinx does not appear to me of greater antiquity than the heads on the above Athenian coins, Figs. A — C, which by the consensus of numismatic opinion are to be dated ca. 550 B. C. The rendering of the back hair does give a more archaic aspect to the Sphinx of this stater and of no. 2, Pl. I, but the features of the

head are not more archaic in treatment. On the other hand, the head of the didrachm, no. 13, Pl. I, as seen in the enlarged Fig. E of this coin, is so grossly heavy and coarse as to seem to indicate a far earlier date than that of the electrum stater. And yet — strange fact in regard to both of these first issues in electrum and silver — the succeeding coins in both cases, while showing a distinct advance in style, still retain so markedly the primitive manner of treatment that it is well-nigh impossible not to think of them as more or less closely continuous issues.

The silver didrachm type, nos. 13, 14, Pl. I, may have been struck a decade or so before the electrum staters, nos. 1, 2, Pl. I, but on the other hand, the difference in style may, to my thinking, be due merely to inequality of capacity on the part of the die-engravers. For, it is manifest from the differences in artistic treatment that the dies for the electrum staters were not made by the same artists who engraved the dies for the silver series. It is possible, however, that the electrum staters, nos. 9-12, Pl. I, are from the same hand which created the dies for the didrachms, nos. 19-23, Pl. I. Our argument as to the earliest date of issue of the two series rests largely upon the premise that these two groups just mentioned were issued ca. 500 B. C. Now, if we push back the commencement of the Chian coinages in electrum and silver to a more remote period than that here assumed, i. e. ca. 550 B. C., say, to the very beginning of the Sixth Century, we shall be obliged to spread out all of the extant specimens antedating 500 B. C. so thinly over a whole century that it seems a scarcely tenable hypothesis.

On the Athena head of the Kyzikene stater, Pl. II, 17 (*op. cit.*), the hair falls straight down in a heavy dotted mass quite suggestive of the treatment on our Chian staters, nos. 1-14, Pl. I. If we compare further the Sphinxes and Sirens on the Kyzikene staters, Pl. II, 24-29 (*op. cit.*), we find the same treatment of the hair, i. e. falling in a straight mass of long dotted strands on the neck as on all of the Chian electrum coins and the bulk of the archaic silver didrachms, two groups which like the Kyzikene coins in question all antedate the period 500-490 B. C. Von Fritze compares this coiffure with that of the archaic Apollo figures, and that of the archaic female statues of the Acropolis Museum. The same method of wearing the hair is found on all of the archaic Chian didrachms of Pl. I, except nos. 24 and 25, where the hair is gathered in a bunch, and turned back on the nape of the neck. On nos. 1-5, Pl. II, the hair lies in a mass on the neck, but gathered in a bunch. The hair is worn long on all the coins of the archaic period,

whether flowing loose from the crown of the head or caught in just where it reaches the neck. Von Fritze points out that both methods of hair-dress are found in archaic art of the Sixth Century (Kyzikos, p. 23).

The didrachms, nos. 19-23, Pl. I, on which the Sphinx is represented with raised foreleg show a close likeness in style to the Chian Revolt staters, nos. 9-12. The correct position of this group, nos. 19-23, Pl. I, in the didrachm series is therefore of the utmost importance. Now the archaic didrachms fall into several well-defined groups which may be indicated as follows:

(1) nos. 13-18, Pl. I, show similar rendering of the wing and pose of the body, forelegs seen as one on nos. 13, 14, but apart in awkward perspective on nos. 15-18 which also show similar reverses.

(2) nos. 19-23, Pl. I, same style reverse, identical pose with raised right foreleg, same style of wing, heads similar; nos. 21-23, identical symbol; nos. 20-23, type enclosed in border of dots.

(3) nos. 24, 25, Pl. I, and nos. 1-5, Pl. II, similar reverses, obverse type placed on raised disk enclosed in a wreath, of ivy (?), all characterized by the same style of amphora, similarly placed on all the coins; nos. 24 and 25, Pl. I, and nos. 1 and 2, Pl. II, identical pose of Sphinx and rendering of wing.

(4) nos. 6 and 7, Pl. II, similar pose; no. 7 having amphora placed lower and type on raised disk.

(5) nos. 8-12, Pl. II, similar pose, style of wing, head, etc., and reverses; and no. 13, similar in style to preceding group, but, in pose, a connecting link between this group and the succeeding one.

(6) nos. 14-24, Pl. II, similar pose, head, wing, amphora, etc.; and no. 25, very similar to nos. 22-24, but bearing the vine wreath.

(7) nos. 26, 27, Pl. II, and probably no. 1, Pl. III, similar style of Sphinx, amphora, etc.; reverses of no. 27, Pl. II, and no. 1, Pl. III, are akin.

(8) nos. 2-7, Pl. III, similar Sphinx, amphora long and resting on ground, this whole group representing the latest stage in the evolution of the amphora on the archaic series; nos. 4-7, Pl. III, in style of Sphinx and reverses, representing the intermediate step between the archaic and transitional series.

Working back over these groups, it will readily be conceded that the coins figured on Pl. III, 1-7 are the latest issues of the archaic set, and bridge over very neatly the gap between coins of the type nos. 13-27, Pl. II and the rest of the coins shown on Pl. III, 8-30. The coins, nos. 13-27, Pl. II, are all very similar in style and just a degree less archaic than the coins, nos. 1-12 of this plate, and more archaic than the coins, nos. 1-7 of Pl. III. The coins, nos. 8-12, Pl. II, show



a less well-seated Sphinx and obviously antedate nos. 13-27, Pl. II. Nos. 6 and 7, Pl. II are plainly connected by style with nos. 1-5, Pl. II, and these, in turn, by style and type with nos. 24 and 25, Pl. I.

The coins included in group (1) are undoubtedly the most archaic, and the position of the coins of group (2), nos. 19-23, Pl. I, which may be called the datable series, can hardly be other than that which is here given, for the reason that the amphora is not found on this group, not appearing until we come to the coins included in group (3). On none of the coins of Pl. II does the "archaic smile" appear, whereas it is discernible on nos. 19 and 20 of the datable group, and seems also to be indicated on nos. 24 and 25, Pl. I. Both of these considerations justify us in the chronological placing of group (2) immediately after nos. 13-18, a homogeneous group, and before the succeeding group, nos. 24, 25, Pl. I and nos. 1-5, Pl. II. If our arrangement be correct, we may date the didrachms shown on Pl. I within the period, ca. 550-500 B. C., and those of Pl. II, ca. 500-490 B. C., while nos. 1-7 of Pl. III may also belong before 490 B. C., or else may possibly represent the first efforts of the transitional period.

