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**A STUDY OF THE COINAGE OF CHIOS IN THE
HELLENISTIC AND ROMAN PERIODS**

CONSTANTINOS LAGOS

DEGREE: PHD

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**UNIVERSITY OF DURHAM
DEPARTMENT OF ARCHAEOLOGY**

MAY 1998

13 JAN 1999

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Introduction to the coinage struck at Chios from the early 1st century AD to the end of this coinage in the mid/late 3rd century AD.

The following is a survey of the series struck during the Roman Imperial period at Chios. In this section I classify individual issues in series, propose dates, examine die links, and also discuss other features of the issues. The great majority of the coinage bears denominational values inscribed as part of the legend; the presentation and discussion of this feature has been relegated to the chapter on the bronze denominations of Chios. The same also applies for the new typological features appearing on these issues.

III. 1. SERIES I Pls. XXX & XXXI (RPC I, 2412-9; moneyer's name-ΧΙΟΣ)

1. General aspects of issues with inscribed denominational values:

The earliest issues bearing an inscribed denominational value appear in this series, marking an important development for the Chian mint. A wide range of denominations is represented in issues of this series, employing different reverse types, which is something unusual for the coinage of Chios. However, alongside these issues the mint also struck a few in the traditional mould, lacking marked denominations and displaying the long established local type of an amphora. Both types of issue are discussed by the authors of *RPC I*, in the section on Chios (pp. 409-411) and I deal below with all points raised in this publication.⁷²⁷

Issues of Series I bearing values belong to six denominations in total and are signed by three different moneyers. The lower value coinage is rated as multiples of the chalkous, and struck on diameters of 18 mm and below (*dichalkon* and *trichalkon*). Larger denominations, are valued in a new denomination, the *assarion* (1, 1 1/2, 3-*assaria*). The obol is the only large denomination of the early Roman period to have retained its name from the Hellenistic period, though in later issues, dating from the 2nd century AD and onwards, this denominational value is inscribed in multiples of the assarion.

The *trichalkon* and obol denominations bear the legend ΣΤΕΦΑΝΗΦΟΡΟΣ. It is not certain if this stands for the name of the moneyer or records the fact that these issues were struck by the magistrate who was holding the title of ‘stephanephoros’ (eponymous magistrate) at the time.⁷²⁸ As a name, ΣΤΕΦΑΝΗΦΟΡΟΣ is absent from Chian inscriptions, an observation which probably lends support to the latter theory, that the magistracy is intended.⁷²⁹

⁷²⁷ For a discussion of general aspects of the denominations of Chian bronze coinage of the Roman period, see the chapter on bronze denominations of the Roman period.

⁷²⁸ Both possibilities were considered by Maurogordato, 1917, p. 24, and *RPC*, p. 411. My supervisor Mr Casey has plausibly suggested to me that the non-appearance of anything else than names of individuals on all other

The name of the moneyer ΦΑΥΣΤΟΣ, which is uncommon for Chios during this period,⁷³⁰ appears on the assarion of this series and also on a contemporary issue lacking a denominational legend. Stylistic similarity suggests that a single individual was in charge of both issues.⁷³¹ Three coins are known of the issue without mark of value, struck at a diameter of 18 mm and an average weight of 3.70g. The size and average weight of the issue is identical to the trichalkon of ΣΤΕΦΑΝΗΦΟΡΟΣ showing that they are of the same denomination. Since the trichalkon is identical in value to the hemiassarion (see below) we can assume that this issue would have represented a half assarion (though lacking a denominational value). However there is a discrepancy in the weight standard used for the hemiassarion and the assarion. The average weight of the assarion bearing this moneyer's name is on a different and much heavier standard. This is explained by the fact the assarion is the only denomination in the series to have been struck on a different standard to the rest of the issues, including its half fraction.

Two multiples of the assarion are known, the 1 ½ and 3 assaria, both bearing the name of ΑΝΤΙΟΧΟΣ son of ΑΠΟΛΛΩΝΙΔΗΣ. The appearance of a name in a coin legend accompanied by a patronymic is quite exceptional at Chios and it is unclear why this particular moneyer deviated from the norm.⁷³² The presence of the same name and patronymic on both denominations shows that one individual signed these issues. On this evidence I suggest that they would probably have been closely struck, even though this seems

issues seems to contradict the claim that ΣΤΕΦΑΝΗΦΟΡΟΣ could be the title of a magistrate than just a name. However in the following footnote I include epigraphic evidence which may favour the opposite theory.

⁷²⁹ See Sarikakis, *Chian Prosopography*, pp. 410-411, stating that the name appears in a single Chian inscription though it is not certain if this represents the name or office of an individual.

⁷³⁰ The name is not found in any known Chian inscription before the mid 2nd century AD, Sarikakis, *Chian Prosopography*, p. 443.

⁷³¹ See Maurogordato, 1917, p. 21; *RPC I*, p. 411. Both have classified together issues of different denominations bearing this name and take it for granted that they were struck by the same moneyer.

⁷³² As I discuss below, a moneyer of a slightly later period ΤΙ. ΚΑ. ΓΟΡΓΙΑΣ also included his patronymic (ΔΩΡΟΘΕΟΣ) in his name legend suggesting that this feature may have been briefly used on the coinage.

to be contradicted by a slight stylistic difference in the depiction of the sphinx type on the two issues. This is probably attributed to the work of two different engravers employed concurrently by the mint.⁷³³ The multiple denominations of the assarion were struck regularly in later series suggesting that we possess with Series I almost the full range of denominations larger than the assarion struck at Chios.

The smallest value recorded in a legend is that of the dichalkon since no issue is known marked as a chalkous. The latter denomination appears to have been struck in the group of issues lacking marked values, which also includes coins of very small module (see below). In the past the dichalkon issue of this series was unknown -and therefore not included in the discussion of RPC- but a unique and unpublished coin of this denomination in the Athens Numismatic Museum almost certainly formed part of the series currently discussed. Unfortunately the moneyer's name on this coin is too worn to be discernible, but the coin's types are stylistically identical with those of the 3-assaria of this series with ANTIOXOZ AΠOΛΛΩΝΙΔΟΥ suggesting that this moneyer may also have been in charge of the dichalkon.⁷³⁴ The diameter and weight of the dichalkon and trichalkon coins agree well with those of Chian issues from the Hellenistic period that are considered in this study as being of the same values. Almost certainly they would also have been struck on a common standard.

All issues of Series I are known from a small number of specimens. The assarion is the most common with five coins recorded in total (three are illustrated, figs. 6-7 & 13) the trichalkon follows with four (illustrated, figs. 8-11), and the 3-assaria with three coins (two are illustrated, figs. 1-2). There are two extant coins each for the obol (one is illustrated, fig.

⁷³³ The sphinx on the 3-assaria shows the wing in the curved style and resembling a wave, while the type on the 11/2-assarion shows the wing in the form of straight lines.

⁷³⁴ Compare the dichalkon, illustrated Pl. XXX, fig. 12, with coins of the 3-assaria denomination illustrated figs. 1-2. The style of both the sphinx and the amphora types are clearly identical

3), and the 1 ½ assarion (illustrated, figs. 4-5) and a single dichalkon (illustrated, fig. 12),⁷³⁵ Confirmation of the small number of coins originally produced for this series is provided from die studies of the known coins. The 3, 1 1/2-assaria and obol denominations were struck from a single obverse die and a maximum of two reverse dies each.⁷³⁶ The other denominations were struck from a higher number of dies. Two obverse and two reverse dies were counted for the assarion and two obverse dies and three reverse dies for the trichalkon.⁷³⁷ It is clear that the coinage struck for this series would have been small with only possibly the assarion and the trichalkon more common.

2. Links between issues of Series I: The appearance of different names on the issues, suggests that they were struck at intervals, forming separate groups signed by different moneyers. This is supported, to a degree, by the fact that the names of certain moneyers appear on specific types of coinage; for example, ΣΤΕΦΑΝΗΦΟΡΟΣ only seems to have struck denominations bearing Greek names, while issues named after denominations of the Roman system either bear the name of ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ or ΦΑΥΣΤΟΣ. The obvious implication from this observation is that the moneyers may have been striking issues in different systems, and therefore not together.

The use of different letter forms in the legends may also suggest that the issues were probably not struck together. The Greek letter form Σ was used exclusively in the legends of issues signed by ΣΤΕΦΑΝΗΦΟΡΟΣ, while ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ used this letter form but also

⁷³⁵ Indicative of the rarity of this series is the fact that this study has only added three further coins to those already recorded in RPC. These consist of the unique dichalkon issue referred to above, the assarion of ΦΑΥΣΤΟΣ in the Ashmolean Museum, Oxford, and a coin of 1 ½ assarion of ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ in the coin collection of the *Koraes* library at Chios.

⁷³⁶ The 3-assaria issue was struck with two reverse dies (see coins fig. 1 and fig. 2). Two reverse dies were also used for the 1 ½ assarion (dies illustrated in fig. 4 and fig. 5), while only one reverse die is known for the obol.

⁷³⁷ Assarion: obverse die 1 is illustrated in fig. 6 and obverse die 2 in figs. 7&13; reverse die 1 is illustrated in figs. 6 & 13 and reverse die 2 in fig. 7. Trichalkon: obverse die 1 is illustrated in figs. 8, 10-11, and obverse die 2 in fig. 9; reverse die 1 is illustrated in fig. 8, reverse die 2 in figs 9-10 and reverse die 3 in fig. 11.

the lunate form of **C** in the same legends. However it should be noted that these different letter forms cannot determine the chronological succession of the issues, let alone date them. As we saw above, Chian coin legends and inscriptions of the late Republic and early Empire make use of either form for the letter *sigma* and this cannot be treated as evidence on the relative sequence of the issues.

The use of what looks like a Latin letter form in the legends of issues signed by ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ, who struck exclusively denominations bearing a Roman name, seems to be coincidental and not further evidence of the gradual romanization of the Chian coinage; issues of the other 'Roman' denomination, the assarion, only depict the 'Greek' letter form in their legends.

The appearance of different moneyers names and values on these issues suggests that they were probably not struck together; however other aspects of the coinage, such as style and metrology, show that the interval -if indeed there was one- between the different issues could not have been long. First of all, a common style can be detected for types of issues signed by different moneyers, with the notable exception of the assarion.⁷³⁸ The sphinx on the trichalkon and obol (both with ΣΤΕΦΑΝΗΦΟΡΟΣ) is of an identical type with that depicted on the 1 ½ assarion issue (with ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ).⁷³⁹ In contrast to this, the sphinx present on the 3-assaria (with ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ) and the dichalkon (unknown moneyer, possibly ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ) is of a different type. Types signed by ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ seem to bridge stylistically the issues from this series. The assarion (with ΦΑΥΣΤΟΣ) shows a sphinx of its own distinctive style and clearly the work of a different die engraver and far more competent than the others who produced dies for the rest of the series.. The wing of the sphinx

⁷³⁸ *RPC I*, p. 410; this is also claimed by Maurogordato, 1918, p. 7, noting that the assarion is of a different style to the rest of the coins in the series.

⁷³⁹ Compare the types of the obol (fig. 3) and the trichalkon (figs. 8-11) with the types of the 1 ½ assarion (figs. 4-5). The sphinx types are particularly close, the shape of the body and the wing, suggesting probably that they represent the work of a single die engraver.

is of the old-fashioned curved style, present also on the 3-assaria and the dichalkon, but this is the only stylistic link between these issues and the assarion.

The standard used for these issues is another aspect suggesting that they were not struck long apart. The authors of RPC have established that coins of ΣΤΕΦΑΝΗΦΟΡΟΣ and ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ agree well with each other in size and weight, irrespective of the fact that issues signed by these moneyers seem to belong to two different systems -Greek and 'Roman' (RPC I, p. 410).⁷⁴⁰ Though this falls short of proving that the different issues were struck together it does show that the issues were probably circulating during the same period since they formed part of the same standard and it is likely that they may be near contemporary. As I discuss below (pp. 546-56) later series of the Chian mint consisting of issues that share a uniform style and are securely dated to the same period, on the whole are composed of denominations on a common standard. This shows that both 'Greek' and 'Roman' denominations at Chios may have been coexisting within a single system ever since the introduction of denominational marks on the local coinage.

The issues of this series are the first to introduce on a permanent basis new types for the reverse of the Chian coinage which was previously monopolized by the amphora. Most of the known coins are in a worn condition and it is hard to distinguish certain details of their types. However there are typological features that appear to have been used in common for issues of different moneyers of this series. For example the lotus flower seems to have been widely used as a symbol in issues of this series, appearing under the uplifted paw of the sphinx on the 3-assaria (fig. 2) and the dichalkon (fig. 12). On a trichalkon (fig. 11) it is clear that the sphinx is holding in its paw a lotus flower. The same symbol appears frequently on issues of the early Imperial period, in issues of Series 24 and on Chian cistophoric drachms. It

⁷⁴⁰ As I discuss in the chapter on denominations, though the two systems were different their denominations were interchangeable since 2-assaria in the Roman system was equal in value to the obol of the Greek system.

is not clear if the lotus represents a moneyer's symbol or merely an iconographic attribute of the sphinx.⁷⁴¹ However it appears to have been used over a short period of time during the Hellenistic period. A mint mark found commonly in the reverse type of issues of this series is the bunch of grapes, featured on the 3-assaria, the obol, the 1 ½ assarion, and a few issues, though not all, of the trichalkon.⁷⁴² This bunch of grapes symbol lacks the branch on its top - always present on the symbol on the Chian coinage- and the same symbol also appears in a countermark found on a few coins from this series (see below). The appearance of common symbols on issues of different denominations provides us with a chronological link between them.

3. General aspects of issues of Series I lacking denominational values:

A group of issues with no denominational values share certain features with the earliest issues bearing denominational legends, and on this ground have been classified in the same series.⁷⁴³ Both types of issue are likely to belong to the same period (see below) and since the ones lacking a marked denomination are easier to date with some accuracy, they provide us with strong evidence on the approximate date of the introduction of inscribed denominational legends on the Chian issues. This has led me to discuss these issues here before considering a date for the introduction of marked values on the coinage.

This group consists of four different issues with the majority of all known coins struck on a diameter of 17-18 mm and belonging almost certainly to a single denomination. The study has also recorded some very rare fractions, of smaller module, most of which were

⁷⁴¹ The lotus flower had already appeared in the front paw of the sphinx on a few issues of the Classical period, see Maurogordato, 1915, p. 5. *Loutrari, Chian Sphinx*, pp. 311-312, discusses the appearance of this symbol next to paintings of sphinxes on vases of the Archaic period, and suggests that during this period the lotus flower may be considered an attribute of the sphinx. In the chapter on typology, I discuss a possible use of the lotus flower -a symbol from Egypt- as a reference to Egypt as the place of origin of the sphinx.

⁷⁴² For an issue of the trichalkon bearing this mint symbol, see the coin illustrated in fig. 11.

⁷⁴³ For these issues see, Maurogordato, 1917, p. 226 & pp. 228-229; *RPC I*, pp. 410-411, nos. 2418, 2423-4.

previously unknown. Issues in this group struck on the large module are signed with one of the following names: ΑΣΜΕΝΟΣ, ΤΙ ΚΑ ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ ΟΥ ΦΑΥΣΤΟΣ; exceptionally an issue bears the names of a pair of moneyers, ΙΕΡΟΝΥΜΟΣ and ΑΠΟΛΛΩΝΙΟΣ.⁷⁴⁴ Coins of this denomination may have been valued as trichalkoi, since they are of the same size as coins marked with this denominational legend, even though only the average weight of coins signed by ΦΑΥΣΤΟΣ is identical to that of the trichalkon (the others have average weights that are slightly lighter in weight).

Two fractional denominations have been recorded -signed either by ΑΣΜΕΝΟΣ ΟΥ ΤΙ ΚΑ ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ- measuring in diameter 14 and 12 mm respectively. None of these were included in the relevant discussion of *RPC I*, and Maurogordato included a single issue in his study.⁷⁴⁵ Coins that are smaller to the trichalkon, probably dichalkoi, bear the names of ΑΣΜΕΝΟΣ (Pl. XXXI, fig. 10) ΟΥ ΤΙ ΚΑ ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ (fig. 21).⁷⁴⁶ The types, appropriate to each moneyer, are identical to issues of the trichalkon but are struck on markedly smaller flans and at lower weights. In fact the module and standard of these unmarked issues are identical to that of the unique (marked) dichalkon coin of the same series. This suggests that the coins lacking a value would also be dichalkoi. The name of ΑΣΜΕΝΟΣ also appears on an issue known from two coins of 12 mm in diameter and an average weight of c. 0.80g (figs. 11-12). The coins bear a cantharos instead of the amphora type and would almost certainly represent an issue of the chalkous. This denomination is missing from the marked denominations and its

⁷⁴⁴ It is clear from the illustrations of the coins that both names are in the nominative and represent two different individuals striking coinage together. BMC, p. 339, and Maurogordato, 1917, p. 226, have wrongly recorded one of the names in the genitive (ΑΠΟΛΛΩΝΙΟΥ) and considered this to be the patronymic of the first moneyer (ΙΕΡΟΝΥΜΟΣ). This is not merely a typological aspect for the fact we have an issue signed by two instead of one moneyer, as I discuss below, bears significance on its proposed date of issue and also the authority in charge of the mint at Chios at the time.

⁷⁴⁵ Maurogordato, 1917, p. 228, type 91, has the chalkous signed by ΑΣΜΕΝΟΣ (discussed below).

⁷⁴⁶ Two coins of the latter issue are known, one in the B.N. the other in the Kinns collection. The moneyer's name on the coin in the B.N. was wrongly reconstructed by Blastos, 1840, p. 121, as ΠΡΟΘ[ΟΟΣ]

extreme rarity even as an unmarked issue seems odd. However we have seen throughout this study that the chalkous denomination was rarely issued by Chios.

Large numbers of coins were struck for the ΑΣΜΕΝΟΣ and ΤΙ ΚΑ ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ trichalkon issues, quite unlike the sparse coinage with marked denominational values. It is not clear why Chios would have struck issues with no marked values at a time when it had already introduced denominational legends on its coinage (see the discussion below on the proposed date of these issues). Many of these coins have been found abroad though it is not likely that the mint would have struck this base metal coinage primarily for use outside Chios.

I have also classified in the group of issues of unmarked values the earliest issue of Chios struck in honour of Homer (*Homereion*). This issue was known in the past from a single worn specimen in the Berlin Cabinet with most details barely visible, making it impossible to identify its types securely. However the recent discovery of an almost uncirculated specimen has opened the way for a study of this issue revealing a link with Roman Series I and helped pushed back the proposed dating of the introduction of the *Homereion* issues by several decades.

The coins show a figure of Homer, seated on an elaborate chair, holding an open scroll. The sphinx on the reverse lifts one of its front paws over what is likely to be a sacrificial fire. Stylistically the obverse type of the issue with Homer is identical to that of the issue with ΤΙ ΚΑ ΓΟΡΓΙΑΣ and probably produced by the same die engraver. This seems to be confirmation that the earliest issues with Homer (at Chios) were struck during the early/mid 1st century AD alongside issues of Roman Series I (see below for the proposed date of this series).

4. Proposed dating for issues lacking an inscribed denominational value:

Issues signed by ΑΠΟΛΛΩΝΙΟΣ and ΙΕΡΟΝΥΜΟΣ are stylistically and typologically identical to the two drachm issues signed by ΕΥΔΗΜΟΣ-ΔΙΟΓΕΝΗΣ (with the reverse legends of ‘ΣΕΒΑΣΤΟΥ’ or ‘ΦΙΛΟΠΑΤΡΙΣ’).⁷⁴⁷ These bronze issues and drachms show, unusually for the Chian coinage, the names of two moneyers instead of one, in the legends of the issue. This seems to have been a widespread practice for mints of Roman colonies in the East, though scarce for Greek mints, and probably shows Roman influence at Chios.⁷⁴⁸ The Chians may have adopted it through their contacts with Roman colonies or less likely by other cities in Greece where this practice was also followed.⁷⁴⁹ However this practice was of short duration, since it is restricted to the two pairs of moneyers discussed above. It is discussed that the issues were contemporary, a suggestion reinforced by consideration of the types of the issues. The bronze issue shares typological features with the drachms, such as variation in the position of the moneyer’s names on coins of the same issue,⁷⁵⁰ and the unusual positioning of the ethnic on all issues of ΙΕΡΟΝΥΜΟΣ-ΑΠΟΛΛΩΝΙΟΣ and the drachm of ΔΙΟΓΕΝΗΣ-ΕΥΔΗΜΟΣ co-striking with ΦΙΛΟΠΑΤΡΙΣ. The ethnic is divided in two syllables ΧΙ-ΟΣ, the first one appearing in the field to the right of the amphora and the second to its left.

a Spartan name, suggesting that this moneyer (or his family) originally came from Laconia. In fact the legend should read [ΤΙ. ΚΑ. ΓΟΡΓΙΑΣ Δ]ΩΡΟΘ[ΕΟΣ]

⁷⁴⁷ Compare in particular Pl. XXVII, no. 2, drachm with Pl. XXXI, no. 15, bronze issue.

⁷⁴⁸ See *RPC I*, p. 4, for Roman colonies in the East issuing coinage during the late Republic/early Imperial period signed by two moneyers concurrently e.g. Corinth, Dyme, Dium, and other. The names appearing on these coinages belonged to the *duoviri quinquennales*, the chief magistrates of the city that were elected annually. See also the chapter on typology where I discuss the authority at Chios that may have been in charge of the coinage. In the chapter on the economy I discuss evidence of economic ties between Chios and Corinth after 44 BC.

⁷⁴⁹ Smyrna is another Greek provincial mint where coinage was signed by a pair of moneyers during the reign of Augustus; as with Chios both names are in the nominative, see *RPC I*, p. 418

⁷⁵⁰ The name ΑΠΟΛΛΩΝΙΟΣ appears in the field to the l. of the amphora and that of ΙΕΡΟΝΥΜΟΣ to the r. on the bronze issues, illustrated in figs. 13-14; for the names depicted in the opposite place see figs. 15-16. On the drachms, the name of ΕΥΔΗΜΟΣ in the field to the l. of the amphora and that of ΔΙΟΓΕΝΗΣ to the r. on drachms see figs. 5-7; for the names in the opposite places see figs. 1-4.

This established link with the drachms suggests a date for the bronze signed by ΙΕΡΟΝΥΜΟΣ-ΑΠΟΛΛΩΝΙΟΣ during the 20s or 10s BC in line with the proposed period of issue for the drachms (see above).

Maurogordato observed that issues of ΤΙ. ΚΑ. ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ and ΑΣΜΕΝΟΣ show a close stylistic similarity with drachms in the name of ΒΑΣΙΛΕΩΣ ΑΝΤΙΟΧΟΥ and would probably have been contemporary (Maurogordato, 1917, pp. 212-213). This observation seems correct as a comparison of the types of issues illustrated in this study shows.⁷⁵¹ Since Maurogordato had already dated the drachms of Antiochus in the reign of Augustus he considered that the same period also saw the issue of the coinage signed by ΤΙ. ΚΑ. ΓΟΡΓΙΑΣ and ΑΣΜΕΝΟΣ. However as we have already seen, the drachms of Antiochus are more likely to belong to the reign Nero, or slightly earlier, -and not that of Augustus- and this would also apply for the issues signed by ΤΙ. ΚΑ. ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ and ΑΣΜΕΝΟΣ. Furthermore, the authors of *RPC I* have plausibly suggested (p. 409) that the name ΤΙ. ΚΑ. ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ is more likely to be after the mid 1st century AD, on account of its form.⁷⁵² On this evidence it would seem that the bulk of unmarked issues of Roman Series I belong in the general period covering the reigns of Claudius and Nero (41-68 AD).

⁷⁵¹ Issues of ΤΙ ΚΑ ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ, illustrated Pl. XXXI, figs. 17-21, are stylistically similar with drachms of Antiochus with the name of ΦΗΣΙ[ΝΟΣ] in the exergue, illustrated in Pl. XXVII, figs. 9-13; compare for example the obverse type of Pl. XXXI, fig. 18, with that of Pl. XXVII, fig. 13, and the reverse of Pl. XXXI, fig. 20 with the reverse of Pl. XXVII, fig. 11. The style of these dies are identical and seem to have been engraved by the same artist. Types of the ΑΣΜΕΝΟΣ issue, illustrated in Pl. XXXI, fig. 1-12 are identical with the drachm of Antiochus with the name of ΜΙΝΥ[ΚΙΟΣ] in the exergue, illustrated in Pl. XXVII, fig. 14. The latter also share the same letter forms C and € and it would seem that they are not only contemporary but may have been produced by the same die engraver

⁷⁵² Maurogordato, 1917, p. 212, assumed that that the issue was of the Augustan period and that the Chian moneyer was granted Roman citizenship by Tiberius in 20 BC at the time of the Armenian war. This is highly unlikely. Sarikakis, 1970, p. 183-184, states that the individual would have received Roman citizenship from either the emperors Claudius, Nero, or even Tiberius prior to his adoption by Augustus in 2 BC when he was named Tiberius Claudius Nero.

5. Links between issues of Series I with or without denominational values:

The issue signed by ΙΕΡΟΝΥΜΟΣ and ΑΠΟΛΛΩΝΙΟΣ offers us the earliest evidence for the introduction of denominational values on the Chian coinage. A coin from this issue was clearly used as a flan for striking a trichalkon signed by ΣΤΕΦΑΝΗΦΟΡΟΣ.⁷⁵³ This overstrike shows that the trichalkon was struck some time after the ΙΕΡΟΝΥΜΟΣ-ΑΠΟΛΛΩΝΙΟΣ issue and since the latter probably dates from the late 1st century BC the trichalkon may date late in the reign of Augustus or that of Tiberius (early 1st century AD).

As I discuss, both denominations signed by ΦΑΥΣΤΟΣ are likely to have been struck by the same individual and would thus be contemporary. Other issues with marked denominations are linked to those without a denomination through the use of characteristic letter forms. Issues of ΑΠΟΛΛΩΝΙΟΣ-ΙΕΡΟΝΥΜΟΣ and ΤΙ ΚΑ ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ use a combination of forms for the letter *sigma*, the lunate form C alongside the Greek Σ. An unusual form of A with a large dot in the place of the middle bar is found on the 1 ½ assarion, and also on all extant coins signed by ΑΣΜΕΝΟΣ and some issues of the assarion.⁷⁵⁴ Another feature linking marked and unmarked denominations is a typological development of the sphinx wing appearing on these issues. This consists of a number of dots at the point where the wing of the sphinx is attached to its body. The feature is absent from earlier issues, including that of ΑΠΟΛΛΩΝΙΟΣ and ΙΕΡΟΝΥΜΟΣ, but appears on all other issues of this series -irrespective if they

⁷⁵³ The coin belongs to the coin collection of the B.M. (see coin catalogue for references) and is illustrated in fig. 9. The undertype on the reverse clearly reads ΙΕΡ. above the cantharos and ΩΝΙΟ below, at the same positions where the names of the moneyers appear on some of the coins of ΙΕΡΟΝΥΜΟΣ-ΑΠΟΛΛΩΝΙΟΣ. What is particularly interesting is the fact that this issue weighs almost a gram heavier than the average weight of the trichalkon showing that an exceptionally heavy coin of the issue was used for the overstriking. This in its turn implies that attention was given to the weight of the coin to be restruck.

⁷⁵⁴ RPC, p. 410, only records the broken middle on A for the ΤΙ ΚΑ ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ issues (on the appearance of this letter form on earlier drachms of ΡΑΒΙΡΙΟΣ, see the discussion in the chapter on typology). The letter form A with a dot in the middle is found on a coin of ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ (fig. 4), of ΑΣΜΕΝΟΣ (figs. 3-4) and one of the reverse dies of the ΦΑΥΣΤΟΣ assarion (fig. 6).

have marked denominations or not, suggesting that issues sharing this feature may belong to the same general period.⁷⁵⁵

A further strong chronological link between marked and unmarked issues is found in a countermark of the Chian mint applied to an issue with denomination and also to a number without. The countermark shows a distinctive bunch of grapes and is found on a coin of the assarion, the unique drachm of Antiochus signed by ΜΙΝΥ[ΚΙΟΣ], at least two coins (trichalkoi) of ΤΙ ΚΑ. ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ, and several (trichalkoi) of ΑΣΜΕΝΟΣ.⁷⁵⁶ All of these countermarked coins show signs of brief circulation and also display the countermark in the same position, on the upper half of the amphora type. These features strongly suggest that coins of different issues were probably countermarked at the same time and were in circulation together.

Maurogordato (1918, p. 22) noted that the bunch of grapes used as countermark is identical to the mint symbol appearing on the reverse of issues of ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ and ΣΤΕΦΑΝΗΦΟΡΟΣ.⁷⁵⁷ This seems to provide a link between issues which are countermarked and those with the same symbol as an integral element of the design. Furthermore, none of the countermarked issues use the bunch of grapes as a mint symbol, suggesting that the countermark could have represented a retarrifing of the countermarked issues in relation to the coinage incorporating this symbol in their types.⁷⁵⁸

⁷⁵⁵ This detail is clearly visible on an enlarged photograph of the obverse of a coin of this series, fig. 24. In the chapter on typology I discuss this feature and suggest foreign sources that may have led to its adoption at Chios.

⁷⁵⁶ The countermark is discussed in Maurogordato, 1918, p. 22; Howgego, 1985, no. 413; *RPC I*, pp. 409-411. Maurogordato had no knowledge that it was also applied on coins with no marked denominations. *RPC* and Howgego also include the countermarked coins of ΤΙ. ΚΑ. ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ. For coins of ΑΣΜΕΝΟΣ bearing the countermark, illustrated in this study, see figs. 7-8. A smaller countermark of the same type and in the same position as the other coins was also used on a coin of ΣΩΣΤΡΑΤΟΣ of Series 24 generally dated in the late 1st BC (see the discussion in the relevant chapter). This issue belongs to an earlier period than the countermarked issues of Roman Series I, something also indicated from the fact that it was a long time in circulation before it was countermarked (and in contrast to the slight wear of coins of Roman Series I bearing the same countermark).

⁷⁵⁷ This bunch of grapes symbol is unusual in that it shows no branch on its top -in its place there is a vine shoot- as was standard for this symbol on all earlier Chian coinage.

⁷⁵⁸ This theory was first considered by Maurogordato, *ibid.* However he had dated the issues bearing the countermark before those bearing the mint symbol, and states that the countermark was used as a mark of revaluation for the coinage in circulation, *vis a vis* issues that he thought that were struck afterwards and bearing the countermark as a mint symbol. This as I demonstrated is wrong chronologically. We should also consider that the coins bearing the countermark are invariably in a good state of preservation, in contrast to this issues with this

6. Proposed absolute dating for the introduction of Chian coinage with inscribed denominational legends:

The introduction of marked denominations was dated by Maurogordato on the limited evidence that was available to him. As we saw he plausibly linked these issues to others lacking marked denominations and also drachms of king Antiochus. Since he had placed the latter issues in the reign of Augustus (1917, p. 253) he considered that issues of this series with or without marked denominations would also date during the same reign. This in its turn led him to claim that the monetary reform at Chios, with the adoption of large bronze denominations, was modeled on the reforms of the Roman *aes* coinage by Augustus in 20-10 BC; on this topic see the discussion in the chapter on bronze denominations (pp. 524-30).

As we saw, the date Maurogordato proposed for the issues with no marked denominations is too early, and two of these, signed by ΤΙ ΚΑ ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ and ΑΣΜΕΝΟΣ, cannot be earlier than the mid 1st century AD. In the previous section I presented evidence showing that the assarion of ΦΑΥΣΤΟΣ is likely to be contemporary with the above issues and therefore probably struck during the mid 1st century AD, or shortly after.⁷⁵⁹

Interestingly this proposed date for the assarion seems to agree well with that of issues of the same denomination and standard struck by cities in the province of Achaëa. During the reigns of Claudius and Nero the mints of Nikopolis, Sparta, Patras and Philippi (Macedonia) struck issues of the assarion on a heavier weight and larger diameter, than previously. The standard of these assaria seems to have been copying that of the contemporary Roman *as*. Furthermore these particular provincial issues were struck in copper, another feature likely to

mint symbol which are invariably in a worn condition, suggesting that they would not have been long in circulation before and after they were countermarked, thus offering further evidence against Maurogordato's theory.

⁷⁵⁹ This date for the ΦΑΥΣΤΟΣ assarion is also proposed by the authors of *RPC I*, in p. 409, the section discussing issues of Chios. However in p. 375, where they generally discuss denominations of the province of Asia, they quote the date proposed by Maurogordato for the assarion in the early reign of Augustus, and compare its standard to that of issues of other provincial mints dating to this period.

have been copied from official Roman coinage, since the as was struck in this metal which was a rarity for Eastern provincial mints.⁷⁶⁰

The assarion of ΦΑΥΣΤΟΣ agrees well with the standard of the above single assarion issues,⁷⁶¹ and nearly all coins show a brownish surface, indicative of a copper content. The standard used for the issue is also different from that of the other Chian denominations, even in later series. It may therefore represent an exceptional issue or a short lived attempt to change the standard, possibly adjusting it to the contemporary official Roman coinage.⁷⁶² The ΦΑΥΣΤΟΣ assarion may have been struck within the same context as similar issues in the province of Achaëa, not only suggesting that this Chian issue probably belongs to the same period, the mid 1st century AD, but also the possibility that this ‘Roman’ issue may reflect a common monetary policy adopted by a number of Greek cities including Chios.⁷⁶³

In the chapter discussing the bronze denominations I present further aspects of the coinage suggesting a likely period for the introduction of marked denominations on the coinage of Chios. The main points include the fact that the first issues bearing marked values were almost certainly based on the standard of the hemiobol of Series 23, probably issued during the early reign of Augustus. It is likely that this issue may have been circulating some time prior to the introduction of issues bearing denominational values. Secondly issues of the larger denominations, e.g. 3-assaria and the obol, may be linked with the cessation of local

⁷⁶⁰ *RPC I*, p. 35. Nikopolis, no. 1371; Sparta, no. 1155; Patras, nos. 1253, 1256-82; Philippi, no. 1657. *RPC I*, p. 375, also associated the standard of the Chian assarion issue with other similar ones but from an earlier period.

⁷⁶¹ *RPC I*, *ibid*; see the discussion in the outline of the coinage.

⁷⁶² *RPC I*, pp. 246-247, suggests that the standard of these particular one assarion Eastern issues was similar to that used at the time by the official Roman mint and could have been struck to be exchanged for asses of the Roman official coinage.

⁷⁶³ It is likely that some of these assarion issues were instigated by Nero's visit to Achaëa in 64-65 AD. The authors of *RPC In* p. 21, discuss the effects of his visit on the local coinage. Nero had a large entourage with him and these issues may have been struck to exchange with small coinage carried to Greece by Nero's courtiers. For a similar and contemporary case of a local Eastern coinage issued to be exchanged with Roman base metal currency, see Cappadocia where some local drachms have their values inscribed in ‘Italian’ asses (*RPC*, Cappadocia, *Caesarea*, nos 3635-3636, 3543). This coinage was used by Roman armies participating in Eastern campaigns against Parthia and the coin legend implies that it was struck to facilitate the exchange between official Roman and local currencies.

silver coinage of Chios and adoption of the denarius in its place. The Chian issues were already struck during the reign of Caligula when the denarius was already established as the only silver issue at Chios. The evidence suggests that both these events probably occurred during the early part of the 1st century AD since the contents of an official decree make it clear that by the reign of Caligula the denarius was already used in official transactions at Chios (for this inscription see the chapter on the economy, p. 669). Many cities in Asia Minor introduced large denominations from the middle of the 1st century AD and it is likely that this was done to replace the low valued silver denominations that were no longer struck (RPC, p. 375).⁷⁶⁴

The evidence presented so far suggests that ΦΑΥΣΤΟΣ may have issued coinage some time later than the other moneyers in the same series with marked denominations. Issues of ΣΤΕΦΑΝΗΦΟΡΟΣ and ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ, probably date earlier, possibly during the reign of Tiberius. However all these issues were probably in circulation during the middle of the 1st century AD, which would account for the countermarking of some issues with a symbol identical to that appearing on types of the above moneyers.

7. Chian countermarks on foreign issues: Two non-Chian coins dating to the Julio-Claudian period bear a countermark depicting a sphinx which is likely to have been applied at Chios for local circulation. The first coin is chipped and measures 24 mm in diameter and weighs 13.54g (Howgego, 1985, no. 315). The sphinx type on the countermark is very similar in style to the one depicted on issues of ΤΙ ΚΛ. ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ (Howgego, 1985). This seems to indicate that the countermarking of the foreign coin and the striking of this Chian issue may not have been far apart in time. Almost certainly the coin was chipped at the time of the

⁷⁶⁴ Note that many cities started issuing large bronze coinage in the reign of Nero though others during the reign of Claudius or even Caligula. Chios seems to have been one of the earliest mints in the region to have done so.

countermarking to achieve the desired weight and this would agree with the average weight of the obol denomination of Series I (c 12.00g). The size of the coin is also similar to the obol, though it seems that the weight of the coin also played a role in the choice of denomination.⁷⁶⁵ The issue with the countermarked coin probably belongs to one of the Julio-Claudian emperors, but the coin is too worn to be identified with any degree of certainty.⁷⁶⁶

The second coin bearing a sphinx countermark is a bronze coin of the Galatian league of the reign of Nero (*RPC I*, 'Galatia', no. 3562, p. 547).⁷⁶⁷ The portrait of Poppaea on the reverse of this coin dates this coin in the closing years of this reign.⁷⁶⁸ The sphinx of this countermark is different to the type of the other countermark (see fig. B). It bears a general resemblance to the sphinx used on the 1 ½ assarion of ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ and all issues of ΣΤΕΦΑΝΗΦΟΡΟΣ. The weight of this coin is 13.13g, and it therefore seems to be another coin countermarked to circulate at Chios as an obol.

Considering the small number of coins of the larger denominations and the fact that all of them show signs of long circulation it would seem that the scarcity of this coinage may have caused the mint to recirculate foreign coins bearing Chian countermarks. This suggests a period of difficulty on the part of the mint in producing new dies. Although both coins are on the same weight as the Chian obol the mint does not seem to have taken any measures to make

⁷⁶⁵ Although Greek bronze coinage of the Roman Imperial period continued to be token, it would seem that the weight of the coin was also considered important. Kroll, *Athens Agora XXVI*, records Athenian bronze coins of the Roman period cut in half that circulated locally for half their original value; the same also applies for Sardeis during the Augustan period where some of the local coins found during the excavation were cut in half, see T. V. Buttrey, Ann Johnston, Kenneth M. Mackenzie & Michael L. Bates, *Greek, Roman, and Islamic Coins found in Sardis*, London, 1981. A coin of Patras found at Emporio at Chios was cut in half during ancient times, see *Excavations in Chios 1952-5, Byzantine Emporio*, by M. Ballance et al., ABSA, Supplement Vol. XX, 1989, p. 139-140, C3, dating in the 1st century AD.

⁷⁶⁶ From the illustration published by Howgego it would seem that the coin bears the bust of an emperor similar to Nero?

⁷⁶⁷ The coin is owned by Baldwin's, the London coin dealers, and I would like to thank Mr T. Curtis, the director of the Greek section of Baldwins, for allowing me to study the coin and for providing me with a photograph of the countermark which is included in this study.

⁷⁶⁸ Poppaea was Nero's wife in the brief space of 64-65 AD

this clear with legends on the countermarks.⁷⁶⁹ It may be that the size and weights of the coins were deemed sufficient to distinguish the denomination of the coins while in circulation. There is no known evidence if the countermarking at Chios extended to include other denominations.

The excellent state of preservation of the second coin shows that the countermarking must have taken place at the end of the reign of Nero, or early in the reign of Vespasian.⁷⁷⁰ The countermarking of the coin from Galatia constitutes strong evidence that Chios had already introduced coinage of large denominations by the end of the reign of Nero.

⁷⁶⁹ Howego suggests that the letters XI-ΟΣ are visible next to the sphinx in the first countermark. On the second coin I can make out some faint traces of lettering above the sphinx in the countermark which could also stand for XI-ΟΣ but certainly not ΟΒΟΛΟΣ.

⁷⁷⁰ Chronologically the countermarking is likely to belong to the period of the Civil wars of 68-9 and we cannot preclude the possibility that these Chian countermarks may be linked with these events.

SERIES I Pl. XXX

3-assaria

Moneyer: ANTIOXOS AΠOΛΛΩΝΙΔΟΥ (RPC. 2419)

Obv.: sphinx seated r., lifting l. paw over prow of galley, holding in its front paw a lotus flower? ΤΡΙΑ ΑCΑΡΙΑ
Rev.: amphora in centre, ANTIOXOS AΠOΛΛΩΝΙΔΟΥ in two separate lines in field to the r.; XI-OΣ to the l., bunch of grapes symbol in the break of the ethnic. All within dotted flan.

London

B. M.:
1920-11-4-4; 23.03g, 7. **fig. 1**

Paris

B. N.:
no. 3205; 20.08g, 9. **fig. 2**

Bologna

B. U.:
coin cab; 21.84

OBOL

Moneyer: ΣΤΕΦΑΝΗΦΟΡΟΣ (RPC. 2421)

Obv.: sphinx seated to the r. lifting l. paw over prow of galley ? ΟΒΟΛ[ΟΣ]
Rev.: cantharos in centre, ΣΤΕΦΑΝΗΦΟΡ-ΟΣ in two separate lines in the field to the l., ethnic XI-OΣ to the r., bunch of grapes symbol in the break of the ethnic.