The evidence of the various finds made in Lower Egypt, in which archaic coins of Chios are known to occur, is very slight. As far as it goes, it confirms our chronological sequence, for the Chian types represented in these finds, which were composed largely, though not exclusively, of Sixth-Century coins, are those which are here dated ca. 500 B. C. or earlier. The Chian didrachms from these finds, are the following, enumerated in the order of discovery: 1) From the find of Myt-Rahineh on the site of ancient Memphis, unearthed by Mariette in 1860 (*Rev. Num.* 1861, pp. 414 ff.), came a didrachm not illustrated in the report of the find but described as a type without the amphora, and compared with the coin illustrated in Mionnet, pl. XLIV, no. 2. Dressel (*Zeit. f. Num.* 1900, p. 240, note 11) says that from the poor illustration of this coin found in Mariette's *Mon. divers rec. en Egypte*, Taf. 32, the type is one on which the Sphinx has the foreleg raised. From the comparison with Mionnet's plate, one would assume that, if not of the type with raised foreleg, the coin was like the following types with the enclosing wreath, nos. 24, 25, Pl. I, and nos. 1-5, Pl. II.

2) From the Naukratis find discovered in 1886 and reported by Head (*Num. Chron.* 1886, pp. 1 ff.), came a coin also not illustrated, but described as a type with the amphora, and of a style anterior to the Persian conquest of Chios ca. 490 B. C.

3) From the Nile Delta find of about 1887, reported by Greenwell (*Num. Chron.* 1890, pp. 1 ff.), came the coin shown on our Pl. I, 17 which is without the amphora.

4) From the Sakha hoard uncovered about 1897, and reported by Weber (*Num. Chron.* 1899, pp. 269-287, pl. XVI, 2, 3, 4) and by Dressel (*Zeit. f. Num.* 1900, pp. 237-258 ff., pl. VIII, 6, 7), came the coins illustrated on our Pl. I, type with rosette, nos. 13, 14; no. 15, one of the earliest types; nos. 19, 20 and 22, type with raised, right foreleg. Probably all of the Chian coins from these hoards, composed in the main of extremely archaic coins, were of types represented on our Pl. I.

The coin, no. 24 of the catalogue, not here represented, is rather difficult to place exactly. Its style, however, seems to be akin to that of nos. 26 and 27, Pl. II, and probably also to that of the coin, no. 1, Pl. III, and the reverses of all these pieces show a marked similarity.

The coin, no. 25, Fig. 3, also stands somewhat apart from the others. The amphora is visible, placed high in the left field. The type is here assigned a place intermediate between the coins of Plates II and III, and this appears on the whole a satisfactory position.

The archaic didrachm, no. 26, Fig. 4, from the Benson collection (reverse not given), is one whose type is not exactly paralleled by any of the specimens figured on our Plates. No amphora is visible on this type, and the vine-tendril is present, yet from the neat, fine style of the Sphinx, the type seems to be connected rather with that figured on Pl. III, nos. 2 and 3, rather than with any of the types represented on Pl. II. Also, it seems to be of too delicate archaic treatment to be placed before nos. 24 and 25 of Pl. I, coins on which the amphora first makes its appearance. Perhaps we may assume that the amphora is now off the flan, and was one of the long shape as on coins, nos. 2-6, Pl. II, in which case the position here assigned this coin may be correct.

After the suppression of the Ionian Revolt in 494 B. C., the mint of Chios was probably closed, as the vengeance wreaked upon the island by the Persians is said to have amounted to a man-hunt (*Herod.* VI, 31). Precisely when it reopened we can only judge from the style of the coins.

In an article on some Chian coins published by J. Mavrogordato in the *Num. Chron.* 1911 (cf. especially pp. 87, 88), it is argued that the Sixth-Century type at Chios was that with the Sphinx alone, and that the introduction of the amphora constitutes the new step in the evolution of the type which one would anticipate as occurring after the close

of the Persian Wars. That is to say, the archaic coins of the types shown on Pl. II would be given to the period ca. 478-450 B. C. But surely this date is too late, and the most decided break in the style of the didrachm series is that represented by the change which occurs on the coins nos. 8-30, Pl. III. Here we have a distinctly new style, the Sphinx being no longer archaic in character, and there are the new elements in the type, the bunch of grapes and the raised disk. As noted above, the group of archaic didrachms for which we have fair reason for suggesting a definite date is that represented by the coins, nos. 19-23, Pl. I, which appear to be contemporary with the staters of the Ionian Revolt. The coins intermediate between this group and those of the new style we should assign to the period ca. 500-490 B. C., and, as the transitions in style on these coins, nos. 24, 25, Pl. I, Pl. II, and Pl. III, 1-7, are very slight, this would seem to allow a sufficient period for their issue.

It should be remarked here that the chronological schemes adopted both in the B. M. C. *Ionica* and in Babelon's *Traité* are at variance with the arrangement which is here proposed. In the B. M. C. *Ionica* (p. 329), didrachms and tetrobols of the new style, which are unquestionably of the transitional period, are placed to be sure within the limits of the transitional period, but after the tetradrachm issue (*op. cit.* pl. XXXII, 2) which shows a much later stage in the development of style. In the *Traité*, the transitional didrachms and tetrobols are all placed with the archaic series, and dated before 494 B. C., on the ground that the form of the incuse forbids their being placed later. But the didrachms nos. 8-30, Pl. III, and the tetrobols of Pl. IV, 1-10, are on grounds of style alone clearly issues of the transitional period, and the break in the continuity of style and modification of type bear witness to the temporary cessation of issues which took place after the ruin of the island ca. 494 B. C. Nos. 8-14 undoubtedly represent the first attempts at the new style as is easily perceived in the awkwardness of the treatment, first, of the forelegs and bunch of grapes on nos. 8-10; second, of the grapes on nos. 11, 12; and, in general— in the style of the Sphinxes. Nos. 15-30 represent the fine flower of the transitional style; nos. 15-19, on which vine leaves are found attached to stem of the grape-bunch, being anterior to nos. 20-26, as is evidenced by the coin, no. 39, Fig. 5, of the text, on which the vine leaves are also found, and whose style indicates that it is the connecting link between nos. 14 and 15, Pl. III. Nos. 27-30 present a homogeneous group, Sphinx of smaller size, the last coin being of very fine style,

the head showing no trace of the earlier transitional manner, the type enclosed in a vine wreath.

The wing of the Sphinx on all these coins is still of the naturalistic, feathered type characteristic of the archaic series. The Sphinx on the electrum stater, no. 11, Pl. IV, has this same type of wing, but the pose of the body, and the style of the head, as far as can be judged now in the somewhat worn state of the coin, and certainly the style of the amphora, link this coin with the next group of coins, the tetradrachms of early fine style. This stater is variously dated in the standard numismatic treatises; by Babelon in the last quarter of the Sixth Century, a date manifestly too early (for the reasons given by Babelon for such an early date, cf. my *Electrum Coinage of Lampsakos*, pp. 15 ff.); by Head towards the close of the Fifth Century, and by von Sallet in the early Fourth Century. I am told that the Berlin Museum authorities are inclined to confirm von Sallet's dating, not allowing that the coin could be earlier than ca. 390 B. C. The style of the wing, however, which is still transitional in treatment, puts the Fourth Century date out of consideration, for the wing had already been conventionalized in treatment on the tetradrachm series which immediately succeeded the transitional coins, and is regularly found thereafter in stylized form. Again, from the whole foregoing analysis of style, it will be convincing that the coin cannot be placed earlier or later than the close of the Transitional epoch.

The reverse of this stater is not of the Chian type, but is copied after the mill-sail incuse of the Kyzikene electrum coinage. Nevertheless, the obverse type of the coin, and more particularly its truly Chian style prove that it was issued from the mint of Chios. The weight, also, 15.34 gr., would preclude its attribution to Kyzikos. Yet, the adoption of a foreign form of incuse by Chios is certainly an anomaly. Chios may have considered it worth while for commercial reasons to plagiarize a reverse so well-known, without intending her own staters to be accepted as equivalent to the Kyzikene, which of course they were not. The style of the reverse which shows the finer granulation characteristic of the Kyzikene staters struck ca. 475-410 B. C. (cf. von Fritze's *Kyzikos*, in *Nomisma VII*, pl. V), furnishes ample confirmation of the Fifth-Century date here assigned.

A good deal of confusion in the dating of the Fifth-Century issues may be obviated if the term "Transitional" be defined more exactly, and the wide chronological range commonly given to this period, 478-412 B. C., be shortened. If we mean by "Transitional," the period of

change or passage from the archaic to the simple, severe style characteristic of the earliest coins of Thurium (ca. 440 B. C.), we should certainly narrow the dates of this period by about three decades. I see no reason, for example, in including within the transitional period 478-412 B. C. the signed tetradrachms of Syracuse which began ca. 430-425 B. C., as is done in the *Hist. Num.*<sup>2</sup> (pp. 173, 174). These tetradrachms are a new departure in the development of style, and represent an art now entirely free, and unencumbered with archaic mannerisms, awkwardness, and restrictions. Survivals of archaism are now definitely lost. Therefore, at Syracuse the transitional epoch should be dated from ca. 480 B. C. (to start the period with the Demareteion), and should end ca. 430-420 B. C., or at 425 B. C. with the commencement of the issue of the signed tetradrachms. This, it seems to me, would give us a much more correct use of the term "Transitional," than to classify these signed tetradrachms as belonging to the "later transitional style." Within the transitional period as thus restricted, ca. 480-440 (or 430) B. C., one may often discern in a series coterminous with these dates an "earlier" and "later" transitional style. The coins of Chios which fall within this epoch do not seem to me to belong to the earliest part of the period, but rather belong after 460, and to extend to about 440 B. C. It is of course extremely difficult when we have so few extant specimens to narrow down the dates to precise decades.

It will thus be seen how very loose and inaccurate it was to date the tetradrachm issue without magistrate's name, nos. 12-14, Pl. IV, vaguely, as within the period 478-412 B. C. (cf. B. M. C. *Ionia* and Babelon's *Traité* II<sup>2</sup>, pp. 1131, 1132), and to make it precede the didrachm series just discussed. This tetradrachm issue belongs within the period ca. 440-420 B. C., for the coins exhibit that grand simplicity of style which is characteristic of the art of the latter half of the Fifth Century. Not only style, but the difference in divisional systems make it patent that the didrachm series with its division of the unit into thirds (tetrobols), was separate in time from the tetradrachm series with the unit subdivided into fourths (drachms) and eighths (hemi-drachms).

The commencement of the issue of tetradrachms signed with the magistrate's names is given, in the B. M. C. *Ionia*, to 412 B. C. and in Babelon's *Traité* to 394 B. C. In connection with the very early date assigned in both the above-named works to the tetradrachm issues without magistrate's names, an interval of fifty or sixty years is thereby

assumed to intervene between these two groups of tetradrachms. If, however, we bring the unsigned tetradrachms down to 425 B. C. shall we assume an ensuing break say of fifteen years or more between these coins and the signed ones? Such an assumption does not seem warranted by the style of the tetradrachms, nos. 25-29, Pl. IV. These coins seem to connect by a gradual transition of style fairly closely with the coins, nos. 12-16, Pl. IV, note particularly the fine, simple style of the coins issued under the authority of Theodoros, Thêron Leochos and Êragores. On the tetradrachms, nos. 1-10, Pl. V, one remarks a decided loss of artistic strength, but the treatment of the body of the Sphinx is still dignified and powerful.

There is, further, a group of tetradrachms bearing symbols in the right field, an astragalos, no. 54, Figs. 6 and 7; and a dolphin, nos. 55 and 56, Pl. IV, 15, 16, (very rare and not included in Babelon's list), whose reverses are similar in style to those of type no. 53, Pl. IV, 12-14, and consequently must represent the transition between the unsigned and the signed tetradrachms. The obverses of the types with the astragalos symbol with their strong rendering of the Sphinx, represented here also as on the unsigned tetradrachms with short hair, fall naturally into this position, while the obverses bearing the dolphin symbol, slightly more advanced in style—note the long locks of the Sphinx on no. 16, Pl. IV, are still vigorous enough in style to precede the fine, still strong types seen on the coins, nos. 24-29, Pl. IV.

The reverses of the tetradrachms with symbols settle the matter, in my opinion, in favor of this position, which, of course, is in harmony with the natural order of development of magistrate's signatures. I believe, therefore, that there is no break in the series of tetradrachm issues figured on Pl. IV and in Figs. 6 and 7, and in nos. 1-10, Pl. V, though there appears to be a considerable shortage in the volume of coins which have come down to us, for we should certainly expect a larger series with the symbols.

Concurrently with the unsigned tetradrachms there were struck the drachms, nos. 17-21, Pl. IV, and the hemi-drachm, no. 24, Pl. IV, the style of whose reverses is absolutely akin to that of the tetradrachms; and contemporaneously with the tetradrachms bearing the dolphin symbol was issued the type represented by nos. 22, 23, Pl. IV (both examples from the same dies). The style of the reverses of nos. 17-21 and no. 24 does not leave this arrangement in any doubt, and the obverses of all these pieces are very fine, especially of nos. 17 and 18.

Again, nos. 21 and 22 are connected as successive issues by a common reverse die.