Copenhagen

D. N. M.:
no. 1641, Rol.; 10.26g, 9. **fig. 3**

Munich

M. K.:
12.10g
F., 14.40g; MG 298, no. 138

1 ½ ASSARION

Moneyer: ANTIOXOS AΠOΛΛΩΝΙΔΟΥ (RPC. 2420)

Obv.: sphinx seated r.; denominational name round the flan of which a few letters are barely visible on any coin of the issues
Rev.: two crossed thyrsos with small bunch of grapes on top and a small cantharos below: XI-OΣ, the first part in the field l., the second r.; ANTIOXOS AΠOΛΛΩΝΙΔΟΥ inscribed from l. to r. The type is encircled in a dotted circle.

Berlin

M. K.:
no. 296 / 1882; 11.05g, 7. The coin is overstruck on a foreign issue of which only traces of a laurel wreath are visible on the obverse. Illustrated in RPC, pl. 107, **fig. 4**.

Athens

N. M.:
10.83g. Overstruck on a foreign issue. **fig. 5**

ASSARION

Moneyer: ΦΑΥΣΤΟΣ (RPC. 2417)

Obv.: sphinx seated l. on club, lifting r. paw over amphora; ΑΣΣΑΡΙΟΝ in exergue. All within dotted flan.

Rev.: amphora in the centre, ΦΑΥΣΤΟΣ in field to the r., and XI-ΟΣ to the l.; a cornucopia symbol in the legend break. The type is encircled in a dotted circle

Cambridge

F. M.:

L. c.; 7.14g, 6. **fig. 6** Obv. die 1, Rev. die 1.

Oxford

A. M.:

M. 1924; 8.42g, 6. The coin is overstruck on a foreign issue. **fig. 7** Obv. die 2, Rev. die 2

Munich

M. K.:

11. 50g, 6;

Berlin

M. K.:

F. 1873; 9.95g, 7

I. B. 1900; 11.30g, 1; cmk. bunch of grapes on centre of amphora. Illustrated in RPC, Pl. 107. **fig. 13** Obv. die 1, Rev. die 1

THREE CHALKOI

Moneyer: ΣΤΕΦΑΝΗΦΟΡΟΣ (RPC. 2422)

Obv.: sphinx seated r., lifting l. paw and holding a lotus flower; ΤΡΙ-ΧΑΛ-ΚΟΝ arranged in the three separate lines, with first two in the field to the l. of the sphinx and the third to the r. All within dotted flan.

Rev.: cantharos in the centre, ΣΤΕΦΑΝΗΦΟΡ-ΟΣ in field to the r., XI-ΟΣ in field to the l; bunch of grapes symbol in the break of the ethnic. All within dotted flan.

London

B. M.:

no. 112; 3.34g, 12. overstruck on an issue of Chios, Roman Series I, signed by ΑΠΟΛΛΩΝΙΟΣ and ΙΕΡΟΝΥΜΟΣ. The reverse of the undertype is visible on the reverse of the coin (see fig. A). **fig. 8**

Athens

N. M.:

4.05g, 12. **fig. 9**

Chios

K. L.:

12. This coin is possibly overstruck on a foreign issue. **fig. 10**

Vienna

K. M.:

no. 18010; 3.60g, 6. No mint symbol on this coin. **fig. 11**

Berlin

M. K.:

3.60g

TWO CHALKOI

Obv.: sphinx seated r., lifting front paw and holding a lotus? Ethnic in the exergue?

Rev.: amphora in the centre and ΔΙΧΑΛ-ΚΟΝ arranged from r. to l. anticlockwise. The type is encircled in a dotted circle

Athens

N. M.:

N(A) n. 81; 1.92g, 3. **fig. 12**

ISSUES OF THE EARLY ROMAN IMPERIAL PERIOD WITH NO MARKED DENOMINATIONAL VALUE

16 mm

Pl. XXXI

Moneyer: ΑΣΜΕΝΟΣ

TRICHALKON? (RPC. 2424)

Obv.: sphinx seated l., unidentified object in front (flames of a sacrifice?).

Rev.: amphora, ethnic to the l. XIOC and the name of the moneyer ACMENOC to the r., usually in one line but a few issues show the form ACME-NOC in two separate lines. The type is encircled in a dotted circle.

London

B. M.:

no. 105; 3.51g, 9

no. 303 {ex Lock.}; 2.70g, 9

no. 858; 2.85g, 8

no. 859; 2.53g, 9. **fig. 1.** Obv. 1, Rev. 1.

Cambridge

F. M.:

L. c.; 3.08g, 3. **fig. 2.** Obv. 1, Rev. 1.

M. c., no. 8384; 2.65g, 9. **fig. 3.** Obv. 2, Rev. 3.

Amsterdam

A. W. A:

no. 95; 3.14g, die axis not recorded

no. 96; 2.81g, die axis not recorded

Copenhagen

D. N. M.:

no. 1636, R. 16; 3.13g, 9

no. 1637, O. N. B. 1905; 2.72g, 9

Athens

N. M.:

1903-4, B' no. 12; 2.79g, 9. **fig. 4.** Obv. 2, Rev. 4.

1903-4, B' no. 11; 2.86g, 9; overstr. on issue of ΤΙ. ΚΑ. ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ ? **fig. 5.** Obv. 3, Rev. 5.

1903-4, B' no. 13; 2.56g, 9. **fig. 6.** Obv. 4, Rev. 6.

1899-1900, LH' no. 24; 2.60g, 9

Paris

B. N.:

no. 3059; 2.70g, 12; overstr. on issue of ΤΙ. ΚΑ. ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ. **fig. 7.** Obv. 5, Rev. 6.

no. 3086; 3.50g, 9; cmk. bunch of grapes in centre of amphora type. **fig. 8.** Obv. 6, Rev. 3.

G. c.; weight not recorded, 9

G. c.; weight not recorded, 6

Vienna

K. M.:

no. 17932; 2.60g, 9

no. 17933, T.; 2.76g, 9

no. 17966; 3.06g, 9

no. 27510; 2.33g, 9. **fig. 9.** Obv. 1, Rev. 1.

Berlin

M. K.:

no. 10923; 2.97g, 9
I. B. 1900; 3.18g, 9

DICHALKON?

same types as the trichalkon

Istanbul,
A. M.:
no details available. **fig. 10**

CHALKOUS?

Obv.: sphinx as the other denominations of this moneyer, but with a different object in front (cantharos?)
Rev.: cantharos, ethnic to the r. XIOC and name of the moneyer ACMENOC round the flan from l. to r.

Paris

B. N.:
G. c.; weight not recorded, 3. **fig. 11**. Obv. 1, Rev. 1.

Vienna

K. M.:
no. 18002; 0.80g, 3. **fig. 12**. Obv. 1, Rev. 1.

Moneyer: ΙΕΡΟΝΥΜΟΣ ΑΠΟΛΛΩΝΙΟΣ [M. 85, not included in RPC]

TRICHALKON?

Obv.: sphinx seated l.; caduceus in front and club behind the type. All within a dotted flan.
Rev.: amphora, names of moneyers inscribed one each on the l. and r. of the amphora; ethnic legend XI in the field to the r. of the magistrate's name and OC to the l.

av. weight 2.23g

London

B. M.:
no. 101; 2.71g, 8. **fig. 13**

Oxford

A. M.:
M. 1924; 1.76g, 3. **fig. 14**
M. 1924; 1.99g, 7. **fig. 15**

Paris

B. N.:
no. 3051; 2.30g, 3

Berlin

M. K.:
I. B. 1900; 2.42, 12

Private Collection
no details available. The obverse of this coin shows the sphinx r. and of a different style to the above. **fig. 16**

Moneyer: ΤΙ[ΒΕΡΙΟΣ] ΚΑ[ΑΥΔΙΟΣ] ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ (RPC. 2423)

TRICHALKON?

Obv.: sphinx seated r. , club in front

Rev.: amphora, name of ΤΙΚΛΓΟΡΓΙΑΣΔΩΡΟΘΕΟΥ arranged from l. to r. round the flan starting from one o'clock. XI on the l. and OC on the r. of the amphora.

av. weight 2.74g

London

B. M.:

no. 104; 2.84g, 6, **fig. 17.** obv. 1, Rev. 1

Oxford

A. M.:

M. 1924; 2.19g, 6, **fig. 18.** obv. 2, Rev. 2

Ch.; 2.59g, 6

Glasgow

G. U.:

H. c., Chios no. 49; 2.55g, 6

Copenhagen

D. N. M.:

no. 1638, R. 8; 2.49g, 6; pierced, **fig. 19.** obv. 3, Rev. 2

Athens

N. M.:

no. 5539; 2.96g, 12

1903-4; 2.82g, 5

Delos find; 1908-9; 3.50g, 11

Paris

B. N.:

no. 3151; 2.87g, 6, **fig. 20.** obv. 4, Rev. 3

Munich

M. K.:

2.92g, 6

T. U.:

no. 3267; 2.10g, 5

Berlin

M. K.:

no. 28723; 2.96g,

Albania

Cabinet Numismatique de l' Institut d' Archeologie de Tirana
Found in Ancient Apollonia 1910 during an excavation; 2.5g, 9

DICHALKON

same types as the trichalkon but no club in front of the sphinx

Vienna

K. M.:
no. 17963; 2.32g, 6, **fig. 21**

Moneyer: ΦΑΥΣΤΟΣ (RPC. 2418)

TRICHALKON?

Obv.: sphinx seated to the l., lifting r. paw over sacrificial flames. The type is encircled in a dotted circle
Rev.: amphora in the centre, ΦΑΥΣΤΟΣ in the field to the r., ethnic XI-ΟΣ in field to the l., ear of grain symbol in the legend break. The type is encircled in a dotted circle

Copenhagen

D. N. M.:
no. 1635, V. L. 1903; 4.31g, 6. **fig. 22.** obv. 1, obv. 1

Paris

B. N.:
no. 3109; 3.30g, 6

Vienna

K. M.:
no. 17962; 3.46g, 9. **fig. 23.** obv. 2, obv. 2

III. 2. SERIES II (no moneyer's name-ΧΙΩΝ)

GROUP A: Pl. XXXII, GROUP B: Pl. XXXIII

1. General aspects: The series comprises two groups of issues that are closely linked by a number of common features such as identical letter forms, the absence of a moneyer's name, and the depiction of the ethnic legend in the plural genitive. Both groups comprise the same denominations, the 1 ½ assarion, obol, and 3-assaria. No issues of denominations smaller than the 1 1/2-assarion are known for this series. This is probably attributed to the large number of low value coins that were circulating at the time as part of issues with no marked denomination (ΑΣΜΕΝΟΣ, ΤΙ. ΚΑ. ΓΟΡΓΙΑΣ) belonging to Roman Series I.

In the first group, I have classified the obol of Maurogordato type 103a (figs. 2-5) and the 1 ½ assarion of type 103b (fig. 8), while in the second group the obol of type 104a (figs. 3-6) and the 1 ½ assarion of type 104b (figs. 7-9). A rare obol issue (only two coins are extant, illustrated figs 6-7) that was not known to Maurogordato is stylistically similar to the obol of Group A and I am including it in the same group as a variety of the more common type. Maurogordato also classified three different types of 3-assaria (types 100-102) in this series without, however, assigning them to individual groups. Of these, type 102 (Pl. XXXII, fig. 1) bears a sphinx that is stylistically closer to the type of issues of Group A. The sphinxes of the other two types (illustrated in Pl. XXXIII, figs. 1-2) are stylistically similar, though not identical, to that of issues of Group B and on this ground I am assigning them to the latter group.

Typologically issues in the two groups are identical since their denominations bear the same symbols in front of their respective sphinx type. They also share the same weights, diameters and die axis. However only issues classified in the same group show an identical style, while those of the different groups are stylistically dissimilar. This marked difference in

style, and the apparent lack of any die links between issues of the two groups, suggests that they may have been struck with an interval in between.

Issues belonging to Series II share some general similarities with those of Series I. The diameters, average weight and die axis of the individual denominations matches their respective denominations belonging to Series I. There is also some stylistic affinity between types of Series I and II. This mostly applies for issues of Group A which are closer in style to those of Series I, especially for the obol and the 1 ½ assarion. This suggests that issues of Group A were probably the first struck following Series I. The use of the letter form ω on all coins of Series II links them to issues of ΑΝΤΙΟΧΟΣ ΑΠΟΛΛΩΝΙΔΟΥ since this is the only moneyer from Series I to include the letter omega in the legend, and it shows this letter form (Maurogordato, 1917, p. 27). With issues of Series II we only come across the letter form C in place of the letter form Σ. This will become a permanent feature of the coinage suggesting that during this period the 'Greek' form for the letter *sigma* was dropped from the coin legends after a period of appearing together with the 'Latin' form.

Series II also includes a very rare issue of Homereia (Pl. XXXII, figs 9-10). The type bears a sphinx which is stylistically identical to that depicted on the obol of Group B suggesting that both were struck with dies prepared by the same engraver. The reverse shows Homer seated on a throne, holding a scroll but of a type different to that depicted on the earlier Homereion issue (Roman Series I). Only two coins, struck from a single pair of dies, are known for this issue.

A die study of issues of Roman Series II was only possible for the obol of both Group A and B and the 1 ½ assarion of Group B, issues that are known from more than a single specimen.⁷⁷¹ The obols in both groups were struck from one obverse and three reverse dies

⁷⁷¹ Note that the 3-assaria of Group B are all varieties and not part of the same issue.

each.⁷⁷² The 1 ½ assarion of Group B was struck from one obverse and three reverse dies.⁷⁷³

As with Series I it is clear that the volume of coinage struck in Series II would have been very small.

Almost all known coins belonging to this series are overstruck on other issues. This, as we saw, occurs on a number of known coins of Series I, but not to the extent of Series II. Only a few details are visible from types of issues used as flans for striking Series II. These show that the undertypes belong to foreign issues but it has not been possible to ascertain their mints. In one case, discussed below, it was possible to identify the emperor under whom one of the undertype issues was struck, which is particularly helpful in considering a date of issue for the series. The fact that almost the entire issue of this series appears to have been struck on foreign coinage suggests that Chios may have coined money after receiving a large amount of base metal coinage from abroad. It is also likely that the public coffers of Chios might have been accumulating this coinage from foreign traders over some time and it was decided at one point to put this into use locally.

2. Proposed dating: As we saw there may have been a scarcity of coins of larger denominations, higher than the assarion, during the later years of the reign of Nero; this is suggested by the countermarking at Chios of a foreign coin dating to this reign and by the worn condition of the few known high value coins belonging to Series I (with a date in the early/mid 1st century AD). Only large denominations of the 1 ½ assaria and higher were issued in Series II suggesting that they were probably intended to replenish the earlier coinage that would have become worn by the time issues of Series II were struck. The fact that the two different sphinx countermarks recorded on different issues of Series II (see above), are

⁷⁷² Die study of the obol, Group A: rev. die 1, illustrated fig. 2; rev. die 2, illustrated figs. 3-4; rev. die 3, illustrated fig. 5. Die studies for the issue of the obol of Group B are difficult because of the worn condition of most coins; rev. die 1, illustrated figs. 3-4, rev. die 2, illustrated fig. 5, rev. die 3, illustrated, fig. 6

⁷⁷³ All three illustrated coins (fig. 7-9) were struck from a different reverse die.

similar in style to types present on issues of Series I but different to types of Series II suggests that the latter series may have been struck after the coins were countermarked. We may therefore assume that issues of this series followed after the countermarking which, as we saw, probably dates during the early Flavian period.

One of the 1 ½ assaria of Group B offers us a terminus post quem for the issue of the series, and in particular Group B. The coin is overstruck on an unworn coin bearing a portrait of Domitian struck by a mint other than Chios (illustrated Pl. XXXIII, 9).⁷⁷⁴ This overstriking has established that issues of Group B date no earlier than the reign of Domitian. Since I have suggested that issues of Group A were struck earlier than B, it is likely that these too may belong to the same reign or slightly earlier.

3. New elements of the coinage: Issues of Series II bear certain features that are new to the coinage, such as the use of the plural genitive of the ethnic in the place of the single nominative, and the absence of a moneyer's name from the legends. Both these features have occurred very rarely on the Chian coinage during the Hellenistic and early Roman period,⁷⁷⁵ but with Series II they become standard on all Chian issues from now on. It may be noted that on some later issues the names of individuals reappear but these are now recorded as eponymous magistrates on the coinage and ostensibly for dating purposes. Starting with issues of this series, no coins ever include the name of an individual without an official title. The dropping of personal names from issues and the parallel adoption of the genitive case for the ethnic suggest that from this series onwards the state took over the issue of coinage, through

⁷⁷⁴ For this coin see the catalogue. I am indebted to my supervisor Mr J. Casey for confirming the identification of the undertype as a portrait of Domitian. The portrait is close to that appearing on issues of Smyrna of this reign though it is not certain that the undertype is an issue of this mint. The coin seems to be a casual overstriking and I see no ground in treating it as an action within the context of the *damnatio memoriae* of Domitian following his death in 96 AD.

⁷⁷⁵ Only two examples are known; from the early 2nd century BC, the silver fraction of the drachm on the reduced Attic standard and from the 1st century BC issues of Series 21

appointed magistrates, and ended a tradition of private citizens acting as moneyers and paying for the expenses of issues.

The replacement of the ethnic $\chi\iota\omicron\varsigma$ by $\chi\iota\omega\text{N}$ may signal an important monetary change. With the former legend the authority of the coinage was exercised by the city while with the latter the citizens, the ‘demos’, of Chios ($\omicron\ \Delta\text{H}\text{M}\text{O}\text{S}\ \chi\iota\omega\text{N}$). This suggests that the format of the ethnic $\chi\iota\omicron\varsigma$ on the coinage reflects the fact that it was struck *for* Chios, by a moneyer; the legend $\chi\iota\omega\text{N}$ refers to a coinage struck *by* Chios, and responsibility for the issue resting on the citizens as a whole. This seems to explain why on issues bearing the first form of the ethnic we always come across the name of a moneyer while in the second case the name of the moneyer is missing from the legends of the issue.

However the permanent use of $\chi\iota\omega\text{N}$ from now on may also be linked to political developments. The proposed date for issues of this series suggests that it was struck during the period when Chios became incorporated in the province of Asia (see below) and the change in the ethnic might reflect the altered political status of the city. The emphasis is now on the ‘demos’ rather than that of the city as a political institution. This suggests a change at Chios compared with earlier periods when the form indicates perhaps a more democratic form of government. Whereas in the period under study the change suggests that the city may have lost its privileged position as a ‘free’ city.⁷⁷⁶

⁷⁷⁶ The mint at Chios continued using as the ethnic the name of the city (in the singular nominative) for a long time after all other cities had replaced it by that of the demos (in the plural genitive). Therefore we have no comparable examples of a city changing its ethnic, from that of the city to the demos on the coinage, after it ceased to be a free city or became part of a Roman province.

SERIES II

GROUP A

Pl. XXXII

3-assaria [M. 102]

Obv.: sphinx seated l. lifting r. paw over prow of ship; ACC-A-PIA.... round the flan. The type is encircled within a dotted flan.

Rev.: amphora in the centre. XI in the horizontal to the l. and ωN to the r.; the whole is encircled by a wreath of laurels tied with fillets at the end appearing in the inside on each side of the base of the amphora; the flan is encircled within a dotted circle.

London

B. M.:

no. 962; 19.39g, 1. **fig. 1**

Another coin of this issue is recorded by Maurogordato, 1918, p. 17, as part of the stock of dealers Rollin and Feuarent, Paris, before 1913.

OBOL [M. 103a]

Obv.: sphinx seated r. lifting l. paw over prow of ship, OBOΛOC located on the top extending from the wing to the head of the sphinx. The type is encircled in a dotted circle.

Rev.: cantharos in the centre, XI in in the horizontal to the l. and ωN to the r.; the whole is encircled by a wreath of vines.

London

B. M.:

no. 935; 11.60g, 11. **fig. 2**

Oxford

A. M.:

Milne 1924; 12.93g, 3. **fig. 3**

Vienna

K. M.:

no. 18000; 9.80g, 3. This coin is overstruck **fig. 4**

Berlin

M. K.:

no. 956 a / 1907; 10.47g, 9. **fig. 5**

variety [not included by Maurogordato]:

Obv.: sphinx seated l. inside a ship, lifting r. paw over its prow OBOLOC starts at two o'clock and ends at five. The type is encircled in a dotted circle.

Rev.: as above type but the flan is encircled with a dotted circle outside the wreath.

Copenhagen

D. N. M.:

no 1643, Proschowsky 1938; 15.82g, 3. **fig. 6**

Chios

former private coll., no details available. **fig. 7**

1 ½ ASSARION [M. 103b]

Obv.: sphinx seated l. lifting l. paw over sacrificial fire. The type is encircled in a dotted circle.

Rev.: two thyrsos crossed in the centre; XI in the horizontal to the l. and ωN to the r. of the point where the thyrsos are crossed; bunch of grapes above the thyrsos and a ship below; the whole is encircled by a wreath of laurels and the flan is encircled within a dotted circle.

London

B. M.:

no. 937; 10.40g, 5. **fig. 8**

Maurogordato, 1918, p. 18, records a second coin of this issue in a Mr F. W. V. Peterson's coin collection. No further information available.

HOMEREION

London

B. M.:

no. 139; 5.22g, 12. **fig. 9**

Copenhagen

D. N. M.:

no. 1642; 4.10g, 9. **fig. 10**

GROUP B

Pl. XXXIII

3-assaria

Type A [M. 100]

Obv.: sphinx seated r. within a galley, lifting l. front paw over the galley's front; traces of letters belonging to the denominational value are barely visible.

Rev.: amphora in the centre, small bunch of grapes in field r.: XIΩN inscribed in a straight line downwards in the l. of the amphora; all within an ivy wreath tied with two large knobs at the top and with two fillets visible at the base of the amphora, one on each side.

London

B. M.:

no. 939; 16.04g, 6; overstruck on a non Chian issue. **fig. 1**

Type B [M. 101]

Obv.: as type A but sphinx seated l.

Rev.: as type A but X-I-Ω-N in two lines on each side of the amphora; no bunch of grapes visible

Munz Zentrum, Auction Nov. 1983

no. 112; probably from the former Yakountchikoff collection recorded by Maurogordato, 1918, p. 17. **fig. 2**

OBOL [M. 104a]

Obv.: as type A of the 3-assaria; XIΩN (in exergue)

Rev.: cantharos in the centre; OBO-ΛOC inscribed l. to r.

Oxford

A. M.:

14.92g, 12. This coin is overstruck. **fig. 3**

Chios

K. L.

no weight recorded, 12. **fig. 4**

Paris

B. N.:

no. 3214; 12.52g, 5; ill. Maurogordato, 1918, Pl. I, 4. **fig. 5**

Vienna

K. M.:

no. 17982; 10.95g, 12. This coin is overstruck. **fig. 6**

1½ ASSARION [M. 104b]

Obv.: sphinx seated r. on thin line, lifting l. front paw over altar -in the shape of a shield?- with flames depicted as five parallel lines; PINHMYCY - ACA in two lines in the exergue. The type is encircled in a dotted circle

Rev.: same type as this denomination of Series I: XI-ΩN, the first part in the field l., the second r.; all within dotted circle

Athens

N. M.:

1903-4 B' 27; 12. 8.31g. This coin is overstruck on a Roman provincial issue with traces of Greek lettering visible above the head of the sphinx. **fig. 7**

Berlin

M. K.:

I. B. ; 6, 7.27g; the coin is overstruck on a non Chian issue with some lettering visible on the reverse; RPC 2420 includes this coin in the group of the first 1½ assarion struck at Chios which is wrong; ill. Maurogordato, 1918, Pl. I. 5. **fig. 8**

Ars Num. Classical, Auction D, Mar. 1994

no. 1483; 10.25g; overstruck on Roman provincial coin (Smyrna?) bearing a portrait of Domitian; his features are clearly visible at 6 o'clock on the reverse of the coin. **fig. 9**

III. 3. SERIES III (no moneyer's name-ΧΙΩΝ)

1. General aspects and group division: The series struck following that of Series II comprises a number of issues sharing some aspects in common, such as standard, letter forms, the spelling and format of the ethnic, run of legends, and the lack of an individual's name in the legends. Types show a variety of styles and on this basis I have classified them in four large groups. Each group comprises issues of different denominations sharing an identical style and showing that they were probably struck together. A relative sequence for the individual groups has been proposed on stylistic evidence.⁷⁷⁷ It is clear that the style of these issues developed from that used in issues of Series I or II and that it continued developing in these groups. No die links are known between issues of different groups.

The group that I consider to be the earliest in the series consists only of very rare issues of fractions of the assarion while the other groups include a wide range of denominations of both multiples and fractions of the assarion. A common feature of the three last groups is the striking of the two smaller denominations, the hemiassarion and dichalkon, with the same obverse die. *Homereion* issues are recorded only in what is probably the last group issues (Group D). This seems to suggest a break in the issue of this type of coinage though it is conceivable that earlier groups might also have included such issues which have not survived.

The letter forms ς and ω are used on nearly all of the issues showing that these had become established on the Chian coinage. The letter omega in the cursive form of ω only appears on a single issue and disappears thereafter. The issue belongs to one of the later groups in the series (Group C), suggesting that this letter form would have survived on the

⁷⁷⁷ Other features such as letter forms and metrology are similar in all groups and of little significance for the chronology of the issues.

coinage for some time before it was dropped completely. The use of this letter form on the coinage of Chios generally coincides with the hundred years between the early 1st and early 2nd century AD, though it continued to be used on inscriptions after this period.⁷⁷⁸

The lack of die links between issues of the same denomination from different groups suggests that there were intervals of time between each group. This is also confirmed by the overstriking of a coin of the obol denomination of one group by another issue of a different group (fig. 20, see below). However stylistically types of different groups are not that different, especially between issues of Groups C-D, to suggest that the intervals may not have been long.

2. Typology: An important feature of this series is the introduction of new reverse types. The series ushers in two new types that will become standard on later coinage. On the 3-assaria coins two standing figures (Apollo and Dionysos) are used as the only type, and a single figure (Oinopion) on the obol. A discussion of the significance of this iconography is reserved for the chapter on typology. These new types are similar in appearance on issues of different groups suggesting that that they may have been introduced on the coinage at the same time. However the earliest known issues bearing these types belong to different groups of this series.

3. Proposed dating and chronological arrangement of the groups:

Of all the Chian coinage dating to the Roman period, the individual groups of Series III present the least evidence for accurate dating. As I discuss in detail in the chapter on the

⁷⁷⁸ See for example, Sarikakis, *Chian Prosopography*, p. 349-50, no. 4. This inscription is dated to the 3rd century AD and the letter form for the omega is ω . At other mints this letterform was frequently used during the 2nd century AD, e.g. Nikopolis in Greece, see A. Johnston, 'The so-called Pseudo-autonomous Greek Imperials', *ANSMN* 30 (1985), pp. 89-112. p. 98.

economy these issues do not seem to have circulated abroad and are therefore absent from known hoards or dated archaeological contexts. The issues also lack a moneyer's name so that we cannot rely on epigraphic evidence to establish a chronological scheme.

The issues seem to have been the first to be struck after those of Series II and thus the earliest, Group A, may date to the reign of Trajan. Some indication of date is offered from the disposition of the legends which is always outward and anti-clockwise. This feature is common on eastern coinage under the Flavians but had become increasingly rare by the Trajanic period, and completely dropped during the reign of Hadrian.⁷⁷⁹ Since the groups that followed are closely linked I would suggest that they were produced with short intervals during the reigns of Trajan and Hadrian.

The average weight for the individual denominations is slightly lower than that of issues of Series I, suggesting a slip in the standard between the early/mid 1st century AD and the early 2nd century AD (see the discussion in the chapter on typology, p. 548, Table 2). This seems to be contrary to what was happening in other areas of the Eastern part of the Roman Empire where weights were generally increasing during the first half of the 2nd century AD.⁷⁸⁰ It does however agree with a similar decline in the weight standard of the mints in Achaëa during this period. Since it is likely that Chios shared the same standard as these mints this would suggest that the issues are probably contemporary (see the discussion in the chapter on bronze denominations, pp. 524-559).

⁷⁷⁹ Johnston, 1985, fig. 4, where this run of the legend on the Greek provincial coinage is generally dated to the 1st century AD.

⁷⁸⁰ For an increase in the weight standard of Greek provincial coinages see the discussion by Ann Johnston in a forthcoming article based on the paper she delivered in the Kolloquium, Die Kaiserzeitliche Munzprägung Kleinasien, München 27-30 April 1994, entitled 'Some Thoughts on Greek Imperial Denominations'. I am grateful to Mrs Johnston for giving me a draft of her article.

4. Group A Pl. XXXIV, figs. 1-6 (M. 208)

The earliest group of Series III only consists of issues of the two smallest denominations, the dichalkon and hemiassarion. The coinage is very rare with a total of three coins recorded for the hemiassarion and two for the dichalkon. Maurogordato (1918, pp. 19-20, nos. 105-106, and p. 28) assigned to this group two different issues of the 3-assaria coins; however, this is unlikely since the coins are stylistically different to those of Group A and clearly linked with Group C, where I have classified them (see below).

Another unique coin (fig. 6) recorded by Maurogordato (1917, p. 226-227, no. 87a) in an earlier period may also have been part of Group A. His proposed dating of the coin ('84 BC-reign of Augustus') is almost certainly wrong. Unlike all other coins of his proposed period, this one lacks a moneyer's name and has an ethnic in the plural genitive with the form Ω for the omega. These features together are untypical for issues that Maurogordato classified in the above mentioned period but are found in issues of Group A of Roman Series III. Furthermore this issue shares an identical style with issues of Group A, Series III. The coin has seen some circulation and the legend on its obverse is barely visible. Traces of lettering that are visible round the flan are almost certainly part of a denominational legend. The coin weighs 3.93g suggesting an issue of the trichalkon denomination but, with a diameter of 22 mm, it is far too large for this denomination and closer to the assarion. Nevertheless features of this issue and its style suggests it belongs to Group A even though the standard of this particular coin poses a problem.

Issues of Group A bear a sphinx type which is closer in style to those depicted on various issues of Series I and II,⁷⁸¹ than to types appearing on the succeeding groups of Series III. This stylistic similarity with types of older issues suggests that they were probably the

⁷⁸¹ The type of the sphinx is similar to that of the issues of $\Phi\text{AY}\Sigma\text{TO}\Sigma$ (Series I).

earliest struck in the series; however the use of the letter form ω in place of ω shows that they were struck after Series II when this became standard.

The sphinx types on the dichalkon and hemiassarion types are stylistically identical, forming a homogenous group probably struck at the same time from dies produced by one die engraver. Some of the coins bear a mark in the exergue which Maurogordato (1918, pp. 28-29) identified as the Greek letter Π ⁷⁸² (see figs. 2-3, for illustrations of the trichalkon and fig. 5 for the illustration of a dichalkon). This is more likely to stand for the Latin numeral II.⁷⁸³ In such a case this would probably mark it as a second issue within the group, or as a second officina, since coins bearing this numeral though stylistically very similar to the other coins are struck from different dies.

Both the dichalkon and the hemiassarion represent the earliest denominations of low value to be struck following issues of Series I. Until then the Chians would have depended for their small change on the earlier group of issues with no denominational value belonging to Series I. As we saw, this coinage was struck in large numbers and most of the known coins today show a long circulation. It is likely that this coinage would still have been circulating during the late 1st and early 2nd century AD.

The hemiassarion in this group is the first to bear this denominational value (for illustrations of this issue see figs 1-3). It shares the same reverse type and module as the trichalkon issue and since the latter was never issued again it is clear that the hemiassarion denomination was struck in its place.⁷⁸⁴ The dichalkon of Group A, Series III, (see figs. 4-5) bears an amphora type that seems to have been copied from the one used in the first issue

⁷⁸² He believed this to be the same as the letter present on issues of Group I, Series 17 and proposed the reading of $\Pi[\text{O}\Lambda\text{I}\text{O}\text{Y}\text{X}\text{O}\text{Y}]$.

⁷⁸³ Note that in later issues of Chios (see below, pp. 477-87, the series of Eirenaios) occasionally we find the Greek numeral β in the legends indicating in this way that these issues represented a second emission of a main series.

⁷⁸⁴ This was first noted by Maurogordato, 1918, pp. 4-5 & p. 29; on this replacement of a denominational name by another, see also the discussion in this study in the chapter on bronze denominations.

bearing the name of the denomination (Series I); it is possible that even the style of the earlier issue was employed to stress the continuity of the value irrespective of its name change.

A hemiassarion coin of this group was found during the excavation of a house in the ancient city of Chios. This is a rare find at Chios and even more unusual is the fact that this coin was promptly identified and published in a find report of this excavation.⁷⁸⁵ The pottery recovered in situ from the same room as the coin is dated to the 1st century AD and that found in general from the site belongs to the 1st and 2nd centuries AD.

⁷⁸⁵ The coin is recorded in a preliminary report on the excavation of this house compiled by L. Acheilara for the local journal, *Chiaka Chronika*, 1985, p. 71. The publication describes it as a '*hemiassarion*' of '(Maurogordato's) *Period reign of Augustus-118 AD*' making it clear from this reference that the coin find could only belong to this denomination of Group A, Series III.

Group A Pl. XXXIV

Denominations: two chalkoi, hemiassarion

HEMIASSARION [M. 107a]

Type A

Obv.: sphinx seated l. on thin line, lifting l. front paw. Type within dotted flan.

Rev.: cantharos in the centre HMIACCAPIONXIQN inscribed from l. to r.

Copenhagen

D. N. M.:

no. 1644, Ramus col.; 12, 4.10g. **fig. 1**

Type B

Obv.: same as type A, but II (in exergue) in the obv.

Rev.: same as type A but EIMIAC[C]-AP-XIQN, inscribed from l. to r. The type is encircled in a dotted circle

Oxford

A. M.:

ex Maurogordato coll.; 12, 2.56g. **fig. 2**

Vienna

K. M.:

no. 18011; 3.45g, 12; ill. Maurogordato, 1918, Pl. I. 6. **fig. 3**

Berlin

M. K.:

I. B.; 2.50g, 12

TWO CHALKOI [M. 107]

Type A

Obv.: same type as the hemiassarion of type A

Rev.: amphora in the centre; ΔΙΧΑΑ inscribed from r. to l., XIQN inscribed from l. to r.; both legends are anticlockwise. All within dotted circle.

Oxford

A. M.:

ex Maurogordato coll; 6, 2.00g. **fig. 4**

Type B

Obv. : same type as hemiassarion of type B, but II in the exergue

Rev.: same die as type A of this denomination

Chios

K. L.:

no. weight recorded; 12. **fig. 5**

Paris

B. N.:

no. 3215; 1.88g, 12

UNKNOWN DENOMINATION

see the discussion in the outline of the coinage

Vienna

K. M.:

no. 17967; 3.93g, 6. **fig. 6**

5. Group B Pl. XXXIV, 'Roman Series III, B, figs. 1-7 & A.

In the discussion of Series I we saw that the appearance of different moneyers' names and styles on the issues suggested that they were struck with intervals. With issues of Group B of Series III we have the earliest coinage with a wide range of large and small denominations stylistically identical, leaving little doubt that they were produced simultaneously. This will become typical of all series from now onwards.

The sphinx type appearing on issues of Group B is highly unusual for Chios as it is depicted standing on its back paws, supporting its front paws on various objects-symbols. Such a posture is unique for issues in the entire Chian series, and its inspiration seems to have been drawn from a victory type that is found on a number of official Roman issues from the time of Nero, though the majority of issues bearing such a type peaked during the Flavian period.⁷⁸⁶

With the exception of the 3-assaria, all reverse types of the denominations remain the same as with earlier coinage. The reverse of the unique 3-assaria coin introduces a new type, of the two standing figures facing front (fig. 1). It was adopted on later issues of this denomination, though some issues continued to use the amphora on the reverse. Unfortunately the coin is considerably worn and certain details are not visible.⁷⁸⁷ The figure standing r. seems to clasp a thyrsos in his hand and must therefore represent Dionysos; the figure standing beside him on the left cannot be identified, but on later 3-assaria issues it is clear that he is Apollo. The die used is very similar to one used for issues of this denomination of Group C but details cannot be compared to ascertain a possible die link.

⁷⁸⁶ The type appears on issues from the Flavian period, see BMC RE. no. 577 & no. 625. *aes* of Vespasian, and hemidrachms of Ceasarea in Cappadocea during the reign of Nero, see *RPC I*, no. 3646

⁷⁸⁷ The very worn condition of this coin made it impossible to produce a clear photograph.

The 1 ½ assarion issue of this group is known from two coins, struck from two obverse and two reverse dies (for illustrations, see figs. 2-3). The sphinx on the obverse is depicted supporting both front paws on the prow of a galley which is an exceptional type for the 1 ½ assarion, since earlier issues of this denomination show the cantharos symbol in front of the sphinx.

The assarion issue is recorded with three coins sharing two obverse and two reverse dies; there are two different types of this denomination. The first obverse type of the assarion is similar to that of the 1 1/2-assarion with the sphinx supporting both paws on an object in front of it, a large bunch of grapes. On the second type it is holding a bunch of grapes with its left paw and a club with its right one (Pl. XXXV, fig. A).⁷⁸⁸ Three coins are known for the hemiassarion (one coin is illustrated, fig. 6) and two coins for the dichalkon (one coin is illustrated, fig. 7). All coins from these two denominations were struck from the same common obverse die which copies the type of the 3-assaria and the 1 1/2-assarion, with prow of ship in front of the sphinx. The reverses of the hemiassarion and the dichalkon have been struck from a single die each and bear the traditional types of these denominations (hemiassarion: cantharos, dichalkon: amphora). The issue for these two denominations must have been very small. No obol denomination is recorded for this series though it is likely that such a denomination may have been struck but none of the coins survived.

⁷⁸⁸ The unique recorded assarion of the second type is known from an illustration by F. Imhoof-Blumer in *Kleinasiatische Münzen*, Band 1, Vienna 1901, p. 103, Chios, no. 6, 1901, p. 103, Pl. III. Only the obverse was illustrated.

Group B

Pl. XXXIV

Denominations: two chalkoi, hemiassarion, assarion, 1 ½ assarion, obol, 3-assaria

3-assaria: [M. 109a]

Obv.: sphinx standing on back paws l. with front paws placed on top of the front of a galley; ACCAPIA from r to l., TPIA in exergue.

Rev.: two figures standing facing front with small altar between them. The type is worn but the figure on the r. seems to hold a thyrsos in l. hand and pours libation from jar with his r. hand over the altar; he is probably Dionysos. The figure on the l. holds staff in l. hand and pours libation with r. hand (on clear types of later 3-assaria issues this figure is identified as Apollo). The ethnic X-I-Ω-N -barely visible- is arranged in two lines to the l. and r. of the figures.

Vienna

K. M.:

no. 17976; 16.12g, 6, **fig. 1**

1 ½ ASSARION: [M. 109b]

Obv.: sphinx standing on back paws with front paws placed on the prow of a galley: X-I from l. to r. round the flan, ΩN in exergue.

Rev.: two crossed thyrsos in the centre; E-NAM-ΙΣV-ACCA-P arranged from r. to l. with the ends of the thyrsos in the legend breaks; all within vine wreath with a small bunch of grapes hanging inside from the top of the wreath between the letters P and I

Paris

B. N.:

no. 5126; 4.45g, 6

Vienna

K. M.:

no. 17988, T. ; 7.74g, 7; pierced; ill. Maurogordato, 1918, Pl. I. 9. **fig. 2**

Berlin

M. K.:

I. B. 1928; 10.22g, 12

P.O.; 8.29g, 6, **fig. 3**

L.; 7.97g, 6 ; pierced; this coin has been published by Maurogordato in Group 108g

ASSARION: [M. 109g]

Obv.: sphinx standing on its back paws and clasping with both front paws a large bunch of grapes; its l. paw is placed on the grapes and the r. paw on the branch; the ethnic XI-ΩN arranged from l. to r. All within dotted circle. A variation of this type is published by Imhoof-Blumer (only the obverse).⁷⁸⁹ I have not studied this coin but have included Blumer's illustration of the obverse type in Pl. XXXV, fig. A

Rev.: amphora in the centre; ACCA to the r. in a straight line downwards; PION to the l. and downwards. All within dotted circle

Glasgow

G. U.:

Il. c., Chios no. 63; 6.64g, 6; the coin is overstruck on a non Chian issue, probably a Roman provincial. **fig. 4**

Copenhagen

⁷⁸⁹ Imhoof, 1901, p. 103, Chios, no. 6, and illustrated in pl. III, 32.

D. N. M.:
no. 1646, Reutze no. 397; 5.65g, 6, **fig. 5**

Paris

B. N.:
no. 3163; 4.57g, 6

Berlin

M. K.:
Fox 1851; 5.98g, 6

HEMIASSARION: [M. 109d]

Obv.: sphinx standing on back paws placing front paws on prow of galley; XI-ΩN from l. to r. All within dotted circle
Rev.: cantharos in the centre; HM-IACC-APION starting at 12 o'clock and inscribed from r. to l. All within dotted circle

Copenhagen

D. N. M.:
no. 1647, L. 1904; 3.77g, 6, **fig 6**

Berlin

M. K.:
I. B. 1928; 2.94g, 6, ill in Maurogordato, 1918, pl. I, no. 8.

TWO CHALKOI: [M. 109e]

Obv.: same die as in the hemiassarion issue.
Rev.: amphora in the centre; Δ-I-X-A-Λ-K-O-N arranged in two lines on the l. and r. of the amphora. All within dotted circle.

London

B. M.:
no. 931; 1.77g, 6, **fig. 7**

Oxford

A. M.:
2.00g, 6

Munich

M. K.:
2.50g, 6

Berlin

M. K.:
82/1872; 2.55g, 6; ill. Maurogordato, 1918. Pl. I. 10.

6. Group C Pl. XXXV

The group consists of all known denominations ranging from the 3-assaria down to the hemiassarion; no dichalkon has been recorded. Different issues are linked by the same type of sphinx, depicted on most of the known coins as facing left. The group introduces the obverse type of the standing figure which will become standard for the obol in the following series. Issues are more common than all other bearing marked denominational values up till now suggesting that the output of coinage by the Chian mint may have started to increase.