Now, the remaining drachms without magistrate's symbols, letters or monograms, nos. 11-20, and nos. 29 and 30, Pl. V, have obverses of later style, and show the conventionalized reverses of which the squares are roughened, not through the incidental wear and tear on the projecting squares of the punch as on nos. 17-24, Pl. IV, but artificially produced as on the tetradrachm, no. 16, Pl. IV. The reverses of nos. 11 and 12, Pl. V, might perhaps be thought to belong to the earlier class of drachms with "natural" incuses, but the obverses of these two coins, as of this whole group, are clearly later in style than that of the former group of drachms, and even than that of the signed tetradrachms, nos. 25-29, Pl. IV, and nos. 1-10, Pl. V. These unsigned drachms must follow in time the signed tetradrachms of Plates IV and V, contrary though this is to the usual rule. The reverses show a progressive treatment of the squares from the finer granulation of nos. 11-17 to the heavier, coarser, dotted surfaces of nos. 18-21 and nos. 29 and 30.

These drachms are probably all of the Fourth Century, and there are no extant tetradrachms of similar obverse style and reverse type. This inconsistency with the general rule of development, which is usually an evolution from unsigned coins to those with symbols, and thence to those with initials, monograms and names of magistrates, is less notable, however, than that presented by the following coins. For, from the sequence established by the style of the obverse type and development of the reverse, the conclusion seems inevitable that the drachms, nos. 22-28, and the hemi-drachm, no. 31, which bear the initials K, E and  $\Delta$ , and the monograms  $\text{H}$  and  $\text{R}$ , cannot be placed immediately after the drachms bearing the dolphin symbol, nos. 22 and 23, Pl. IV, as the ordinary course of development would require. Of this group with signatures, nos. 25-28 are of similar style of obverse and reverse, and the two issues with  $\text{H}$  and  $\Delta$  are linked as successive issues by the reverse die common to nos. 26 and 27. The reverse type of this group is one without granulated or dotted squares, but not really akin to the style of nos. 17-24, Pl. IV. The obverse style of this same group is somewhat suggestive of that of the tetradrachm of Basileides, no. 6, Pl. V, and nos. 25 and 26 are signed apparently with a B, though the form of the letter is peculiar. The other drachms and the hemi-drachm of this class with signatures are not readily connected with any of the tetradrachms with names on

Plates IV and V, and their style is against any such association. Probably all of the drachms, therefore, of Pl. V are issues intermediate in time between the tetradrachms with names of the strong style, nos. 25-27, Pl. IV, and nos. 1-10, Pl. V, and coins of the style shown on Pl. VI.

The classification of the tetradrachm and drachm series, nos. 1-8, and 9-12, Pl. VI, and of the series of drachms for which no corresponding tetradrachms are known (nos. 13-26, Pl. VI), presents no difficulties. It is interesting to note that we have one tetradrachm of Ēridanos, no. 100, Fig. 13, of which the reverse shows no longer the striated treatment of the squares, but a granulation like that of the series of drachms which close the series, nos. 13-26, Pl. VI. Again, the style of the obverse of the drachm of Artemon, no. 13, Pl. VI, seems more closely allied to that of the Ēridanos drachm, no. 12, Pl. VI, than does the style of any of the succeeding drachms, so that Ēridanos and Artemon were probably magistrates who were successively in charge of the Chian mint. The development of the granulation on the reverses of the drachms, nos. 13-26, which becomes progressively coarser up to no. 23, and is then modified to a surface of pin-point granulation on nos. 24-26, and no. 110*a*, Fig. 15, of the text, shows plainly the chronological sequence of these coins. The issues of Theottis, no. 16, Pl. VI, and Phēsinos, no. 17, Pl. VI, are connected by a common obverse die; those of Gerōs, no. 24, Pl. VI, and Epaine(...), no. 25, Pl. VI, by an obverse die quite similar, though not identical, the head of the Sphinx of no. 25 seeming to be tilted farther back than that of no. 24.

The coins of Pl. VI we should assign to a period roughly indicated by the dates ca. 350-330 B. C. As already noted, we prefer to bring the lower limit of the Chian Fourth-Century issues farther down than is done by Head and Babelon. In the first place, it is natural to assume that the Chian coinage would not have ceased before the time of Alexander's conquests, and secondly, the evidence of a hoard of coins found on the island of Chios, about 1887, strongly reinforces this view. The find is described by Löbbecke (*Zeit. f. Num.* 1887, pp. 148-157) as containing the following coins of Chios: eleven drachms and four hemi-drachms with incuse reverse, four of the drachms bearing the magistrates' names, Theottis and Phanokles. The unsigned drachms and hemi-drachms were doubtless of the types of nos. 11-31, Pl. V, which are all Fourth-Century issues. To the signed drachms reported by Löbbecke must be added the types bearing the names of Epaine(...)



and Gerōs (Imhoof-Blumer, *Gr. Münzen*, p. 654, nos. 373-4). These are all drachms of the latest period of the Chian issues here described. Now the date of the burial of the hoard has been fixed by Löbbecke as ca. 334-332 B. C., from the presence in the hoard of coins of the Karian dynasts, which, together with the other silver pieces in the find, were all in mint state (the latest of them being two drachms of Pixodaros, who died ca. 334 B. C.). Löbbecke suggests that the overthrow of the oligarchy in Chios by the Macedonians in 334, the recovery of the island by Memnon the Rhodian in 333, and its recapture by the Macedonians in 332, are circumstances which would furnish a good motive for the burial of the treasure.

This same find offers also some interesting evidence which bears on the question of the existence of minor bronze issues at Chios of about this same period, for it contained numerous examples of Chian bronze coins (*op. cit.*, nos. 7-25) of the following types: (1) Sphinx seated to the left; in front, bunch of grapes. Rev. Amphora with ΧΙΟΞ, and the following magistrates' names, ΑΘΗΝΑ, ΑΠΟΛΛΩ, ΙΗΝΩΝ, ΗΓΗΣ, ΙΠΠΙΑΞ, ΙΣΧΙΜΑ, ΑΥΚΟΡ, ΠΕΞΙ, ΦΙΛΤΗΣ, ΦΙΤΤΑΣ. (2) Sphinx as before. Rev. Amphora between Α and Ξ; border of dots (varieties). (3) Sphinx seated to the left without grapes. Rev. In a wreath of vine-leaves and bunches of grapes, a cross, on the arms of which ΧΙΟΞ and the following magistrates' names ΑΓΓΞ, ΙΚΕΞΙΟΞ, ΙΞΤΙ. In the B. M. C. *Ionica* (nos. 41-43), the third type here described is dated as belonging to the Third Century B. C., or later. The coin of this type with the magistrate's name, ΙΚΕΞΙΟΞ is here shown, Fig. 16.



Fig. 16.

This coin is of thicker fabric and undoubtedly earlier style than the bronze coins of the First Century B. C. In fact its obverse compares favorably with that of the silver drachms of Eridanos and Artemon, nos. 12, 13, Pl. VI. The coiffure is also similar, note the knot, and loose locks. Furthermore, two of the same magistrate's names are found on bronze coins of the first type in the hoard as those which occur on the silver drachm series of the Fourth Century, to wit, Hippias and Ischima(...). While it has not been possible to ascertain by examination the fabric and style of all of the bronze coins from the

Chian hoard, I believe, that a coin now in the cabinet of The American Numismatic Society, see Fig. 17, which corresponds to the description of the first type of bronze coins in the hoard, is of the same style and period. The flan is thick, as is the case with the coin, Fig. 16, and



Fig. 17.

the style not too late to be about contemporary with the latter. The name of the magistrate is uncertain, the last three letters appearing to be (...)ΙΚΑ[ΗΞ(?)].

It seems to me that the evidence is very strong for placing these two bronze pieces, and probably all the Chian hoard towards the end of the Fourth Century, or, if Löbbecke's conclusion regarding the date of burial of the hoard be correct, before 330 B. C. The style of the Sphinxes on coins of these types which I have been able to examine is not greatly inferior to that of the silver coins of the Kēphisokritos, Ēri-danos, Skymnos class.

There exist, also, some rare silver drachms which beyond any question are of much earlier style than the so-called "Attic" drachms of the First Century. These are (1) the coins illustrated here, Figs. 18, 19, bearing the same types as the bronze coin Fig. 17; and, as symbol on the reverse, an ear of corn with the magistrates' names, ΗΡΙΑΔΑΝΟΞ (McClellan Coll., Cambridge, Eng.) Fig., 18, and ΕΟΝΟΜΟΞ



Fig. 18.

(Ward Coll., Metropolitan Mus., New York) Fig. 19; (2) coins of the



Fig. 19.

same types with the torch symbol, and the magistrate's name, ΘΕΟ-ΠΟΜΠΟΞ, B. M. C. Ionia, no. 56, and a similar coin in Munich, figured

in Imhoof-Blumer's *Gr. Münzen*, p. 656, no. 390, pl. IX, 19.\* The last coin is of less good style than the two former ones, Figs. 18, 19, but both Head and Imhoof remark on these drachms of Theopompos that they are earlier in style than the silver drachms of the later epoch. It is only necessary to compare the coins shown in Figs. 18, 19 with the late drachms figured in *B. M. C. Ionia*, pl. XXXII, nos. 11, 12 to observe how vastly superior is the style of the former coins, note the fine grènetis, careful lettering, and above all, style of the Sphinx and bunch of grapes. Indeed, the style of these drachms of Ēridanos and Eonomos seems about as good as that of the Fourth-Century drachms, nos. 9-26, Pl. VI, that of Eonomos being even better than that of Ēridanos. These two silver pieces are also distinguished from the later "Attic" drachms by a thicker fabric.

Now we come at once upon a difficulty of chronology, for while we might admit the bronze coins of the types found in the Chian hoard, as minor issues contemporaneous with the coins shown on Pl. VI, the type varying with the employment of a different metal, we can scarcely suppose that the silver drachms here discussed (Figs. 18, 19), with the amphora reverse, can be exactly contemporaneous with the drachms of the stylized incuse reverse figured on Pl. VI. The silver coins, Figs. 18, 19, do not seem later than the bronze coins, Figs. 16, 17, but, on the contrary, earlier. Therefore, it begins to look as though the date, ca. 334-332 B. C., suggested by Löbbecke for the burial of the Chian hoard, was too early. For if the bronze coins of the types found in this hoard, illustrated here by Figs. 16 and 17, are to be dated together with the silver coins in the hoard, namely, the drachms of Theottis, Phanokles, Gerōs and Epaine (...) before ca. 330 B. C., the drachms of Eonomos and Ēridanos,† which appear even earlier than these bronze coins, would have to be made exactly contemporary with the drachms of a different set of reverse types, which is impossible.

We do not know precisely the condition of the Chian bronze coins in the hoard,‡ but in view of the other evidence, it would seem wiser

\* The magistrate's name is given as ΘΕΥΠΟΠΤΟΣ, but from the *B. M. C.* coin and a study of Imhoof's pl. IX, 19, it seems to me the reading may be ΘΕΥΓΟΜΓΟΣ, a variety of ΘΕΟΓΟΜΓΟΣ.

† Those of Theopompos we shall leave out of the argument, as they may be of somewhat later style.

‡ Löbbecke says of the condition of the coins (*op. cit.*, p. 149): "Die Silbermünzen sind fast durchgängig stempelfrisch, nur wenige sind stellenweise mit Hornsilber bedeckt, ein Theil der Bronzemünzen ist dagegen abgeschliffen und schlecht erhalten und jedenfalls längere Zeit im Umlauf gewesen."

not to insist too strongly on this mint state of the latest datable coins in the hoard, namely, those of Pixodaros, as requiring the rigorously exact date, ca. 340-334 B. C., for the lower limit of *all* of the coins in the hoard. The Karian pieces and the Chian silver coins in the find may have been hoarded for some little time previous to their actual deposit in the earth, which would account for their uncirculated condition. If this were the case, there would then be no difficulty in assuming a somewhat later date for the deposit of the Chian treasure, and, thus, in assigning all these bronze and silver pieces under discussion to the last quarter of the Fourth Century, which seems to be the logical place.

The evidence as it stands is, of course, contradictory, and I see no better way out of the difficulty than here suggested. It is more than evident that, on the above hypothesis, we have found a considerably larger number of issues than hitherto known to fill in the period ca. 330-300 B. C., or later. At all events, the date of the latest drachms of our series, nos. 13-26, Pl. VI, is well established as falling within the period ca. 340-330 B. C. by the occurrence of specimens of these types in uncirculated condition side by side with the drachms of Pixodaros (340-334 B. C.) also in mint state.

#### MAGISTRATES' NAMES ON SILVER COINS OF FIFTH AND FOURTH CENTURIES B. C.

Ἀμφιμήδης, no. 73.	Θεύπορπος (?), p. 51, note.
Ἀρίστης, p. 3, note.	Θέοττις, no. 103, <i>a-f</i> .
Ἀρτέμων, no. 102.	Θεύττις, no. 103, <i>g</i> .
Ἀσμενος, no. 69.	Θήρων, no. 63.
Βασιλείδης, no. 72.	Ἰππίας, no. 105.
Γέρωσ, no. 108.	Ἰππίης, no. 70.
Δημοκράτης, no. 71.	Ἰσχύμα[χος (?)], no. 106.
Ἐόνομος, Fig. 19.	Καλλικλῆς, no. 77.
Ἐορύνομος, nos. 75, 76.	Κηφισόκριτος, nos. 91-94.
Ἐπαίνε[τος (?)], no. 109.	Λέωχος, no. 64.
Ἐρμαρχος, no. 68.	Ποσειδίππος, nos. 66, 67.
Ἐρμόφαντος, no. 74.	Σκύμνος, nos. 95-97.
Ἡραγόρης, no. 65.	Σώστρα[τος (?)], no. 107.
Ἡρίδανος, nos. 98-101, and Fig. 18.	Φανοκλῆς, no. 110.
Θεόδωρος, no. 62.	Φησίνος, no. 104.
Θεόπομπος, p. 50.	Φοῖνιξ, no. 78.