The 1 ½ assarion of this group uses two different types that are linked by the use of a common obverse die. The first copies the type introduced in Series I, and used on all issues of this denomination that follow, showing a bunch of grapes above the two thyrsos (fig. 10). The second type replaces the grapes with a small cantharos (fig. 11). In this coin the letter form ω makes its final appearance in the ethnic (and on any legend) on a Chian coin. On this evidence Maurogordato classified this issue to an earlier series (type 103b, Series II in this study) though a comparison of illustrations shows that stylistically this 1 ½ assarion is identical to other issues of Group C of Series III and shares no similarities with issues of Series II, except in the use of the identical letter form for the omega.

Issues of Group C are more plentiful than the previous groups in Series III or the earlier Chian coinage with denominational values. Die studies show that by far the commonest coin in this issue was the 3-assaria. The six recorded assaria of this group originate from four obverse and four reverse dies,⁷⁹⁰ probably representing the greatest volume of coinage struck by Chios thus far in the Roman Imperial period. Unlike the 3-assaria, coins of smaller denominations originate from single obverse and reverse dies. In the case of the two smallest

⁷⁹⁰ The four obverse dies are illustrated; obv 1: figs 1-2, 5; obv. 2: fig. 3; obv. 3: fig. 4; obv. 4: fig. 4. Note that the last coin is a variety but has been produced by the same die engraver. The four reverse dies; rev. 1: figs 1-2; rev. 2: fig. 3, 5; rev. 3: fig. 4; rev. 4: fig. 6.

denominations (hemiassarion-dichalkon) a single obverse die was used for striking both denominations.⁷⁹¹ The increased production of the 3-assaria suggests exceptional levels of expenditure; the dominance of this denomination in later issues shows that it had become the main denomination issued by Chios.

⁷⁹¹ Note that the 1 ½ assarion was struck from two different reverse dies, fig. 10 & fig. 11.

Group C Pl. XXXV

Denominations: hemiassarion, assarion, 1 ½ assarion, obol, 3-assaria

3-assaria:

Type A [M 108a]

Obv.: sphinx seated l. on thin line lifting front paw over prow of galley; TPIAC (in exergue),-C-APIA inscribed from r. to l; all within dotted flan. Dotted flan.

Rev.: two male figures, draped and laureate, standing front on a thin line. The figure on the r. has his l. hand draped and holds a staff or thyrsos; with his r. hand he holds a small amphora. The figure on the l. holds with his l. hand part of his drapery and a patera in his r. hand. X-I-Ω-N arranged in two lines to the l. and r. of the type. Dotted flan.

Oxford

A. M.:

11, 14.92g. **Pl. XXXV, fig. 1**

Aberdeen

The Newham Davis coins in the Wilson coll. of Classical Antiquities, Marshal College, University of Aberdeen no. 284; 5, 20.33g; same rev. die as coin in London. **fig. 2**

Paris

B. N.:

G. c.; 6, 16.1g. **fig. 3**

L. c.; no. 490; 16.23g; the coin is doublestruck . **fig. 4**

Berlin

M. K.:

L. 1906;6, 23.57g. **fig. 5**

Type B [M. 106]

Obv.: as above types but sphinx seated r.; TPEIAC--C-APIA

Rev.: same as above.

Glasgow

G. U.:

H. c., Chios no. 56; 6, 23.51g; ill. Macdonald, Pl. LIII.10 . **fig. 6**

OBOL: [M 108b]

Obv.: same as type A of the 3-assaria; OBOAOC inscribed from l. to r. and starting at nine o'clock and ending at one.; all within dotted flan.

Rev.: male nude figure with a vine wreath on his head standing front with l. arm draped and leaning on a staff held in his l. arm. The figure is clearly standing on a base and probably represents a statue; an identification with the hero Oinopion is likely. Ethnic X-I-Ω-N arranged in two lines to l and r of the figure.

London

B. M.:

no. 936. ex Maurogordato coll.: 11.46g, 5, **fig. 7**

Cambridge

F. M.:

L. c.: 12.98g, 12, **fig. 8**⁷⁹²

Athens

N. M.:

1903-4 B' K. d.; 13.67g, 4. This coin is overstruck. **fig. 9**

Vienna

K. M.:

no. 17988; 16.47g, 6

Munich

M. K.:

no. 28536; 9.24g, 6

1 1/2-assarion: [Maurogordato classified wrong issues to the denomination of this group]

Obv.: sphinx seated l. lifting r. paw over club; modius on its head; XI-ωN arranged from l. to r. and starting at nine o'clock and ending at one; all within dotted circle.

Type A: Rev: two crossed thyrsos; H-MICV-ACC-A-P-ION arranged from r. to l. with the ends of the thyrsos in the legend breaks; small bunch of grapes hanging inside from the top of the wreath and within the type between letters H and ΜΙΣΥ; all enclosed within a vine wreath.

Cambridge

F. M.:

L. c.: weight and die axis pending, **fig 10**

Type B: Rev.: same as A but legend IONH-MICV-ACC-A-P; small cantharos tied at the top and hanging within the wreath, in place of the bunch of grapes of the above type and between letters A and P of the legend.

Oxford

A. M.:

ex Chr. coll.; 7.09g, 6, **fig 11**

ASSARION:

Obv.: sphinx seated l. on a thin line, lifting paw over bunch of grapes; XIΩN inscribed from r. to l.

Rev.: amphora in the centre; ACCA to the l. of the type in one line and upwards, PION to the r in one line, upwards.

Vienna

I. N.:

no. 7531; 6.55g, 12, **fig. 12**

Berlin

M. K.:

I. B. : 6.60g, 12, ill. Maurogordato, 1918. Pl. I. 7.

HEMIASSARION:

Obv.: same as type A of the 3-assaria; XI-Ω-N inscribed from l. to r.; all within dotted circle

Rev.: cantharos in the centre: HMIA-CCAPI-ON inscribed from r. to l. anticlockwise: all within dotted circle

London

⁷⁹² Maurogordato, 1918, p. 32, records the weight of this coin as 8.39g which is wrong.

B. M.:
no. 343; 7, **fig. 13**

Paris

B. N.:
no. 3171; 12, **fig. 14**

Vienna

K. M.:
12. 3.20. **fig. 15**

Berlin

M. K.:
I. B. 1928; 2.94g, 6; ill. Maurogordato, 1918. Pl. I. 8

7. Group D Pl. XXXVI-XXXVIII

Issues of Group D seem to have been struck shortly after Group C since the work of a common die engraver may be detected in a few issues of both groups. However an obol of this group was overstruck on an issue of Group C (see Pl. XXXVII, fig. 20) suggesting that there might have been at least a short interval between the issue of the two groups.

The volume of coinage struck for the 3-assaria in this group must have been far greater than that of any earlier issues. The number of obverse dies counted for this denomination amounts to 13 which is particularly high for the mint at Chios. The extra coinage may have been struck exceptionally for expenditure out of the normal. There are a number of different obverse types for the 3-assaria (see the coin catalogue) but stylistically these are close - possibly with the exception of Type D- suggesting that a single die engraver prepared the dies. Nothing is known about Chios during the 2nd century AD and therefore there is no known event that we can associate with such large expenditure. Issues of the other denominations are rare and struck from two or a single die each.

This is the earliest group of issues where the mint will settle for standard objects-symbols located beside the sphinx. The 3-assaria adopts the prow of a galley; the obol a cantharos, the 1 ½ assarion an amphora, the assarion a bunch of grapes, and the hemiassarion the prow of a galley.

The average coin weight is similar to that of the same denominations in Group C-D, suggesting that they are close in date. This group also includes the only issue of *Homereion* for Series III (see illustrations, Pl. XXXVIII, figs. 37-39) though it is likely that the other groups may have also included such issues, none of which have survived. The sphinx is identical to that of the other coins, whilst the reverse has a new version of the seated Homer, probably copied from a statue.

Group D Pl. XXXVI-XXXVIII

Denominations: two chalkoi, hemiassarion, assarion, 1 ½ assarion, obol, 3-assaria

3-assaria [types A-C, are part of M. 110a]:

The reverse of all types of this denomination is standing figures of Apollo and Dionysos facing front as with the type of the 3-assaria of Group B-C, but with small altar with flame between them at their feet; some issues show an eight rayed star in the exergue and this is recorded in the catalogue. With few exceptions noted below, all legends are inscribed from r. to l. and anticlockwise

Type A: Obv: sphinx seated r. lifting r. front paw over prow of galley; AC-CA-PIA, TPIA (in exergue); dotted flan.

London

B. M.:

no. 122; 18.28g, 6; star in exergue; coin is pierced, **fig. 1**. O.1, R. 1
no. 123; 14.93g, 6; star in exergue; coin is pierced, **fig. 2**. O.2, R. 2
no. 124; 17.76g, 6

Cambridge

F. M.:

L. c.: 17.68g, 6, **fig. 3**. O.3, R. 3

Paris

B. N.:

no. 3197; 19.45g, 4, **fig. 4**. O.4, R. 4
no. 3200; 16.57g, 6; star in exergue, **fig. 5**. O.5, R. 1

Vienna

K. M.:

no. 17977 T; 16.17g, 6; star in exergue, **fig. 6**. O.6, R. 5

Berlin

M. K.:

I. B.; 12.05g, 6

Baldwin, London stock

star in exergue. This coin is overstruck. **fig. 7**. O.7, R. 6

Munzen und Med., Aufhauser, 4, Oct. 1988

no. 117; 12.14.78g; coin is pierced, **fig. 8**. O.8, R. 7

Type B: Obv: same as type a but legend ACC-AP-IA TPIA(in exergue)

Cambridge

F. M.:

Lew. c., no. 1349; 6.17.47g; coin is pierced

Vienna

K. M.:

no. 17973; 16.30g, 6, **fig. 9**. O.9, R. ?

Type C: Obv.: same as type a, with legend AC-CAP-IA TPIA(in exergue)

Glasgow

G. U.:

H. c., Chios no. 57: 15.23, 6, **fig. 10.** O.10, R. 3

Berlin

M. K.:

L. 1904; 17.18g, , 5

F. Sternberg, 1992 catalogue

no. 62, **fig. 12.** O.4, R. 2

Type D: Obv.: sphinx seated l. lifting r. front paw over prow of galley; AC-CA-PIA, TPIA (in exergue); all within dotted circle [M. 111].

Paris

B. N.:

no. 3199; 14.46g, 6; ill. Maurogordato, 1918. Pl. I. 13. **fig. 13.** O.11, R. ?

Laffaille coll., no. 490; 16.23g

Vienna

K. M.:

no. 17.978; 15.44g, 6, **fig. 14.** O.12, R. 8

F. Sternberg, Auction VII, Nov 1977

no. 124; 21.46g. **fig. 15.** O.13, R. 8

OBOL [M. 110b]:

Type A: Obv.: sphinx seated r. lifting r paw over prow of galley; O (in exergue)-BO-Λ-OC from r. to l. anticlockwise
Rev.: same type as the obol of Group C, but helmet to the l. of the feet of the standing figure.

London

B. M.:

no. 936; 11.46g, 6

Cambridge

F. M.:

M. c., no. 8385; 11.6g, 6, **fig. 16**

L. c.; 8.39g, 6; coin is pierced, **fig. 17**

Lew. c., no. 1348; 13.12, 6; coin is pierced: eight-rayed star

Glasgow

G. U.:

H. c., Chios no.; no. 52, 9.96, 6

Paris

B. N.:

no. 3213; 8.03g, 6

Laffaille col., no. 489; 9.78g, 6

Vienna

K. M.:

no. 17996; 10.45g, 6

Type B: Obv.: same as type a but legend reads O (in exergue)-BO-ΛO-C

Rev.: same with above type, but some coins show an eight rayed star below in the field to the r of the figure.

London

B. M.:

no. 109; 7.21g, 6, **fig. 18**

Copenhagen

D. N. M.:

no. 1645, Lambros 1909; 8.39g, 6, **fig. 19**

Paris

B. N.:

no. 3212; 12.13g, 6; eight-rayed star. The coin is overstruck on an obol of Group C; traces of the letters of the ethnic are visible in the reverse. **fig. 20**

Munich

T. U.:

no. 3269; 6.24g, 6

Bankhaus H. Aufhauser, Auction 9, Oct. 1992

no. 157; 9.82g; eight-rayed star, **fig. 21**

Kricheldorf, Stuttgart, Auction XXII, Feb. 1971

no. 100. The coin is overstruck.

1 ½ ASSARION [M. 110g]:

Type A: Obv.: sphinx seated r. on line, lifting r. paw over amphora, XI-ΩN inscribed from r. to l. anticlockwise; small club symbol in exergue.

Rev.: two crossed thyrsi in the centre and an eight-rayed star on each side of the point where the thyrsi are crossed; HMVC-V-A-CCAP-ION starting at seven o'clock and arranged r. to l. The whole within a vine wreath from which hangs a small bunch of grapes at the top of the thyrsi

London

B. M.:

no. 941; 6.25g, 12. This coin is overstruck. **fig. 22**

Type B: Obv.: as type A but XI-ΩN is inscribed from l. to r.; all within a dotted circle

Rev.: as type A but legend reads IONH-MVC-V-A--CCAP.

Oxford

A. M.:

ex New coll.; 7.15g, 6; pierced.

Cambridge

F. M.:

M. c., no. 8392; 7.99g, 12, **fig. 23**

Chios

K. l.:

no. 6, 12, **fig. 24**

Paris

B. N.:

no. 3168; 4.45g, 6

Vienna

K. M.:

no. 17988; 7.74g, 6

Munich

M. K.:

6.52g, 6

Berlin

M. K.:

L.; 8.23g, 6

7.98g, 6

ASSARION [M. 110d]

Obv.: sphinx seated on club lifting r. paw over bunch of grapes; XI-Ω-N from r. to l.

Type A: Rev.: amphora in the centre; ACCA in one line downwards on the r. of the type. PION in one line downwards on the l. of the type. All within dotted circle

London

B. M.:

no. 933; 6.05g, 12, **fig. 25**

Glasgow

G. U.:

H. c., Chios no. 60; 5.48g, 12, **fig. 26**

Paris

B. N.:

no. 3159; 7.02g, 5, **fig. 27**

Type B: Rev.: amphora in the centre, eight-rayed star in the field to the r.; ACCA-PION. All within dotted circle.

Paris

B. N.:

no. 3161; 4.05g, 6, **fig. 28**

Type C: Rev.: amphora in the centre, an eight-rayed stars on each side of the field to the l. and r. of the amphora; legend ACCA-PION. All within dotted circle.

London

B. M.:

no. 127; 4.98g, 7, **fig. 29**

Vienna

K. M.:

no. 17985; 6.49g, 5, **fig. 30**

HEMIASSARION [M. 110e]:

Obv.: sphinx lifting r. paw over prow of galley, eight-rayed star in exergue; XI-Ω-N inscribed from l. to r. anticlockwise

Type A: Rev.: cantharos in the centre; HMIA-CCAPIO-N, starting at three o'clock and arranged from r. to l. clockwise

London

B. M.:
(ex. Weber, no. 6276) no. 31; 2.99g, 7, **fig. 31**

Copenhagen

D. N. M.:
no. 1648, Thorlacius no. 291; 3.55g, 6

Vienna

K. M.:
3.30g, 7, **fig. 32**
no. 17995 T; 3.20g, 6

Type B: Rev.: as type A but legend reads HMIAC downwards to the r. of the type, APION downwards to the l. All within dotted circle

London

B. M.:
no. 113; 3.33g, 6

Oxford

A. M.:
Milne 1925; 3.08g, 6

Vienna

K. M.:
no. 17.992 T; 2.98g, 6
no. 17993; 3.10g, 6, **fig. 33**
no. 17994; 2.30g, 6, **fig. 34**

TWO CHALKOI [M. 110z]:

Obv.: same die as the hemiassarion

Rev.: amphora in the centre, an eight-rayed star on each side in field to l. and r. of the amphora; legend ΔIXAA downwards to the r. of the type KON downwards to the l. All within dotted circle.

London

B. M.:
no. 113; 3.33g, 6

Glasgow

G. U.:
H. c., Chios no. 53; 3.39g, 6, **fig. 35**

Copenhagen

D. N. M.:
no. 1649, V. L. 1896; 1.98g, 6, **fig. 36**

Paris

B. N.:
no.47, weight and die axis pending

Vienna

K. M.:
no. 18001; 3.20g, 6

Berlin

M. K.:
243/1879; 1.51g, 11

HOMEREION:

Obv.: sphinx seated r. on line, lifting r. paw over prow of galley. XI-Ω-N from r. to l. anticlockwise
Rev.: Homer seated in throne facing to the r.; he holds an opened scroll in his lap, in some issues letter A is visible in the scroll. OMHP in the field r., in front of Homer, and running anticlockwise OC in the field l. behind the throne
London

B. M.:
no. 957; 4.39g, 6. **fig. 37**

Glasgow

G. U.:
H. c., Chios no.; no. 67; 3.36g, 6
H. c., Chios no.; no. 68; 3.33g, 6, Pl. LIII. 14. **fig. 38**

Vienna

K. M.:
no. 37172; 5.27g, 6. **fig. 39**

SERIES BEARING THE NAMES OF MAGISTRATES.

Introduction: After the final issues of Series III in the early-mid? 2nd century AD, the mint resumed striking coins with the names of magistrates and their offices. The legend ΕΠΙ ΑΡΧ[ΟΝΤΟΣ], translated as ‘*during the magistracy of..*’, always preceded the name, declaring that the individual was the eponymous magistrate of the city.⁷⁹³ This however only applies for the higher denominations (3 and 2-assaria), since the lower ones, of the 1 1/2-assarion and smaller, exclude the name and refer only to the ‘Demos of Chios’ as the issuing authority. This added preposition in the name legend seems to show that the magistrate’s name was included in the type as a means for dating the issues during the individual’s tenure as eponymous magistrate. In the earlier coinage the individual’s name appeared without a title and was always in the nominative.

⁷⁹³ For the latest on the identification of the title ἐπι ἀρχ as that of the eponymous archon, see RPC, p. 2. and A. Johnston, ‘Aphrodisias Reconsidered’, NC 155 (1995), pp. 43-100, pp. 83-84. Smyrna furnishes another example of the use of the name of chief magistrates (eponymous magistrate and proconsul) for dating issues. As with Chios the name of the eponymous magistrate is in the genitive preceded by ΕΠΙ.

111. 4. SERIES OF ΚΟ[ΥΙΝΤΟΣ] ΟΥ[ΑΛΕΡΙΟΣ] ΠΡΕΙΜΟΣ Pls. XXXIX- XLII

1. General aspects: This series comprises issues of the 3-and 2-assaria in the name of ΚΟ[ΥΙΝΤΟΣ] ΟΥ[ΑΛΕΡΙΟΣ] ΠΡΕΙΜΟΣ with a rare issue of the 2-assaria without this name and bearing only the ethnic of the Chian demos (ΧΙΩΝ). Denominations smaller than the 2-assaria were also issued in this series (see below) and these, as with the 2-assaria issue last mentioned, lack the name of the magistrate. These issues share an identical style with those of the larger denominations bearing the magistrate's name and form part of the same series. It is clear that both coinages would have been produced together and a single die engraver prepared the dies.⁷⁹⁴

On a number of issues of the 3 and 2-assaria, the word ΔΙΣ ('for a second time') appears after the magistrate's name (coins are illustrated in Pl. XLI) showing that this particular coinage was struck separately and later than that lacking this word in its legends. The inclusion of the legend ΔΙΣ in the type would imply that the issues may have been struck during a second tenure of Preimos in office (see below)⁷⁹⁵ and I have classified them in this study as the 'second coinage' of this magistracy. Die studies revealed that the 3-assaria issues of the second coinage used two of the obverse dies from the first (Pl. XLI, fig. 1 and 3, the first common die; fig. 2 and 4, the second common die) but also two new obverse dies, together with four reverse dies, all of which were especially prepared for this coinage and are

⁷⁹⁴ Maurogordato, 1918, p. 41, suggests that the issues in the name of the individual and those of the demos are near contemporary on account of the style of the obverse types. However a comparison between illustrations of these different types of coinage makes it clear that the style is identical and the issues are in fact contemporary. Compare for example, figs. 1-6 (coins of the 3-assaria) with figs 7-9 (coins of the 2-assaria), figs. 11-12 (coins of the 1 ½ assarion), figs 13-16 (coins of the assarion), fig. 17 (dichalkon); the same also applies for the second coinage, compare figs. 3-6 & figs. 9-12 (coins of the 3-assaria) with figs. 13-18 (coins of 2-assaria), figs. 19-20 (coins of the 1 ½ assarion), figs. 21-24 (coins of the assarion), figs. 25-27 (coins of the tetrachalkon), figs. 28-29 (coins of the hemiasarion), figs. 30-31 (coins of the dichalkon) and figs. 32-35 (*Homereion* coins).

⁷⁹⁵ This was first claimed by Maurogordato, 1918, p. 41. The theory is plausible on account of the fact that the word appears alongside the name and title of Preimos. This seems to record that he held the same office twice. It is not unusual in Chios and other Greek cities under the Roman period for the same individuals to hold the office of eponymous archon, or any other office for that matter more than one time.

slightly different in style to those of the first coinage. It is clear that these new reverse dies were produced to accommodate the word ΔΙΣ in the legend since their types are identical with issues from the first series. Some smaller denominations bearing only the name of the demos show obverse types that are identical in style to the types used exclusively for the 'second' coinage of Preimos and were therefore struck as part of this coinage.

Preimos 1st coinage: large denominations record the name of the magistrate as ΠΡΕΙΜΟΣ. Small denominations show the sphinx facing r.

Preimos 2nd coinage: large denominations show the name of the magistrate as ΠΡΕΙΜΟΣ ΔΙΣ. Small denomination show sphinx facing l.

This is the earliest series from the later Roman period bearing the name of an individual. As we saw the legend makes no allusion to the role the individual might have played in the production of the issues and seemingly the title of ἀρχ[ο]ν next to his name only refers to him for dating purposes; in other words suggesting that Preimos 'happened' to be the city's chief magistrate at the time of the issue.⁷⁹⁶ However certain features of the coinage suggest that he is likely to have been in charge of the issues bearing his name, probably in a way similar to that of individuals signing earlier coinage with only their personal names and without including in the legends any title.⁷⁹⁷

One obverse die of the 2-assaria of Preimos's second coinage was also used in an issue bearing the ethnic without referring to the eponymous magistrate at the time (illustrated Pl. XLII, fig. 15-16). Since Preimos is named on two different issues of the same denomination, the absence of another eponymous magistrate's name on the 'anonymous' (demos) issue shows that the name of Preimos could not have been incorporated in the coin legend

⁷⁹⁶ See *RPC I*, p. 2, for a discussion of the appearance of the name of a magistrate in the legend of Roman provincial coinage for dating purposes.

⁷⁹⁷ See the chapter on typology in the section where I discuss the authority that was possibly entrusted with the issue of coinage at Chios. For contributions by wealthy citizens -with or without holding office at the time- towards the cost of minting coinage during the Roman Imperial period see *RPC*, p. 16.

exclusively for dating purposes. The question is simple: if the authority of the mint was dating the 3 and 2-assaria issues according to the tenures of Preimos, why did it not do so for the other 2-assaria issue but instead only included the ethnic in the coin legends?

By holding the office for a second time Preimos was responsible for more coins struck in his name. In all probability he may have funded the striking of these issues after his appointment. This may have been a 'liturgy' as suggested by Maurogordato (1918, p. 13-14) in which case Preimos would have left all the profit from the minting operation to the city. Alternatively he may have financed the striking of coinage as an investment and then shared the profit with the city. The latter theory seems more attractive in light of the fact that his name only appears on the 3 and 2-assaria, issues which would have brought in the largest money return.

If the issues bearing the magistrate's name were paid for by this individual, as I suggest, then this numismatic evidence might have wider implications for our knowledge of Roman Chios in general. The state seems to have been experiencing difficulties in funding the striking of coinage and probably relied on an individual, Preimos, to pay for this expense. Since the name of Preimos only appears on the larger denominations which brought in larger profits than lower denominations, it is likely that Preimos may also have taken a share of this profit.

It is particularly interesting that the mint engraved new reverse dies, and even a small number of obverse dies, to accommodate the legend referring to Preimos's second tenure. If the mint wanted to commemorate the holding of office by Preimos for a second time it could have countermarked the existing coinage with the word ΔΙΣ and then reissued it to circulation. Oddly enough one of the coins from the second series, in the B. N., is overstruck on another one of the same denomination from the first series. The undertype is clearly visible and the

coin is unworn (Pl. XLII, fig. 13). This seems to suggest that there may have been a withdrawal of the earlier coinage over which the second series was overstruck. If this is true than the second series is not likely to have been struck to supplement the first series but may have been an attempt by the mint (and possibly Preimos) to take a second profit from the coinage.

The 'Preimos Series' also includes the final Homereion issue (Pl. XLII, figs. 29-32), produced by the engraver of the dies for the second coinage of Preimos. The obverse is almost identical to that of the tetrachalkon (see below) and the hemiassarion, the only difference being the symbol beside the sphinx. On the coinage bearing denominational values this symbol is the prow of the ship while for the Homereion issue an amphora is used. The fact that these very similar dies were not confused between the different type of coinages -as happened with the other low-value issues of this series- suggests that the mint kept the *Homereion* issues apart from the regular coinage.

2. New denominations: The 'Preimos Series' follows the example of the last group of Series III and includes a wide range of denominations that were struck simultaneously. However no coin bearing the denominational legend of the obol is known from this or any later series; the name appears to have been dropped from the system of struck denominations, though the value continued to be struck but under a new denominational name, that of *2-assaria*. Coins of this new denomination bear the same reverse type and are similar in module to the obol of previous series (for coins of this denomination see Pl. XXXIX, figs. 7-10). It would seem therefore that the replacement of the obol by the 2-assaria would have had no real effect on monetary transactions. With this name change all denominations of the assarion and larger, were expressed as multiples of the assarion and the local monetary system of large bronze

denominations had been completely 'Romanized'.⁷⁹⁸ This is clear evidence of the widespread use of the term assarion as a denominational value. By the middle of the 2nd century AD this was already the most commonly used bronze denomination throughout the Eastern part of the Roman Empire. But, as I discuss in the chapter on bronze denominations, the reckoning in assaria continued to be made on the Greek -not the Roman- system and the spread of the term assarion is evidence of the adoption of Roman denominational names, though not the Roman Imperial denominational system itself, by mints in the Eastern part of the Roman Empire.

The second coinage of Preimos also includes an issue of the tetrachalkon (Pl. XLII, figs. 23-25). Since this is the only known issue to bear such a denominational value it appears that the series of Preimos represents the most complete set of denominational values ever struck by Chios. The tetrachalkon bears on its reverse a bunch of grapes, a type used only once before on an issue dating to the late 3rd century BC, known today from a unique coin (Type 17. III signed by ΗΡΟΚΡΑΤΗΣ, see Pl. XIII, Series 17.III, fig. 2).⁷⁹⁹ The types of both issues are stylistically close and the die engraver may have been aware of this earlier issue and copied its type on the reverse of the new denomination.⁸⁰⁰

The adoption of what was in all purposes a new type at Roman Chios highlights the fact that the tetrachalkon was a new denomination. Its unusual type would have been a marker of the denomination making it easier for individuals to distinguish the tetrachalkon from the hemiassarion, with which it shares a similar diameter and weight.

The tetrachalkon is only known to have been struck on a single occasion, the second coinage of Preimos. It was never issued again, but in any case no issues lower than the

⁷⁹⁸ With the term 'Romanization' I refer to the adoption of Roman names for issues that were previously known by Greek names. However the system in the East continued to function as before and there is no evidence of gradual adoption of the Roman monetary system (see the discussion in the chapter on denominations).

⁷⁹⁹ A bunch of grapes (though without the top of branch) was also used as countermark -not the type- on issues of Roman Series I.

⁸⁰⁰ See the chapter on typology where I discuss examples from Chios where types of the coinage have been copied from earlier issues suggesting that the mint may have kept earlier issues for reasons of reference.

assarion were struck following this series. Coins of the hemiassarion and the tetrachalkon are struck on a similar module -they share the same diameter, with the tetrachalkon only slightly heavier in weight. The tetrachalkon was only a chalkous above the hemiassarion and therefore both denominations were of similar value. This evidence suggests that the tetrachalkon denomination would have played a limited role in the local monetary system since other established denominations amply covered the same type of transactions as this denomination. I doubt therefore that the mint introduced the tetrachalkon to facilitate transactions; it may represent an exceptional issue briefly struck to cover a need arising from a certain expenditure.

3. Typology:

With the exception of the tetrachalkon, the types chosen for the 'Preimos Series' are known from earlier issues of the Imperial period. All types used on issues of Group D of Series III were also applied on those of Preimos. Furthermore, the denominations of the first coinage of this moneyer also share symbols in common, in front of the sphinx, with their respective denominations of Group D. The only new typological aspect of the 'Preimos Series' is the reutilization of a number of motifs last used on the same denominations in an earlier series (Series II). For example, a few 3-assaria bear an amphora type (illustrated, figs. 1-4) and all of the 2-assaria coins of the demos, struck as part of the second coinage of Preimos, bear a cantharos (figs. 15-16). The use of these earlier types is one more sign of Chian conservatism since the mint was content to reuse types from older issues rather than start introducing new ones.⁸⁰¹

⁸⁰¹ The 3 and 2-assaria with types from an earlier series do not represent an attempt by the mint to reintroduce the weight standard of these earlier issues. The weight of coins bearing the older types are on the same weight range as issues bearing the more recent types

4. Die studies: All issues bearing the name of Preimos are die linked (see the coin catalogue).

A total of 4 obverse and 6 reverse dies were used for striking the 3-assaria issue of the first coinage. The same denomination of the second coinage was issued from a total of 4 obverse and 6 reverse dies; two of these obverse dies had already been used in the first coinage of Preimos, and provide us with die links between the two coinages of this magistrate.⁸⁰² In total six obverse dies were used for striking the 3-assaria of the entire series.

The 2-assaria issue of the first coinage of Preimos used in total 3 obverse and 2 reverse dies, and a single obverse and 3 reverse dies were used for striking issues of this denomination in this magistrate's second coinage. One of the latter issues, as we saw above, bears only the ethnic and not the name of Preimos but was struck with the obverse die of the second coinage with the magistrate's name.

Coins of the 2-assaria issue with the demos legend have worn details in their obverse type, which even applies for those with few signs of circulation. In contrast to this, coins from the same denomination and issue but with the magistrate's name, show clear details in the obverse.⁸⁰³ This suggests that the obverse die would have been already worked when it began striking the demos issue. The 2-assaria offer us the opportunity to compare issues of the same denomination belonging to two different types, either in the name of a magistrate or the demos. The issue of the 2-assaria naming Preimos used a total of three obverse while that of the demos used a single obverse die which was already used by the magistrate. The evidence

⁸⁰² Preimos, First Coinage, Die Links: 1st obv. die, figs. 1, 2, 5; 2nd obverse die, figs. 3; 3rd obv. die, fig. 4; 4th obv. die, fig. 6. Preimos, Second Coinage, Die Links: 1st obv. die (1st obv. die of Preimos A), figs. 1, 3; 2nd obv. die (2nd obv. die of Preimos A), figs. 2, 4; 3rd obv. die, figs. 5-9; 4th obv. die, fig. 10.

⁸⁰³ See Pl. XLII, figs. 15-16, with illustrations of some of the best preserved 2-assaria of the demos. These do not bear signs of a long circulation but none seem to show any minute details on the sphinx type, for example the hair on its head or the distinctive side lines on the prow of the ship. Note that these details are clear on slightly worn coins signed with the name of Preimos, but of the same die as the previous ones, for example the illustration of such coin, fig. 13.

suggests that the 2-assaria issue of the demos was no more than supplementary coinage to that of the magistrate.

The obverse die of the 2-assaria seems to have been produced by the same engraver who cut the fourth die of the 3-assaria of the second coinage of Preimos since the sphinx of these issues is stylistically similar and of a distinctive type quite different to that appearing on the other issues.

Only a single obverse and reverse die were used for the issue of the 1 ½ assarion of the first series. The assarion of this series was also struck from a single obverse die but one reverse die each was used in the three different issues of this denomination (see the coin catalogue). The assarion of the second series used two obverse dies and one reverse die for each of the three different varieties. Issues smaller than the assarion (tetrachalkon, hemiassarion, dichalkon) were all struck from the same single obverse die, while two reverse dies have been counted for each one of these denominations.

The die study shows that the largest number of coins was produced for the 3-assaria and the 2-assaria, both in the name of Preimos. In contrast to this, issues of the smaller denominations, which only bear the ethnic, would have been scarcer. We seem here to have a marked difference in the amount of coinage bearing the name of the magistrate and that which does not. As discussed above the mint at Chios used a larger number of dies for striking the 3-assaria issues than for any other denomination, followed by the obol (2-assaria). In contrast to this, issues for smaller denominations only used a single or two obverse dies. It may be that the need for coins of the small value was not as pressing as that of the largest denominations. It is interesting that the striking of the important large denominations were entrusted to an individual while the less valueable lower value denominations were struck by the demos.

5. Proposed dating: As we saw, the two different coinages of Preimos are die linked and their denominations share the same weight, diameter and die axis. These features indicate that little time elapsed between the issues. There are some slight stylistic differences between the types on the two coinages, but these may be attributed to the work of different die engravers. We have no idea how many years may have elapsed between the two tenures of Preimos in office.⁸⁰⁴ On the evidence of the coinage, it would seem that he did not hold office immediately after his first term, but probably a few years later.

As with most other Chian coinage struck during the Roman period we seem to lack the evidence that may help us propose an absolute dating for the issues. None of the coins are recorded from closely dated hoards⁸⁰⁵ or archaeological contexts and I have been unable to find an overstruck coin with an undertype that is clear enough to be identified and dated, which would indicate a likely period when Preimos may have struck coinage. The types, typical of the Chian issues, lack all reference to contemporary historical events.

Though the full name of a magistrate appears on the large denominations this by itself is not useful in dating the issues since no individual bearing all three names ΚΟΥ[ΙΝΤΟΣ] ΟΥΑ[ΛΕΡΙΟΣ] ΠΡΕΙΜΟΣ is recorded in any known Chian inscriptions. The name ΠΡΕΙΜΟΣ -though not referring to the magistrate in charge of the coinage- is epigraphically attested in Roman Chios and I discuss below its possible relevance for the chronology of the coinage.⁸⁰⁶

⁸⁰⁴ Examples from dated issues of other Greek mints are not in particular helpful as there are cases of magistrates holding office in short intervals of a couple years and others of over a decade.

⁸⁰⁵ A coin of the 3-assaria denomination was part of a hoard said to have been found in the vicinity of Kyparrisia in the Peloponnese, and published in T. Jones, 'Greek Imperials-A Numismatic Riddle', *Proceedings of the American Philosophical Society* 107 (1963), pp. 308-347, Appendix B' *Coins from 'Kyparrisia'*, p. 347, no. 31. The hoard was composed of a variety of Roman provincial coinage covering the period from the reign of Claudius (41-54) to that of Valerian (253-259). Though the majority of coins are of the 2nd century AD this is not particularly helpful in attempting to date the Chian coin.

⁸⁰⁶ However see the epigraphical evidence, discussed below, for other Chians bearing the name possibly hinting to the period when Preimos might have been in office.

The two emissions of Preimos are impossible to date with accuracy but there are certain features that may indicate a general period of striking; most important of these is style and metrology. Maurogordato proposed a date for the issues exclusively on their style and classified them in his sub-period γ , dating between 'Nero's death and the middle of the second century AD'.⁸⁰⁷ This period corresponded with what was thought in the past to be the high point of Roman art, and this was the main reason why Maurogordato (1918, p. 10) placed the series in this period.

Style seems to link some issues from the first coinage of Preimos with types appearing on issues of Group D of Series III. These stylistic similarities between the two series appear in issues of different denominations such as the 3-assaria and the assarion.⁸⁰⁸ As we have already seen, denominations of the first series of Preimos also bear the same symbols as those appearing on Series III, Group D. These features may suggest that the first coins of Preimos were struck not long after those of the final group of Series III.

The reverse type of some issues of the 3-assaria belonging to the second coinage of Preimos is probably indicative of a date of issue during the later Antonine period. In particular, some of the figures of Apollo and Dionysos on this denomination, for the first time, are depicted facing each other and not in the normal frontal pose, as was standard hitherto. A study of other Greek coinages suggests that the depiction of a pair of figures, obviously cult statues, in this fashion usually dates from the reigns of M. Aurelius and Commodus, and is very rare in earlier periods, when frontal representation of standing figures was the rule.⁸⁰⁹

⁸⁰⁷ Klose, 1987, p. 115, records that Maurogordato dated this series between 117 and 150 AD. However Maurogordato makes no specific mention of these dates and only states in 1918, p. 10, that this series belongs to the *latter portion* of the period between the death of Nero and the mid 2nd century AD.

⁸⁰⁸ Compare the obverse type of the 3-assaria of Group D figs. 13-15 with that of Preimos fig. 6 and the assarion of fig. 6 with those of figs. 25-28. Maurogordato, 1918, p. 40, no. III; p. 50, no. 112, records the similarities in style between the 3-assaria issues in the different series but did not notice the similarities between the different issues of the assarion.

⁸⁰⁹ See for example, 'Phocaea', SNG Copenhagen no. 1064, issues of the largest denomination struck by Phocaea during the reign of M Aurelius and bearing two deities facing each other when in earlier issues of this

Other evidence on the dating of the issues involves the way the legend is inscribed. The issues are the earliest to show the legends inscribed from the left to the right hand side a clear sign that they date after the reign of Hadrian (see the discussion above in Series III). The fabric of the coins and minting technique also suggest a date in the 2nd century AD though these features cannot offer us a more precise dating.

The best available evidence on the period of issue of the 'Preimos Series' seems to be found in the weight standard. Provincial coinages frequently show changes in weight, over a short period, during the 2nd and 3rd centuries AD, making it possible to date these Chian issues by comparing their standard to that of other issues which were striking coinage in the same denominational system as Chios. This method has already been used in studies attempting to date the Chian series of the Roman period bearing the names of magistrates. Dr Klose has compared the average weight of Chian denominations struck under Preimos, and later, with that of issues of Smyrna and Magnesia ad Maeandrum which he perceived as belonging to the same denominations as the Chian issues.⁸¹⁰ His study suggests that the denominations of Preimos are struck on a similar standard to that used at these cities during the first half of the 2nd century AD. On this evidence he proposed that the 'Preimos Series' would date during the 2nd century AD and before c 150 AD.

Klose's approach to the dating of the Chian coinage has been challenged by Anne Johnston. In a forthcoming article she considers that Klose may have been comparing the wrong denominations of Chios to those struck by the mints of Smyrna and Magnesia ad

denomination the deities are depicted facing front. The same type also appears on an issue of this mint dating to Commodus, see 'Phocaea', SNG Copenhagen, no. 492-3. On issues of Phocaea before M. Aurelius, the deities are depicted in the frontal pose. On issues of Pergamum from the reign of M. Aurelius-Commodus, figures of Aesclepius and Hygia face each other, foregoing the frontal pose on earlier issues.

⁸¹⁰ D. Klose, *Die Munzprägung von Smyrna in der Römischen Kaiserzeit* (Berlin, 1987), pp. 114-115. Note that none of these issues of Asia Minor bear denominational values in their types as Chios (see the chapter on bronze denominations).

Maeandrum.⁸¹¹ Johnston states that one of the possible repercussions from this error is the proposing of a wrong date for the issues of Preimos. The results of her study of the Chian issues suggests that the 1 ½ assarion, 2 and 3-assaria of this mint are struck on a similar weight as the same denominations of Smyrna from the reigns of Antoninus Pius and M Aurelius. However she considers that the Chian denominations of the assarion and lower may have been struck on a heavier standard than that of Smyrna (Johnston, *forthcoming article*, p. 13, Table 8). Based on this evidence Johnston proposed a date of c 150 AD, or slightly later, for issues of Preimos.

As I discuss in the chapter on the bronze denominations, these studies by Klose and Johnston were probably comparing the standard of the Preimos issues to that of foreign issues struck on a different denominational system (and standard) to the one employed at Chios. It is more likely that Chios was using the same denominational system as that of mints in the province of Achaëa, and not Asia. Chian issues should therefore be compared to those of the mints in Achaëa to try to establish their period of issue.

I discuss this idea in the chapter on denominations where I propose comparing the standard of the issues of Preimos with that of Aigion, a mint of Achaëa striking issues with marked denominations. The results of these comparisons show that issues of Preimos agree well with the standard of Aigion during the joint reign of M. Aurelius and Commodus (177-180 AD). On this ground I would suggest that the coinage of Preimos dates during the later reign of M. Aurelius, and therefore two or three decades after the period proposed for these issues in previous studies.

⁸¹¹ Klose did not include the 1 ½-assarion denomination for issues of Smyrna-Magnesia, and Johnston believes that he was comparing the 3-assaria of Chios with what may in fact have been the 2-assaria. The 1 ½ assarion was a common struck by a number of Greek mints during the Roman period -including Chios- and Johnston's claim seems to be correct.

6. Epigraphic evidence: The tria nomina of Preimos reveal that he would have been one of the Roman citizens of Italian descent that may have settled at Chios during the Republican period,⁸¹² rather than a local Chian who inherited the Roman citizenship from his parents or acquired it personally from an emperor.⁸¹³ We know from inscriptions at the sanctuary of Apollo in Klaros, dating to the brief period of 164-7AD, of three different contemporary Chians that bore the name ΠΡΕΙΜΟΣ. All three individuals were local Chians, since none possessed Roman citizenship,⁸¹⁴ and were either children or in puberty at the time when the inscriptions were inscribed.⁸¹⁵ It is therefore unlikely that any one of these may be identified with the namesake magistrate. However the simultaneous appearance of three individuals of approximately the same age bearing the same name is probably not a coincidence. As the name is not known from earlier or later Chian inscriptions it is likely that it may have been fashionable only for a brief period during the period when all three individuals were born (c 150-160 AD). It may be that the name became popular via a single individual and the magistrate named on the coinage presents an attractive possibility. If this is true than the eponymous magistrate named on the coinage may have been politically active during the middle of the 2nd century AD, or slightly later.

7. Archaeological finds: A small number of coins of the Preimos have been found in foreign sites, whilst a coin with an unknown provenance bears a foreign countermark which was

⁸¹² Sarikakis, 1970, pp. 193-4; Preimos shared the same gentilicium (Valerius) with a number of Roman 'negotiatores' that were resident at Delos and Athens since the end of the 2nd century BC; (Sarikakis for references).

⁸¹³ All issues of the second coinage omit the forenames of Preimos. This made Sarikakis consider the possibility that this individual first issued these coins and made a second issue after he had received Roman citizenship. This however is contradicted from the legends themselves which show that the second coinage does not include the full name of the magistrate in the coin legends. Regardless of this, his tria nomina make it clear that Preimos was not Greek, and members of his family must have been Roman citizens for a number of generations.

⁸¹⁴ Sarikakis, *Chian Prosopography*, p. 391, no. 208 (162-5 AD); no. 209 (162-5 AD); no. 210 (159-160 AD). The Chians with Roman citizenship recorded in inscriptions of Chios or even Klaros, always declared this fact by including the tria nomina in the records of their names.

⁸¹⁵ The young age of these individuals is established from the fact that their names appear in the lists commemorating the children that sung in honour of Apollo during the pilgrimage of the Chians at Klaros

possibly applied at Ephesus.⁸¹⁶ A 3-assaria coin from the largest denominations originates from the region of the Peloponnese, allegedly found in a hoard near the modern town of Kyparissia (see above). The Chian denomination most widely circulating outside Chios was the tetrachalkon, found in five different foreign sites, Corinth,⁸¹⁷ the Athenian Agora,⁸¹⁸ Pergamum,⁸¹⁹ Assos,⁸²⁰ and Smyrna.⁸²¹ Other denominations represented in foreign finds include an assarion from the Athenian Agora,⁸²² and possibly a coin of the same denomination from Pergamum.⁸²³ The economic implications of these findings are discussed below in the chapter on the economy.

⁸¹⁶ The countermark was applied in c. 260 AD, and is of no help in dating the issue of the coin but does show that this particular coin was circulating in Asia Minor almost a century after its issue. I would like to thank Mrs A. Johnston for her thoughts on this countermarked coin.

⁸¹⁷ Edwards, 1933, no. 454

⁸¹⁸ Kroll, *Athens Agora XXVI*, p. 271, no. 947

⁸¹⁹ K. Regling, *Munzfunde aus Pergamon*, (Dresden, 1915), no. 357.

⁸²⁰ H. W. Bell, 'Coins from Assos', pp. 295-313, no. 190, in *Excavations at Assos*. (Cambridge, 1921).

⁸²¹ The coin is part of a private collection and is unpublished. A provenance from Smyrna is almost certain.

⁸²² Kroll, *Athens Agora XXVI*, p. 271, no. 946.

⁸²³ Regling, 1915, no. 358, however this find is uncertain and the coin is not in Berlin alongside the other coins found from this excavation.

SERIES WITH PREIMOS

Pl. XXXIX-XL

All legends starting with this series run r. to l. clockwise

Denominations: two chalkoi, assarion, 1 ½ assarion, 2-assaria, 3-assaria

3-assaria:

Type A: Obv.: sphinx seated r. and lifting l. paw over prow of galley; denominational legend AC-CA-PIA, TPIA(in exergue) 3 dies.

Rev I: amphora in the centre; an eight-rayed star and a wreath tie on each side of the amphora; ΕΠΙΑΡΧΟΟ-ΥΑΠΡΕΙΜΟΥ; X-I-Ω-N inscribed in two lines to the l. and r. of the amphora [M. 113a]. 2 dies

London

B. M.:

no. 115; 17.37g, 6, **fig. 1.** O1, R. 1

no. 116; 13.18g, 6, **fig. 2.** O1, R. 2

Paris

B. N.:

no. 3204; 14.38g, 6.

Rev. II: as Rev. type I, but ears of grain and poppies at the base of the amphora in place of the fillets of the previous type [M. 113b] two dies

Oxford

A. M.:

Christchurch; 15.04g, 6, **fig. 3.** O2, R. 3

Paris

B. N.:

no. 3202; 13.89g, 6; pierced, **fig. 4.** O3, R. 4

Rev. III: Apollo and Dionysos as in the same type depicted on the 3-assaria of Series III, Group C; ΕΠΙΑ-PXKO-OYA-ΠΡΕΙΜΟΥ, ΧΙΩΝ (in exergue) [M. 113g]

Paris

B. N.:

no. 3192; 15.60g; ill. Maurogordato, 1918. Pl. II. 1

Vienna

K. M.:

no. 17981 T; 17.07g. **fig. 5.** O1, R. 5

Type B: Obv.: sphinx seated l. lifting r. paw over prow of galley; ACC-AP-IA, TPIA (in exergue) [M. 117a].

Rev. I: same as Type A. Rev. III

London

B. M.:

no. 118; 17.38g, 12, pierced. **fig. 6.** O4, R. 6

N. York

ANS coin coll.:

12.02g: this coin bears a cmk and is recorded by Howgego in countermark no. 811.

Paris

B. N.:

no. 3194; 16.28g, 5; pierced

2-assaria:

Type A: Obv.: sphinx seated r. lifting r. paw over prow of galley; AC-C-APIA, ΔΥΟ (in exergue)

Rev.: standing figure facing front as with the obol type of Series III, Group D; ΕΠΙΑΡΚΚΟΟΥ-ΑΠΡΕΙΜΟΥ, ΧΙΩΝ in two lines on each side of the figure [M. 114a]

Oxford

A. M.:

13.23g, 12. **fig. 7.** O. 1, R. 1

Paris

B. N.:

no. 3182; 7.22g, 6. **fig. 8.** O. 2, R. 1?

no. 3188; 13.15g. **fig. 9.** O. 1, R. 1

no. 3189; 9.89g, 12.

Munich

M. K.:

8.14g, 6; ill. Maurogordato, 1918. Pl. II. 2

Type B: Obv.: sphinx seated l. lifting it r. paw over front of galley; AC-CA-PIA, ΔΥΟ (in exergue)

Rev.: as type A; ΕΠΙΑΡΚΚΟΟ-ΥΑΠΡΕΙΜΟΥ [M. 117b]

Glasgow

G. U.:

H. c., Chios no.; no. 55; 9.88g, 6

Giessener Munzhandlung Dieter Gorny GMB H, Munchen Auction 64, Oct. 1993

no. 169; 9.24g. **fig. 10.** O. 3, R. 2

1 ½ ASSARION [M. 114b]:

Obv.: sphinx seated r. lifting r. paw over amphora; XI-Ω-N.

Rev.: two crossed thyrsoi. IONHM-YCY-CCAP, starting at two o' clock and ending at eleven; the ends of the thyrsoi mark the breaks in the legends breaks. All with a wreath of vines with a small bunch of grapes hanging from its top between the two thyrsoi.

Oxford

A. M.:

Milne, 1924; 8.40g, 6. **fig. 11**

Glasgow

G. U.:

H. c., Chios no. 59; 6.83g, 12. **fig. 12**

Copenhagen

D. N. M.:

no. 1650, Ramus no 3; 9.31g. 6

Chios

K. L.
no. 34; weight not recorded, 6

Paris

B. N.:
no. 3164; 8.67g, 6

Vienna

K. M.:
no. 17987; 10.19g, 6

ASSARION:

Obv.: sphinx seated r. lifting r. paw over bunch of grapes; X-I-ΩN.

Type A: Rev.: amphora in the centre; an eight-rayed star one each in field to r. and l. of the amphora; ACCA-PION [M. 115b]

Oxford

A. M.:
5.51g, 6; pierced. **fig. 13**

Copenhagen

D. N. M.:
no. 1651, Heldreich 1874; 4.85g, 6. **fig. 14**

Athens

N. M.:
1903-4, B' 24; 4.71g, 5

A. A.:
no. 947; 3.42g, 12; published by Kroll, p. 271.

Paris

B. N.:
no. 3160; 5.06g, 6. **fig. 15**

Type B: Rev.: as type A but with two wreath ties one on each side at the end of the amphora. [M. 115a]

Glasgow

G. U.:
H. c., Chios no.; no. 61; 4.4g 12. **fig. 16**

TWO CHALKOI [M 116]:

Rev.: amphora in the centre; ΔΙΧΑΑ-KON

Type A: Obv.: sphinx seated r. and lifting l. paw over prow of galley; XI-Ω-N.

London

B. M.:
no. 114; 2.08g, 11. **fig. 17**

Type B: Obv.: as a type A but sphinx is holding with l. paw cantharos over prow of galley in front

Vienna

K. M.:

no. 31171; 1.61g, 12. **fig. 18**

Kunker Lagerkatalog 120, 1996

no. 39, no further details available

SECOND COINAGE OF PREIMOS

XLI - XLII

Denominations: two chalkoi, hemiassarion, tetracalkon, assarion, 1 ½ assarion, 2-assaria, 3-assaria

The obverse type shows the sphinx seated l. lifting l. or r. front paw over various objects-symbols, different for each denomination. For reverse types see issues of individual denominations. Legends are arranged from l. to r. but some exceptions are noted. Types are enclosed in dotted circle or wreath

Same obverse die for two calkoi, hemiassarion, and four chalkoi

3-assaria:

Type A: Obv.: same die as Preimos First Coinage, Type A.

Rev. I: same type as Preimos First Coinage, Type A, Rev. II; ΕΠΙΑΡΧΟΟΥΑΠΡ-ΕΙΜΟΥΔΙC [M. 119]

London

B. M.:

no. 947; 15.78g, 6. **fig. 1.** O.1 (1st die of the first coinage of Preimos), R. 1

Cambridge

F. M.:

G. c.; 14.26g, 6. **fig. 2.** O.2 (2nd die of the first coinage of Preimos), R. 1

Paris

B. N.:

no. 3201; 18.85g, 6

Vienna

K. M.:

15.43g, 6

Rev. II: : Apollo and Dionysos standing and facing each other. Ethnic ΧΙΩΝ in exergue, and legend ΕΠΙ-ΑΡ-ΧΙΠ-ΕΙΜΟΥΔΙC. [M. 118]

London

B. M.:

no. 946; 17.26g, 5. **fig. 3.** O.1 (1st die of Preimos A). R. 2

Cambridge

F. M.:

M. c., no. 8387; 17.39g, 6

Glasgow

G. U.:

H. c., Chios no. 54; 14.80, 6. **fig. 4.** O.2 (2nd die of Preimos A), R. 3

Copenhagen

D. N. M.:

no. 1652, Lambros 1908; 16.47g, 6

Paris

B. N.:

no. 3193; 16.30g, 5

Munich

T. U.:
no. 18.55g, 5

Berlin

K. M.:
12.61g, 6

Glendining sales catal. July 1929
no details available

Type B: Obv.: sphinx seated r. lifting l. front paw over front of galley; AC-CA-PIA, TPIA (in exergue)

Rev. I: amphora in the centre, smaller than the above type. Ethnic X-I-Ω-N arranged in two lines in field to the l. and r. of the amphora. The type is enclosed in an elaborate laurel wreath, tied at the top with a ball; two wreath ties at the end of the wreath appear one on each side of the end of the amphora. Magistrate's legend ΕΠΙΑΡΧΙΠΡΕΙΜΟΥΔΙC outside the wreath; the whole enclosed in dotted circle. [M. 121a]

London

B. M.:
no. 117; 19.50g, 6. **fig. 5.** O.3, R. 4

Cambridge

F. M.:
L. c.: 17.68g, 6. **fig. 6.** O.3, R. 4

Copenhagen

D. N. M.:
no. 1653, Rollin; 18.59g, 6

Paris

B. N.:
no. 3206; 15.84g, 6. **fig. 7.** O. 3, R. 4

Hirsch Cat. no. 171
no. 297. no weight and die axis recorded

Rev. II: Apollo and Dionysos depicted standing and facing each other; ΕΠΙ-ΑΡ-ΧΙΠΡ-ΕΙΜΟΥΔΙC ΧΙΩΝ (in exergue) [not recorded by Maurogordato]

London

B. M.:
no. 118; 17.38g, 12

Oxford

A. M.:
14.60g, 6. **fig. 8.** O. 3, R. 4

Kricheldorf, Auction XIII. Sept. 1963
no. 113. 13.24g

Rev. III: Apollo and Dionysos standing facing front; a crescent in the field between their heads; ΕΠΙ-ΑΡΧ-ΠΡΕΙ-ΜΟΥ ΔΙC, ΧΙΩΝ(in exergue) [M 122]

London

B. M.:
no. 176, 17.16, 6. **fig. 9.** O.3, R. 5

Type C: Obv.: sphinx seated l. ACC-AP-IA TPIA in exergue

Rev. I: same die as Type B, Rev. IV [not recorded by Maurogordato]

Cambridge

F. M.
Mcl. c.no 19, 14.26, 6. **fig. 10.** O.4, R. 6

2-assaria:

The same obverse die was used in issues of the second tenure of Preimos and those of the demos. The type shows the sphinx lifting r. paw over prow of galley and wearing a crown of sunrays on its head; AC-CA-PIA, ΔΥΟ(in exergue)

With magistrate's name [M. 123]

Type A: standing figure of Oinopion with l. foot slightly bent; the legs are open and not in attention, as in all earlier depictions of this type; ΕΠΙΑΡΧΠΡ-ΕΙΜΟΥΔΙC, X-I-Ω-N in two lines on each side of the figure.

London

B. M.:
no. 948; 10.17g, 7. This coin is overstruck. **fig. 11.** O.1, R. 1
no. 120; 8.87g, 7, pierced, **fig. 12.** O.1, R. 1

Paris

B. N.:
no. 3183; 10.05g, 6; overstr. on an issue of the same denomination of Preimos's first coinage. **fig. 13.** O.1, R. 1

Berlin

M. K.:
Bonnet; 10.36g, 6

Type B: Rev.: as type A but figure is smaller and feet in attention. All within a dotted circle.

Oxford

A. M.:
8.14g, 6

Cambridge

F. M.:
M. c., no. 8386; 10.20, 6. **fig. 14.** O.1, R. 2

Kuner, Cat. no. 26, March 1994
no. 170; 9.82g

Type C: as last type but legend ΕΠΑΡΧ ΠΡΕ-ΙΜΟΥΔΙC, star at the end of the legend.

Kolner Munzkabinett. Auction 38, April 1985
no. 99, no weight and die axis available. **fig. 33**

Without magistrate's name [M. 124a]: same obverse die as previous issue.

Type A: Rev.: cantharos in the centre; X-I-Ω-N in two lines on each side of the cantharos; the whole enclosed in vine wreath, tied at the top with two knobs. An ear of grain on each side of the base of the jar.

Glasgow

G. U.:

H. c., Chios no. 58; 10.36, 6; pierced, illustrated Macdonald, 1901, Pl. LIII. 11. **fig. 15**

Copenhagen

D. N. M.:

no. 1655, V. L. 1907; 11.74g, 6

Paris

B. N.:

no. 3173; 10.80g, 6, illustrated in Maurogordato, Pl. II. 5. **fig. 16**

Munich

T. U.:

no. 3270; 5.33g, 6

Type B: Rev.: as above, but no ear of grains at base of cantharos

Von Aulock collection

no. 2284; 10.32g. **fig. 34**

1 ½ ASSARION [M. 121b]

Obv.: sphinx seated l. lifting l. paw over small amphora. Ethnic X-I-Ω-N, last letter in exergue.

Rev.: two crossed thyrsos in the centre; ACCAP-IONH-MYΣY arranged round the type in such a way that the ends of the thyrsos fit in the legend breaks; all enclosed in vine wreath in the inside of which a small bunch of grapes hangs within the top between the two ends of the thyrsos.

London

B. M.:

ex Weber coll.; 8.20g, 6. **fig. 17**

Athens

N. M.:

6.60g, 6

Paris

B. N.:

no. 3165; 7.57g, 6, pierced. **fig. 18**

ASSARION [M. 124b]

Obv.: sphinx lifts r. paw over prow of galley. Ethnic XI-Ω-N

Rev. I: amphora in the centre; an eight-rayed star on each side of the amphora: ACCA-PION. All within a dotted circle.

Oxford

A. M.:

5.75g, 6. **fig. 19**

Copenhagen

D. N. M.:
no. 1656, V. L. 1910; 4.69g, 6

Paris

B. N.:
no. 3162; 6. **fig. 20**

Rev. II: two wreath ties one on each side of the end of the amphora.

London

B. M.:
no. 953; 6.19g, 6. **fig. 21**

Glasgow

G. U.:
H. c., Chios no.; no. 62; 4.9g, 12, illustrated Macdonald, 1901, Pl. LIII. 12

Cambridge

F. M.:
M. c., no. 8390; 5.59g, 6. **fig. 22**

Vienna

K. M.:
no. 17984; 4.91g, 6
no. 17986; 6.95g, 6

Berlin

M. K.:
no. 358; found in Pergamum

Dr P. Rynearson list, Autumn 1989
no. 4

Rev. III: two ears of grain, one on each side of the end of the amphora

Copenhagen

D. N. M.:
no. 1657, V. L. 1892; 5.04g, 6

FOUR CHALKOI [M. 124g]

Obv.: sphinx seated r.

Rev.: large bunch of grapes in the centre; TE-TPA-XAAKON. All within a dotted circle.

London

B. M.:
no. 956; 2.95g. **fig. 23**
no. 110; 2.86g, 6

Oxford

A. M.:
2.50g, 6. **fig. 24**

Athens

A A

no. 946; 2.95g, 12; published by Kroll, p. 271.

Corinth

A. A.:

no details recorded; published, Edwards, 1933, no. 454

Chios

K. L.:

6; reputed to have been found in the city of Chios. **fig. 25**

Istanbul

A. M.:

2.17g, 5, found in Assos during the British Excavations of 1910 and published by Bell, 1920.

Paris

B. N.:

no. 3217; 12

Berlin

I. B. 1900; 2.72g, 6

P. O. 1876; 3.04g, 12

Former Former Former Lindgren coll..l.

no. 585; 3.35g

HEMIASSARION [M. 124d]

Obv.: same die as the tetrachalkon

Rev.: cantharos in the centre; HMIACCA-PION. All within a dotted circle.

London

B. M.:

no. 955; 1.74g, 6. **fig. 26**

Oxford

A. M.:

2.50g, 6. **fig. 27**

Cambridge

F. M.:

Lew. c., no. 1350; 2.35g, 6

Copenhagen

D. N. M.:

no. 1658, V. L. 1911; 2.09g, 6

Berlin

K. M.:

1.77g, 6, illustrated in Maurogordato. Pl. II. 7

TWO CHALKOI [M. 124e]

Obv.: sphinx lifts r. paw over prow of galley; XI-Ω-N.
Rev.: amphora in the centre; ΔΙΧΑ-ΛΚΟΝ. All within a dotted circle.

London

B. M.:
no. 958; 1.86g, 12. **fig. 28**

HOMEREION [M. 124z]:

Obv.: sphinx seated r., lifting r. paw over amphora. Ethnic XI-Ω-N
Rev.: Homer seated in throne holding open scroll in his lap; O a dot above and under this letter-MΗΡΟΣ. All within a dotted circle.

London

B. M.:
no. 140; 2.79g, 12. **fig. 29**
no. 141; 2.96g, 12; prow of galley instead of amphora in front of sphinx
no. 89; 2.92g, 6

Oxford

A. M.:
M. 1924; 2.98g, 6
M. 1924; 2.32g, 6

Glasgow

G. U.:
H. c., Chios no.; 69, 3.04g, 6
H. c., Chios no.; 70, 2.97g, 6, illustrated Macdonald, 1901, Pl. LIII. 15

Copenhagen

D. N. M.:
no. 1659, Lambros 1890; 3.32g, 6. **fig. 30**

Paris

B. N.:
no. 3156; 3.03g, 6. **fig. 31**

Vienna

K. M.:
no. 17969; 1.97g, 6
T. no. 17970; 1.99g, 6

Berlin

M. K.:
Fox 1869; 3.09g, 6. **fig. 32**
Dannenberg; 2.66g, 12
L. 1906; 2.68g, 12
I. B. 1928; 2.80g, 12. illustrated in Maurogordato, Pl. II. 8.

III. 5. SERIES OF ΕΙΡΗΝΑΙΟΣ XLIII-XLIV

1. General aspects: Following issues by Preimos there seems to have been a gap in the production of coinage at Chios since the next series bears little in common with that of Preimos. Its types show a completely new style and, most importantly, the standard is also different to that of earlier issues. The series consists only of issues of the assarion and higher denominations, the 1 ½, 2, and 3-assaria. The 3-assaria are relatively common with 23 coins recorded in this study (19 are illustrated in Pl. XLIII, fig. 1-15 & Pl. XLIV, figs. 16-19) but issues of other denominations are rare or even unique. Four coins are recorded for the 2-assaria (three coins are illustrated in Pl. XLIV, figs. 20-22), two for the 1 ½ assarion (Pl. XLIV, figs. 20-22), and a single coin for the assarion denomination (Pl. XLIV, fig. 25),

The name ΕΙΡΗΝΑΙΟΣ is found on seven coins of the 3-assaria denomination (Pl. XLIII, figs. 1-6). Since this name is always preceded by the words ΕΠΙ ΑΡΧ it is clear that Eirenaios would have been the eponymous magistrate of the city at the time the issue was struck. However, as I have suggested for Preimos, it is likely that this magistrate may have been named on the coinage for having contributed financially for the issue he signed (see below). The other recorded 3-assaria coins and all smaller issues lack any reference to a magistrate - showing exclusively the ethnic legend ('demos' issues)- but the 3-assaria of the demos are linked to those of the magistrate by the use of one common obverse die (discussed below), and an identical style and weight standard.

The use of a magistrate's name on the largest denomination (with smaller ones only showing the ethnic legend) copies the example of the series by Preimos. However there is a notable difference between the volume of coinage bearing the magistrate's name and that of the demos in the two series. As we saw Preimos signed all of the 3-assaria and most of the 2-assaria, while Eirenaios did so only for part of the 3-assaria issue. This may reflect the fact

that the contribution made by Eirenaios towards the cost of minting was not of the same magnitude as that by Preimos.

No new types were introduced with this series and types are the same as those used on issues of Preimos. The 3-assaria bearing the magistrate's name depict exclusively Apollo and Dionysos while those of the demos the amphora, both traditional types of the Chian coinage. As I discuss in the chapter on typology it is likely that the 3-assaria bearing the figures of Apollo and Dionysos are linked to a festival at Chios honouring these deities. In such case it is likely that Eirenaios may have paid for this issue within the context of the festival, leaving the regular issues -with the amphora type- to the city.

The 3-assaria with the name of the magistrate have either the letter A in the exergue of the obverse (see coins illustrated in Pl. XLIII, figs. 1-2) or the letter B (see coins illustrated in Pl. XLIII, figs. 3-6).⁸²⁴ This may indicate that the coinage was struck on two separate occasions but it is not clear if it would also mean that the coinages were struck during two different tenures of Eirenaios in office, as clearly was the case with Preimos (see above), or if these letters only mark two different issues produced during the same tenure.⁸²⁵

The die study of the recorded 3-assaria coins of Eirenaios has yielded six obverse and five reverse dies; the same denomination with only the ethnic legend yielded ten obverse and a single reverse die. Clearly the issue with the name of the magistrate was struck in larger numbers than that of the demos. The obverse type of the demos shows different styles suggesting that this issue was probably struck over a long period while the issue with the name of the magistrate used dies of close stylistic similarity suggesting these may have been produced by a single die engraver. On the evidence of this die study I would suggest that

⁸²⁴ Another typological difference between issues bearing the different letters concerns the positioning of the ethnic in the coin type. Issues with the letter A depict the ethnic in the exergue of the obverse while those with the letter B depict it in the reverse exergue.

⁸²⁵ An issue of Aphrodisias of the magistrate Zeno also bears the letter B in the reverse: Johnston, 1995, p. 60, interprets this letter as marking a second term in office for this magistrate.

issues of the magistrate may have been struck during a shorter period than that of the issues with demos. The combination of one reverse die with a large number of obverse dies in the demos issue suggests that the obverse was used as the anvil for striking the issue. Usually the reverse die was used by ancient mints in this position but cases where the obverse die appears as the anvil are also attested for other provincial mints outside Chios.⁸²⁶

All of the 2-assaria belong to a single issue of the demos with the cantharos reverse. They are struck with a single pair of dies, which would account for their rarity and they were probably produced by the die engraver responsible for the third obverse die of the 3-assaria of the demos (Pl. XLIII, fig. 10). The 2-assaria of the second coinage of Preimos was also produced from a single obverse die and, more importantly, its sphinx type bears a stylistic similarity to the 2-assaria and the third die of the 3-assaria of the 'Eirenaios Series' without the magistrate's name.⁸²⁷ The engraver producing the dies for these issues of Eirenaios was copying the style from issues of Preimos suggesting that they may have been the first to be struck in the series, at a time when issues of Preimos were still in circulation making it easier to influence the design of the new coinage. However the marked difference in the weight standard between issues of Preimos and Eirenaios shows that they could not have been in circulation together at the time.

Hitherto no coin of the 1 ½ assarion denomination has been ascribed to this series but two coins of this denomination, struck from the same pair of dies, have come to light in recent years. The first one was published as a find in the Athenian Agora by Kroll who misidentified it as a later (recorded) issue of this denomination, from the series of the magistrate

⁸²⁶ See for example, Aphrodisias, Johnston, 1995

⁸²⁷ For the sphinx depicted on the 2-assaria of the second coinage of Preimos, see illustrations in Pl. XLI, figs. 11-12). The 3-assaria of Eirenaios with this sphinx type is illustrated in Pl. XLIII, fig. 10. The sphinxes on issues of these different series bear a general stylitical resemblance -though they are not identical- but both share a crown of sun rays on their heads, an unusual attribute for the Chian sphinx.

Chrysogonos;⁸²⁸ the second coin appeared recently in a coin auction (fig. 24). This study has produced evidence that the issue in question belongs to the 'Eirenaios Series', rather than a later series, and that it represents a denomination that was previously missing from this series. For one, the sphinx type of this 1 1/2-assarion is stylistically identical with that depicted on the 3-assaria issues of Eirenaios and also shares identical letter forms with these issues.⁸²⁹ In particular we may note the unusual depiction of the letters N and H, appearing together in the legend of the 1 1/2 assarion, as one letter (NH); this form was also used for the same letters that happen to appear also side by side in the name of EIP(HN)AIOΣ in the legend of his 3-assaria issue. This indicates that a single engraver may have prepared dies for both the 1 1/2 and 3-assaria. Finally, a comparison of coins of this issue with those of the same denomination that were indeed struck in the later series signed by Chrysogonos, shows that they could not have been contemporary since the coins under discussion were struck on a markedly larger flan, fitting well with issues of Eirenaios but not Chrysogonos. The issues are also stylistically different.

A unique coin inscribed with the value of assarion was attributed to this series by Maurogordato.⁸³⁰ I agree with his identification since it shares the same stylistic features as other issues in the series.

The 3-assaria issues struck in the name of Eirenaios and those bearing only the ethnic demos have a known die link (Pl. XLIII, fig. 6 of Eirenaios with fig. 7 of demos) indicating contemporarity or a very short interval between issues. It may be noted that the style of the unlinked obverse dies are similar in style, suggesting the work of a single die engraver (see for example Eirenaios, fig. 4, with Demos fig. 13; Eirenaios, fig. 3 with Demos, fig. 18). Stylistic

⁸²⁸ Kroll, *Athens Agora XXVI*, p. 271, no. 950, not illustrated.

⁸²⁹ The o is always smaller than the other letters on these issues but not on later ones.

⁸³⁰ Maurogordato, 1918, p. 59; it used to belong to his own private collection.

similarity suggest that part of the demos issue was struck in the interval of the two emissions signed by Eirenaios or even alongside these issues.

Though the issues are likely to have been struck within a short period we also have to consider the possibility that the dies were retained for re-use. This certainly seems to have been the case for the unique reverse die of the 3-assaria with the demos. This die seems to have been used for the entire issue and on some unworn coins the reverse types show evidence that the die sustained a significant amount of wear and possible damage. It seems likely that the mint may have been forced to strike coinage by this overworked reverse dies over a long period, possibly as a result of economic troubles. The same may also be reflected in the small number of dies used for issues of the other denominations.

2. Proposed dating: As we saw style and metrology suggests that these issues may have been struck some time after those of Preimos. The standard used in the coinage under Eirenaios suffered a substantial loss in weight compared to that of Preimos being, on average, a third lighter, though still on the same diameter (see the discussion in the chapter on bronze denominations, p. 550).⁸³¹ This great reduction in the weight standard seems to be the reason why no denominations lower than the assarion were issued by Eirenaios.

As with the proposed datings for the coinage of Preimos a comparison of weights between issues of Chios and those of other mints may hold the key for dating the series of Eirenaios. Klose (1987, table 19, p. 115) compared the 3 and 2-assaria of Eirenaios with those of Smyrna, that he thought were of the same denominations, and found that the standard of Chios was close to that of issues of Smyrna during the reign of Septimius Severus. Johnston in a forthcoming article on Roman provincial denominations, considers that Klose has

⁸³¹ Preimos: 5.15, 9.51, 15. 46; Eirenaios: 3.22 , 6.15, 9.12

compared issues of these mints that were of quite different denominations. She shows that the weight of the Chian 2 and 3-assaria are relatively close to those of the same denomination struck by Smyrna during the decade 250-260 AD. On this evidence Johnston suggests that Eirenaios may date after c 240 AD, a period when the flans of Roman provincial coinage had started to shrink.

However as I discuss in the chapter on the denominational systems, and in the discussion of the proposed date for the 'Preimos Series', both numismatists assume that Chios followed the standard used in the province of Asia. As a result they have compared the weight of the denominations at Chios to those struck by mints in Asia Minor, located close by to the island. However it is more likely that Chios was using the main standard of mints in the province of Achaëa and therefore it seems that the standard of the island's issues is probably linked to that of issues from this province. The coinage struck by Aigion in the Peloponnesse again provides us with comparable material in which the denominations can be identified. A comparison of the weights of the coins of Eirenaios and of Aigion reveals that the Chian issues are of identical weight with issues of this mint struck during the reign of Septimius Severus. Not only that, but both coinages witnessed a remarkably close decline in weight prior to the issue of these series, further strengthening the view that they are contemporary issues.

Other possible evidence on the date of its issue includes the name of the magistrate signing the issues. Eirenaios was a local Chian and his name shows that he did not hold Roman citizenship, though he was the eponymous magistrate and perhaps responsible for the coinage. This suggests that he held office, and struck coinage, before Caracalla's edict of 212 AD (*Constitutio Antoniniana*) which conferred Roman citizenship on all but a minority of the subjects of the Roman Empire.⁸³² Chians of Greek origin always stressed in inscriptions and

⁸³² S. N. Miller, 'The Army and the Imperial House' in *The Cambridge Ancient History*, Vol. XII, Cambridge, 1939, pp. 1-56, pp. 46-47. Only nomads and criminals were not offered citizenship with Caracalla's edict.

coin legends the fact that they possessed Roman citizenship by adding their Roman praenomina. This continued even after c 212 AD, and it is not coincidental that all Chians recorded in inscriptions dating in the 3rd century AD bear Roman names. The great majority of Chians recorded in inscriptions of the 3rd century AD bore the praenomen *Aurelius* showing that they received Roman citizenship as the result of the edict of 212 (Sarikakis, 1970, pp. 179-181).⁸³³ Though by itself not secure evidence for dating the coinage, this theory does point to an *a terminus ante quem* date of 212 AD for Eirenaios's magistracy.

An early Severan date for the series is also suggested by the presence of a coin of the 'demos' 3-assaria denomination in the Athenian Agora in a context dating to the 250s AD.⁸³⁴ With this coin were others of various provincial mints, the latest of which is an unworn coin of Alexandria Troas of Volusian (c 251-2). The Chian coin has seen some circulation and its state is rather similar to that of a coin of Kyme in Aeolis from the same fill struck in the name of Tranquillina (241-244).⁸³⁵ Considering that this issue bears only the ethnic, and is likely to have been struck sometime after that bearing the name of Eirenaios, it would seem that the entire issues was already in circulation by c 240 AD. It seems therefore unlikely that the mint could have began producing this coinage after c 240. Based on the context of the findings Kroll (p. 271, f. 59) has proposed a date for the Chian issue in the later 2nd or the early 3rd century AD. This agrees in general with a Severan date for the series already proposed by Klose and upheld in this study.

The issues signed by Eirenaios may have been struck during the reign of Septimius Severus and the mint may have continued striking the 3-assaria coinage bearing only the

⁸³³ This shows that before the reign of Caracalla only few Chians were Roman citizens.

⁸³⁴ Kroll, *Athens Agora XXVI*, p. 271, no. 948. The coin was found in A 14:2 in the middle fill of a cistern which is discussed by Walker, 1980, pp. 49, 123, no 2 & Kroll, *Athens Agora XXVI*, p. 301, B' 'Agora deposits'. Both Walker and Kroll agree with this date since it is based on strong evidence such as the absence of any of the common coins of Athens of the reign of Gallienus from the same level and on the overall condition of the dated coins.

⁸³⁵ See Kroll, *Athens Agora XXVI*, p. 301, with factors of wear for each coin

ethnic, for sometime into the early 3rd century AD. The stylistic similarity between the obverse of some of these issues and the earliest issues of Chrysogonos and one of the 'Omonoia' issues between Chios and Erythrae (see below) suggests that some of the 'demos' coinage may have been circulating for a while and copied in these later issues. However the absence of any die links between Eirenaios and Chrysogonos would signal a break in the coinage. The reign of Philip I (244-249) is the period I propose for the early issues of Chrysogonos (see below) which suggests a terminus post quem for the final issues of the 'Eirenaios Series' -bearing the ethnic legend- during the 230s AD.

SERIES WITH EIRHNAIOS

XLIII-XLIV

Denominations: Assarion, 1 ½ assarion, 2-assaria, 3-assaria

TRIA ASSARIA:

With magistrate's name: [all types are included in groups M. 125-6]

Type A:

Obv.: sphinx seated l. lifting l. front paw over front front of galley; AC-T-PIA, [A]XIΩN (in exergue). All with a dotted circle.

Rev.: Apollo and Dionysos standing and facing each other, similar to type B, rev. II, of the 3-assaria, of the 2nd coinage of Preimos; ΕΠΙ-ΑΡ-ΧΕΙ-Ρ-ΗΝ[ΑΙΟΥ]. All with a dotted circle.

Cambridge

F. M.:

M. c., no. 8389; 8.25g, 12, **fig. 1.** O. 1, R. 1

Type B:

obv.: same as type A, but ACCAPI-AT-PIA, AXIΩN (in exergue)

rev.: same as type A, but ΕΠΙ-ΑΡ-ΧΕΙ-ΡΗΝΑΙΟΥ

Paris

B. N.:

no. 3196; 9.85g, 6

Berlin

M. K.:

I. B. 1905; 9.95g,⁸³⁶ 6, illustrated in Maurogordato, Pl. II. 9. **fig. 2.** O. 2, R. 2

Type C:

obv.: same as type A; AC-A-PIA, TPIA (in exergue)

rev.: same as type A; ΕΠΙ-ΑΡΧ-ΕΙΡ-ΗΝΑΙΟΥ, ΒΧΙΩΝ (in exergue)

London

B. M.:

no. 944; 9.89g, 6, **fig. 3.** O. 3, R. 3

no. 427; 8.45g, 6, **fig. 4.** O. 3, R. 4

Vienna

K. M.:

T; no. 17980; 10.50g, 12, **fig. 5.** O. 5, R. 4

Type D:

obv.: sphinx seated r.; AC....-PIA, TPIA (in exergue)

rev.: same as type C

Athens

N. M.:

no. 5532; 8.07g, 12, **fig. 6.** O. 6, R. 5

⁸³⁶ Maurogordato, 1918, p. 58, records the weight of this coin as 7.49g which is wrong.

Without magistrate's name [M. 127a]

The reverse is a single die showing amphora in the centre; X-I-Ω-N in two lines on the l. and r. of the amphora; all within an ivy wreath with a poppy head and a wreath tie on each side of the base of the amphora

Obv. die I: sphinx seated r.; same die as Type D of the 3-assaria bearing the name of Eirenaios

London

B. M.:
no. 943; 9.60g, 12, **fig. 7**. O. 1

Athens

A. A.:
no. 948a; 10.79, 12; found in a hoard and illustrated by Kroll, p. 271, **fig. 8**. O. 1
no. 948b; 8.83g, 12; Kroll, p. 271

Obv. die II: sphinx seated l. The type is badly worn and details are not visible; the die is clearly different to the other ones in the series.

Oxford

A. M.:
M. 1924; 9.10g, 6, coin is worn and overstruck, **fig. 9**. O. 2

Obv. die III: sphinx seated l. wearing a crown of sunrays on its head; AC-CA-PIA, TPIA (in exergue)

Paris

B. N.:
no. 3208; 7.82g, 6, **fig. 10**. O. 3

Obv. die IV: same as above; AC-C-API-A, TPIA (in exergue)

London

B. M.:
no. 301; 8.85g, 7. A small cmk on the wing of the sphinx reads ΔYO. **fig. 11**. O. 4
no. 945; 9.29g, 6, **fig. 12**. O. 5

Cambridge

F. M.:
M. c., no. 8394; 7.04g, 7, **fig. 13**. O. 6
G. c.: 8.94g, 1

Oxford

A. M.:
M. 1924; 8.82g, 12, pierced, **fig. 14**. Die too damaged to be identified

Athens

N.M.:
KZ' no. 346; 9.88g, 1, **fig. 15**. O. 7

Paris

B. N.:
no. 3210; 7.95g, 6, **fig. 16**. O. 8
no. 3207; 9.14g, 6, **fig. 17**. O. 9

Vienna

K. M.:
no. 31873; 9.70g, 1

Berlin

M. K.:
no. 873/1899; 8.61g, 7, **fig. 18**. O. 10

Private collection
no details available, **fig. 19**. O. 10?

2-assaria [M. 127b]:

Obv.: sphinx seated l. lifting r. paw over prow of galley; AC-C-APIA, ΔΥΩ (in exergue)

Rev.: cantharos in the centre; ethnic X-I-Ω-N arranged in two lines in each side of the cantharos. The whole enclosed in laurel wreath tied at the top with two knobs.

London

B. M.:
no. 630; 7.57g, 6, **fig. 20**

Oxford

A. M.:
Martin 1975; 5.66g, 6, **fig. 21**

Paris

B. N.:
no. 3176; 6.50g, 6, **fig. 22**

Former Lindgren coll..l.
no. 589, 5.78g

1 ½ ASSARION [not included in M.]:

Obv.: sphinx seated r. lifting l. paw over amphora; X-I-Ω-N, with the last letter in the exergue; all enclosed in dotted circle

Rev.: two crossed thyrsos in the centre; ONH-MYCY-AC A-P-I arranged round the type in such a way that the ends of the thyrsos fit in the legend breaks; all enclosed in vine wreath in the inside of which a small bunch of grapes hangs within the top between the letters P and I.

Athens

A. A.:
no. 950, S-6376, 3.95g ?, published, Kroll, p. 272. **fig. 23**

Munzen Auktion Essen 67

no. 103; 4.72g; wrongly described in the auction catalogue as Maurogordato Group 136. **fig. 24**

ASSARION [M. 127g]:

Obv.: sphinx seated l. lifting r. paw over small bunch of grapes; X-I-Ω-N, the last letter in the exergue; all enclosed in dotted circle.

Rev.: amphora in the centre; ACCA-PII (sic); the whole enclosed in dotted circle.

London

B. M.:
3.22g, 12, **fig. 25**

III. 6. Μ[ΑΡΚΟΣ] ΑΥΡ[ΗΛΙΟΣ] ΧΡΥΣΟΓΟΝΟΣ son of ΕΠΑΦΡΟΔΕΙΤΟΣ XLV-XLVII

1. General aspects: This series represents the final coinage of the Chian mint struck during antiquity and consists of issues of the assarion, 1 1/2-assarion, 2-assaria and 3-assaria. A large number of coins is known for the 2 and 3-assaria and represent the most common issues of Chios struck during the Roman period. In contrast to the large denominations, the assarion and 1 1/2 assarion of this series are rare.

Most recorded issues of the 3 and 2-assaria bear the name of Μ. ΑΥΡ. ΧΡΥΣΟΓΟΝΟΣ and on a few issues his patronymic ΕΠΑΦΡΟΔΕΙΤΟΣ in the genitive is also added at the end of his name.⁸³⁷ Since the moneyer's name legend is always preceded by the preposition ΕΠΙ ΑΡΧ it is clear that he is referred to on the coinage as the eponymous magistrate of the city, though as I discuss below he seems to have been directly linked with the coinage.