### NON-CHIAN COINS BEARING THE SPHINX TYPE, CHIEFLY OF UNCERTAIN ATTRIBUTION.

1. Sphinx of archaic style, winged, seated r., rounded-end wing in three sections, first granulated, others feathered; hair falls in dotted strands on neck; in l. field, a symbol; dotted ground-line. | Rev. Shallow quadripartite incuse square.

*a.* 25mm. 11.69 gr. (plated). London.  
B. M. C. Ionia, p. 332. no. 39.

Pl. VII, 1.

This coin, which has not to my knowledge been illustrated before, is classified under Chios in the B. M. C. Ionia, but certainly does not belong to the Chian series, as fabric and style and denomination indicate. The symbol behind the Sphinx is uncertain, but it can scarcely be a fish as suggested in the B. M. C. The coin is perhaps unique, and has no strong affinity for any of the other coins of the Sphinx type, though its reverse is not unlike that of the following coin, no. 2, which is likewise of uncertain attribution. It may safely be dated as before 500 B. C.

2. Sphinx of archaic style; description | Rev. Similar.  
similar to the preceding coin; on head of Sphinx, same tendril-like ornament which occurs frequently on the Chian coins and on archaic Sphinxes in general; necklace; forelegs apart; ground-line consisting of a row of dots between two lines.

*a.* 31mm. 14.15 gr. Paris.  
Babelon, *Traité II*<sup>1</sup>, no 1004, pl. VIII, 24

Pl. VII, 2.

The fabric of this coin, with its broad, flat flan and large shallow incuse square, recalls, to my mind, coins of northern Greece, rather than those of Asia Minor, among which it has been placed by Babelon in the class of *Incerti*. It has never been assigned to Chios.

3. Sphinx of archaic style, seated l., r. | Rev. Shallow and regular incuse square  
foreleg raised; rounded-end wing, smooth, in four compartments, each containing  
not feathered; hair in dotted strands fall- raised square.  
ing on neck; from back of head springs a  
curling ornament, probably the vine-ten-  
dril; in field, A  $\propto$ ; dotted ground-line;  
whole in circle of dots.

*a.* 20mm. Paris.  
Babelon, *Traité II*<sup>1</sup>, no. 989, pl. XXVIII, 12.

Pl. VII, 3.

This coin, with weight evidently erroneously given as 1.42 gr., is classified by Babelon among the uncertain of Asia Minor. Here we have again, however, a coin with the Sphinx type whose style would suggest rather an attribution to Northern Greece. In fact the reverse and the obverse type within the grènetis, as well as the unfeathered wing, strongly recall the coins of Abdera given to period 512-478 B. C. (*Antiken Münzen Nord-Griechenlands*, II, Thrakien, Pl. I, 6). Furthermore, the letters Α Ξ which cannot be successfully interpreted as the initial letters of any Greek town (Astakos, Astyra, Assos are out of the question) would seem to be the initials of a magistrate's name, and this supposition again would suggest the analogy of the Abderite series. Other points in common are the manner in which the right foreleg is raised, similar on both griffin and Sphinx, and, even more striking, the peculiar treatment of the hind-quarters of both animal figures, with rear-legs seen as one, and in a half-crouching position.

4. Sphinx of very archaic style, seated. Rev. Two incuse squares in four compartments, smaller one one-quarter size of larger. l., rounded-end wing; hair long, gathered in bunch at back of head; before Sphinx a symbol, which is surely not an amphora, but may be a grain of corn; ground-line; around the Sphinx, traces of vine (?)

*a.* 17/20mm. 12.36 gr. Boston (Perkins). Pl. VII, 4.  
Cat. Catherine Page Perkins Coll. no. 492

*b.* 17/20mm. 11.95 gr. Pl. VII, 5.  
Cat. Egger, no. 547, pl. XVI (Egger, Nov., 1908).

*c.* 17/20mm. 12.44 gr. Paris.  
Babelon, *Rev. Num.* 1912, pl. III, 8. From the Trouville de Tarente.

*d.* 17/21mm. 12.14 gr. (formerly Greenwell-Warren).  
Greenwell, *Num. Chron.* 1890, pl. II, 15. Regling, *Samm. Warren*, 1404. Cat. Well-Known Amateur (Warren), pl. I, 31 (S. W. & H., May, 1905).

*e.* 17/21mm. 12.18 gr. Sir H. Weber, London. Pl. VII, 6.

*f.* 17/21mm. 12.12 gr. (formerly Benson). Pl. VII, 7.  
Cat. Rhousopoulos, no. 3815, pl. XLIII (Hirsch XIII, May, 1905). Cat. Benson, no. 695, pl. XXIII (obv. only) (S. W. & H., Feb., 1909).

*b.* and *c.*, and probably also *a.*, identical obv. die; *d.*—*f.*, identical obv. die; *a.*—*e.*, identical rev. die for larger incuse square, smaller squares of *a.* and *c.* apparently from same punch. The relative position of the larger and smaller squares to each other is the same on coins *a.* and *b.*, but different on coin *c.*, for, if the plate on which this coin is figured be turned so that the larger square comes in the same position as on our plate, the smaller incuse will be found above it. This variation in the position of the squares, and the possible use of different punches for the smaller squares on coins having an identical larger incuse, shows clearly that the punches pro-

ducing these squares were separate, that is, the reverse was not produced from a single die with two square projections. Similar cases have been remarked on the primitive electrum coins assigned to Miletos, Babelon, *Traité I*<sup>1</sup>, p. 27.

The above staters, which appear to be of Aiginetic weight, were once assigned to Chios, and Head (*Hist. Num.*<sup>2</sup>, p. 599) still includes them under Chios (see also Mavrogordato, *Num. Chron.* 1911, p. 86), although Babelon (*Traité I*<sup>1</sup>, p. 297, note 1) had definitely decided against this attribution, which is justified neither by the types, style, weight nor fabric of the coins. Their weight and form of reverse make it practically certain that they are to be associated rather with certain staters of similar fabric and reverse, also of uncertain origin, but bearing types which may with some probability be attributed to Cos (crab, *Num. Chron.* 1890, pl. II, 16, *Traité I*<sup>1</sup>, pl. XIX, 1), or to Caria (?) (two dolphins, *Num. Chron.* 1890, pl. II, 11). One of the specimens of our list, *c* was found in the hoard of archaic coins unearthed at Tarentum about 1910, all of which were of the Sixth Century B. C. The style of these staters would point to a rather early part of the Sixth Century, or even to the Seventh Century B. C.

5. Sphinx seated l., rounded-end wing, feathered; to l., amphora on ground-line.

Rev. Incuse square divided by broad bands into four compartments; in upper r. hand square  $\succ$ ; in lower r. hand square, an apparent die-break  $\mathbb{A}$ , and  $+$ , in relief.