A multiplicity of reverse types appear on issues of the 3 and 2-assaria of this series. These include known types of the mint, such as standing figures of Apollo and Dionysos facing front, or each other, Oinopion facing front or with head slightly turned, amphora and cantharos. Issues of both these denominations are divided into groups based on the style of the sphinx type, since the reverse types show little stylistic changes. I have identified four such groups for the 3-assaria, three groups for the 2-assaria, bearing obverse types that are stylistically different to each other. The groups are composed of a small number of types distinguished from the obverse legend (see the coin catalogue).

GROUP DIVISION: 3-assaria

Group 1: Type A. Obverse shows sphinx seated l.

Group 2: Types B-C. Obverse shows sphinx seated r. of a style similar to that of the sphinx on the coinage of Eirenaios

⁸³⁷ The name ΕΠΑΦΡΟΔΕΙΤΟΣ is that of the father of Chrysogonos since it is in the genitive; Maurogordato, 1918, p. 58, wrongly assumes that this name appears in the coin legends in the nominative and is an added cognomen to the name Chrysogonos.

Group 3: Type D. Obverse shows sphinx seated r. lifting front paw over prow of ship

Group 4: Types E-F-G. Obverse shows sphinx seated r. lifting front paw over prow of ship and turning its head towards its back. Both wings are visible on this sphinx.

GROUP DIVISION: 2-assaria

Group 1: Type A same type as the 3-assaria of Group 2

Group 2: Types B-C. As type of the 3-assaria, Group 3

Group 3: Types D-E-F-G. As type of the 3-assaria, Group 4

The 1 1/2-assarion shares the same type as the 3-assaria, Group 3, and the assarion as that of 3-assaria, Group 4.

2. Die studies:

The division of the series into a number of smaller stylistic groups suggests that the coinage was probably struck with intervals between rather at the same time. The obverse types are so different stylistically that the dies are likely to have been produced by different engravers. Die studies have established that not a single reverse die was shared between the different groups for the 3-assaria. This is odd in light of the fact that similar reverse types appear for most groups. It would seem that dies were worked to their maximum limit forcing the mint to produce new dies in successive groups. However the groups of the 2-assaria share the same reverse dies and the issue of this denomination would have been more limited than that of the 3-assaria.

DIE STUDIES: 3-assaria

Type A: 1 obverse, 1 reverse

Type B: 1 obverse, 1 reverse

Type C: 1 obverse, 1 reverse

Type D: 2 obverses, 10 reverses

Type E: 1 obverse, 1 reverse

Type F: 2 obverses, 12 reverses

Type G: 1 obverse, 1 reverse.

DIE STUDIES: 2-assaria

Type A: 1 obverse, 2 reverses

Type B: 2 obverses, 6 reverses

Type C: 2 obverses, 2 reverse

Type D: 1 obverse

Type E: 4 obverses, 5 reverses

Type F: 1 obverse

Type G: 1 obverse

In total 9 obverse and 27 reverse dies were recorded for the 3-assaria, and 12 obverse and 15 reverse dies for the 2-assaria. The majority of coins are worn or corroded and dies belonging to the same issue differ only in minor details. This means that the number of dies for individual types might be higher than that recorded. We also have to consider that research yielded a large number of coins for the 3 and 2-assaria in certain groups while others are represented only by a few coins. Naturally groups with many coins have produced a larger die count than those represented by fewer coins.

It would seem that each individual group with the magistrate's name was followed by an issue of the 3 and 2-assaria bearing only the ethnic and omitting the magistrate's name. Confirmation of this seems to be found in the fact that all 3 and 2-assaria coins only referring to the demos in their legends were struck with the same obverse dies as issues bearing the magistrate's name.

Denominations smaller than the 2-assaria are rare and struck in much smaller quantities than the larger denominations. Only a single obverse die is known for each of the 1 1/2 and 1 assarion. This is also indicated by the fact that they were struck only within a single stylistic group.

2. Chronological arrangement of issues and proposed dating:

An important clue on the general period of issue for this coinage is provided by the name of the magistrate. The forenames of Chrysogonos show that he only acquired Roman citizenship in c 212 AD as a direct result of Caracalla's edict.⁸³⁸ His coinage would therefore have been issued from the early 3rd century AD and afterwards.

Nearly all Roman provincial coinage ends with the sole reign of Gallienus, and only a tiny number of issues from secluded towns in the interior of Asia Minor are known from the reigns of Claudius II (268-270) and Aurelian (270-275). In this light, Chios is unlikely to have continued striking coinage after all its neighbouring cities in Ionia had ceased striking. In other words issues of Chrysogonos would be placed with certainty within the half century between c 212 and 268 AD. Earlier studies seem to have settled for two widely different proposed dates for the issues; they are either placed relatively early in the proposed period, or at its far end. Klose argues for a date in 222-238, Johnston after 255, and Maurogordato, the sole reign of Gallienus.⁸³⁹ On the surface it would seem that the latter date is more likely since most major mints in Asia struck their largest amount of coinage under Gallienus (Johnston, *forthcoming article*, p. 12); Chios may also have coined during the same period.

Before considering an absolute date for the series, we may note that the variety of styles of the different types in this series suggest that the entire coinage was not produced at the same time but rather in successive emissions. We have already seen that this was also the case in the two previous series with the names of the magistrate's Preimos and Eirenaios,

⁸³⁸ Sarikakis, *Chian Prosopography*, p. 342, no. 8. The forename M. Aurelius alludes to Caracalla and not the emperor M. Aurelius. If Chrysogonos had received Roman citizenship from the former emperor he would have been named Aurelius Chrysogonos. This was the case for the Chian athlete Heras who became a Roman citizen under M. Aurelius and whose name was changed to Aurelius Heras (see the discussion in the historical background, p. 47). For other Chians receiving Roman citizenship as a result of Caracalla's edict see Sarikakis, 1975, pp. 67-8, and also the discussion above on the proposed dating of the 'Eirenaios Series'.

⁸³⁹ Klose, 1987, pp. 114-5; Johnston, *forthcoming article*, p. 10, table 6; Maurogordato, the sole reign of Gallienus.

where two different emissions of the mint are clearly marked in types of their coinages.⁸⁴⁰ However in the case of Chrysogonos the obverse types of issues in different groups are completely different suggesting that issues of this series were struck over a longer period than those of the other magistrates.

What I consider to be the earliest of the groups of Chrysogonos (3-assaria: Types A, B and C; 2-assaria: Type A) consists of issues with a sphinx type close to that depicted on some of the 3-assaria of the series of Eirenaios bearing only the ethnic. As we saw in the outline of the coinage, this issue probably dates to the late Severan period and the earliest issues of Chrysogonos may not date much later.

This type of the earliest group of Chrysogonos is also stylistically similar to the sphinx appearing on an issue struck to commemorate the foundation of OMONOIA ('concord') between the cities of Chios and Erythrae.⁸⁴¹ This OMONOIA seems to have been founded during the reign of Philip I (244-249) since one of the commemorative issues of Erythrae bears the bust of this emperor.⁸⁴²

The event is unrecorded in literary or epigraphic sources but was important enough for both cities to commemorate it in no less than four different issues struck by their mints. In all of these, one type refers to Chios while the other to Erythrae. Chios struck two such commemorative issues; the first has an obverse bust of the 'Demos of Erythrae', and the sphinx on the reverse with the ethnic of Chios; the second issue has a bust of the 'Demos of Chios', and on the reverse a standing figure of Herakles holding a club, and the ethnic of Erythrae.⁸⁴³

⁸⁴⁰ In the case of Preimos with the word ΔΙΣ and in that of Eirenaios with the letter B.

⁸⁴¹ Johnston, *forthcoming article*, associates the sphinx type on the OMONOIA issues of Erythrae/Chios with the type appearing on the Eirenaios issues.

⁸⁴² First published by J. v. Schlosser, *NfZ.*, 1891, p. 13; Maurogordato, 1918, p. 69

⁸⁴³ On the two issues of OMONOIA struck at Chios, see the discussion by Maurogordato, 1911, pp. 94-95, with Pl. VII. 4-5.

This study has produced evidence that the *OMONOIA* between Erythrae and Chios may also have been commemorated on the regular coinage of Chios. A few issues of the 2nd group of the 2-assaria depict the figure of Oinopion with his head turned r. However on a unique issue of this 2-assaria group, Oinopion has been replaced by a figure of Herakles, the main deity of Erythrae and also this city's civic emblem.⁸⁴⁴ This is the only instance when Herakles was used as a coin type on the regular coinage of Chios,⁸⁴⁵ but this deity, as we saw, appears as the symbol of Erythrae on the Chian issues commemorating the *OMONOIA* with this city. The 2-assaria 'Herakles' issue may therefore allude to the *OMONOIA* of Chios and Erythrae and would date -together with the other issues of the 2nd group- to the same period as the issues overtly commemorating this event during the reign of Philip.

The last stylistic group has the sphinx looking backwards (3-assaria: Types E-F-G; 2-assaria: Types D-E-F-G). A coin of the 3-assaria denomination of this group was found in what seems to have been a savings hoard dating to the 250's AD.⁸⁴⁶ The coin shows signs of circulation and a date of c. 250 AD is probably the latest for the striking of this issue, rather than in the reign of Gallienus.

A coin of the 2-assaria from this group in the collection of the *Koræes* library is likely to have been concealed in a hoard of antoniniani dating to the reign of Gallienus. The records of the collection show that this coin was given to the library with two antoniniani of Salonina, wife of Gallienus, of Antioch.⁸⁴⁷ My inspection of the antoniniani shows that these coins are

⁸⁴⁴ See the discussion in the chapter on typology, p. for this unique case of Herakles as a coin type at Chios.

⁸⁴⁵ As I discuss in the chapter on typology, with the exception of Oinopion and the Apollo-Dionysos group Chios did not use any deities as coin types.

⁸⁴⁶ Published in Kroll, *Athens Agora XXVI*, p. 272, no. 949. This hoard is B 17:1; p. 303. Kroll believes that it was a savings hoard concealed in a house burnt down in 267. However none of the coins are dated after c. 260 and the hoard seems to have been deposited in the 250s BC; an antoninianus of Gallienus found among the scattered coins on the floor was lost, according to Kroll, separately from the rest of the hoard and probably during the destruction of the house.

⁸⁴⁷ Published by C. A. Papageorgiadou, 'Ανεκδοτη νομισματικὴ συλλογὴ τῆς βιβλιοθήκης Κοραεῖ Χίου' ('Unpublished coin collection of the library of *Koræes* of Chios'), *Chiaka Chronika*, 1985, pp. 3-18, p. 6; the Chian coin has no. 36 and the antonianoι, nos. 39-40 with reference. *RIC*, V, 1, p. 115.

certainly from the same hoard; the 2-assaria is covered in a white coating probably of lead or silver which during Antiquity would have made it look like a silver coin. This probably suggests that known coins of this issue with this coating may have been hoarded with silver antoniniani. Perhaps these 'leaded' coins may have tried to pass as antoniniani. If so it suggests a common circulation with antoniniani and therefore that these coins would be issued in the reign of Gordian III, and afterwards when antoniniani began to be struck in enormous quantities and appear commonly in circulation.

Five coins of the 'Chrysogonos Series' originate from a single site at Delos though it is not clear from the publication if they were part of a hoard or stray finds.⁸⁴⁸ The only other coin found in this site that may be chronologically associated with the Chian coins is an issue of Samos from the reign of Alexander Severus (222-235)

From this limited evidence I would suggest that the Chrysogonos issues, together with the associated 'anonymous' (only with the ethnic legend) issues, were produced with short intervals in the period extending from the reign of Philip (244-9) to that of Gallienus (259-268). The majority of this coinage was probably struck between c 240-250 with the latest issues during the reign of Gallienus. This proposed period of issue spans two decades, which is not particularly long, and a large number of issues of other provincial mints are known to have been struck with the same types over a long period. It is not impossible that Chrysogonos could have stayed on as the magistrate of Chios over this period, or contributing money towards the cost of the minting with intervals coinciding with terms in office.⁸⁴⁹ Dies may also have been preserved and used during a period when Chrysogonos was not in office with reverse dies only referring to the demos.

⁸⁴⁸ Svoronos, 1911, pp. 79-80, coins nos 34-35 (3-assaria), nos. 36-37 (2-assaria), no. 38 (1 1/2-assarion). The coins are recorded as found during the excavations of 1906-8 with no further information on their discovery.

⁸⁴⁹ Macdonald, 1992, p. 143, discusses the case of a magistrate at Aphrodisias -contemporary with Chrysogonos-striking coinage with an interval of a decade; first during the reign of Trajan Decius (249-251) and then the sole reign of Gallienus.

Chios is not mentioned in contemporary literary sources for the 3rd century AD and the lack of evidence hinders any attempt in trying to link this large coinage with expenses associated with the wars in the region during this period (see the discussion in the historical background, p. 48).

3. Epigraphical evidence: As with all magistrates named in the legends of the issues of the Roman period the name Chrysogonos is not found on any known Chian inscription. However the name of his father, ΕΠΑΦΡΟΔΕΙΤΟΣ, is found in several inscriptions of the second half of the 2nd century AD (Sarikakis, *Chian Prosopography*, pp. 149-152, nos. 72-89). None of the bearers of this name were Roman citizens and as we saw Chrysogonos is likely to have received Roman citizenship himself. This would imply that it is possible that the moneyer's father could have been one of these individuals named in the inscriptions and therefore not a Roman citizen.

SERIES WITH CHRYSOGONOS XLV-XLVII

Denominations: assarion, 1 ½ assarion, 2-assaria, and 3-assaria

3-assaria:

Type A: Maurogordato?

Obv.: sphinx seated l. lifting front paw over prow of galley. ACA-P-IA TPEIA in exergue

Rev.: Apollo and Dionysos standing front; ΕΠΑΡΧ-XPVCO-ΓΟΝΟV

1 rev. 1 obv.

Paris

B. N.:

no. 3194. **fig. 1**

Type B M. 130a

Obv.: sphinx seated r. lifting front paw over prow of galley. ACC-A-PIA ΤΡΙΑ(in exergue)

Rev.: Apollo and Dionysos standing front ΕΠΑ-PAVXPV-CΟΓΟ-NOCTOVEΠAΦPOΔEITOV XI Ω N arranged between the two figures.

1 rev. 1 obv.

Berlin

M. K.:

6.82g, 12. **fig. 2**

Type C: Not recorded in Maurogordato

Obv.: sphinx seated r. facing front and lifting front paw over prow of galley. ACAP-IA ΤΡΕΙΑ(in exergue)

Rev.: large amphora with ears of grain at base and a star on each side above the grain. ΕΠΑΡΧAVXPV-COΓΟΝOVXIOΩN

1 rev. 1 obv.

Robert J. Myers: Ancient Coins of Asia Minor, N. York May 1982

no. 23 no recorded weight or die axis. **fig. 3**

Type D:

All issues of this type show sphinx seated r. facing front and lifting front paw over prow of galley. ACCAP-IA ΤΡΙΑ and star at the end of the legend (in exergue)

2 obv. dies used in this type; for rev. dies see individual issues

With name of magistrate:

Rev. I: same as type C [M. 132a]

1 Rev. die

Cambridge

F. M.:

Mcl. c., no. 8391; 6.19g, 6; Maurogordato wrongly records the weight of this coin as 7.00 grammes Pl. IX. II. **fig. 4**

Oxford

A. M.:

7.10g, 6

Vienna

K. M.:

no. 33054; 8.53g, 6; possibly cmked with tripod symbol

Former Lindgren col.

no. 586; 6.43g

Rev. II: amphora with ear of grain and poppy one each l and r. of the amphora's base. ΕΠΑΡΑΥΧΡ-ΥΟΟΟΝΟΝ Χ-Ι-Ω-Ν arranged in two lines on either side of the amphora. [M. 133a]

1 rev. die

Oxford

A. M.:

7.62g, 12. **fig. 5**

Rev. III: as previous type. ΕΠΑΡΑΥΧΡ-ΥΟΟΟΝΟΝΥΟΥΕΠΑΦΡΟΔ ΕΙΤΟΝ the latter part of the legend appears in a second line, in the field l. of the type. between it and the remaining legend; Χ-Ι-Ω-Ν arranged in two lines on either side of the amphora. Not recorded in Maurogordato.

1 rev. die

Cambridge

F. M.:

Lewis col. no. 1354; 5.41g, 6. Coin is broken. **fig. 6**

Rev. IV: amphora in centre, ΕΠ-ΑΡ-ΑΥ-ΧΡ-ΥΟΟ-ΟΝ-ΟΥ-ΧΙ-Ω-Ν on the l. or r. of the type; all within laurel wreath .

1 rev. die. Not recorded in Maurogordato.

London

B. M.:

no. 130; 6.16g, 1. **fig. 7**

Rev. V: Two standing figures of Apollo and Dionysos facing front ΕΠΑΡΧΑΡΧΡΥ-ΟΟΟΝ-ΟΥΟΥΕΠΑΦΡ-ΟΔΕΙΤΟΝ. Χ-Ι-Ω-Ν arranged in the field between the figures. Same as type B. [M. 131]

1 rev. die

Berlin

M. K.:

I. B. 1928; 5.91g, 6. **fig. 8**

Without magistrate's name:

Rev. VI: Small amphora within wreath, a head of grain on each side of its base, Χ-Ι-Ω-Ν in two lines, one each on the l. and r. of the type [M. 135]

2 rev. dies

London

B. M.:

no. 29; 8.09g, 6. **fig. 9**. R. 1

no. 5; 11.97g, 6. R. 2

Copenhagen

D. N. M.:

no. 1660, V. 1. 1890; 7.45g, 6

Athens

N. M.:

1903-4 B' 28; 6.85g, 6. found at Chios, pierced. R. 1

Rev. VII: amphora -notably larger than other amphora types on issues of this series- a poppy and head of grain on each side of the amphora base [M. 133a]

1 rev. die

London

B. M.:

no. 940; 8.29g, 6. **fig. 10**

Rev. VIII: Apollo and Dionysos standing facing front X-I-Ω-N, star in exergue [M. 134]
2 rev dies?

Cambridge

F. M.:
Mcl. c., no. 8394; 7.04g, 7. **fig. 11**

Athens

N. M.:
1908-9; 8.04g, 6
A. A.:
PP-442, no. 949; 7.94g, 6; published Kroll, Agora XXVI, p. 272

Berlin

M. K.:
I. B. 1928; 8.70g, 6

Type E: [M. 139, but failed to note that the obverse type is different to type F]
Obv.: sphinx seated r with head turned back. A-C-A-P-I-A TPIA followed by dot (in exergue). Maurogordato has confused this type with that of the following type.
Rev.: similar to type III but legend ΕΠΙΑΡΧΑΥΡΧΡΥ-ΚΟΓΟΝΟΒΧΙ, an eight rayed star at the end of the legend. Ω N in field to the l. and the r. of the amphora with an eight-rayed star under each one of the letters.
1 obv. and 1 rev. die

Copenhagen

D. N. M.
no. 1662, Held. 1881; 6.98g, 6. **fig. 12**

Berlin

M. K.:
I. B. 1928; 7.98g, 6

Type F:
All coins have obverse type sphinx seated r. with head turned back ACAP I-A-T-P-IA
In total 2 obverse dies used; for rev. dies see the individual issues below.

With name of magistrate:

Rev. I: Same as Type D, Rev. III [M. 137]
2 rev. die

London:

B. M.:
no. 128; 5.90g, 7. R. 1
no. 302; 7.11g, 5. R. 1
no. 938; 8.70g, 7. R. 2

Oxford

A. M.:
6.22g, 12. R. 1

Paris

B. N.:
no. 3180; 6.08g, 12. R. 2
no. 3182; 7.22g, 6. R. 1

no. 3185; 6.82g, 6
G. c.; 7.63g, 6. R. 2

Berlin

M. K.:
F. 1851; 5.38g, 5. R. 2
790/1878; 8.70g, 12. **fig. 13.** R. 1

Rev. II: Two standing figures of Apollo and Dionysos facing each other, ΕΠΙ-ΑΡΧΧ-ΡΥ-ΚΟΓΟΝΟΝ ΧΙΩΝ (in exergue).
[M. 138b]
3 rev. dies

London

B. M.:
7.52g, 6. **fig. 14.** R. 1
no. 129; 7.40g, 7

Cambridge

F. M.:
L. c.; 5.65g, 6. R. 2

Oxford
4.95g, 12. R. 2
7.62g, 12

Glasgow

G. U.:
H.c., Chios no. 64; 7.5g, 6. R. 1

Athens

N. M.:
Kanellakis c., no. 22; 6.94g, 6. R. 3

Paris

B. N.:
no. 3190; 7.68g, 12. R. 2

Berlin

M. K.:
L. . 6.14g, 12. R. 3
I. B. 1928; 7.57g, 12. R. 3

Auction Munzen und Medaillon Jan 95 Kat 31
no. 36, no details available

Without magistrate's name:

Rev. IV: small amphora X-I-Ω-N arranged l. and r. of the amphora, a dot next to the letters X and I: poppy head and star on each side of the lower part of the amphora [M. 144]
1 rev. die?

London

B. M.:
no. 942; 9.66g, 12

Glasgow

G. U.:

H. c., Chios no. 66; 8g, 12

Copenhagen

D. N. M.:

no. 1666, Held. 1870; 7.55g, 12

Paris

B. N.:

no. 3211; 8.75g, 12. **fig. 15.** This coin was struck with the second obverse die 2

Berlin

M. K.:

F. 1851; 5.93g, 7

I. B.; 8.46g, 2

Rev. IV: Small amphora within laurel wreath tied with large ball on top; ear of grains at base of amphora. Same as type C. X-I-Ω-N. Not recorded in Maurogordato.

2 rev. dies

London

B. M.:

no. 29; 8.09g, 6

Berlin

M. K.:

8.78g, 12, doublestruck. R. 2

Rev. V: Two standing figures of Apollo and Dionysos facing each other. X-I-Ω-N [M. 143 b]

2 rev. dies

Cambridge

F. M.:

Lew. c., no. 1353; 6.96g, 12. coin is pierced. R. 1

Vienna

K. M.:

no. 31871; 7.72g, 12. **fig. 16.** R. 2

Rev. VI: Two standing figures of Apollo and Dionysos facing front. [M. 143 a]

2 Rev. dies ?

London

B. M.:

no. 134; 7.65g, 6

Copenhagen

D. N. M.:

no. 1665, Held. 1870; 6.40g, 6. **fig. 17**

Vienna

K. M.:

6.62g, 6

Berlin

M. K.:
no. 10494; 7.02g, 5
I. B. 1928; 7.78g, 7

Type G: Obv.: sphinx seated r. with head turned back ACCAPI-A-T-P-IA..
Rev.: same as type E Not recorded in Maurogordato
1 Obv. and 1 rev for this type.

London

B. M.:
no. 938; 8. 70g, 7

2-assaria:

Type A: [M. 130b]
Obv.: sphinx seated r. lifting l. front paw over prow of galley. AC-C-APIA ΔVO in exergue
Rev.: standing figure of Oinopion. ΕΠΑΡΧΑΒΡΧΡVCOΓ-ΟΝΟVΤΟVΕΠΑΦΡ-ΟΔΕΙΤΟV-ΧΙΩΝ
1 obverse, 2 reverse

Paris

B. N.:
no. 3187; 5.21g, 6. **fig. 18**

Berlin

M. K.:
I. B. 1928; 4.52g, 7

Type B: All coins have obverse type sphinx seated r. lifting front paw over prow of galley. ACC-A-PIA ΔVΩ (in exergue)

with magistrate's name:

Rev. I: cantharos, ΕΠΑΡΑVXP-V-COΓΟΝΟVXI. Ω-N in field l. and r. of the cantharos. [M. 132 g]
1 obverse, 1 reverse

London

B. M.:
no. 28; 7.07g, 6. **fig. 19**

Cambridge

F. M.:
Lew. c., no. 1351; 3.48g, 6

Rev. II: cantharos. ΕΠΑΡΑVXP-V-COΓΟΝΟV X-I-Ω-N arranged in two lines on the l. and r. of the cantharos. Same
Maurogordato reference as above.
same obverse as above? 1 reverse

Athens

N. M.:
5536b; 4.97g, 5

Former Former Lindgren coll..
no. 588; 4.65g

Rev. III: Standing figure of Oinopion facing r. ΕΠΑΡΑVXP-VCOΓΟΝΟV X-I-Ω-N arranged in two lines on the l. and r.
of the figure. [M. 132b]
same obv. die as above? 2 reverse dies

London

B. M.:
no. 131; 4.94g, 6. **fig. 20**. R. 1

Paris

B. N. :
no. 3186; 4.34g, 6. R. 2

Berlin

M. K.:
I. B. 1928; 4.62g, 6. R. 1

Rev. IV: nude figure of Herakles standing and facing r. His l. hand is draped and holds a club downwards; with his r. hand he holds a lionskin. same legend as the previous type. Not recorded in Maurogordato.
1 obv. 1 rev. dies

London

B. M.:
no. 950; 4.80g, 6. **fig. 21**

Without magistrate's name:

Rev. V: cantharos X-I to l. and Ω-N to r. [M. 133b]
same obverse die as above issues I-III of this type, 1 Rev. die

Athens

N. M.:
1903-4 B'25; 4.48g, 6

Type C: All coins have obverse type sphinx seated r. lifting front paw over prow of galley. ACC AP-IA ΔVΩ in exergue.
This type was not recorded in Maurogordato.

Rev. I: standing figure of Oinopion facing front. ΕΠΙΡΧΑΥΧ-ΡΥΚΟΓΟΝΟΝΩ X-I-Ω-N arranged in two lines to the l. and r. of the figure.
1 obv., 1 rev.

Paris

B. N.:
no. 3185; 6.42g, 6. **fig. 22**

Rev. II: same reverse die as type B, I
1 obv.

Paris

B. N.:
no. 3178; 6.15g, 6. **fig. 23**

Waddel. Ancient coin. List no. 102, Feb. 1992
no. 135; 5.41g

Rev. III: Rev.: standing figure of Oinopion facing front. ΕΠΙΡΑΥΧΡΥΚ-ΟΓΟΝΟΝΩΧΙ Ω-N last two letters arranged one each on l. and r. of figure
same obv. die as above. 1 rev.

Copenhagen

D. N. M.:
no. 1663, Rollin; 5.03, 6



Type D Obv.: sphinx seated r. with head turned back ACA-P-IA ΔVΩ (in exergue)

Rev.: same die as Type C. III [as M. 132b]

1 obv.

Cambridge

F. M.:

L. c.: 5.65g, 6. **fig. 24**

Type E: All coins have obverse type sphinx seated r. with head turned back ACAP-I-A ΔVΩ in exergue

With name of magistrate:

Rev. I.: standing figure of Oinopion facing front. ΕΠΑΡΑΧΡΑΥΧΟΝΟΝΩΧΙ Ω-N last two letters arranged on l. and r. of figure

2 obv., 2 rev. dies (one of the reverse die used in the issue of Type D) [M. 141a]

London

B. M.:

no. 934; 6.35g, 6. Obv. 1, Rev. 1

Corinth

A. M.:

T 1928-88 (unpublished), found in the excavations of the ancient Odeion in 1928. **fig. 25.** Obv. 1, Rev. 1

Paris

B. N.:

no. 3189A; 6.30g, 6; coin is pierced. Obv. 1, Rev. 1

Numismatic Circular, Jun 1988

no. 3492. **fig. 26.** Obv. 2. Rev. 2

Rev. II: standing figure of Oinopion with head turned r. ΕΠΑΡΑΧΡΑΥΧΟΝΟΝΩΧΙ X-I-Ω-N in two lines to the l. and r. of the figure. [M. 141b]

1 obv., 1 rev. dies

London

B. M.:

4.99g, 6

Without moneyer's name:

Rev. III: standing figure of Oinopion with head turned r. X-I-Ω-N arranged in two lines on each side of the figure, a star on each side of the type under the letters of the ethnic. [M. 145a-b]

1 obv., 1 rev. dies

London

B. M.:

no. 952; 6.37g, 6

Athens

N. M.:

4.71g, 12; found at Delos and published by Svoronos, 1911, p. 79. **fig. 27.**

Berlin

M. K.:

5.99g, 6.

4.58g, 6, pierced

Rev. IV: cantharos, X-I-Ω-N arranged in two lines l. and r. of cantharos; a star each under letters Ω and N [M. 146]
same obv. die as 1st die of the same group, 2 rev. dies

London

B. M.:

no. 135; 5.55g, 12. R. 1

Cambridge

F. M.:

M. c.. no. 8395; 5.53g, 12. R. 1

Copenhagen

D. N. M.:

no. 1667. van Lennep, 1899; 4.39g, 12

Athens

N. M.:

1907, KZ 12. 6.47g, 12. found at Delos.

Paris

B. N.:

no. 3174; 5.36g, 6. **fig. 28** R. 2

no. 3175; 6.41g, 6. R. 2

Type E: sphinx seated r. with head turned l. ACAP-IA ΔVΩ
A single obverse die was used for issues of this type

Rev. I: same rev. die as type E. 1

Oxford

A. M.;

4.87g, 6. **fig. 29. fig. 29.**

Cambridge

F. M.:

L. c.: 5.65g, 6

Rev. II: same rev. die as type B, 1

Oxford

A. M.:

5.19g, 6

Copenhagen

D. N. M.:

no. 1664. Lambros, 1908; 3.97g, 6. **fig 30**

Monnaies de collection Strase Auction June 84.

no. 137

Type G

Obv.: sphinx seated r., head turned l. lifting front paw on uplifted amphora ACA-P-I-A ΔVΩ

Rev.: same die as type E. I.

1 obv. die

Chios

K. L.:

no. 36; 6. **fig. 31**

Former Lindgren col.

no. 587; 4.83g

1 ½ ASSARION

Obv.: sphinx seated r. lifting r. paw over amphora; X-I-Ω-N, with the last letter in the exergue. 1 obv. die

Type A Rev.: two crossed thyrsos in the centre; the legend runs from six o'clock MV-ACCA-P-I-ON the letter C in a second line within the type, l. of the thyrsos and the letter V to their r. The legend is arranged round the type in such a way that the ends of the thyrsos fit in the legend breaks; all enclosed in a vine wreath in the inside of which a small bunch of grapes hangs within the top between the letters P and I. [M. 136a]

1 rev. die

London

B. M.:

no. 137; 3.86g, 12

no. 138; 4.03g, 12. **fig. 32**

Cambridge

F. M.:

Lew. c., no. 1352; 4.18g, 12

Copenhagen

D. N.M.:

no. 1661, Heldreich 1874: 3.30g, 6

Vienna

K. M.:

no. 17989; 3.09g, 6

no. 17990; 4.54g, 6

Berlin

M. K.:

P. O. 1876; 4.23g, 12

no. 970/1896; 3.85g, 6

Lindgren coll.

no. 590; 3.81g

Type B Rev.: as above type but letter A in a second line within the type, l. of the thyrsos and the letter P on their r. All enclosed in a vine wreath in the inside of which a small bunch of grapes hangs on top of the letter C of the legend [M. 136a]

1 rev. die

London

B. M.:

no. 136; 3.14g, 12. **fig. 33**

Type C Rev.: as above type but letters CV in a second line within the type, l. of the thyrsos and the letter P on their r. All enclosed in vine wreath in the inside of which a small bunch of grapes hangs between the tops of the thyrsos. A star within the type to the r of the thyrsos. [M. 136b]

1 rev. die

Cambridge

F. M.:

Mcl. col. no. 8393; 3.43g, 12. **fig. 34**

Athens

N. M.:

1908-9, Λ2 38; 2.93g, 12. **fig. 35**

ASSARION: [M. 147]

Obv.: sphinx seated r. lifting l. paw over small bunch of grapes; X-I-Ω-N, the last letter in the exergue; all enclosed in dotted circle.

Rev.: amphora in the centre an ear of grain on each side of its base; ACA to the l., star at the end of the legend; PIO to the r., star at the start of the legend. The whole enclosed in dotted circle

Copenhagen

D. N. M.:

no. 1668; van Lennep, 2.75g, 12. **fig. 36**

Paris

B. N.:

no. 3145; 2.36g, 12. **fig. 37**

IV. DENOMINATIONS OF THE BRONZE COINAGE

1. HELLENISTIC PERIOD

1. i. Introduction: The mint at Chios of the Hellenistic period is typical of the great majority of contemporary mints in the Greek world in the way it issued all of its coinage without inscribed denominational legends, markings, or symbols of value.⁸⁵⁰ This makes it impossible to identify any of the struck denominations, simply by studying the types and legends, as we do for modern coinage. It is only by considering the findings on the denominational systems used by other Greek mints at the time, and applying this evidence to Chios, that we might consider likely values for the coinage issued locally.

The value of ancient coinage struck in precious metal was usually related directly to its weight and the purity of its bullion, making it fairly easy to ascertain the denominations struck in gold and silver. Examples of this may be found in the outline of the coinage where I discuss the various issues of the *drachm* that the Chian mint struck during the Hellenistic (and early Roman) period, and also very rare issues of the *diobol* denomination.⁸⁵¹ Both these denominations were struck in silver and are identified by reference to their weight. It is true that different standards were used in successive drachm series, something which is reflected in the fluctuation of the weight, and bore a direct consequence on the purchasing power of the coinage. However the denominational value of the individual coins was not affected by the change in the standard, and -with the exception of the rare diobols, referred to above- the civic type silver coinage struck at Chios during the Hellenistic (and early Roman period), consisted of issues of the drachm. This is the reason why I have not included here a separate discussion of the standards employed at Chios for individual drachm series and references to the different standards at Chios may be found in the outline of the coinage.

⁸⁵⁰ See J. R. Melville Jones, 'Epigraphical Notes on Hellenistic Bronze Coinage' NC, 1972, pp. 39-43, pp. 40-1, who records only two cities, Metapontium and Samothrace, issuing during the Hellenistic period some of their coinage with marked denominational values.

⁸⁵¹ Note that the Chian *Alexander type* coinage, which did not form part of this study, consists of silver drachms, tetradrachms, and gold staters.

Bronze coins, in contrast to gold and silver, had token value that was set by the issuing state, and did not reflect the intrinsic value of its metal content.⁸⁵² As a result of this, bronze was not struck on an accurate standard, and individual coins of the same issue, and presumably the same denominations, show some difference in weight and to a smaller extent in size. The absence of marks of values on the coinage shows that there must have been other ways for its users to identify the different bronze denominations circulating at any given time. Obviously the mint might have employed types for such a purpose, and this seems to have been the case for many Greek mints issuing under the Roman Empire.⁸⁵³ However during the Hellenistic period coin types appear to have been more restricted in number, and the same motifs were used on issues that clearly belong to different denominations. Some mints -Chios being a notable case (see p. 557)- even issued all denominations with the same types.

In general the diameter of a coin seems to have been the most important factor in determining its denominational value during the Hellenistic period. Some significance may also have been attached to the weight of the individual issues, since Greek mints are known to have struck the majority of coins of the same issue within a limited weight range.⁸⁵⁴ In most cases we can find the weight standard set by the mint for any given issue by recording the weights of a large number of individual coins from the same issue and then finding the average of these coins struck in a close weight range.⁸⁵⁵ Usually ancient mints struck a few coins with a weight markedly higher or lower than the range of the majority of the coinage, and these should be excluded from the average weight of the denomination. However such

⁸⁵² This was the rule during the Hellenistic period but there were also a few exceptions. For example, the value of the denomination of large bronze coins at Egypt, first struck during the reign of Ptolemy II, may have been close to that of their metal content; see Morkholm, 1991, pp. 10-11.

⁸⁵³ This was mainly accomplished by maintaining standard types on successive issues of the same denomination; on this topic, see the comment by Howgego, 1985, p. 61.

⁸⁵⁴ See the discussion by Wallace, 1956, pp. 120-121, with the plausible statement that, '*It is well known that the Greeks did not strike their bronze coins nearly as accurately as their silver....but it does not follow that the weight should be disregarded and attention paid only to size. The size may be less variable than the weight within a given group (note: denomination), but as the sizes of different groups are less different from each other than their basic weights, the weight is often, in Euboia at least, a better guide to the denomination than the size*'.

⁸⁵⁵ To my knowledge, G. Milne, 'The autonomous coinage of Smyrna, Part III', NC Fifth Series, Vol. VIII, 1928, pp. 131-171, p. 157, was the first to successfully distinguish the different bronze denominations of issues struck during the Hellenistic period (though I disagree with some of the values he has attached to individual denominations, see below) by, among other things, recording the average weight of a large body of coins from the same issue and excluding coins that are too heavy or light; see for example his table on the average weight of issues from his period XVII.

coins would also have circulated alongside the rest of the issue, since the weight of an individual coin was not particularly important in everyday transactions where little coinage was used.⁸⁵⁶

During the Hellenistic period mints in the Greek East were striking bronze coinage on two different denominational systems based on the division of the *obol*, the basic denomination for exchanging bronze and silver coins,⁸⁵⁷ into a number of fractions of a smaller denomination, the *chalkous*. All the available epigraphic, literary, and numismatic evidence suggests that during the Hellenistic period the majority of mints divided the obol into eight chalkoi;⁸⁵⁸ a smaller number of mints were using a different system with an obol of twelve chalkoi.⁸⁵⁹ The bronze denominational systems seem to have been introduced when cities started issuing bronze coinage for the first time during the Classical period and these were probably linked to the contemporary standard used for the local silver.⁸⁶⁰ The existence of only two known bronze denominational systems in the Eastern Greek world, in contrast to the variations of weight standards employed locally for precious metal coinage, may be the

⁸⁵⁶ M. Price, 'Early Greek Bronze Coinage', pp. 103-104, noting that '*coins of bronze were of little concern to the recipient since the coins were of token value*'; see also Morkholm, 1991, p. 10

⁸⁵⁷ The obol used to represent a small silver coin during the Classical period but eventually over the course of the Hellenistic period it became the largest denomination struck in bronze. As such it was seen as the basic coinage in which exchanges were conducted between precious and base metal coinages. An inscription from Gortyn dating to the 3rd century BC records the replacement of the silver obol by a bronze one (J. M. Jones, 1971, p. 39-40); this seems to have been commonplace throughout the Greek East during the later Hellenistic period, see Howgego, 1985, p. 73.

⁸⁵⁸ M. N. Todd, 'Epigraphical notes on Greek coinage', Part I 'Κολλυβοῦς', NC 1945, pp. 108-116, p. 113, 116. Idem, Part II 'Χαλκούς', NC 1946, pp. 47-62; see also Kroll, *Athens Agora XXVI*, pp. 38-39, with references to other mints striking coinage on this system and included below in this study. A reference to the system of eight chalkoi to the obol is recorded by in the *Onomastikon* of Julius Pollux, see Jones, 1994, pp. 442-3.

⁸⁵⁹ Todd, 1946, p. 49, used epigraphic evidence to show that at Delphi, Boetia, and cities in the Peloponnese, the base metal coinage during the Hellenistic period was struck on the system of twelve chalkoi to the obol.

Vitruvius, III, i, 7, (Jones, 1994, no. 636, pp. 424-5), states that some Greek cities called the quarter of the obol a *dichalkon* and many others a *trichalkon* ('*quadrantesque obolorum quae alii dichalca nonnullis trichalca dicunt*'). This clearly shows that the former were using an obol made up of eight chalkoi and the latter one of twelve chalkoi. However Vitruvius was referring to his own time, the reign of Augustus, when it would seem that the twelve chalkoi system was more widespread among the cities in the Greek mainland than that of eight chalkoi (see below). Numismatic studies show that a number of important Greek mints were using the system of eight chalkoi to the obol during the Hellenistic period (for references see the discussion below) but not a single mint has yet been identified as using the system of twelve chalkoi. Kinns, 1980, p. 14, suggests, on the (epigraphic) evidence collected by Todd, that the system of twelve chalkoi to the obol was the most common one during the Hellenistic period but this does not seem to be borne out by studies of individual mints and which show that the system of eight chalkoi to the obol.

⁸⁶⁰ Todd, 1946, pp. 56-62, considers that Greek cities striking silver coinage on the Aegineteian standard produced bronze coinage on the twelve chalkoi to the obol system, while the eight chalkoi to the obol system was used by cities striking silver on the Attic standard. This theory is reiterated by J. H. Kroll, 'Hemiobols to assaria: the Roman coinage of Aigion', NC (156) 1996, pp. 49-78, pp. 54-55.

key for explaining why the majority of Greek mints issued bronze coins of similar diameters and close average weights.

Excavations on major sites of the Hellenistic period usually record a large number of bronze coins of non local mintage, showing that they would have circulated there alongside local coins.⁸⁶¹ Known hoards dating to this period also show a mixture of foreign and local bronze coinage. Such a hoard found in the Athenian Agora contained local (Athenian) and foreign bronze coins of approximately the same weight and diameter; almost certainly these coins would have circulated at Athens as the same denomination.⁸⁶² The excavation finds and the evidence of hoards suggest that the circulation of base metal coinage was not restricted locally and that a bronze issue circulating outside the area controlled by the authority responsible for its issue may still have retained its original face value. These issues struck by different mints but of similar appearance, would probably have represented the same denomination and would have been accepted as such in different regions of the Eastern Greek world. On this evidence it is likely that the same arguments on the value of a given issue may also apply for issues of other Greek mints sharing with it the same size and approximate average weight. In other words it seems possible to identify bronze denominations by comparing them to similar issues of the few mints which have their denominational values established by numismatic, epigraphic or other types of evidence.⁸⁶³

⁸⁶¹ Kroll, *Athens Agora XXVI*, p. 169, states that approximately 20% of bronze coins recovered at Athens and dating to the period 4th-3rd centuries BC, were of foreign mints. The percentage of foreign coinage during the Hellenistic and early Roman period is also relatively high at Sardis and Corinth, see *RPC I*, p. 372.

⁸⁶² Kroll, *Athens Agora XXVI*, pp. 168-169, Agora A 18:8, dating to the 260s BC. For hoards found in various sites of the Peloponnese containing a large component of non local coinage, see IGCH 64, 139, 183, 200, 217, 263. These are discussed by J. D. Mac Isaac, 'Coins and the Field Archaeologist: Numismatic Finds as Artifacts', *Archaeological News*, 1995, pp. 19-24, p. 24, f. 4.

⁸⁶³ Comparing an issue of a city to that of others to identify its denomination has been widely used in recent years in studies of Greek coinages; for the latest, see Kroll, *Athens Agora XXVI*, who also includes bibliography with studies on the bronze denominations of individual Greek mints during the Hellenistic period.

I. ii. General aspects of the bronze denominations struck at Chios during the early Hellenistic period (c 332-200 BC):

During the first century of the Hellenistic period the Chian mint seems to have been striking bronze coinage on a system comprising four different denominations. The first and largest of these is represented by coins measuring 18-15mm and weighing between 3.6 and 4.2g; almost all of the recorded coins have weights that fall between 3-5g.⁸⁶⁴ The immediately smaller denomination consists of coins with a diameter of 13-12mm and an average weight of 1.8g.⁸⁶⁵ The third denomination has coins measuring 11mm, which gave an average weight around one gram.⁸⁶⁶ A tiny number of other smaller coins, measuring only 8 mm, gave an average weight of c 0.80g. This is close to the average weight of the previous denomination though the size of the coins is markedly smaller and would probably represent an even smaller denomination than the latter one. It would seem that only the coins' diameters would have been of significance in identifying this particular denomination since some of the coins are heavier than in the previous denomination.⁸⁶⁷

Studies of other Greek coinages from the early Hellenistic period may offer evidence on a likely identification of these Chian denominations. The largest coins are of a diameter and average weight similar to that of foreign issues that are considered to belong to the *trichalkon* denomination, with a value of three chalkoi. The trichalkon does not seem to have been commonly struck, but there are some recorded examples in the Greek world, including Chios's closest neighboring city in Ionia, Erythrae.⁸⁶⁸ The denomination immediately lower

⁸⁶⁴ This study includes records of the weight of 708 coins from Series 14-17 belonging to this denomination. Individually each series gave the following: Series 14 (64 coins examined) an average weight of 3.69g; Series 15 (19 coins examined) an average weight of 4.20g; Series 16 (25 coins examined) an average weight of 3.84g; Series 17 (600 coins examined) an average weight of 3.98g. The weights of this denomination seem to have been carefully adjusted since almost 90% of coins weighed between 3-5 g.

⁸⁶⁵ In total the weights of 12 coins was examined: 5 coins out of the 7 recorded for Series 17 (2 coins were not weighed) gave an average of 1.9g; 10 coins out of 13 recorded for Series 18 (3 coins were not weighed) gave an average of 1.7g.

⁸⁶⁶ In total the weight of 26 coins was examined: 2 coins from Series 14 gave an average of 0.8g; 5 coins out of 6 recorded for Series 16 (1 coin was not weighed) gave an average of 0.9g; 38 coins out of 43 recorded for Series 17 (5 coins were not weighed) gave an average of 1g.

⁸⁶⁷ See the outline of the coinage for references to individual issues.

⁸⁶⁸ Kinns, 1980, Period III, trichalkoi issues of Erythrae (AE 5P n. 133-140); Period IV, trichalkoi issues of the same mint (AE 10b n. 160-161 and AE 15 n. 207-218, AE 16 n. 219-230); all of these issues are of a similar size and average weight to the Chian denomination. For a mint in the Greek mainland striking this denomination see Grandjean, p. 39, where an issue of Hermione composed of coins of the same size and average weight as these Chian ones is labelled, a trichalkon.

than the trichalkon would in theory have been the *dichalkon*, a common denomination with a value of two chalkoi. This seems to be confirmed by the fact that the average weight and diameter of the Chian coins smaller than the trichalkon is similar to that of issues from other Greek mints that are considered as dichalkoi.⁸⁶⁹

Chian numismatic evidence from a later date also suggests that the two largest bronze denominations for Chios of the early Hellenistic period would probably have been the trichalkon and dichalkon. As we will see in the following section, certain issues of Chios struck during the early Roman Imperial period are marked with the denominational legends of *trichalkon* and the *dichalkon*.⁸⁷⁰ These share an identical size and average weight with the issues discussed here and which I consider to be of the same denominations. It may be noted that none of the issues with inscribed values date prior to the early 1st century AD and therefore belong to a later period than the one considered here. Their evidence however may also apply for this earlier period since, as I discuss further on, Chios seems to have issued its base metal coinage during the early Roman period on the same system as the early Hellenistic period. In consequence, the size and average weight of the denominations would have remained the same throughout these periods.

The next smallest Chian issue for the Hellenistic period would almost certainly be the *chalkous*, the basic bronze fractional denomination which made up the larger denominations. Because of its importance for both Greek denominational systems it was commonly struck by a great many mints, and most chalkoi issues agree in size and average weight with these Chian coins.⁸⁷¹ A fraction of the chalkous, known as the *hemichalkous* or the *kollybus*, was struck

⁸⁶⁹ The denomination is found in most Greek issues of the period; see Kinns, 1980, p. 340-3, with the many issues of dichalkon struck by the cities of Erythrae, Teos, Lebedus and Colophon; as already stated the size and average weight of these issues match those of the Chian issue. Ashton, 1986, p. 9, f. 5, records Rhodian coins of the Hellenistic period (groups 1-2) of a similar weight and size as these Chian coins which he considers to be dichalkoi. The same also applies for Aigion, where Kroll, *Aigion*, p. 50, identifies the dichalkon as an issue on a diameter of 14mm and an average weight of 2.4g. See also above the discussion of an early Hellenistic hoard found in the Athens Agora and composed of various dichalkoi issues from Athens, Megara, Boetia, and other mints of mainland Greece.

⁸⁷⁰ See the discussion in the outline of the coinage; for the trichalkon, *RPC I*, p. 411, no. 2421; the dichalkon was not included in *RPC* and is included in this study in the chapter on Roman Series I. The diameter of the recorded coins marked with the trichalkon value is 19-20mm and the average weight of 3.50g; the diameter of the earliest known (marked) dichalkon is 12mm and weighs 1.92g.

⁸⁷¹ See Kinns, 1980, p. 340-3 for the many issues of Erythrae, Teos, Lebedus and Colophon of the Hellenistic period that are recorded as chalkoi. For Rhodes, see Ashton, 1986, p. 9, f. 5, a coin of the same period that he terms a chalkous and which is struck on the same diameter and weight as the Chian issue. For Athens see Kroll,

by some mints⁸⁷² and it would seem that the smallest Chian coins (discussed above) with a size smaller than the chalkous, may belong to this denomination.⁸⁷³

TABLE I

AE 1	18-15 mm	c 4g	3.6-4.2g	trichalkon
AE 2	13-12 mm	1.8g	1.8g	dichalkon
AE 3	11-10 mm	1.g	0.8-1.2g	chalkous
AE 4	8 mm	0.8g	0.6-1g	hemichalkous

Not all of the series struck during this period (Series 14-18) are known to have included issues from the four denominations, but the trichalkon was the most common, and is found in all series except the last one. It seems that only Series 17 is represented by issues of all four denominations, while Series 14 consists of the trichalkon, the chalkous, and possibly the hemichalkous. Series 16 includes issues of all denominations except the dichalkon, and Series 15 is only known from issues of the trichalkon. Series 18 includes all denominations smaller than the trichalkon.

Athens Agora XXVI, p. 38, who considers his AE4, a coin measuring 10-13mm and weighing 1-2g, to be the chalkous denomination of Hellenistic Athens.

⁸⁷² See Kroll, *Athens Agora XXVI*, p. 38, AE5 a coin of Athens measuring 7-10mm and weighing under 1g which he terms hemichalkous or kollybos.

⁸⁷³ In some cases it is difficult to distinguish between coins of the smallest two denominations. This is particularly true for certain coins of Series 18 that may have been chalkoi or hemichalkoi. See the discussion on this series in the outline of the coinage.

I. iii. The Chian bronze denominational system during the Hellenistic period:

The trichalkon represents the largest and the most common bronze denomination struck by Chios during the early Hellenistic period, with issues of other denominations being very rare or even unique. It is clear from the evidence that it was by far the most important bronze denomination struck within the local monetary system; in the absence of any larger bronze denominations it would have been used extensively in silver-bronze exchanges. In this respect Chios seems to differ from many other Greek cities that are known to have issued bronze denominations higher than the trichalkon during the Hellenistic period. The most common of these large denominations is the *tetrachalkon*, a coin with a value of four chalkoi, measuring 18-20 mm and averaging in weight 5-6g.⁸⁷⁴ The tetrachalkon is of a slightly larger size and heavier weight to the trichalkon, marking a clear difference between the two denominations.

In the system where the obol was composed of eight chalkoi the tetrachalkon represented a hemiobol and therefore played a central role in monetary transactions.⁸⁷⁵ The fact that this denomination, relatively common in other Greek coinages of the period, is absent from series struck at Chios is strong evidence in my opinion that the obol locally was divided into twelve chalkoi and not eight.

A rare piece of epigraphic evidence seems to confirm this theory. The inscription with the donations of Attalus I of Pergamum to the city of Chios⁸⁷⁶ includes a reference showing that the Chians were using an obol made up of twelve chalkoi during the 3rd century BC. The

⁸⁷⁴ See Kinns, 1980, pp. 340-3, for tetrachalkoi issues of Erythrae and Colophon. Coins of Athens of the Hellenistic period weighing between 5g and 6g are labelled as tetrachalkoi by Kroll, in *Agora XXVI*, p. 38, (AE2). At Rhodes coins on a similar weight and measuring 16-20mm are also considered as tetrachalkoi, see Ashton, 1986, pp. 3-9, Group 3.

⁸⁷⁵ Kroll, *Athens Agora XXVI*, pp. 90-1, suggests that at Athens, where the coinage was issued on the eight chalkoi to the obol system, the hemiobol represented the basic denomination used in silver-bronze exchanges. Ashton, 1986, p. 9, f. 5, considers that the issuing of the tetrachalkon by Rhodes probably shows that the obol there was divided into eight chalkoi. In fact this seems to be generally the case wherever we have issues of the tetrachalkon. Kinns, 1980, p. 14 considers that Erythrae, Teos, Colophon and Lebedus were using the system of twelve chalkoi to the obol system, but on several occasions (e.g. Erythrae, AE 5G, nos 144-153, p. 342; AE 12 nos 164-203, p. 343; AE 21, nos 336, p. 345 etc. Teos, AE 10b, no 141-14, p. 344, etc) he refers to issues of these mints as *tetrachalkoi* and *half obols*. This seems to contradict his view that the above mints were using the system of twelve chalkoi to the obol and suggests that the system was that of eight chalkoi to the obol.

⁸⁷⁶ For references and a detailed discussion of the date and contents of this inscription see the discussion in the historical background, p. 30. The king Attalus in the inscription is almost certainly Attalus I and the inscription probably dates c 200 BC.

inscription comprises two distinctive sections with different headings. The first section is a record of various large sums of money that were collected from rents and donated by Attalus for the repairing of the city walls of Chios; the second and smaller section only includes very small sums donated by the king towards the cost of heating the city's gymnasium. Here the engraver decided to inscribe the name of the denomination next to the sums of money, and not just numerically, as is the case with sums of money offered for the repairing of the city walls. In line 34 we come across the sum of four drachms and in lines 36-37 another sum of three drachms and nine 'chalkous' (ΔΡΑΧΜΑΙ ΤΡΕΙ[Σ ΚΑΙ] ΧΑΛΚΟΥΣ ΕΝΝΕΑ). There can be no doubt that these denominations are Chian, since the money donated by the king -as the heading of this inscription records- was collected from rents paid by locals; the drachms would most probably belong to one of the drachm series with civic types.⁸⁷⁷ The term chalkous almost certainly refers to the denomination of that name and would not mean literally 'bronze' coins. This is supported by evidence from inscriptions of other Greek cities where records of sums of money in the 'chalkous', or 'chalkoi', refer to the smallest denomination of this name.⁸⁷⁸ Since the sum recorded in the inscription is nine chalkoi, but still expressed in the chalkous denomination (and not the obol) it is clear that the obol at Chios contained twelve chalkoi. The epigraphist M. N. Todd is convinced that whenever an inscription records the sum of eight chalkoi, or a larger number of this denomination, this could only mean that the obol was locally estimated at twelve chalkoi and not the usual eight.⁸⁷⁹

It is established that during the 1st century AD, more than two centuries after the period of this inscription, the obol at Chios was indeed divided into twelve chalkoi (see below).⁸⁸⁰ Numismatic and epigraphic evidence now suggests that the same denominational

⁸⁷⁷ The term 'Alexander' coinage is not recorded in this inscription and in any case Chios was no longer striking, by this period, any issues of this type smaller than the tetradrachm; see the outline of the coinage, the chapter on the Attic Series II for a discussion of the appearance of different terms next to Chian drachms recorded in local inscriptions.

⁸⁷⁸ Todd, 1945, pp. 108-116, p. 113 & 116; Idem, 1946, pp. 47-62.

⁸⁷⁹ Todd, 1946, p. 59, based on an inscription of Delphi of the 4th century BC (BCH lxvi-vii. 102f), with an entry of ΔΡΑΧΜΑΣ ΤΕ[ΣΣΑ]ΡΑΣ ΧΑΛΚΟΥΣ ΕΝΝΕΑ ('drachms four chalkoi nine'), states that '*for Delphi our materials are both abundant and unequivocal, pointing unmistakably to an obol of 12 chalkoi.*' The number of chalkoi is exactly the same as in the Chian inscription under consideration here and consequently the same statement would also apply in the case of Chios.

⁸⁸⁰ This is certain and has been established on the basis of denominational legends appearing on the coinage of Chios during the Roman Imperial period, see Maurogordato, 1918, 3-6; Howgego, 1985, p. 57. K. Butcher in *An introduction to the Greek Imperial coins*, London, 1989, wrongly considers an obol of eight chalkoi at Roman

system was also used at Chios during the early Hellenistic period and that the system of the Roman Imperial period probably followed this earlier tradition and would not have been a later development, influenced by the denominational system of the Roman Republic, as hitherto considered (see the discussion below on the Chian denominational system during the Roman period).⁸⁸¹ As I discuss below this is only one of the features of the Chian coinage of the Roman period that are thought to have been borrowed from the Roman system, where in fact they already formed part of the Greek system long before the Roman conquest.⁸⁸²

The use by Chios of the denominational system of twelve chalkoi to the obol may explain why such a large number of trichalkoi were issued at Chios, especially with the extremely common issues of Series 17. Since the trichalkon was also the highest value struck in base metal at Chios it would have been used extensively for exchanges between bronze and silver; this role, as we saw, would have been played by the tetrachalkon in cities where an obol was made up of eight chalkoi. The use of the trichalkon in exchanges between silver and bronze is further suggested by the fact that all known bronze hoards from Chios are almost entirely composed of coins of this denomination.⁸⁸³ Four trichalkoi made up an obol at Chios and the drachm was valued at six obols; in other words 24 of the largest available bronze coins were equal in value to the drachm. This is double the number of tetrachalkoi that were required for the same bronze-silver exchange in regions using the system of eight chalkoi in the obol. Obviously a mint striking only issues of the trichalkon as the largest bronze denomination would have been forced to produce a larger amount of this coinage than one striking tetrachalkoi, which would probably explain the large volume of coins from this denomination struck at Chios.

Chios; this error is corrected by Howgego in his review of Butcher's book in *Numismatic Circular*, the section with literary reviews, February 1989.

⁸⁸¹ See in particular, Maurogordato, 1918, pp. 3-4, claiming that the system of twelve chalkoi to the obol at Chios under the Roman Empire was based on the division of the Roman *as* into twelve *unciae* during the Republican period.

⁸⁸² Note however that I discuss below the possibility that Chios may have struck during the 1st century BC a single issue on the system of eight chalkoi to the obol: if this was the case than the island may not have been using the same system throughout the Hellenistic period. See below where I discuss other possible cases of mints changing their bronze denominational system during the later Hellenistic period.

⁸⁸³ On this topic see the discussion of hoards in the chapters on Series 14-15 and 17.

In this light it would have been more convenient for Chios, and the other cities in the same system, to have issued coins larger than the trichalkon. A coin of the value of six chalkoi (half-obol) would have been more practical for these mints, following the example of the issue of the tetrachalkon (half-obol) by mints in the system of eight chalkoi to the obol. In fact many of these six chalkoi issues were eventually struck during the early Roman period by mints which as I will show were using the denominational system of twelve chalkoi to the obol (Chios is one of these mints, see below, pp. 529-534). However no such large denominations has yet been identified for the Hellenistic period for mints striking on this system, though I suspect that some of the rare larger coins of this period may represent such a denomination. It would seem that these mints during the Hellenistic period either produced large quantities of trichalkoi, as happened with Chios, or silver fractional denominations of the drachm.⁸⁸⁴

Chios provides us with the first documented case of a mint issuing coinage during the early Hellenistic period on the system of an obol worth twelve chalkoi (for examples from later periods, see the following chapter). We may assume that certain aspects of this coinage might also be found in other contemporary Greek coinages struck on the same system as that of Chios. For example, a mint striking large quantities of the trichalkon denomination in successive issues, and without a bronze issue of a higher value, is likely to have been using the system of an obol of twelve chalkoi not eight (see below).

⁸⁸⁴ The evidence from the study of the mint at Chios during the Hellenistic period may be of use in identifying the denominational systems in other cities at the time. However this discussion would take up much space and is not of relevance to this study. Here it suffices to note that none of the mints that N. H. Todd considers on epigraphic evidence to have used the system of twelve chalkoi to the obol issued tetrachalkoi during the same period as proposed for their inscriptions. Boetia and Athens seem to provide evidence on a link between the issue of a particular denomination (tetrachalkon or trichalkon) and the local bronze denominational system. During the late 3rd century BC large quantities of bronze coinage of the kingdom of Macedon were overstruck by both Athens and mints of the Boetian League. In the first case all the overstruck coins were tetrachalkoi (type Pan crowning trophy/ head of Athena) while in the second case a much rarer issue almost certainly represented a trichalkon (horseman/head of Herakles). This is probably not coincidental but shows preference for a particular denomination by these cities, since it is established from epigraphic evidence that Boetia used the denominational system of 12 chalkoi to the obol and Athens that of 8 chalkoi (Todd).

I. iv. General aspects of the bronze denominations struck at Chios during the middle and late Hellenistic period (c 200-87 BC):

Following the cessation of the striking of Series 17, during the late 3rd century BC, no further issues of the trichalkon were produced for the remainder of the Hellenistic period, though shortly afterwards (c 200 BC ?) the mint struck some rare issues of the dichalkon, the chalkous, and possibly the hemichalkous (Series 18). This coinage may have been produced to supplement or replace issues of Series 17 of the same denominations since these were not as common as the trichalkon.

Coins of the trichalkon denomination of Series 17 are likely to have continued circulating during the early 2nd century BC, eventually being driven out of circulation before the middle of the century (see the discussion in the outline of the coinage). The mint did not strike any trichalkoi issues to replace those of Series 17, and the dichalkon was left as the largest and most common issue struck after the early 2nd century BC. A similar and contemporary monetary development to that at Chios seems to have taken place at Erythrae. During the period c 220-170 BC this mint struck large quantities of the dichalkon and no bronze denomination of higher value (Kinns, 1980, pp. 343-344). Nevertheless, in the case of Chios it seems that this may have come about from internal conditions and not as a result of monetary developments within a foreign city.

The shift from the trichalkon to the dichalkon as the most common bronze issue after the early 2nd century BC is probably linked to the silver coinage issued and circulating at Chios at the time. As we saw, the local mint was striking large quantities of the tetradrachm during the previous century when the most common contemporary bronze issue was that of the trichalkon. However by the middle of the 2nd century BC, when dichalkoi of Series 19 had become established as the main bronze coinage in circulation at Chios, the mint was no longer striking issues higher than the drachm, and from this period onwards only occasionally would tetradrachms circulate at Chios (all of which were of foreign mints, with the majority, as we saw, of Athenian mintage). Issues of Series 19 would therefore have been exchanged mostly for drachms, a quarter of the value of the tetradrachm which was up till then the largest silver denomination available. The lack of trichalkoi issues after the 3rd century BC should

therefore not be seen as evidence of a change in the bronze denominational system but a direct consequence of the 'devaluation' of contemporary silver coinage struck by Chios.

The dichalkon was left as the highest Chian bronze denominational value for almost a century, at least down to the early 1st century BC; issues of chalkous were also struck during the same period but these are extremely rare (19.II) and much rarer so, than those of the 3rd century BC. Issues of the dichalkon continued to be struck regularly throughout the 1st century BC and early 1st century AD (Series 20, 24) and this denomination survived into the Roman period where we find a number of successive issues bearing this denominational legend (see below).

I. v. General aspects of the bronze denominations struck at Chios during the late Roman Republic (c 80 BC-late 1st century BC):

Shortly after c 80 BC Chios began striking a denomination of a size larger than at any time in its past. Three successive issues are recorded (Series 21, 22, 23), covering chronologically the general period of c 80-30 BC. The coins are on a diameter of 20-21 mm but with different average weights; coins of Series 21 recorded an average of 10g, Series 22 of 8.5g, and Series 23 of 7.2 g. I am leaving Series 22 outside the following discussion on the identification of these denominations since of the three known coins one is worn and damaged, and the other two are overstruck on coins of Series 22. Consequently they do not provide us with reliable evidence for identifying their denomination.

The striking of large coins at Chios follows similar examples at other Greek mints during the 1st century BC, some of which also struck for the first time large base metal denominations (on this topic, see the discussion in the outline of the coinage, the chapters on Series 21-23). Invariably these issues are recorded in numismatic studies as obols or half obols, without reference to the denominational systems used in their issues. It appears that coins from these Chian series would belong to one denomination since their diameters are similar. However, as I already noted, there is a marked weight difference of 3g between the earlier Series 21 -comprising the heavier coins- and the later one of Series 23 -with the lighter coins. This drastic decrease in weight between successive series would suggest that a lighter

weight standard may have been introduced with the later series. However as I will attempt to show, this weight discrepancy is probably attributed to a factor other than the lowering of the standard.

As we saw Chios was probably striking coinage on the system of twelve chalkoi to the obol for some time before the Roman Imperial period. In accordance with this system, issues of Series 23 would have belonged to the *hemiobol* denomination, with a value of half obol or six chalkoi; their average weight of 7.2g and size of 21 mm is exactly double the average weight and size of coins of the trichalkon issues which, as we saw, were last produced during the late 3rd century BC. The fact that the coins in question are likely to be half obols seems to be confirmed from the evidence of bronze civic issues struck during the same period (1st century BC) in southern Greece, the region that comprised the province of Achaëa from the reign of Augustus. It seems that mints located there were striking coinage on the system of twelve chalkoi to the obol since inscriptions from Messenia (Peloponnese) dating to the early Imperial period record the use of this system locally.⁸⁸⁵ Issues struck by the city of Aigion during the Roman period (BMC, Peloponnese 'Aegium', p. 18, 1-3) bearing the inscribed denominational value of ΗΜΙΟΒΟΛΙΝ ('half obol') are of a weight and size clearly showing that they were issued on the system of twelve chalkoi to the obol.⁸⁸⁶ Even though there is uncertainty as to the precise date of this issue,⁸⁸⁷ its striking constitutes further evidence on the use of the twelve chalkoi to the obol system in mainland Greece during the Roman period. A number of other mints in southern Greece produced in the early Imperial period a large bronze denomination on the same module as the issues of Aigion suggesting that these are

⁸⁸⁵ The inscription is published in IG V, 1433 and discussed in *RPC I*, p. 246. Epigraphic evidence collected by Todd (*ibid*), shows that cities in the Peloponnese (Epidauros, Tegea) and Boëtia (Orchomenus, Oropus) were using the system of twelve chalkoi to the obol during the Hellenistic period. Since I have suggested that Chios may have continued using this same system during the Hellenistic and Roman periods this may also be true for the mints in the Greek mainland.

⁸⁸⁶ These half obol coins average in weight c 7.5 g and measure 21mm. A hemiobol on the eight chalkoi to the obol system, which would have been a 'tetrachalkon', weighs on average between 5-6g and the majority of such coins measure under 20 mm. Kroll, *Aigion*, pp. 49-78, pp. 55-57, is also of the opinion that this issue of Aigion was struck on the system of twelve chalkoi to the obol but based this on the fact that this was the system known to have been used by mints in the Peloponnese. The fact that Kroll came to the same conclusion on the denominational system employed at Aigion as this study, but used different evidence, adds weight to the suggestion that it is possible to identify the denomination and the system of a bronze denomination struck by a Greek mint by reference to the size and weight of its coins.

⁸⁸⁷ On the question of the proposed date for these issues, see *RPC I*, p. 246. The latest study of these issues by Kroll, *Aigion*, generally places them in the reigns of Hadrian-Pius (pp. 53-54).

also hemiobols on the same system.⁸⁸⁸ Issues of Series 23 share the same module as these hemiobols of mainland Greece.

The evidence from both local and foreign sources strongly suggests that issues of Series 23 represent the half obol denomination on the system of twelve chalkoi to the obol. However coins of Series 21 are an average of three grams heavier than coins of Series 23; even though these different series share a similar diameter I believe that they do not represent the same denomination. As we saw the mint at Chios kept the weights of issues of the same denominations within a close range; three grams is far too great a weight discrepancy for issues belonging to the same denomination. If I am right in suggesting that issues of Series 21 are of a different denomination than Series 23 it is unlikely that it may have been a higher denomination on the system of twelve chalkoi to the obol; the size of the coins from the two series is far too close. In all likelihood Series 21 seem to have been struck on a different system, and its issues are probably obols on the system of eight chalkoi to the obol. I would therefore suggest that with Series 21 and 23 we do not have a decrease in the weight of issues on the same denomination but a change from one denominational system to the other. If this is true, then the coins are not only on a different system but would also represent a different denomination.

There are other examples of Greek mints from the Hellenistic where a switch between the two systems is likely to have taken place during the 1st century BC, though as far I know this is the first time such a claim is documented. These mints produced successive issues of a similar diameter and dating to the same period but with a significant difference in weight. Since this weight discrepancy did not bear a real effect on the size of the coins, which generally remained unaltered, it is thought that the issues were of the same denomination with heavier and lighter variants (since the diameter was similar, and the weight was not halved, they could not be seen as halves of the heavier denomination). The successive issues produced were of similar size as issues of Chios, Series 21-23, and most significantly they record the

⁸⁸⁸ *RPC I*, pp. 245-247, p. 246, lists cities that struck a denomination on a similar average weight and diameter to the hemiobol of Aegion. These include Corinth, Sicyon, Sparta, Thebes, Locri, cities in Euboea and others. Note however that some of the lighter issues (under 6g) may represent half obols on the system of eight chalkoi to the obol.

same average weights and weight differences. The Chian coinage of this period suggests that in these other cases the weight difference between issues of seemingly the same denomination may not have been the result of changes in the weight standard but in the use of a different denominational system altogether.⁸⁸⁹

The existence of Series 21 would imply that Chios may have briefly struck issues on a system different to the one it was using in the past. However following this issue the mint seems to have reverted to the earlier system. What is particularly interesting is the fact that

⁸⁸⁹ Athens provides us with a clear example of a mint changing during the 1st century BC its denominational system of eight chalkoi to the obol to that of twelve chalkoi to the obol; for what follows see, Kroll, *Athens Agora XXVI*, pp. 89-91. This mint struck its largest denomination (AE 1) between c 42 BC-early reign of Augustus on what seems to have been a declining weight standard. Coins of this denomination struck in c 42 BC weighed an average of 9g and measured 19-20mm. According to Kroll this issue was tarrified as six to the drachm/denarius and would have been an obol (though in Athens the obol was labelled a 'drachm'). Coins of this same denomination struck a decade, or two, later, during the early reign of Augustus, weigh an average of 7g and measure 17-20 mm. These were no longer tarrified as twelve to the drachm/denarius, but six, and furthermore they bore types of the hemiobol from an earlier period (labelled at Athens as 'hemidrachms'). Kroll is convinced that these no longer represented the obol, but the hemiobol, and the evidence overwhelmingly supports his view. However he considers that the value of the obol was effectively halved at Athens between c 40 BC and the early reign of Augustus. This is not supported by the numismatic evidence since the size and weight of coins from these different issues were not halved. The later issues retained the same diameter as the earlier ones, and weighed only a quarter less. It seems to me more plausible that Athens replaced its denominational system of eight chalkoi to the obol with that of the twelve chalkoi. In this case the second issues would have been half obols, but worth six chalkoi, -rather than four on the system of eight chalkoi to the obol- and identical to the ones struck at Chios, Aigion, and the other mints on this system. This would explain why there was no significant change in the diameter of the coins compared to the earlier ones, and why the weight only fell slightly instead of being halved. Confirmation of this seems to be found in the fact that Athens may have adopted, during the early Augustan period, the same standard as used at Corinth after c 40 BC (this is also pointed out by Kroll); as I discuss below the denominational system in use at Corinth at the time was almost that of twelve chalkoi to the obol. Smyrna is another mint where a change in the bronze denominational system is likely to have occurred during the early 1st century BC. In the late 2nd century BC (Milne, period X-XI, c. 125-105 BC) the diameter of the obol was c. 20-22 mm and its weight ranged 7-10g (Kinns, 1980, p. 335; Milne, 1928, p. 158, gives an average weight of 7.9g); the half obol measured 17-18 mm, with a general weight range of 3.5-5g (Kinns, *ibid*, p. 160; Milne, *ibid*, gives an average weight of c. 4.4g) and the quarter measured c 12-13 mm and averaged in weight c. 2.3g (both diameter and average weight quoted from Milne). Soon after the 1st Mithridatic war the obol was struck on a diameter of c. 23-25 mm, weighed 11-14g (Kinns, *ibid*, p. 335; Milne, *ibid*, gives an average weight of 12.9g) its half was on a diameter of 18-20 mm and weighed 5.5-7g (Kinns, *ibid*; Milne, *ibid*, gives an average weight of c 6.2g) and its quarter c. 14-16 mm and weighed 2.5-4 g (Kinns, *ibid*; Milne, *ibid*, gives an average of 3.2g). The size and average weight of the earliest coins agree well with denominations struck in the system of eight chalkoi to the obol; the half obol would therefore value at four chalkoi and the quarter at two. Since Smyrna continued striking most denominations bearing the same types during the Hellenistic and early Roman periods it is easy to identify the denominations from types. The later ones are clearly on a different standard to the earlier ones making it unlikely that they would belong to the same system. The average weight and size of the later denominations agrees well with what we would expect to find for denominations struck on the system of twelve chalkoi to the obol; the half obol would have been worth six, not four chalkoi, and the quarter three not two. The fact that the types of each denomination remained the same in the series, irrespective of the change in the standard, is expected, since the face value of obol, half obol and quarter obol was not affected from this change; what changed was the value of the denominations in chalkoi. The difference between Chios-Athens and Smyrna is that while in the first case it seems that the change of the system is documented for the largest denominations for the second one it seems to have applied to all denominations.

Series 21 does not conform with other established features of the Chian coinage (typology, style, metal content; for these features see the chapters on typology and the discussion of the series in the outline of the coinage). It is also likely to have been struck on a different standard to the rest of the Chian bronze coinage of the period. However issues of Series 23 show that Chios probably resumed striking coinage on the system of twelve chalkoi to the obol during the late 1st century BC.

Issues of Series 23 also afford evidence on another aspect of the coinage that was beginning to emerge at that time, namely the equation of the half obol to the *assarion*. Since this feature is associated with the Roman period I will discuss it in the following section dealing with the denominations struck during the Roman Imperial period.

As we saw dichalkoi continued to be struck during this period (later groups of Series 19, Series 20, and a few issues of Series 24), and I have placed in this period the issue signed by moneyers ΑΠΟΛΛΩΝΙΟΣ and ΙΕΡΟΝΥΜΟΣ which may have been of the value of the trichalkon.

2. ROMAN IMPERIAL PERIOD

2. i. Introduction: As we saw in the previous section, Greek mints struck a larger variety of bronze denominations during the Roman than in earlier periods. This resulted in the introduction of a number of types for marking out the new denominations. Chios took a further step in this direction by including the full denominational name in the legends of almost all issues. This feature first appears on the island's issues dating to the early 1st century AD but it became standard on all regular issues during the second half of the century; from then onwards the mint never produced any regular issues without a denominational legend.⁸⁹⁰ Though issues of other Greek mints are known to bear occasionally denominational values in legends or countermarks,⁸⁹¹ Chios was unique at the time for having fully incorporated denominational values in all of its regular issues and retained this feature over a period of two centuries, down to the end of its coinage.

The adoption of denominational legends makes the Chian coinage one of the few sources of evidence, perhaps the most informative, for studying the development, function, and various aspects of the provincial denominational systems in the Eastern part of the Roman Empire during the period 1st-3rd century AD.⁸⁹² On the surface it would seem that the Chian coinage of the Roman period bears little resemblance to that struck during the Hellenistic period, suggesting that the local monetary system might have been reformed early in the Roman Imperial period. Numismatists in the past have considered that Chios, and the rest of the Greek world for that matter, adopted the Roman denominational system, in the place of their earlier Greek one (see below).⁸⁹³ In one of the following sections I discuss whether or

⁸⁹⁰ The Homereia issues lack marked values but these did not form part of the regular coinage. After all they were easy to distinguish from their reverse type -the seated figure of Homer- which was uniquely reserved for coins of this issue.

⁸⁹¹ See the table with Greek Imperial issues of the Julio-Claudian period bearing denominational legends or marks in *RPC I*, pp. 32-3; for later Greek issues bearing marks of value see Howego, 1985, pp. 57-9.

⁸⁹² Johnston in her forthcoming article on Greek provincial coinage of Asia Minor, states that the coinage of Chios and countermarks on coins of Asia Minor can be used as evidence on the denominations in the provinces of Asia Minor during the Roman period.

⁸⁹³ Howego, 1985, p. 54, 'As the Roman system prevailed in the silver, so it did in the bronze; p. 59, 'The persistence of Greek silver standards does not necessarily imply that their bronze subdivisions were also Greek.'

not this theory may still be seen as valid in light of the new interpretation of the evidence provided from the study of the Chian coinage.

2. ii. Individual denominations: The earliest Chian series bearing inscribed denominational legends are marked with values that are either known to have been in use during the Hellenistic period or were borrowed from the Roman monetary system. Three different denominations, the dichalkon, trichalkon, and obol comprise the first category; a further three denominations, the assarion and its multiples, the 1 ½ and 3-assaria, comprise the second category. Before the end of the 1st century AD the trichalkon was replaced by the hemiassarion and around the middle of the 2nd century AD the obol by the 2-assaria. The use of these two denominations clearly show that a process was underway at Chios of replacing Greek denominational names with Roman ones. The mid-later 2nd century AD saw the issue of the tetrachalkon, the last denomination to be introduced by the Chian mint. During the 3rd century AD only denominations of the assarion and higher were issued, smaller ones were presumably driven out of circulation as the result of inflation sometime in the late 2nd century AD.

The smallest denominational value appearing in a coin legend is that of the dichalkon (δίχαλκον); this denomination, as we saw, was regularly struck during the Hellenistic period. Since no Chian coin bearing the value name of a chalkous is known, it would seem that the dichalkon took over its place as the smallest denomination by the later 1st century AD.⁸⁹⁴ The next higher denomination is the trichalkon (τριχάλκον). As we saw this denomination was particularly common at Chios during the 3rd century BC but gradually driven out of circulation during the first half of the 2nd century BC; no such Chian issue appears to have been struck for the remainder of the Hellenistic period. However the denomination may have been reissued shortly before the striking of the earliest issue bearing its denominational value. Issues of ΑΠΟΛΛΩΝΙΟΣ-ΙΕΡΟΝΥΜΟΣ are the earliest to show an average weight and diameter higher than that of the dichalkon and therefore a denomination valued above the dichalkon. As

⁸⁹⁴ The final chalkous issue seems to have been struck in the last group of Chian issues without denominational values, part of Roman Series I, and bears the name of moneyer ΑΣΜΕΝΟΣ; see the discussion in the relevant chapter in the outline of the coinage.

I discuss in the outline of the coinage one of these coins was used as a flan for striking an issue bearing the legend of trichalkon and this constitutes strong evidence that both issues would have been of the same denomination. Only a single issue with the denominational value of trichalkon is known, and it would seem that this denomination during the 1st century AD was represented by certain issues of similar module to the trichalkon but lacking a mark of value; for a full discussion of these issues see the outline of the coinage, Roman Series I with issues lacking an inscribed denominational value (pp. 398-402).

During the late 1st century AD the mint resumed striking this value but issues bore the inscribed denominational legend of *hemiassarion* (ημιασσάριον) instead of trichalkon. This name change had no effect on the module or types of this denomination, and evidently the value and the standard remained the same. The hemiassarion was regularly struck until the middle to late 2nd century AD after which it dropped out of circulation.

The *tetrachalkon* (τετραχάλκον) is the denomination higher in value after the trichalkon/hemiassarion. This denomination was only struck once by the Chian mint and I discuss its significance in the relevant section of its series in the outline of the coinage ('Preimos' Series). The *assarion* (ασσάριον) is the next higher denomination. Its name applied throughout the Eastern part of Empire as the Greek translation of the Roman denomination *as*, but at the same time became adopted as the name of a local denomination. These two elements have been combined by scholars who invariably equate the Eastern assarion with the Roman Imperial *as*. Furthermore, the adoption of the term assarion is generally considered as evidence that the Roman system of bronze denominations was spreading in the Eastern part of the Empire. However as we will see in detail in the following section, the assarion represents a different value to the *as* and belongs to a monetary system that bore no relation to the Roman one.

At Chios, as with the rest of the East, large denominations were struck as multiples of the assarion. Since the reformed *aes* system of Augustan Rome did not include any denominational values marked as multiples of the *as*, the Eastern denominational systems could not have copied this feature from the contemporary Roman coinage. The bronze multiples of the *as* in the Roman Imperial system bore the names of *dupondius* and *sestertius*.

which seem to have been unfamiliar names to the Eastern part of the Empire (*RPC I*, p. 31, f. 34). This evidence suggests that the Greek cities may have started using the term assarion prior to the Augustan *aes* reform. The next denomination higher in value after the assarion is the $1\frac{1}{2}$ assarion (εναμισηασσάριον). The value is absent from the Roman system and was only devised as the half fraction of the largest denomination, the 3-assaria, which is discussed below.

The obol (οβολός) is the denomination immediately higher than the $1\frac{1}{2}$ assarion. It was the largest denomination at Chios that still retained its Greek name. The Chian mint is not known to have issued the obol before,⁸⁹⁵ but this denomination was struck by a number of Greek mints during the Hellenistic period, some of which may have been using the system of twelve chalkoi to the obol.⁸⁹⁶ The obol was used throughout the Greek world, even if it represented a theoretical value for many cities where this denomination was not struck. At Chios the standard of the earliest issue of the obol agrees well with what we would expect for an issue of this denomination on the system of twelve chalkoi to the obol since its module is twice that of the hemiobol of Series 23, the half value of the obol and the largest bronze denomination struck until then.⁸⁹⁷ The fact that the obol continued to be struck down to the middle of the 2nd century AD shows that this denomination was still being used in everyday transactions and therefore played an important role within the monetary system.⁸⁹⁸ This observation is important in attempting to reconstruct the denominational system in place at Chios and the East in general during the Roman Imperial period.

The obol was double the value of the assarion and this is confirmed from the change of the name of the denomination to that of *two assaria* (δύο ασσάρια) which took place on the

⁸⁹⁵ That is on the system of twelve chalkoi to the obol; for a possible issue of the obol but on the eight chalkoi to the obol system see the discussion above of the identification of the denomination struck in Series 21.

⁸⁹⁶ See for example the obol issue of Smyrna struck during the early 1st century BC and averaging in weight 13g. Milne, 1928, pp. 157-9, considers that this obol was struck on the system of eight chalkoi to the obol. This however may be wrong since its weight is far too heavy for this standard and is actually similar to that of later issues of the obol at Chios, which were struck on the system of twelve chalkoi to the obol. We saw above further evidence that this obol of Smyrna may belong to this system.

⁸⁹⁷ The obol of Series I has a diameter of 31.00 mm and weighs an average of 13g while the hemiobol of Series 23, as we saw, has a diameter of 20.1mm and an average weight of 7.2g.

⁸⁹⁸ Howgego, 1985, p. 56, discusses the appearance of the term 'obol' in inscriptions of Thessaly and Smyrna during the 1st and 2nd centuries AD but considers this to be probably a term of traditional reckoning, rather than a struck denomination. Contra, Johnston, forthcoming article, table 10-11, who assigns a struck obol denomination at both Smyrna and Sardis during the 1st and 2nd centuries AD.

coinage during the middle of the 2nd century AD.⁸⁹⁹ The module and types of this new denomination were the same as the obol and consequently both denominations represented the same value. Obviously even after the name obol was abandoned in favour of that of 2-assaria, the system remained unaltered.

The largest denomination at Chios comprised *three assaria* (τρία ασσαρία) and not four, as would have been expected had Chios copied the system from the *aes* of Augustus (the sestertius was valued at four asses). This number of assaria for the largest denomination is further evidence that the system at Chios could not have been based on the Roman contemporary *aes* system. An obvious model for the denomination may have been an identical denomination struck as part of M. Antony's *Fleet coinage*, the only known instance of a Roman *triassarion* issue struck after the 2nd century BC.⁹⁰⁰ Since the earliest 3-assaria at Chios is struck on the same module as some issues of the same denomination belonging to M. Antony's coinage and signed by his lieutenants, Bibulus or Atratinus, this might give the impression that Chios not only copied the denominational name from this Roman coinage but also its standard. This link between the two coinages is further strengthened by the fact that a large component of the fleet coinage was struck in the Eastern part of the Roman Empire for local circulation (*RPC I*, pp. 284-6; Kroll, 1997, p. 141). As we saw in the historical background, p. 41, Chios was during this period under the control of M. Antony and the island would have been within the sphere of circulation of his coinage.