*a.* 18/13mm. 7.65 gr. Paris.

Pl. VII, 8.

Babelon, *Traité II*<sup>2</sup>, no. 1957, pl. CLIV, 13.

*b.* 16/18mm. Munich.

Pl. VII, 9.

*c.* 19/15mm. 9.08 gr. Cambridge (McClean).

Pl. VII, 10.

Cat. Rhousopoulos, no. 3816, pl. XLIII (Hirsch XIII, May, 1905).

*d.* 17mm. Paris.

Pl. VII, 11.

*e.* 17mm. 7.58 gr.

Cat. Prowe, no. 1092, pl. XVIII (Egger, May, 1914).

*f.* 16mm. 7.37 gr.

Cat. Philipsen, no. 2244, pl. XXVI (Hirsch, Nov., 1909).

*g.* Berlin.

Dressel, *Zeit. f. Num.* 1900, p. 254, note 1.

Coins of this type are described under Chios in Babelon's *Traité*, and in various auction catalogues, and have been admitted as genuine to several museum collections. They are, however, of peculiar style, and the fabric is un-Chian with its flat, non-globular flan. I have previously referred to them in my *Electrum Coinage of Lampsakos*

(p. 17, note) as being perhaps barbarous imitations. Recently, I noticed the similarity of the reverse die with that of the strange owl-coin published by Weber, Num. Chron. 1899, Pl. XVI, 10—our Plate VII, 12, and upon referring to Dressel's article (Zeit. f. Num. 1900, pp. 237-258), on the same find as that reported by Weber, i. e. the Sakha find in Egypt, 1897, discovered that this owl-coin is said to have borne all the marks of a modern forgery, and that Dressel had observed the resemblance of the reverse die to that of the Chian coins in question, and had compared it with a similar Sphinx coin in Berlin which had already been placed among the forgeries in the Berlin cabinet (Zeit. f. Num. 1900, p. 254, note 1). This coincidence of reverse die would seem to my mind sufficient evidence to condemn the Sphinx coins, given the peculiarities noted, but I have not had an opportunity of examining the coins themselves, since a doubt as to their authenticity has arisen.

Mr. Harry Chapman, of the Fitzwilliam Museum, Cambridge, has kindly answered my query, as to the external aspect of the McClean specimen, to the effect that it appears genuine, and Mr. J. Mavrogordato, who is at present writing on the Chian series, informs me that he is not inclined to reject this class of coins as forgeries. The absence of the bunch of grapes over the amphora is singular, for these coins, whether barbarous imitations or forgeries, are not copied after the early archaic series, where the grapes are lacking, for the pointed amphora of the type shown on these pieces does not occur in the Chian series until the close of the archaic period (cf. Pl. III, 2-5), and the form of the amphora immediately suggests that which is found on coins of the transitional period (nos. 8-30, Pl. III), see Style 2, p. 5. The handles and lid of the amphora on the Chian coins, after which these coins are copied, have been misunderstood by the imitator or forger who made the doubtful coins, since, on the latter, handles and lid merge in one unintelligible whole. But, most singular of all details in these strange coins, is the fact that the reverse die resembles, albeit in an oddly conscious fashion, the entirely accidental flaws found in the reverse die which is common to two specimens of the particular series which undoubtedly served as models to the imitator or forger, namely, nos. 21 and 22 of Pl. III. On these coins, no. 21, in the Paris collection, no. 22, in that of Sir H. Weber, the > in upper right hand square, and the ¶ or slanting bar in lower right hand square are identical with these same "accidents" (?) on the coins, nos. 9-13 of Pl. VII, with the notable difference that on the genuine Chian coins these



flaws appear natural accidents, while on the doubtful coins they appear as though deliberately cut in the die.

I do not suppose any one of the specimens of this questionable class of coins has any history, that is, has had a place among authentic coins or has a pedigree in scientific works, for they have only begun to appear in recent sale catalogues, a circumstance which renders them the more suspicious. The identity of obverse and reverse die of all of the specimens is the last point to clinch the matter, in my opinion. Perhaps even more damning is the small + found in the lower right-hand square of the reverse of these Sphinx coins, and also on the reverse of the owl-coins. There is not a single case in the Chian series of the occurrence of the initial of the ethnic on the coins (cf. note on no. 21, Pl. II, 25), nor is the ethnic employed at all until the last quarter of the Fourth Century. I am not in the least misled by the apparent differences of reverse die which the forger, a truly wily one, it seems, has successfully created by actually reworking his die, and, then, other cases of varying dies in a neat set of modern-made coins have doubtless come under the eyes of numismatists of experience. Perhaps a little study of the clever sets of forgeries of coins bearing a single type with varying dies which, now and again, go the rounds of our museums, would reveal the fact that the forger had been able to economize his labor by just such alterations on one original die. In view of the above evidence, however deceptive and pleasing the outward aspect of the pieces may be, they should certainly be placed in the suspect list.

<p>6. Sphinx of archaic style, seated l., r. foreleg raised; pointed wing, in three sections, outer one feathered; type in dotted circle.</p>	<p>Rev. Lion's head l., open jaws; row of dots along section; whole in shallow incuse square, bordered with dots.</p>
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a. 13mm. 2.08 gr. Paris (Luyves).  
Babelon, *Traité II*<sup>2</sup>, no. 1962, pl. CLIV, 16.

Pl. VII, 13.

b. 13mm. 2.10 gr.  
Cat. Prowe, no. 1104, pl. XVIII (Egger, May, 1914).

This type has been published by Babelon in a group of coins, with obverses bearing the Sphinx type and reverses of varying types, which he designates "Monnaies aux types associés," and describes as alliance pieces of Chios and neighboring cities. In this case, Chios and Samos would be the supposed parties to the alliance. The difficulty with this assumption lies, first, in the style of the Sphinx, which is as remote from that of the Chian Sphinx as could possibly be, and, secondly,

in the weight, which bears no conceivable relation to the Chian standard. Furthermore, no denomination except the didrachm is known at Chios during the archaic period. As the style of the Sphinx is unlike that of any other Sphinx coins known to me, especially as regards the form of the wing, it does not seem possible to hazard even an attribution to a northern or a southern locality, though, from the obverse type and style, it seems more probable that the coin belongs elsewhere than in Asia Minor. The grènetis, direction of Sphinx to left with the raised foreleg and rendering of the Sphinx's hind-quarters, are somewhat suggestive of the coin no. 3, Pl. VII. The feathered pointed wing is a point of difference, however, between these two coins. On later coins of Abdera (*op. cit.* Pl. I, 12, 13, 14) the griffin's wing is of a form not unlike that on our Sphinx, and the coin may, therefore belong to the same northern mint which struck the coin no. 3, Pl. VII.