However below I discuss the fact that certain issues of M. Antony's fleet coinage, including the 3-assaria copied by Chios, were in fact struck on local bronze systems of the East. This suggests a two way exchange between the Greek and Roman monetary systems with Romans issuing their bronze coinage in the Greek East on local systems and Greeks adopting Roman names for their own issues and of identical value (and standard) to these Eastern Roman issues. This also agrees with the fact that the earliest 3-assaria at Chios were struck on the same standard as the other denominations of this mint and therefore on the Greek system of twelve chalkoi to the obol.

⁸⁹⁹ The equation of 1 obol to 2-assaria also applied for most regions outside Chios; *RPC I*, p. 370 : *There is no reason to doubt that the equation of 1 obol: 2-assaria was valid throughout the province (of Asia).*

⁹⁰⁰ For the latest discussion of this coinage see *RPC*, pp. 284-6.

2. iii. The denominational system at Chios during the early Roman Imperial period:

In the section discussing the bronze denominations of late Hellenistic Chios I suggest that issues of Series 23 probably represented the half obol denomination, on the system of twelve chalkoi in the obol. These issues are also known to have circulated elsewhere in Greece for the same value but under a different denominational name, that of as/assarion. Three coins of this denomination of Series 23 were found during excavations at Corinth⁹⁰¹ suggesting that these were integrated in the local monetary system of Corinth, established after the Roman colony was founded, and were circulating alongside the largest local denomination, the *as*.⁹⁰² The earliest Corinthian asses dating in c 42/1 BC were struck on a diameter of 22-3mm and an average weight of 9.2g; from c 38 BC and onwards, these same issues were struck on a diameter of 20mm and an average weight of c 7g.⁹⁰³ Both in weight and size the Chian coins of Series 23 are identical to asses of Corinth that were being struck from the 30s BC and afterwards.

There can be little doubt that the Chian coins of Series 23 would have been circulated as ‘asses’ at Corinth, irrespective of the fact that they were hemiobols, in other words, coins of a Greek name struck on a Greek denominational system. As we saw a number of cities in southern Greece, located close to Corinth, were also striking coins on the same system as Chios producing hemiobols identical in size and weight to those of Chios but also asses of Corinth.⁹⁰⁴ Large numbers of hemiobols have been recovered at Corinth where they would also have been circulating as ‘asses’.⁹⁰⁵ Since the Greek system of twelve chalkoi to the obol was firmly in place in the Peloponnesse at the time the Roman colony at Corinth was founded (see above in this section), we may assume that Corinth adjusted the weight standard of its

⁹⁰¹ See the discussion of Series 23 in the outline of the coinage, pp. 357-364.

⁹⁰² Denominations at Corinth bore Roman names, *RPC I*, p. 245.

⁹⁰³ For the change in the size and weight of the early duoviral issues at Corinth see Amandry, 1988, pp. 82-83, table 12; Kroll, *Athens Agora XXVI*, f. 182.

⁹⁰⁴ *RPC I*, pp. 31-35 & 245-7 and Kroll, *Athens Agora XXVI*, p. 91, state that cities in the Greek mainland were issuing coins of the same size and weight as the Corinthian asses; this is reiterated by Idem, 1996, p. 54, and Idem, 1997, p. 139 where he states that, ‘*In size and weight these bronze hemiobols, at least the first century B.C. ones, are indistinguishable from assaria like the ones from Corinth.*’

⁹⁰⁵ For coin finds at Corinth see Corinth VI; Jones, 1963, p. 322-3, table 5, includes a list of mints represented in the coin finds at Roman Corinth which includes almost all mints in the province of Achaëa. For later coin finds one may consult the coin reports prepared by Dr O. Zervos and published as a long series of articles in successive editions of *Hesperia* since the late 1970’s and down to present.

bronze coinage to that of the other mints in the region.⁹⁰⁶ This would not have been seen as a comprise on the part of the Romans, since the names of the denominations at Corinth continued to be Roman, not Greek.

This suggests that the *as* denomination at Corinth was in fact a hemiobol on the Greek system of twelve chalkoi to the obol and this would also apply for its fractions, the semis and quadrans; their standard is also the same with the Greek denominations of the trichalkon and dichalkon. Even the internal denominational division at Corinth was identical to that of mints striking on the Greek system of twelve chalkoi to the obol. The semis and the trichalkon represented the half value of the *as* and the hemiobol respectively, while the quarter was represented by the quadrans and the dichalkon. The evidence clearly suggests that Corinth was issuing coinage on the local Greek system even though its issues bore denominational names from the Roman system.⁹⁰⁷

Other Roman issues struck for circulation in Greece during the 30s BC and probably copying the same Greek standard include the coinage of the Roman colony of Dyme, the Roman coinage struck at Cephallennia,⁹⁰⁸ and some issues of M. Antony's 'fleet coinage'. All of these coinages included a coin of the *as* denomination sharing the same size and average

⁹⁰⁶ The authors of *RPC I*, p. 37, consider that the reduced standard at Corinth compared to the Roman standard under Augustus and that it may reflect this system. This is unlikely, since the standard of the earlier Republican coinage and that of Augustus *aes* reform have nothing in common with the standard used at Corinth. This shows that the coinage of Roman Corinth could not have been part of either of these two systems. Corinth may have been driven to a decision to adopt the Greek system through the lack of any available Roman bronze coinage at the time; Rome hardly produced any in the previous half century prior to the colony's foundation (*RRC*, p. 596). Indeed if the colonists were to conduct everyday business with the various neighbouring Greek communities they would have to produce bronze coinage on the same local standard. Mac Isaac, 1995, p. 19, is the first to my knowledge to consider that Roman Corinth may have adopted the local Greek denominational system but offers a different explanation than this study for what might have caused this policy. He considers that the standard at Corinth was copied from that of the Corinthian chalkous of the Hellenistic period, struck before the city's destruction in 146 BC, since this coin appears from numerous archaeological finds (a few are quoted by Mac Isaac, 1995, f. 7) to have continued circulating in Roman Corinth, a long time after the cessation of its issue.

⁹⁰⁷ Mac Isaac, 1995, p. 19 & f. 5, first suggested that the denominational system in Roman Corinth was Greek (see the previous footnote). However he wrongly states that this was also considered by C. J. Howgego in his review: 'After the Colt Has Bolted: A Review of Amandry on Roman Corinth', *NC* 149 (1989) in pp. 200-1. In numismatic publications the standard at Corinth is commonly referred to as belonging to the Roman system. This has led to further misinterpretations. For example Athens is known to have changed its denominational system after the mid 1st century BC and struck coinage of the size and weight of the coins at Corinth. Kroll, *Athens Agora XXVI*, p. 91, is most probably right in suggesting that Athens was influenced by Corinth in this change but states that the Athenians allowed their bronze coinage to be adjusted in the direction of Roman usage. However as we saw Corinth was in fact using the Greek system of twelve chalkoi to the obol and Athens simply replaced the system of eight chalkoi to the obol that it was using previously for that of the twelve chalkoi to the obol (see the discussion in the previous section).

⁹⁰⁸ Signed by Proculeius, *RPC I*, nos 1359-60 (dating c 30-28 BC).

weight as that struck at Corinth, but also the hemiobols on the system of twelve chalkoi to the obol.⁹⁰⁹ It may be noted that although these were on the whole short lived issues struck for the Roman armies in Greece at the time, they were intended to be used in the local (Greek) markets which would explain their compatibility with the local standard. Once in circulation, the coins would have been extensively used by the Greek cities during a period when local bronze coinage was scarce.⁹¹⁰ In this respect the mint at Corinth was particularly important since it continued issuing ‘Roman’ coinage after the end of the Civil wars in 30 BC, and supplied the province of Achaëa with the bulk of its bronze coinage (*RPC I*, p. 33 & p. 37).

On this evidence I would suggest that the Greeks would have first become familiar with the term ‘assarion’ by using the above Roman issues struck in their region during the 30s BC.⁹¹¹ The name quickly spread to their own coinage as a label for the hemiobol, the largest bronze coin struck by them at the time, since both these hemiobols and the Eastern Roman asses were struck on the same system and shared the same value. In Sparta for example the hemiobol denomination seems to have changed its name to assarion as early as the 30s BC (Kroll, *Aigion*, p. 56). It is clear that the adoption of the assarion as a denominational name by the Greeks should not be linked either with asses from the period of the Republic or with the same denomination that formed part of the Augustan *aes* reform.⁹¹² Note in particular that the change in the nomenclature of the larger Greek denominations did not extend to the smaller ones even though they also agreed well with their respective denominations struck at Corinth. We see for example that the Greeks did not rename at the time the trichalkon as ‘semis’, or the dichalkon as ‘quadrans’; this is probably because the smaller denominations were not widely used in transactions between the Greek cities and the Romans (resident at Corinth or with the

⁹⁰⁹ Kroll, *Aigion*, p. 58, f. 34, considers that the largest denomination struck by C. Proculius was probably a hemiobol. However this was Roman coinage and the denomination would therefore have been an *as*, not a hemiobol.

⁹¹⁰ *RPC I*, p. 21 & p. 245, states that between c 146-c 27 BC only Corinth and Athens minted coinage on a large scale; other Greek issues of the period were tiny. Note however that even Corinth only resumed striking coinage after the foundation of the Roman colony in c 44 BC.

⁹¹¹ The authors of *RPC I*, p. 36-7, also suggest the Roman civil wars in general as the starting point in the spread of Roman bronze denominational values in Greece. Here I suggest that it was Roman denominational names that were adopted, not systems.

⁹¹² Even in appearance the assarion was different to the *as*. It is interesting that Vitruvius (III, I, 7) compares the Roman *as* of Augustus with the obol, not the assarion. This reference does not seem to have been considered by scholars claiming that the *as* and *assarion* were of the same value.

armies of the civil wars passing through Greece) as was the hemiobol/assarion coin.⁹¹³ In all likelihood we seem to be dealing with a two way exchange between Romans and Greeks in respect to the base metal coinage during the transitional period from the Republic to the Principate. Romans used the local system to strike coinage while Greeks adopted the Roman name of as/assarion for their own currency.⁹¹⁴

This general discussion on the introduction of the assarion in Greece is important in understanding basic elements of the system of inscribed denominations of the Chian coinage, since the local denominational values also include the assarion and its multiples. As I discuss in the outline of the coinage, no assarion issue seems to have been struck with the earliest issues bearing marked denominational values at Chios. The authors of RPC have shown (p. 410) that issues of the 3-assaria, the 1 ½ assarion, the obol, and the trichalkon were struck on the same standard.⁹¹⁵ However the earliest known assarion, bearing the name ΦΑΥΣΤΟΣ, is too heavy in its average weight and too large in size to agree with the standard of the other denominations. Further evidence presented and discussed in the outline of the coinage (Roman Series I) also suggests that this issue may not have been struck during the same period as the other denominations, and was probably an exceptional issue and not part of the regular coinage. In fact within the system created by the other marked denominations at Chios *'the weight of the as should be about 6,5-7 g; and its diameter should be, perhaps, a little over 20 mm'* (RPC I, p. 374). No such coin is known to have been struck alongside the earliest marked issues leaving us with a monetary reform based on a coin that evidently must have existed but seems not to have survived. However the study of the bronze coinage immediately predating the introduction of the first series bearing inscribed denominational values reveals that coins of Series 23, the very same coins circulating as 'asses' at Corinth, were struck on exactly the diameter and average weight suggested by the authors of RPC for the hypothetical

⁹¹³ As the largest coin the hemiobol/assarion would have been used extensively in silver: bronze exchanges.

⁹¹⁴ I have already explained why the Romans found it expedient to adopt the Greek system for striking bronze in the region. It is fairly obvious why in their turn the Greeks adopted the name assarion in place of the hemiobol. It was Romans bringing in money and spending it locally, leading the way for the renaming of the denomination. The fact that the denarius was also the only silver currency in the area (see below) would also have facilitated the use of a Roman name for the most important denomination.

⁹¹⁵ Maurogordato, 1917, p. 8, makes no mention that the different denominations were struck on the same denominational standard but seems to take it for granted while discussing his idea about the weight reduction of the assarion at Chios.

assarion struck as part of the earliest Chian series with marked denominations. Arguably issues of Series 23 were not struck together with the other denominations but some time before, and more importantly the coins lack an inscribed denominational value. However they are likely to have been still circulating in such quantity during the period when Roman Series I was struck to have been included in the coin 'reform'. The fact that they seem to represent the hemiobol denomination is in line with what I discuss above concerning the identification of the as/assarion with the hemiobol in Greece. As we will see there is some strong evidence from a later period confirming that the value of a half obol at Chios was in fact the one assarion.⁹¹⁶ It would seem from this that the earliest coinage bearing inscribed values at Chios may have been based on a denomination that was already in circulation a few years earlier.

Chios seems to have struck its earliest 'Roman' denominations at a time when other Greek cities were also beginning to produce larger denominations in bronze. It has been suggested that these monetary systems may have been copying that of Augustus's reform *aes* reform of c 20-10 BC (Maurogordato, 1918, p. 67). However it is more likely to have originated from monetary conditions prevailing in the East at the time and not out of a desire to copy the Roman system. At Chios the cessation of the locally produced silver coinage may have played an important part in the introduction of the larger denominations of the obol and higher that were struck for the first time. The mint may have resorted to the issue of bronze coinage of higher intrinsic value following the end of its own silver drachm coinage and the adoption of the denarius in its place.⁹¹⁷ The cistophoric drachms of Chios were struck on a lower weight than the denarius and with debased silver suggesting that they could have circulated alongside the small value contemporary base metal coinage, e.g. the hemiobol of Series 23. However the denarius was of a larger value compared to the drachm of the cistophoric drachm that it replaced at Chios, which would have necessitated a change in the bronze denominations struck. This monetary situation seems to have occurred in general

⁹¹⁶ *RPC I*; Howego, 1985, p. 56; D. A. Klose, 'As und Assarion, zu den Nominalsystem der lokalen Bronzemünzen im Osten des Römischen Reiches', *JFN*, 36, (1986), pp. 101-5, p. 102; for outside Chios see the evidence quoted above.

⁹¹⁷ See *RPC*, p. 375, suggesting that mints of the eastern part of the Roman Empire may have started issuing large denominations to substitute their low value silver issues that were being driven out of circulation at the time.

wherever large bronze coins, similar to the 3-assaria issue of Chios, were minted to replace silver local drachms (for example, see Rhodes, *RPC I*, p. 454). The issue of a number of different large values forced the minting of smaller fractional values to facilitate transactions within this system. For example there is no precedent for striking the 1 ½ assarion which would have been introduced as a half denomination to the 3-assaria.

2. iv. Aspects of the bronze denominational systems of the eastern provinces of the Roman Empire:

The Chian coinage struck during the early 1st century AD consists of issues bearing denominational values that are associated either with the Greek or the Roman systems. By the middle/late 2nd century AD two of these denominations bearing names from the Roman system had in the past been inscribed with denominational names of the Greek system.⁹¹⁸ These changes have convinced numismatists that the mint of Chios during the Imperial period was in the process of replacing its Greek denominational system with the Roman one.⁹¹⁹

One of the earliest advocates of this theory was Maurogordato who considered that Chios adopted the Roman monetary system *in toto* when it introduced the earliest issues bearing denominational values. For him Chios was using the Roman Imperial system for striking coinage from *the time of Augustus* and onwards and that even denominations with Greek names ‘*..bore no metrological connexion with any of the Greek monetary systems..they are survivals in name alone.*’ (Maurogordato, 1917, quoted from the introduction to his Period XI, pp. 1-14, p. 3). He came to this conclusion after equating the Chian assarion with the Roman *as* and suggesting that these denominations were of identical value. Maurogordato then considered the value of the assarion set at 1/16th of the drachm -on the assumption that this copied the Roman system with an *as* set at 1/16th of the value of the denarius- leading him to suggest that the obol at Chios would have been worth an eighth of the drachm.⁹²⁰ Accordingly he concluded that the obol was a new coin bearing no relation to its namesake denomination of the Hellenistic period which was known to be valued at a sixth of the drachm. Maurogordato correctly observed that the obol at Chios during the Roman Imperial period consisted of twelve chalkoi, but also saw Roman influence in this since he claimed that the Chian mint copied this number from the division of the *as* into twelve *unciae*. The chalkous of Chios during the Roman period was also considered by Maurogordato (1917, pp. 3-4) to be a different denomination to the one struck during the Hellenistic period.

⁹¹⁸ These, as I discuss in the previous section, are the trichalkon, renamed hemiassarion, and the obol, renamed 2-assaria.

⁹¹⁹ Howegego, 1985, p. 57, stating that, ‘*..However the Chiot evidence does show the gradual replacement of the Greek system by the Roman.*’

⁹²⁰ Maurogordato was familiar with the equation of one obol to 2-assaria.

Maurogordato's reconstruction of the Chian denominational system is not what the study of the evidence shows. In fact the Roman Imperial period, even with the introduction of the earliest series bearing denominational values on the Chian coinage, brought no changes to the bronze standard used locally and established during the Hellenistic period. As we saw coinage continued to be struck on the Greek system of twelve chalkoi to the obol and the only changes at the time were onomastic, involving the renaming of the hemiobol as assarion and the striking of three new large denominations; two bearing Roman names (3-assaria and 1 ½ assarion) and one a Greek name (obol). Even these large denominations, irrespective if they bore Greek or Roman names, were also struck on the same standard as the denominations that survived from the Hellenistic period.⁹²¹

Issues of both types -with Greek or Roman names- were fully integrated in the same system and this is also evident in their use of the same standard. On this evidence we can be certain that the bronze denominational system at Chios remained essentially the one in place during the Hellenistic period. Even later when there are further replacements of Greek denominational names by Roman ones (see above), the system as we saw remained unaltered. The assumption therefore that Chios was copying the Roman system lacks any realistic basis.

This finding seems to have repercussions not only for our understanding of the Chian coinage of the Roman period but also that of provincial coinages in general struck in the eastern part of the Roman Empire from the reign of Augustus and onwards. In the previous section I suggested that mints in the province of Achaea continued striking coinage during the Imperial period on their pre-Roman system. It seems from internal evidence that this was also the case for mints in the province of Asia, for example Smyrna and Sardis.⁹²² Furthermore the use of older Greek systems for striking coinages in the East during the Roman Imperial period can also be deduced from the marked difference in the standard used by mints in Asia Minor and those of Chios-Achaea. Studies comparing the standard of the Chian denominations of the 1st century AD with those of cities in Asia Minor, that seem to have struck the same

⁹²¹ Note in particular the striking by Chios of the obol denomination, a 'Greek' denomination, for almost two centuries of the Roman Imperial period, and on the same standard as the other issues of 'Roman' denominations.

⁹²² Klose, 1986, p. 102. considers this for Smyrna. At Sardis the same denominations bearing identical types and struck before the reign of Augustus were still being issued under Tiberius, see Johnston, 1995, p. 64, & f. 35.

denominations -though the latter are almost always unmarked- show that the earliest Chian denominations were on a heavier weight standard than the same denominations of cities of Asia Minor.⁹²³ Chios was obviously using a different system than the one in place in Asia Minor at the time.⁹²⁴ This seems to agree with the above assumption that the cities continued using Greek systems during the early Imperial period. As I discuss, Chios was striking coinage on the system of twelve chalkoi to the obol and this also applies for many cities in the Greek mainland; however cities in Asia Minor during the early Imperial period seem to have been using the system of eight chalkoi to the obol.⁹²⁵ Accordingly the 3-assaria issue would have weighed at Chios on average 7g (or a third) heavier than the same denomination struck by its mints in Asia Minor using the system of eight chalkoi to the obol. This happens to be approximately the weight difference recorded between the largest denominations at Chios and issues of identical value at both Smyrna and Sardis.⁹²⁶

⁹²³ Johnston, in forthcoming article, pp. 14-15 compares issues of Chios of the 1st century AD with those of Smyrna and Sardis of the same period.

⁹²⁴ *RPC I*, p. 375 suggests that the cities in Asia Minor were striking coins on smaller modules than Chios as a result of the devastating earthquake of 19 AD which inflicted severe damage on their economies. This theory was first proposed by A. Johnston in *Coins found in Sardeis*, 1981, p. 3. However in a forthcoming article, pp. 14-15, Johnston attributes this difference in the use of the same local standard at Asia Minor before and after the reign of Augustus.

⁹²⁵ For a general account of the size and weight of issues in Asia Minor under the Julio Claudians see *RPC I*, pp. 370-375. During this period the authors of *RPC* suggest that there is a pattern in the size and weight of coinages for a large number of cities in the province of Asia, comprising two basic denominations; the first one with issues weighing 5-6g and on 19-20 mm while the smaller one weighing 2-3g. This suggests that a common standard may have been used by these mints and that the denominations are identified as the hemiobol (four chalkoi), the larger one, and the quarter obol (dichalkon) the smaller one. The denominational system is likely to have been eight chalkoi to the obol.

⁹²⁶ Johnston, *forthcoming article*, Table 10, records that the 3-assaria at Smyrna under Vespasian weigh 9.5-15g and measure 27-28mm. Table 11 shows contemporary issues of the same denomination at Sardis weighing 13.5-16g and measuring 28-30mm. The earliest 3-assaria at Chios has an average weight of 22g and diameter of 33mm (see Table 2 of this study).

2. v. Proposed exchange rate denarius/assarion in the East:

If we consider that Chios, and other Greek mints, continued striking their bronze coinage on the Greek system then we are also confronted with the high probability that the local ratio of silver/bronze during the Roman Imperial period remained the same as during the Hellenistic period. In other words the value of the denarius in the East -which had replaced the locally struck drachms by the second half of the 1st century BC- would have differed from that in Italy and the western part of the Empire, since these regions had different base metal currencies and monetary systems to the East. In this section I intend to discuss all available evidence and try to establish the value of the denarius at Chios; however in order to do so we need to examine the ratio denarius: assarion in the East in general.

Maurogordato considered that Chios tariffed the denarius at sixteen local assaria, a notion widely accepted today not only for Chian but all other Eastern assaria.⁹²⁷ However as I showed, the local assarion in the East was a different denomination to the Imperial Roman *as* of Augustan reform and therefore the two should not be equated. It is true that the assarion struck by mints in the Greek mainland (and also Chios) was of the same value as the *as* issued at Corinth, but the above discussion has established that even this denomination, though Roman in name, belonged to the Greek system. The latter would therefore have also been unrelated to the denomination struck by Rome which bore the same name.⁹²⁸

Roman official *aes* could not, and did not, circulate in the Eastern provinces since its standard was incompatible to that of local issues which were struck in a different system. Even the fact that the Roman *aes* is clearly distinguished in Greek inscriptions as *Italian assaria*⁹²⁹ would mark them as issues of a system foreign to the East. Not surprisingly this

⁹²⁷ The 'official' rate of the denarius is thought to have been set everywhere in the Roman Empire at sixteen asses or assaria; see J. R. Melville Jones, 'Denarii, Asses and Assaria in the Early Roman Empire', BICS no. 18 (1971), pp. 99-105; Howgego, 1985, p. 54 ; Klose, 1986, p. 103 & p. 106; *RPC I*, p. 31, no. 34; Kroll, *Aigion*, p. 54-5. Note however that E. Lo.Cascio, 'State and Coinage in the Late Republic and Early Empire', JRS 1981, pp. 76-86, p. 78, and D. Mac Donald, 'The worth of the Assarion', *Historia*, 1989, pp. 120-4, p. 121-2, disagree - from different perspectives- with this assumption.

⁹²⁸ Mac Donald, 1989, p. 121, claims that: *originally, the local assarion was undoubtedly the equivalent of the Roman as*. This is valid only in the sense that this denomination was equivalent to issues bearing the same name but struck at Corinth and other Roman mints of the region (not the western part of the Roman Empire).

⁹²⁹ See for example the entry in IGR 3. 1056, discussed in *RPC I*, p. 31. The term Italian assaria also appears in legends of didrachms and drachms of Caesarea Cappadocia dating during the reign of Nero: see *RPC I*, nos. 3635-6, 3643.

coinage is all but absent from sites of these regions;⁹³⁰ even the very few coins that have been found there seem to have circulated only during the middle of the 3rd century AD.⁹³¹ If the Roman *as* was technically the same denomination as the assarion, then we would have expected it to circulate -of all places- in Corinth and the other Roman colonies in the region. However even the coin finds at Corinth show that Roman official *aes* was hardly in circulation before the mid 3rd century AD, where in fact the hemiobol/assarion issues of Greek cities and towns were freely circulating there and in large quantity.⁹³²

The fact that the mints in the Eastern part of the Roman Empire continued striking bronze coinages on the pre-Roman systems, even after the term assarion had been adopted by most of them, indicates that they would have been using the same ratio for silver and bronze exchanges as before the Roman period. In this light it seems inappropriate to ascribe elements of the Roman system to the Eastern provincial coinage, for example, equating the Roman *as* to the local assarion and suggesting that the denarius was worth sixteen assaria.⁹³³ Consequently cities in the eastern provinces of the Empire would have had their own reckoning for the worth of the denarius, valued in their own currency, arrived by way of the local system and independent of the official Roman system.⁹³⁴

In the Greek system the drachm was made up of six obols and if the same ratio was retained during the Roman period, then we would expect to find the denarius worth the same number of obols within this system.⁹³⁵ This in its turn would have given a denarius worth

⁹³⁰ A. Burnett, *Coinage in the Roman World*, 1987, p. 58

⁹³¹ At Corinth 8% of bronze finds was Roman *aes*, at Antioch 4% , Sardis 3.5%, Aphrodisias, 1.5%; data provided from D. J. Macdonald, *Coins from Aphrodisias*, BAR Suppl. Series 9, 1976, p. 45, fig. 3; Jones, 1963, pp. 322-3, includes similar figures to the above. The majority of these finds of Roman coins in the East originate from contexts dating to the 3rd century AD.

⁹³² See the previous footnote; Jones, 1963, p. 322-3, table 5, lists the bronze issues according to mints represented in the coin finds at Corinth. Nearly all are civic issues from mints of the Greek mainland and the islands located near by.

⁹³³ In the outline of the coinage, the chapter on Roman Series I (pp. 405-6) we saw that a small number of cities, including Chios, exceptionally issued a few of their assaria on a standard identical to that of the Roman *as*. These particular coins would probably have been equated to the Roman *as*, but were short lived issues and constituted only a tiny percentage of the provincial coins struck during the early Imperial period. They probably represent issues struck for a special occasion associated with the Roman government and as such are not relevant to this discussion which applies for the great majority of Greek provincial coinages which were not equated to Roman denominations.

⁹³⁴ As we saw by the early 1st century AD the denarius had already been established as the most common silver issue in the East bringing an end to most local civic drachms.

⁹³⁵ This seems to have been facilitated by the equation of the denarius with the Greek drachms struck before the adoption of the denarius in this region: see Howgego, 1985, p. 56; Kroll, 1997, pp. 139-140.

twelve assaria, the same number of hemiobols in the drachm. The little epigraphic evidence at our disposal recording the local value of the denarius for cities of the province of Achaëa point to such an exchange rate for the denarius with the local assarion. Inscriptions from Messenia in the Peloponnesse, dating to the early Imperial period,⁹³⁶ clearly record six obols to the denarius (*RPC I*, p. 246; Kroll, *Aigion*, p. 55), consequently the denarius would have been worth twelve local assaria in Messenia (Burnett, 1987, p. 47). This particular region does not seem to have produced any worthwhile coinage for most of the early Imperial period (*RPC I*, p. 248), and would have relied for its supply of base metal coinage from elsewhere in the province, most probably Corinth. This suggests that value of the denarius at Messenia would also have been the same for the other cities providing this region with its coinage.⁹³⁷

Other epigraphic evidence on the local rate of the denarius/assarion at Achaëa is provided from inscriptions of Athens dating in the 2nd century AD. Entries in these inscriptions show that the locally struck ‘assarion’, labeled at Athens with the ‘hellenic’ name of ‘hemidrachm’, was tarrified at a twelfth of a denarius, not sixteenth (Howgego, 1985, p. 55; Kroll, *Athens Agora XXVI*, p. 91, p. 320, table VII). As this Athenian coin was struck on the same size and average weight as assaria of other cities in the province, including the *as* issued at Corinth, (Kroll, *Athens Agora XXVI*, *ibid*) we have to consider the strong possibility that a host of other Greek cities also tarrified the denarius at twelve local assaria. If Athens was exceptional in setting the value of the denarius at twelve assaria,⁹³⁸ while the rest of Achaëa was paying sixteen assaria for the same coin, this would have led to the exclusion of all foreign assaria -of similar weight and size to the Athenian ‘hemidrachms’- from circulating in Athens, since they would have been worth a third of the value of the local ‘assarion/hemidrachm’. As a result of this presumed monetary situation, Athens would have ended up with a closed monetary system as far as base metal coinage is concerned. This however is not borne out from the coins found in the Athen’s Agora excavations. The foreign

⁹³⁶ The inscription is discussed in A. Giovannini, *Rome et la circulation monetaire en Grece au lie siecle avant Jesus-Christ* (Basel, 1978), pp. 115-22, proposing a date around the time of the reign of Caligula (37-41 AD).

⁹³⁷ As we saw above Corinth struck by far the largest coinage in the province during the early Imperial period providing coinage for most of the Peloponnese and probably the region of Messenia.

⁹³⁸ This is claimed by Kroll, *ibid*, who calls the ratio bronze: silver in Athens as ‘exceptionally favorable’. Why should Rome have treated ‘favorably’ Athens and not the other Greek cities is another question.

coins include a large number of Corinthian asses, many of which also have signs that they circulated in Athens with the same value as the local Athenian hemidrachm/assarion.⁹³⁹ The fact also that Athens seems to have adapted its bronze standard to that of Corinth shows that this was partly done so that coins from these mints could easily have circulated in each other's regions (see above).⁹⁴⁰ It seems that the ratio of twelve assaria to the denarius at Athens would also have applied for the province of Achaëa -including Corinth- in general, and possibly other Greek mints outside this province.

I have already referred to issues of the Roman period from the mint of Aigion bearing the inscribed denominational legend of half obol. These issues as we saw are identical in size and weight to several other issues from various Greek mints, some of which are known to have been of the assarion. Kroll acknowledges the fact that the hemiobol of Aigion corresponded to the local Greek assarion, but considers that the former was worth 33 per cent more in silver since he puts its ratio to the denarius at 12, while that of the assarion -following the traditional view- at 16 (Kroll, *Athens Agora XXVI*, *ibid*; reiterated by *Idem*, 1997, p. 139). Kroll based this solely on the fact that the mint at Aigion was using the denominational value of hemiobol instead of assarion. As with the case of Athens we are asked to consider a local economy functioning within its own closed monetary system for bronze and therefore in isolation from its neighbouring towns striking assaria.⁹⁴¹ This however as I have already discussed in the case of Athens is an unlikely situation. In the reign of Antoninus Pius, Aigion struck coins bearing denominational values of the assarion and its multiples, which is taken by

⁹³⁹ Kroll, *Athens Agora XXVI*, pp. 222-228, for Corinthian duoviral coinage found in the Athens Agora. The total number of coins is 63, of which 48 were asses. Corinth furnished the largest amount of foreign coinage in Athens during the early Imperial period something expected since this was the largest mint in the region. Kroll, *Athens Agora XXVI*, p. 169, presents and discusses strong evidence that the asses of Corinth were circulating freely at Athens and were not distinguished from the local issue of the same module (the 'hemidrachm').

⁹⁴⁰ This is reflected by Kroll, *Athens Agora XXVI*, p. 91, who states that Athens adjusted its coinage to that of Corinth so that it could be used by the Romans (of Corinth).

⁹⁴¹ Kroll, *Aigion*, pp. 49-78, considers that two bronze denominational systems were in place during the same period in the Peloponnese (which may be extended to cover the whole of the province of Achaëa), a Roman with a bronze assarion 1/16 of the denarius, and a Greek one with a bronze hemiobol 1/12 of the denarius. The first system includes mints like Sparta where there is evidence of the early adoption of the 'assarion' in place of the hemiobol. In the latter he includes Aigion and Athens where we have denominational values with Greek names. However this scheme seems to fall when we consider Chios where we clearly have a case of a mint striking 'obols' alongside 'assaria'. It is difficult to consider that people using the Chian coinage locally or finding it abroad in their change, would have used the 'Greek' system while reckoning with the Chian obols and the 'Roman' for Chian assaria. The fact also that the Athenian and Aigion half obols were indistinguishable from any Greek assarion issue also agrees that these were of the same value abroad.

Kroll as evidence that the system changed from the Greek to the Roman resulting in a devaluation of the currency. However as I discuss both systems were fully integrated throughout the Greek East with the hemiobol equated to one assarion. Consequently what happened at Aigion during the reign of Pius was simply the renaming of the hemiobol to assarion without this affecting a change in the bronze: silver ratio locally. Evidence of this is the fact that the first assarion at Aigion was on the same standard as the earlier hemiobols from the same mint. As we saw Chios witnessed two such renamings without this affecting the value of its bronze denominations vis a vis the silver.

Further evidence suggesting that the denarius was not worth sixteen local assaria in Greece is provided by the denominational legends in assaria appearing on the very few issues with inscribed denominations or marks of value. Melville Jones (1971, pp. 103-4) noticed that Eastern mints were marking their denominations with values that did not fit easily with the system of sixteen assaria to the denarius. In particular he discussed issues of two mints, Syros and Tomi; from the first mint he recorded the 1 ½ assarion denomination and from the second one the 4 1/2-assaria. Obviously the latter mint, as with the first one, would also have been using the 1 ½ assarion. Though Melville Jones does not seem to come up with a reasonable explanation for the appearance of the denomination at Tomi, his attempt to dismiss the 1 ½ assarion of Syros as a '*convenient unit of exchange, particularly in a small community*' (p. 246) flies against all available evidence. The denomination as we saw was continuously struck at Chios, and Johnston (*forthcoming article*, pp. 11-14) also considered that it was issued by a number of cities in Asia Minor. At Chios where coinage was inscribed on a regular basis, we find the 3-assaria and 1 1/2-assarion struck throughout the two centuries it marked its coinage and the first denomination was also inscribed on coinage of Aigion. The same values may also have been used by the other mints which did not inscribe values.

The subdivision of the larger values by three fits well with a ratio of twelve assaria to the denarius but not with sixteen. Twelve assaria are made up of either four coins of the 3-assaria, six of the obol, or eight of the 1½ assarion. This system would have been most inconvenient if the denarius had been locally made up of sixteen assaria, since neither the 3-

assaria nor the 1 ½ assarion could make up on their own the correct amount to exchange for denarii.⁹⁴²

The discussion of the evidence seems to suggest that cities of the province of Achaëa may have retained the Greek reckoning in the ratio of denarius: assarion. One important feature of the coinage that may have facilitated this policy was the likely equation of the denarius with the drachm that it happened to replace (Howgego, 1985, p. 56; Kroll, 1997, pp. 139-140). Most cities of the province of Achaëa were using the Attic or the light Aegineteian standard prior to the adoption of the denarius and the weight of their local drachms was only slightly heavier than the denarius with which these issues seem to have been equated.⁹⁴³ Another interesting feature is the widespread use of the system of twelve chalkoi to the obol in the province even by cities previously known to have been using that of eight chalkoi to the obol (see above, Athens is the most important of these cases); the use of this system also seems to have played a role in the value of the denarius tariffed in local bronze currency.

The above evidence strongly suggest that the denarius was probably worth twelve assaria in the province of Achaëa and other neighbouring regions. However this rate does not seem to have applied throughout the eastern part of the Empire. It is conceivable that in other areas the denarius may have been worth a different number of assaria, depending on the local pre-Roman reckoning of the worth of the silver coinage (but not influenced from the ratio denarius: official Roman as). As we saw two main elements seem to have been decisive in this reckoning, the standard of the silver coinage prior to the adoption of the denarius, and the system used for the bronze coinage. Mints in Asia Minor differed from those of Achaëa in both these elements.

Most drachms struck in Asia Minor during the early Imperial period were on the cistophoric standard, leading numismatists to consider that the drachm there may have been worth 3/4 of the value of the denarius. This would suggest that the denarius would have been worth more local assaria, to accommodate the increase in the value of the silver coinage with

⁹⁴² In the Roman Imperial system a denarius was made up of four sestertii, or eight dupondii or sixteen asses.

⁹⁴³ The Attic drachm weighed 4.3g while a drachm on the light Aegineteian standard was 4.8g, see Kroll, *Aigion*, p. 54, f. 23, who also suggests parity between these drachms and the denarius. This is reiterated by Idem, 1997, pp. 139-140.

the switch from cistophoric drachm to denarius. Indeed epigraphic evidence from Pergamum and Ephesus shows that the denarius was tarrified locally at more than twelve assaria or even sixteen assaria; it was probably eighteen at Pergamum, though the number is uncertain for Ephesus.⁹⁴⁴

The discrepancy in the number of assaria to the denarius between mints in Greece and those of Asia Minor is also likely to stem from the use of different bronze systems and standards. As I have already shown in the previous section, the bronze coinage in most of Asia Minor was struck on the system of eight chalkoi to the obol showing a considerably lighter weight compared to the standard in Greece, where the system of twelve chalkoi to the obol was used for striking bronze coinage. In general the assarion in Asia Minor was approximately a third lighter than that in mainland Greece during the Roman period, and at least until the middle of the 2nd century AD (see the discussion in the following section). This also happens to be the difference in the number of assaria that the evidence suggests that mints in these provinces reckoned the value of the denarius: 12 for Achaëa and 18 for Asia.

The denarius may have tarrified at twelve assaria in areas where the bronze denominational system continued to be that of the twelve chalkoi to the obol. For areas where the system was eight chalkoi to the obol the denarius would probably have been composed of a larger number of assaria. In such case issues struck by mints on different denominational systems may not have circulated in each other's region.

How can this evidence on Greek provincial coinage relate to that of Chios? As we saw, the standard weight of the Chian mint conformed with the standard in place in mainland Greece and furthermore, Chios also shared the same denominational system with most mints in this region, the twelve chalkoi to the obol. It is therefore likely that the denarius would have been reckoned locally at twelve local assaria. However the drachm of Chios prior to the adoption of the denarius was on the cistophoric weight (see the outline of the coinage), and not any of the (heavier) standards of mainland Greece. The use of this silver standard may hold the explanation to why Chios introduced large bronze denominations as in the example

⁹⁴⁴ Lo Cascio, 1981, p. 78, claims that the denarius was worth eighteen assaria in Pergamum and Ephesus; as I discuss, there is epigraphic support for Pergamum but not for Ephesus. Mac Donald, 1989, p. 122, is also convinced that the denarius was officially rated at Pergamum at more than sixteen assaria.

of mints of Asia Minor,⁹⁴⁵ but which are almost absent from issues struck in Achaëa before the 2nd century AD, even though Chian bronze coinage was struck on the same system as the latter coinages. The mint of Chios seems to provide us with an exceptional case in the study of the Greek provincial coinage since it combines elements from monetary systems employed in different provinces, Achaëa and Asia. This suggests that Chios may have exceptionally accepted the denarius at the same value as its final drachm issues, even though this would have been lighter than the denarius.

⁹⁴⁵ *RPC I*, p. 375 suggests that cities in Asia Minor (e.g. Rhodes, Smyrna, and others) may have been striking large denominations during the early Imperial period to replace their earlier small values in silver; this is probably because of the light weight cistophoric standard that was used in the region prior to the adoption of the denarius.

2. vi. The bronze denominational system at Chios during the later Roman period:

In the above section I discussed the main elements of the bronze denominational system at Chios as this evolved under the early Roman Empire and possible links with systems elsewhere in the Greek East. Here I will examine developments within the island's denominational system between the mid 1st century AD and late 3rd century AD when this coinage ended.

The standard of the bronze coinage of Chios during the Imperial period was established with Series I, the first to include issues bearing denominational values. The module of each denomination was set as follows: the 3-assaria has a weight of 23-20g and a diameter of 32-33 mm, the obol weighs 14-10g and has a diameter of 28 mm, the 11/2-assarion weighs 11.05-10.83g and has a diameter of 26-25mm and the trichalkon weighs 4.04-3.34g and has a diameter of 18-17mm. As we saw these denominations were struck on the same standard as used by Chios since the Hellenistic period and issues continued to be struck on the system of the twelve chalkoi to the obol.

Only the assarion of ΦΑΥΣΤΟΣ does not conform with this standard since it averages in weight c 9.66g; if this issue been struck on the same standard as the rest of the issues it would have weighed 7-6.5g, considerably less than its actual average weight. The diameter of most coins from this issue also indicates a different standard since most coins measure 26 mm in diameter and are close to the size of the 11/2-assarion (at 26 mm). In the outline of the coinage (pp. 405-6) I discuss the possibility that this issue may have been exceptionally struck in imitation of the contemporary (official) Roman *as* denomination. However we may note that this is the only denomination where there seems to be a wide range in the issue's module, in contrast to the rest of the issues. The weight range of the assarion is 11.50g to 7.14g and one coin (fig. 6) struck at 7.14g agrees well with the standard used for the other denominations in this series (Roman Series I). The same also applies for the diameter of this particular coin at 23 mm, which is similar to that of later issues of the assarion and much smaller to the diameter of the other known coins from the same issue. At first glance this discrepancy in the standard of individual assarion coins leads us to consider that the mint might have struck coins of the same issue and denomination on different standards. However

this seems unlikely since there is no typological difference between the heavier and the lighter coins.