7. Sphinx, winged, of archaic style, | Rev. Horse's head and neck r., in in-  
seated r., left foreleg raised ; rounded-end | cuse rectangle, bordered with dots.  
wing in three sections, outer ones, feath-  
ered ; between legs of Sphinx, the letter  
𐤇.

*a.* 14/9mm. 2.03 gr. Paris.

Pl. VII, 14.

Babelon, *Inv. Wadd.*, *Rev. Num.* 1897, no. 1269, pl. II, 15. and *Traité II*<sup>1</sup>, no. 988, pl. XXVIII, 11.

This coin as well as the coin no. 6 has been classed as an alliance coin of Chios. (Babelon, *Traité II*<sup>1</sup>, pp. 627, 628.) The latter piece is supposed by reason of the reverse to represent an alliance between Chios and Samos. The present piece has been supposed to be a coin struck by Chios and Kumai (Aiolis) in alliance. The style of the Sphinx is not so very unlike the Chian Sphinx, although the silver coins of Chios always bear the type to the left, whereas this is directed to the right. The denomination causes the same difficulty as above noted under coin no. 6. But the interesting point about this coin, not hitherto noticed, is that it bears, beneath the Sphinx, the sign 𐤇, peculiar to certain coins of Gaza (Arabia), of later date, and found exclusively on coins of that mint. The sign 𐤇 is the Phoenician letter equivalent to the Hebrew character מ = M, and has been accepted by Head, Imhoof, etc., as standing for the initial of the name, Marnas, a local divinity of Gaza identical with Zeus. (Babelon, *Traité II*<sup>2</sup>, pp. 668 ff.; Head, *Hist. Num.*, p. 805.) It does not occur on any early Philisto-Arabian coins, as Hill (*B. M. C. Palestine*, pp. lxxi ff.)

prefers to call this class of coins whose mint, in most cases, was doubtless Gaza, but the fact that the sign is peculiar to this mint militates very strongly in favor of assigning the coin thither. The date of the coin must be ca. 500 B. C. or earlier. It appears to be of genuinely archaic style, and by its side the preceding coin, Pl. VII, 13, has a less archaic, one may even say, less Asiatic aspect. The Sphinx occurs as a coin-type at Gaza (or in the Philisto-Arabian class), on a coin figured in the B. M. C., Palestine, pl. XIX, 31, and the weight of this latter piece, 2.09 gr., corresponds closely with that of the Paris coin bearing the Gaza sign.

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| <p>8. Sphinx, winged, seated r., l. foreleg raised (?)</p> <p>a. 12mm. 1.98 gr. Paris.</p> <p>Babelon, <i>Traité II</i><sup>2</sup>, no. 1963, pl. CLIV, 17.</p> | <p>Rev. Helmeted and bearded male head r. in an incuse square.</p> <p>Pl. VII, 15.</p> |
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Like no. 6, above, this coin has been classed by Babelon as an alliance coin struck by Chios and some other mint, perhaps Kalymna, in conjunction. The same remarks as above regarding the type and denomination apply here. The Sphinx is not conspicuously Chian in style, and the search for a neighboring town as the originator of the reverse type carries us rather far from Chios in this case. Beyond the perhaps, casual resemblance between the helmeted head of this reverse and the helmeted female head of the Philisto-Arabian coin bearing a Sphinx reverse (B. M. C. Palestine, pl. XIX, 31) I see no further analogy to point out, nor should I care to suggest a more definite attribution than the region of Asia Minor.

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| <p>9. Sphinx, winged, seated r., both forelegs on ground; rounded-end wing in three sections, first granulated, others feathered.</p> <p>a. 13mm. 1.91 gr. Cambridge.</p> <p>b. 14mm. 2.12 gr. Boston (Greenwell-Warren).</p> <p>Greenwell, <i>Num. Chron.</i> 1897, p. 282, no. 3, pl. XIV. 8. Regling, <i>Samm. Warren</i>, no. 1411, pl. XXXII.</p> | <p>Rev. Gorgoneion in incuse circle.</p> <p>Pl. VII, 16.</p> <p>Pl. VII, 17.</p> |
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The position of the Sphinx to the right, and the inadaptability of these weights to the Chian system, the absence of lower denominations than the didrachm in the archaic series of Chios, are all against the attribution of this type to Chios as an alliance issue. An alliance between Chios and Klazomenai has been suggested (cf. Hill, *Num. Chron.* 1913, p. 268, and Mavrogordato, *Num. Chron.* 1913, p. 428).

10. Sphinx, winged, seated l., rounded-end wing in three sections; first granulated, others feathered; r. foreleg raised. Rev. Gorgoneion in deep incuse square; outside the square, below, a small rectangular incuse impression.

*a.* 14mm. 3.18 gr. London.

Hill, Num. Chron. 1913, p. 268, pl. XIII, 9.

For the same reasons as stated above, except that the direction of the type to the left in the case of a Sphinx with raised foreleg is not inconsistent with contemporary Chian coins (nos. 19-23, Pl. I), this coin seems to belong elsewhere than to Chios, and to be unassociable with the Sphinx and Gorgoneion of type no. 9, above, by reason of incongruity of weights. Mr. Hill dates the piece in the first quarter of the Fifth Century B. C., somewhat later therefore than the Chian coins, nos. 9-23 of Pl. I, with type to left and right foreleg raised. From similarity of style of the obverse, it has perhaps more reason for association with Chios, but in view of the rather wide range of the employment of the Sphinx as a coin type, I see no sound reason for designating any of these small pieces as "alliance" coins of Chios.

11. Sphinx, winged, seated r., rounded-end wing in three sections, first granulated, others feathered; l. foreleg raised.

Rev. Irregular incuse impression.

*a.* 16mm. 3.58 gr. Newell, New York.

Pl. VII, 18.

Cat. Prowe, no. 2312, pl. XXXVIII (Egger, May, 1914).

No one has ever claimed this Sphinx type for Chios, but it is a rare piece, perhaps unique, whose attribution is certain, though given as doubtful in the Prowe Cat. where it was first figured. It is there classed under Idalion, Kypros, with the note "Zuteilung fraglich." The coin belongs to that class of staters figured under Idalion in B. M. C. Cyprus, pl. V, 1-3, and is a third stater of the Persic standard. Its date, given in the sale cat., as ca. 350 B. C., is much earlier, being doubtless of the period 500-480 B. C.

The Sphinx type is thus seen to be met with over widely separated areas, and the coins here cited do not exhaust the distribution of the type on anepigraphic coins, for it is found on staters of Kyzikos, on staters of Lycia and on coins of the Philisto-Arabian region, all of an early period. The most ancient appearing of all non-Chian Sphinxes are those on the so-called Aiginetic staters (nos. 4-7, Pl. VII) which probably belong to the Aegean Islands or the Karian coast.