The following is a compilation of the average weights of all issues struck by Chios bearing denominational values (**Table 2**). Next to the average weight of the issues I have also included in brackets their weight range.⁹⁴⁶ The diameter of each denomination is usually kept the same throughout these issues, with a few exceptions that I have included in the following discussion.

⁹⁴⁶ Lists of the average weights of some of the above issues were published by Klose, 1987, table 19, p. 115, where he also compares the weights of Chian issues with those of Smyrna and Magnesia ad Maeandrum. It may be noted the average weights of some issues quoted by Klose are different to those recorded in the table of this study. For example, Klose gives an average weight for the 3-assaria of Eirenaios as 8.81g, while in this study the average is given as 9.2g; the average weight of the 3-assaria of Preimos is given by Klose as 15.98g while this study records 15.4g. It is not clear how Klose came up with these averages but certainly not from Maurogordato who gives nowhere in his work the average weight of each individual issue, but only the general weight range and usually the weight of one or two coins from the issue. In his Appendix I, 1918, p. 71-72, Maurogordato recorded the average weights of denominations by adding the weights of coins belonging to different series and not giving the average weight of each issue separately as in the present study. These recorded average weights are therefore unreliable. However Klose's average weights of the Chian denominations are not even copied from Maurogordato's, Appendix I, and I can only conclude that these are the result of his own personal research. Nevertheless the average weights quoted in this study are likely to be more plausible than those of Klose, since Chios was not the subject of his study and he would not have recorded a larger number of coins of this mint than this study.

TABLE 2

	dichalkon	trichalkon ⁹⁴⁷	assarion	1 1/2-assarion	o b o l ⁹⁴⁸	3-assaria
	<i>14-15mm</i>	<i>16-18mm</i>	<i>20-22mm</i>	<i>24-26mm</i>	<i>26-28mm</i>	<i>31-33 mm</i>
I:	1.98 (1 coin)	3.64 (4-3.3)	9.66 (11.5-7)	10.9 (11-10.8)	12.33 (14-10)	21.65 (23-20)
II. A:				10.40 (1coin)	12 (15.8-9.8)	19.39 (1coin)
II. B:				8.61 (10.2-7.2)	13.95 (15-11)	16.04 (1coin)
III. A:	1.94 (2-1.8)	3.15 (4.1-2.5)				
III. B:	2.20 (2.5-1.7)	3.35	5.71 (6.6-4.5)	7.73 (10.2-4.4)		16.12 (1coin)
III. C:		3.12 (3.2-2.9)	6.60 (1coin)	7.09	12.76 (16.4-9.2)	18.7 (23.5-14.9)
III. D:	2.48 (3.3-1.5)	3.09 (3.5-2.3)	5.67 (7-4)	7.03 (8.2-4.4)	10 (13.1-7.2) ⁹⁴⁹	17.10 (21.4-12)
Preimos: ⁹⁵⁰	1.85 (2-1.6)	2.02 (2.5-1.7)	5.15 (6.9-3.4)	8.2 (10.1-6.6)	9.51 (13.1-7.2)	15.4 (19.5-12)
Eirenaios:			3.22 (1 coin)	4.3 (4.7-3.9)	6.15 (7.5-5.6)	9.2 (10.7-7)
Chrysogonos:			2.50 (2.3-2.7)	3.7 (4.5-2.9)	5.3 (7-3.4)	7.4 (11.9-4.9)

⁹⁴⁷ This denomination is renamed hemiassarion from Series III, Group A and onwards

⁹⁴⁸ This denomination is renamed two assaria from Series of Preimos and onwards

⁹⁴⁹ A coin of this issue, Pl. XXXVII, fig. 18, has a diameter of 25 mm and is markedly smaller than the other issues of this denomination belonging to Group D, Series III.

⁹⁵⁰ Preimos also struck a tetrachalkon denomination which is unprecedented for the mint at Chios. Average weight for this denomination: 2.81g. The 8 coins recorded in this study show a weight range of 3.3-2.1g.

It is clear that Group A of Series II retained the same standard as Series I while this also seems to apply for Group B, with the exception of the 3-assaria which shows a significant weight decline compared to earlier issues. However only one coin is known from this issue and this does not constitute reliable evidence for the study of the development of the weight standard of these issues. Obols of both Groups A and B were struck on flans measuring 30-33 mm and therefore identical in size to coins of 3-assaria and much larger than the typical diameter range of the obol at 26-28 mm. However the weight of these obols agrees well with the weight standard for this denomination as established with the earliest issue of the obol.

Issues of Series III appear to have been struck on a slightly lighter weight than earlier issues with a marked decline in the weight of the 1 1/2-assarion. Why this denomination was struck on a much lighter standard than the other denominations is not clear. The diameter of each denomination of these issues was kept according to the standard of earlier series.

Denominations of Group D have similar weights to those of the previous groups in Series III, with the exception of the obol which seems to have been struck on a lighter weight than its respective issue of Group C, Series III. This seems to have been done to bring the denomination in line with the weight reduction of the 1 1/2-assarion of the previous group. The 3-assaria issues of Group D with an average weight of 17.10g also seem to be lighter than the weights of 18.7-21.6g recorded for issues of the same denomination belonging to earlier series; however many 3-assaria coins of Group D are pierced and the average weight of this denomination would have been slightly higher than that recorded and closer in average weight to the earlier issues. The hemiassarion and dichalkon of this series were struck on flans of identical diameter, though their weight is different and agree well with the standard of their earlier respective issues of the same denomination.

The standard used for the 'Preimos Series' suggests that the slippage in the weight of most denominations would have continued. The two assaria issue -which as we saw above replaced the obol- is the only denomination of Preimos retaining the same weight as the earlier issue of the same value (though this is now labeled 'obol') belonging to Group D of Series III. This may have been a deliberate step to introduce smoothly the new denominational name of 2-assaria in the place of the obol for this value at Chios and win public confidence in the name change.

Preimos provides us with clear evidence that the denominational system of twelve chalkoi to the obol was still retained during this period and despite the weight loss that the standard suffered since the mid 1st century AD. Alongside the other denominations this series also includes a new denomination, the tetrachalkon. The diameter of its coins is identical to the hemiassarion, but the tetrachalkon shows a heavier average weight reflecting its higher value compared to the hemiassarion (worth 3 chalkoi). In the system of eight chalkoi to the obol a tetrachalkon had the same denominational value as the hemiassarion but since the series of Preimos issued both denominations it is clear that the system of twelve chalkoi to the obol was not changed even during this late stage.⁹⁵¹

A breakdown in the system occurred with Eirenaios who issued coinage on a weight standard which was approximately two thirds of that of the Preimos coinage. The considerable weight loss seems to have driven out of circulation all denominations lower than the assarion. This reduced standard was retained under Chrysogonos though his issues are on the whole slightly lighter than those of Eirenaios. These later issues are also of a smaller diameter compared to earlier issues of the same denomination.

⁹⁵¹ Athens presents us with a similar case of a mint which continued striking coinage during the late Imperial period on the same denominational system as that of the Hellenistic period even though its weight standard had declined, Kroll, 1997, p. 145.

In general the examination of the development of the bronze standard suggests that it would have been retained essentially the same down to Series III, with a slight decline in the weight of a few denominations in Series III. With Preimos the weight standard seems to have declined throughout the range of its denominations. A considerable fall is noted in the standard of the series of Eirenaios, and coin modules continued to slip with issues of Chrysogonos.

I recorded above discrepancies in the sizes of a few individual denominations. However even for these issues, the weight was no different to that of other issues belonging to the same denomination and series. What is interesting is the fact that foreign coins which were overstruck as Chian issues generally agree well in the weight range of their denomination even if the diameter of individual coins did not agree with the standard. A similar situation seems to have also occurred with Series III and the 'Preimos Series' where we come across denominations of different values, always smaller than the assarion, which are struck on flans of similar size, even though their weight is different and follows in line the weight standard of other contemporary issues. This shows that for coins smaller in value to the assarion, the weight is a more reliable indicator of denomination, than the diameter. This may suggest that at Chios the coinage was probably not entirely fiduciary and that the weight was also taken into account in the denominational value.

2. vii. Bronze denominational systems in the Eastern part of the empire:

As I suggested Chios was probably striking coinage in the same denominational system as that used by cities in southern Greece. The standard at Chios would therefore have been the same as that of mints in this region. In order to show this I have listed in **Table 3** the modules of individual denominations struck in Greece, Macedonia and Asia Minor. The main criterion for choosing these mints is that they struck coinage on a regular basis with a wide range of denominations which have already been identified. The mint of Aigion in the

province of Achaëa, struck denominations that may be identified from their inscribed denominational values, and this coinage has been the subject of a recent study by Kroll.⁹⁵² The coinages of Thessaloniki and Smyrna have also been studied and their denominations identified,⁹⁵³ even if not with the same certainty as issues of Chios and Aigion.

We can see that the standard at Aigion was slipping between the reign of Antoninus Pius and the joint reign of M. Aurelius with Commodus. The next issue of Aigion under S. Severus shows a considerable decline of almost a third of its weight which applies for all three denominations struck by this mint.⁹⁵⁴ Thessaloniki was using the same standard as Aigion but only down to Antoninus Pius. The local coinage did not suffer any decline in weight between the reigns of Antoninus and those of M. Aurelius/Commodus and the large weight loss, documented for Aigion between the reign of Commodus and S. Severus, did not occur at Thessaloniki. It is clear that this mint retained the earlier standard during the reign of Severus and for some time afterwards. At Smyrna the standard was different to that at Aigion and Thessaloniki. The weight of its denominations was much lighter compared to the respective denominations of mints in mainland Greece during the reigns of Trajan-Hadrian. However between the reigns of Antoninus Pius and M. Aurelius the modules of its issues were steadily increasing and by the latter reign the modules of denominations at Smyrna matched those at Aigion. Under S. Severus the weight at Smyrna seems to have suffered a decline but not to the same extent as Aigion. As a result, the 3 and 2-assaria denominations at Smyrna during the reign of Severus are almost a third heavier than the respective denominations at Aigion, though still considerably lighter than that of Thessaloniki.

⁹⁵² Kroll, *Aigion*, pp. 49-78, has collected a large number of these rare coins and compared the local standard of Aigion with Sparta and Thessaloniki in p. 61, Table 3; see also the following footnote.

⁹⁵³ For the coinage of Thessaloniki see the study by I. Touratsoglou, *Die Munzstätte von Thessaloniki in der römischen Kaiserzeit*, AMUGS 12 (Berlin, 1988). A. Burnett, in his review of this book for NC (153), 1993, p. 305, & *RPC I*, pp. 288 & 299 has suggested some changes in the identification of the denominations proposed by Touratsoglou; these changes were also accepted by Kroll, *Aigion*, p. 61. In Table 3 of *Aigion*, Kroll has included the denominations of Thessaloniki as recorded by Touratsoglou, but with the changes proposed by Burnett. The mint of Smyrna during the Roman period has been studied by Klose, 1987, who also compared the standard used there with that of Chios. However Johnston, in her forthcoming article, has plausibly demonstrated that Klose identified wrongly most of these denominations. As a result I have included in Table 3 data on the denominations of Smyrna from Johnston's forthcoming article, as they were recorded in a draft kindly given to me by Mrs Johnston.

⁹⁵⁴ A great decline in the weight standard is also noted for the coinage of Sparta between the joint reign of M. Aurelius-Commodus and S. Severus, see S. Grunauer-von Hoerschelmann, *Die Münzprägung der Lakedaïmonier*, AMUGS VII (Berlin, 1978), pp. 88, 94-95; Kroll, *Aigion*, p. 61, Table 3, & p. 62.

TABLE 3

	assarion	two assaria (obol)	three assaria
	18-20 mm	24-25 mm	28-30 mm
Aigion: Antoninus Pius:	6.32 (5) (5.44-7.73)	12.96 (4) (11.56-14.01)	19.28 ⁹⁵⁵
M. Aurelius:	5.34 (10) (4.23-6.77)	11.22 (13) (8.84-12.74)	17.54 (6) (14.55-20.07) ⁹⁵⁶
M. Aurelius with Commodus:	5.29 (1)	9.99 (6) (9.31-13.45)	14.84 (2) (14.52-15.15)
Severus:	3.58 (4) (3.12-5.05) ⁹⁵⁷	6.08 (56) (5-8)	9.59 (4) (8-10.50)
Chios: Group C, Series III:	6.60 (1)	12.76 (6) (9.24-16.47)	18.76 (5) (14.92-23.57)
Group D, Series III:	5.67 (6) (4.05-7.02)	10 (11) (7.21-13.12)	17.10 (11) (12.05-21.46)
Preimos:	5.15 (13) (3.42-6.95)	9.51 (18) (7.22-13.15)	15.46 (29) (12.61-19.50)
Eirenaios (moneyer):			9.28 (7) (8.07-10.50)
Eirenaios (demos):	3.22 (1)	6.15 (3) (5.66-7.57)	8.95 (16) (7.04-10.79)
Chrysogonos	2.50 (2) (2.3-2.7)	5.39 (29) (3.4-7)	7.46 (52) (4.9-11.9)
Thessaloniki: Antoninus Pius:	6.27 (3)	12.81 (16)	
M. Aurelius:		12.69 (11)	
M. Aurelius with Commodus:	6.51 (1)	12.67 (10)	
S. Severus:	6.49 (119)	11.86 (116)	
Smyrna: Trajan-Hadrian:	3-6	7-15	10-15

⁹⁵⁵ No coin of the 3-assaria of Aigion are known for the reign of Antonine and the weight quoted here is theoretical and supplied from the average weights of the assarion and the two assaria.

⁹⁵⁶ Kroll, *Aigion*, p. 69, includes a coin of this denomination at 11.08g which is 3.5g lower in weight to the lightest coin of this denomination and is excluded from the weight range since it is likely to be a damaged coin.

⁹⁵⁷ Kroll, Table 2, p. 59 & Table 3, p. 61, gives as average weight of 5.13g for this denomination during the Severan dynasty. However in his coin catalogue in pp. 72-78, he lists coins of this denomination with the following weights: 3.46, 4.05, 3.76 & 3.12 grams; this gives an average of 3.58, not 5.13g.

Antoninus-M. Aurelius:	3.5-7.5	8-12.5	12-20
Severus-Caracalla:	4	8.8	14.3

Table 3 allows us to compare the standard at Chios with those of the above mints. This has established a close correlation in the standard of issues of this mint and those of Aigion and Thessaloniki, during the early 2nd century AD, based on an assarion of approximately 6.5g. However while at Thessaloniki the weight of the denominations was retained between the reigns of Antoninus Pius and the later years of the reign of M. Aurelius, at Aigion and Chios during the same period the weights were slipping. At Chios the weight was steadily declining with issues of Series III but becoming more visible with issues of Preimos.

The considerable weight fall at Aigion during the reign of Severus also occurred in the standard at Chios, and most probably during the same period.⁹⁵⁸ Not only did the bronze coinage at both mints suffer an identical weight loss, but their individual denominations also show a remarkably close weight range.⁹⁵⁹ Obviously Chios and Aigion were using a common standard and their coinages were struck with the same fluctuations in their weight. It is clear that Chios would have been following closely developments on the bronze standard in mints of the province of Achaëa and copying them on their own coinage. The evidence of Chios and Aigion suggests that this standard would also have applied to other mints at Achaëa and not only exclusively these two.⁹⁶⁰ The idea that Chios closely maintained the same standard as that of Aigion -and Achaëa in general- makes it easier to propose dates for the Chian series according to the dated issues of Aigion; see the discussion in the outline of the coinage of Roman period, attempting to date Chian issues by comparing the standard to that used by mints in Asia Minor.

The considerable weight loss of the coinage at Aigion and Chios under S. Severus suggests that these mints were probably adjusting the standard of their bronze coinage in relation to the debasement of the silver of the denarius and its decreasing value. Between the reigns of Antoninus Pius and Septimius Severus the silver quantity and weight of the denarius

⁹⁵⁸ The 'Eirenaios Series' is dated to the reign of S. Severus on other evidence, except its correlation with the standard at Aigion used at the time; see the proposed dating of this series ('Eirenaios Series'), pp. 481-4.

⁹⁵⁹ Note in particular the fact that the use of an identical standard at Chios and Aigion during the Severan period coincides with a period when there is a diversity in the standards of Greek mints in general; on this point see Kroll, *Aigion*, p. 62. This strengthens the theory that both these mints were using at the time one standard.

⁹⁶⁰ Kroll, *Aigion*, p. 61, Table 3, compared the standard at Aigion and Sparta and found a correlation for these issues under Antoninus Pius and the early reign of M. Aurelius.

shows a considerable decline (Burnett, 1987, p. 48). However other eastern provincial mints either did not reduce the weight of their coinage (Thessaloniki) or did so to a lesser degree than the above mints (Smyrna). I think that Aigion and Chios may have been forced to reduce considerably the weight of their coinage because it had been overvalued compared to the other coinages. The denominations had always been of a higher value to other eastern coinages something also reflected in the weight of their individual issues. As I have discussed the ratio of denarius:assarion at Achaëa may have been 12-assarion. This weight reduction suggests that parallel to the reduction in the weight of the local bronze under Septimius Severus the number of assarion to the denarius might have increased to conform with the rest of the East.

The fact that Chios followed the standard of mints outside its own province is not accidental but shows that its mint continued to use the denominational system in place in Achaëa even during this late period. It is clear that Chios would have been free to choose a denominational system outside its own administrative area, the province of Asia, suggesting that there might not have been a central control by the Roman authorities on the bronze coinage struck within the province.

Economic realities may have dictated a continued use of this standard at Chios since as I suggest in the chapter on the economy (pp. 658-665) the island seems to have continued trading with southern Greece throughout the Roman Imperial period and Chian coinage during this period is found at sites in Achaëa not Asia Minor (with the exception of a single denomination of the tetrachalkon, see below, p. 674).

V. TYPOLOGY

1. Introduction: The civic type issues of Chios struck during the Hellenistic period, and down to the early 1st century AD, display a remarkable typological uniformity which is unique for any coinage of the ancient world. Almost all coins bear the same pair of types, a squatting sphinx on the obverse and an amphora on the reverse.⁹⁶¹ From the early 1st century AD a variety of reverse types start appearing on the coinage without this however having an effect on the obverse type which continued to feature exclusively the sphinx.

The depiction of the sphinx and the amphora on the coinage of the period follows a tradition that was established long before the Hellenistic period, going back to the Archaic period when Chios began striking coinage. The obverse of the earliest issue of this mint, dating to the mid 6th century BC,⁹⁶² bears a sphinx and -with a single exception- this type is present on the obverse of every coin produced by Chios during antiquity. The amphora also has a long history as a local coin type since it was first used on an issue dating c 500 BC. This early Chian issue lacks a reverse and the amphora is depicted on the obverse and beside the main type of the sphinx (Hardwick, 1993, p. 211). The amphora as a main type appears for the first time on the reverse of bronze coinage dating to the early 4th century BC (Hardwick, 1991, type 11).

The Chian mint of the Hellenistic and early Roman Imperial period followed the precedent set by its past issues and retained the same types on the coinage. This was rather exceptional, since all other Greek mints were gradually introducing different types on their coinage, at least by the late Hellenistic period.⁹⁶³ It is true that many mints used standard

⁹⁶¹ During the Hellenistic period only three very rare or unique issues are exceptions to this rule and bear different types. These I discuss in detail below in this chapter.

⁹⁶² See Hardwick, 1993, p. 211, for the downdating of the earliest Chian coinage from the late 7th century BC to the mid 6th century BC.

⁹⁶³ A. Burnett, 'Roman provincial coins of the Julio Claudians' in *Essays in Honour of R. Carson and K. Jenkins*, ed. M. Price, A. Burnett, and R. Bland, London, 1993, pp. 145-153, p. 147.

types during the Classical period, and to some extent the Hellenistic period,⁹⁶⁴ but not a single city except Chios can be shown to have struck coinage regularly in successive series bearing the same pair of obverse and reverse type well into the Roman Imperial period.

The Hellenistic period brought only minor developments in the typology of the Chian coinage; mint symbols appear almost permanently beside the main types, and a vine wreath decorates the reverse type of most issues.⁹⁶⁵

Between c 330 BC and the early 1st century AD, for a period spanning three and a half centuries, the amphora holds -with a few minor exceptions⁹⁶⁶ - the monopoly as the reverse type of the Chian coinage. From the early 1st century AD Chios adopts a denominational system consisting of a number of different denominations. This is probably the reason that may have caused the mint to employ additional reverse types on the coinage at the time; to facilitate users of the coinage for identifying individual values (see p. 532). However, even in this period and afterwards the amphora continued to be used as one of the main reverse types of the Chian coinage down to the final closing of the mint during the late 3rd century AD.

During the early 1st century AD three new reverse types appear on the coinage, the cantharos, a pair of thyrsos crossed in the middle, and a seated male figure on a throne holding a scroll in his hand, identified in its accompanying legend as Homer. Half a century later, two further types appear in the reverse of issues, consisting of two standing figures of gods -

⁹⁶⁴ See Burnett, 1993, p. 147, stating that mints tended to repeat the same types on their coinage during the Hellenistic period.

⁹⁶⁵ Mint symbols appear on silver coins at the beginning of the 3rd century BC (Attic civic type drachms, Series I), followed a few decades later on bronze (Series 17). Vine wreaths were first used to decorate the reverse of the bronze coinage in the period c 350-332 BC (Series 13), though this was a temporary feature at the time since the next issues lack this decoration. A vine wreath also appeared for a limited period on the obverse of issues of the Classical period, see Hardwick 1993, pp. 216-17, illustrated Pl XIII, figs. 11-12. Chian silver issues of the Hellenistic period are first enclosed in a vine wreath from the mid 3rd century BC (Civic type drachms on the Attic standard, Series II), and those of the bronze only from the early 2nd century BC (Series 19).

⁹⁶⁶ These are, the chalkous issue of Series 17 signed by ΗΡΟΚΡΑΤΗΣ, bearing a bunch of grapes as the reverse type, the three chalkoi issues with 'sphinx/thyrsos', and the obols of Series 21 with horseman on the obverse and a thyrsos enclosed in laurel wreath in the reverse. It may be noted that these issues are either very rare or unique though it is not clear if this is coincidental or may be attributed to their exceptional reverse types. The coins did not form part of a common series in the Chian coinage.

Apollo and Dionysos-, and a different -solitary- standing figure, probably that of a local mythological hero (Oinopion). Sometime in the late 2nd century AD a bunch of grapes was also used as the main type on a single issue.

The thyrsos and the bunch of grapes had already been used as reverse types on the very few Chian issues of the Hellenistic period lacking the amphora (see the previous footnote). During the same period both types also appeared frequently on the coinage as mint symbols. Even types depicting deities are not unprecedented on the Chian coinage since the figure of Dionysos already appeared once before -on its own, not accompanied by that of Apollo- as a mint symbol on a drachm issue of the late 2nd century BC.⁹⁶⁷ In the new main reverse type of the Roman period, Dionysos appears beside another male figure of a god identified as Apollo. The solitary figure of the second anthropomorphic type is that of a local hero identified as Oinopion, son of Dionysos, and founder of the city of Chios; on a single coin from one of the last issues of Chios, bearing this type, the standing figure is that of Herakles (in place of Oinopion). In the following section I discuss in detail the use of these reverse designs as Chian coin types.

As with the amphora, the majority of new reverse types appearing on the coinage during the Roman Imperial period make a direct reference to wine and its god, Dionysos. Chian coinage seems to have ignored other types linked to different aspects of the god's cult (such as the panther -his favourite animal- or members of his entourage, the Maenada, Pan, etc) which appear on issues of other Greek mints drawing themes for their coin types from the Dionysiac cult.⁹⁶⁸ Only two reverse types are not associated with wine and Dionysos, the

⁹⁶⁷ The issue of ΘΕΥΜΝΙΣ in Group D of the reduced Attic drachms, see Pl. XVII, figs. 41-42. The figure is clearly that of Dionysos holding in one hand a bunch of grapes and a thyrsos in the other.

⁹⁶⁸ For a study of coin types referring to Dionysos and aspects of his cult see M. Bernhart, *Dionysos und Seine Familie auf Griechischen Münzen, Numismatischen Beitrag zum Ikonographie des Dionysus*, JNG, (Munich, 1949). The figure of Oinopion, which I discuss below in this section, bears a direct link with Dionysos and wine, but also with the local mythology of Chios.

seated figure of Homer, found on the reverse of all Chian *Homereion* issues, and the unique coin showing a standing figure of Herakles (both are referred to above).⁹⁶⁹ The *Homereion* issues do not seem to have formed part of the regular coinage and are probably linked to a festival of the Roman period honouring the poet, while the Herakles issue is likely to have been struck to commemorate the so-called alliance of Erythrae and Chios of the mid 3rd century AD. In this case the figure of Herakles on the coinage would not allude to Chios but Erythrae, where it was used as that city's civic emblem (for references to these aspects see below in this chapter).

2. The sphinx as the obverse type on the coinage of Chios:

For a period lasting over eight centuries the mint of Chios struck a coinage bearing the same obverse type of a squatted sphinx. No other coin type has ever been used continuously and regularly by the same mint over such an extensive period;⁹⁷⁰ the fidelity that the Chians showed for their obverse coin type is unmatched throughout history.⁹⁷¹

The sphinx is known to have been the main civic emblem (*παράσημον*) of the city of Chios and in this capacity it appears on pottery stamps, coin weights, headings of official decrees and gravestones of Chians abroad.⁹⁷² Obviously this type would have also been chosen

⁹⁶⁹ From the Hellenistic period only a single reverse type appearing on the Chian coinage of the Hellenistic period is not associated with wine. This is the horseman type of Series 21, but since the type bears significance on the dating of the series I have reserved discussion of this type in the relevant section in the outline of the coinage (pp. 351-3).

⁹⁷⁰ On the consistency of the Chians in the use of the sphinx coin type, see Baldwin, 1914, p. 4; Maurogordato, 1915, pp. 5-6; Kraay, 1976, p. 242.

⁹⁷¹ L. Lacroix, 'A propos du Sphinx des Monnaies de Chios', R. A, fascimile 1, (1982), pp. 75-80, p. 75, states, in reference to the use of the sphinx as a coin type at Chios, that '*Il est peu de villes grecques qui aient fait preuve d'une telle fidelite a l'egard du motif choisi comme type monetaire*'. I disagree with this comment since no other Greek city can be shown to have retained the same obverse type over the same period as Chios. In modern times only the mint of Venice used the same obverse type, the lion of St Mark, on its coinage for a period of almost eight centuries -more or less the same period Chios retained the sphinx on its coinage during antiquity-, though this was not done with the same obsession as Chios since a few Venetian issues were struck without the established obverse type.

⁹⁷² On the depiction of the sphinx on these objects see Hardwick, 1991, p. 15 and Loutrari, *Chian Sphinx*, pp. 67-73.

as the main theme of the coinage since the Greeks are known to have used their civic emblems as coin types.⁹⁷³ In this respect the sphinx holds an identical position to similar mythological creatures that became the civic emblems of Greek cities and consequently were used as coin types, for example the griffin for Teos and her colony of Abdera.⁹⁷⁴

The fact that the sphinx was already established as the main civic emblem of Chios would seem reason enough for its appearance on the coinage. However this on its own cannot explain satisfactorily the reason why this particular type continued to be used on almost every coin struck by the Chian mint. The obsessive repetition of the same obverse type on the coinage, as we saw, is not typical of Greek mints -especially after the Classical period- which frequently employed types other than their civic emblem, be it a deity, an animate or inanimate type, or a mythological monster.⁹⁷⁵ This probably shows that the moneyers at Chios may have been obliged to use the sphinx on their issues since in the unique instance where this type is absent from a Chian issue (Series 21, see pp. 346-54) no moneyer's names appears in the coin legend. The striking of issues of Series 21 without the sphinx suggests that the use of the sphinx as a coin type may not have been required by law at the time but probably retained by a tradition that was meticulously observed by the authority of the mint. It is clear that the replacement of the sphinx on issues of Series 21 by another type could not have been illegal at the time -the early 1st century BC- since the issue would not have been allowed to be struck in the first place; this would possibly have also applied in earlier periods. However no

⁹⁷³ Head, 1910, p. Ivii, discusses the use of the civic emblem of Greek cities as a coin type. A famous inscription from Sestos -OGIS, no. 339; Hermes, 1873, pp. 113-39- records that one of the reasons the city issued coinage was to have *its emblem stamped on the currency*. For a discussion of the numismatic significance of this inscription see J. R. Jones, 1972, p. 40.

⁹⁷⁴ For the use of the griffin on issues of Teos and Abdera, see A. Furtwaengler, in Roscher, *Lexicon*, I, 2 (1886-1890), 'Gryps', col. 1762-3.

⁹⁷⁵ Ancient Greek mints drew themes for their coin types from a large pool; Kraay, 1976, pp. 3-4, records different categories of themes. Most types refer to gods, local deities, mythological heroes (types consist of the bust of a deity, or symbols linked with its cult), while other types depict local export products. There are also a few types used as punning representations; for example Melos adopted an apple as its reverse type since *melos* is the Greek word for apple.

further issue was ever struck again by Chios lacking the effigy of a sphinx⁹⁷⁶ suggesting that eventually a law may have come into effect forbidding the use of any obverse type on the coinage other than the sphinx. I suspect that this would have been brought about possibly by hostile public reaction to the obverse type of Series 21.⁹⁷⁷ This is mere speculation, but as I discuss in p. 353, two coins of Series 21 are clearly overstruck with issues of a new series bearing the sphinx type, suggesting that issues of Series 21 may not have circulated long before they were recalled and restruck; possibly their obverse type may have played a role in their limited circulation.

3. Origin and features of the Chian sphinx: There has been a long debate on the provenance of the sphinx at Chios and on its distinctive features that make up a particular type which is uniquely Chian.⁹⁷⁸ The island's coin types are important in this respect since they are the only source offering us images of the local sphinx throughout the Greco-Roman period. The study of this body of material undoubtedly throws light on various aspects of the sphinx, some of which are relics from its distant past, and useful in giving an indication of its origin, and others that were added later, while Chios was striking coinage, and therefore documenting

⁹⁷⁶ It is important to note here that this coincides with the Roman Imperial period, when we have an explosion in the number of different types used on the coinage of the Greek mints. One need only look at the issues of any obscure town in the eastern part of the Roman Empire to appreciate the number and variety of obverse types that were used at the time.

⁹⁷⁷ I know of no example from the Greek world of a law requesting the use of a specific type on the coinage. However we can be certain that people were familiar with the types appearing on their coinage and reacted to any changes brought about in this field. For example, Miletus is another city where the civic type (of a lion) was retained over a long period as this mint's only obverse type. An epigram inscribed on the shoulder of a statue of a lion found in this city records the fact that the mint had maintained on all of its coins the effigy of the lion as sign of honour to this emblem; for the inscription, see SEG I, 425 and Melville Jones, 1993, no. 346. This reference seems to imply that the authorities at Miletus had deliberately retained the lion type on their coinage, which is supported by the fact that this type appears on most coins issued there down to the late Hellenistic period.

⁹⁷⁸ The latest and most important discussions on this subject appear in Lacroix, 1979, and Dr A. Loutrari's doctoral dissertation. Both include many past references to the Chian sphinx and discuss certain of its attributes. Loutrari, 1997, pp. 290-295, deals with the question of the origin of the Chian sphinx where she critically examines all known theories.

developments of this type while it had already been adopted and used by the city as its civic emblem.⁹⁷⁹

We should note that Chios did not have the monopoly of the sphinx and that other cities might have adopted this type as a civic emblem at one point in their history. This seems to be suggested by the fact that not all known coins bearing a sphinx were struck by the Chian mint, though there is a tendency to attribute coins with sphinxes to Chios.⁹⁸⁰ Maurogordato lists a number of other cities that struck coins bearing this type⁹⁸¹ none of which are known to have been Chian colonies or associated with the island through an alliance. They may therefore have adopted this type on grounds independent of Chios.⁹⁸² There is no further evidence that any of these cities also had the sphinx as a civic emblem, though this is likely. However by the Hellenistic period only one other city, Perge in Pamphylia, was still striking some of its coinage with sphinx types, and even here it seems that the type was very rarely used after the 1st century BC.⁹⁸³ This means that by the late Hellenistic period and afterwards, the sphinx as a civic coin type would have been exclusively associated with Chios.⁹⁸⁴

⁹⁷⁹ Depictions of the sphinx are also found on other objects produced at Chios, e.g. weights, gemstones, inscriptions etc, but these are few and are dated with long intervals. A few of these depictions of the sphinx were even copied from the type on the contemporary coinage. For such examples see the discussion in the outline of the coinage, the sphinx type on lead weights, pottery stamps, and the heading of an honorary decree, copied from types appearing on issues of Series 17 and a sphinx on a gravestone copied from the type on an issue of the reduced Attic drachm, Group D.

⁹⁸⁰ Maurogordato, 1915, p. 7, claims that in his time a few non Chian coins were included in the Chian series of National cabinets. This was still the case in 1994, when examining the trays with coins of Chios at one of the largest European Coin Cabinets I also came across a number of coins of Perge bearing the sphinx, that had been confused for Chian.

⁹⁸¹ Maurogordato, *ibid*, Gergis, Caunus, Perga, Aphrodisias, and Asorus; the last is possible, see Svoronos, *JIAN*, 1913, p. 224. To this list we can also add Samothrace since W. Schwabacher, 'Ein fund archaischer munzen von Samothrake', in *Transactions of the International Numismatic Congress, 1936*, p. 109, shows that its mint also struck coins with sphinxes.

⁹⁸² However it may be noted that the sphinx type on the coinage of Gergis, and possibly that of Kaunos, is stylistically similar to that appearing on Chian silver and bronzes of the late Classical period, suggesting that it may have been copied from the Chian type. For Kaunos see SNG Copenhagen, Caria, no. 180-3; Gergis Cop. 337-40, Troas. Both coinages date to the 4th-3rd century BC.

⁹⁸³ Perge struck a series bearing a sphinx dating to the 2nd-1st centuries BC, see SNG Copenhagen, *Pamphylia*, nos 309-11. It only used this type again on a later series from the reign of Hadrian, see Copenhagen no. 318.

⁹⁸⁴ Fustel de Coulanges, 1856, p. 562, rightly states that of the mints using the sphinx as a coin type, only Chios retained it on the coinage from the Archaic down to the Roman period.

Different theories have been presented over the past three centuries concerning the origin of the Chian sphinx, and its adoption by the city as its main emblem, but these are very much based on speculation lacking any strong evidence. No myth is known linking the sphinx with Chios, as in the case of Thebes with the Oedipus myth,⁹⁸⁵ suggesting that its adoption at Chios might go back in time to a period before the formation of this particular myth.⁹⁸⁶ The sphinx already appears in Greek Art during the Geometric period though we lack evidence that this symbol was also used at Chios during this early period.⁹⁸⁷ It is therefore unlikely that the Chians might have adopted the type from mainland Greece (Lacroix, 1982, p. 79; Hardwick, 1991, p. 23, Loutrari, *Sphinx*, p. 288).

An attractive theory links the origin of the Chian sphinx with Egypt and rejects a possible association with Mesopotamia, where sphinx types are also known.⁹⁸⁸ As I discuss in the chapter on the economy (pp. 638-9), Chians are known to have had direct contacts with Egypt ever since the 7th century BC, when the first of the island's traders became residents in the Greek colony of Naukratis.⁹⁸⁹ These traders would have frequently been in contact with Egyptians and are likely to have become familiar with that country's monuments, including the great sphinx at Giza. At the same time Chians would also have derived knowledge of the features of the sphinx from works of art made in Egypt and the Levant and depicting sphinxes

⁹⁸⁵ For the sphinx in the myths of Thebes see U. Hausmann, 'Oedipus und die Sphinx', *Jahrbuch der Staatlichen Kunstsammlungen in Baden-Württemberg*, 9, 1972, pp. 3-36; Loutrari, *Chian Sphinx*, p. 288.

⁹⁸⁶ Loutrari, *Chian Sphinx*, pp. 288-289, quotes evidence showing that the sphinx was not added to the myth of Oedipus when this was first formed during the 8th century BC but at a later stage during the early 6th century BC; by this time however Chios had already adopted the sphinx as a civic emblem, see the discussion below.

⁹⁸⁷ N. M. Verdeles, 'L' Apparition du Sphinx dans l' art Grec aux VIIIe et VIIe siècles avant J. -C.', *BCH*, 1951, pp. 1-48, pp. 1-2. Depictions of the sphinx in Greece during these centuries appear in artifacts at Cyprus, Crete and the southern Greek mainland.

⁹⁸⁸ Fustel de Coulanges, 1856, p. 562, f. 1, was the first to consider a possible Egyptian origin for the sphinx at Chios. Maurogordato, 1914, p. 58, thinks that the Chians adopted the sphinx from Asia Minor, and that the type arrived there from Mesopotamia.

⁹⁸⁹ See J. Boardman, 'Chian and Naucratis', *ABSA* 51 (1956), pp. 55-62, p. 61-2, where he discusses the presence of Chians at Naukratis during the Early Archaic period.

which are known to have been imported to Chios during this period.⁹⁹⁰ The Chians themselves appear to have used the sphinx as a common decorative type on vases from at least the late 7th century BC,⁹⁹¹ during the period when they were establishing economic ties with Egypt. Hardwick has associated the sphinx type appearing on the earliest of the coinage with that found on contemporary Chian chalices.⁹⁹²

In the Greek world the sphinx is seen as a sign of misfortune and doom, clearly illustrated in the legend of Oedipus (Lacroix, 1982, pp. 78-79). It is either an evil monster spreading disasters in the world or a chthonic deity inhabiting the underworld; in the latter capacity it often is depicted as a symbol on Greek funerary monuments of the Archaic and early Classical periods.⁹⁹³ However Chios provides us with a totally different picture of the sphinx, one clearly bearing positive attributes, and even assuming the role of the island's 'protector' (see below).⁹⁹⁴ This seems to be the only case anywhere in the Greek world of a sphinx seen as a 'benevolent' spirit -as opposed to the evil and apotrepic or cthonic one for the other Greeks- strongly suggesting an Egyptian, rather than an Asian, origin for the Chian sphinx. Egypt is known as the only place in the East where the sphinx was the bearer of good fortune while the legend of the evil sphinx is prevalent in cultures of Asia and as such was later adopted throughout the Greek world (Loutrari, *Sphinx*, p. 289).

⁹⁹⁰ W. Lamb, 1934-5, pp. 163-4, 'Scarabs finds', by Alan W. Shorter, no. 68, pl. 32. One of the foreign scarabs found during the excavation of Apollo's temple at Fanai and generally dated to the early Archaic period (7th century BC) bears a sphinx. Most of the scarabs found at the site of the temple were either produced in Egypt or the Levant.

⁹⁹¹ J. M. Cook and J. Boardman, 'Archaeology in Greece', *JHS* 74, (1954), pp. 162-4, p. 164; Boardman, 1967, p. 159, no. 724 & p. 167, no. 824.

⁹⁹² Hardwick, 1991, p. 15; Loutrari, *Chian Sphinx*, pp. 36-42, with illustrations of sphinxes on Chian chalices of the Archaic period and contemporary coin types

⁹⁹³ See Lacroix, *ibid*, for all references to the sphinx as a symbol of death and a chthonic deity. Note in particular the case of Samothrace where the sphinx would certainly have been a chthonic deity since this island was sacred to the Kabeiroi, dieties of the underworld.

⁹⁹⁴ Lacroix, 1982, p. 80, is the first to my knowledge to make this suggestion; this is also considered by Loutrari, *Chian Sphinx*, p. 288

Many scholars suggest that the sphinx may have been a dionysiac emblem at Chios.⁹⁹⁵ As we saw the mint at Chios drew themes for its reverse types from the cult of Dionysos and it would therefore have come as no surprise if this also applied for the obverse type.⁹⁹⁶ However there is no literary or other evidence linking this god with the sphinx at Chios, or anywhere in the Greek world.⁹⁹⁷ The fact that an amphora or a bunch of grapes frequently appears next to the sphinx (see below, p. 614) does not necessarily add a dionysiac element to the sphinx since it retains its independence vis a vis these particular objects.⁹⁹⁸

The Chian sphinx was probably a type unique to the island, but with a non Greek (Egyptian) lineage, and I think it is futile to associate it with any particular Greek deity.⁹⁹⁹ As I suggested the sphinx may have been first adopted by early Chian traders in Egypt and that occasionally types of the Hellenistic period appear with attributes that are clearly Egyptian (the headdress of Isis or a modius on its head, clutching a lotus flower in one of its front paws, see below the discussion of mint symbols appearing in the types, see also below. pp. 615-6). These however are unlikely to reflect the original adoption of the sphinx by Chios during the early Archaic period and probably relate to the re-establishment of economic ties between Chios and Egypt during the Hellenistic period (see p. 638).

⁹⁹⁵ B. Head, *Historia Nummorum*, Oxford, 1887, p. 513; E. Babelon, *Traite des Monnaies Grecques et Romaines*, Vol. II, 1 (1907), col. 190; Maurogordato, 1914, p. 58; Gardner, 1920, p. 160, and many others in recent times.

⁹⁹⁶ Kraay, 1976, pp. 3, states that Greek mints usually chose types for the obverse and reverse that bore a thematic connection (e.g. the bust of a local deity on the obverse and its symbol on the reverse).

⁹⁹⁷ This is suggested by Hardwick, p. 1993, p. 211. As I noted, the sphinx was a symbol of death in the Greek world (with the exception of Chios) and linked to the underworld. This however was the realm of Hades, not Dionysos. B. Baldwin, *Museum of Fine Arts, Boston, Catalogue of Greek Coins*, Boston, 1955, no. 1943, combines elements from both Hades and Dionysos describing the sphinx as a 'dionysiac' and a 'chthonic' spirit; see also Hardwick, 1993, p. 211, for a similar theory suggesting that the sphinx could be 'symbolic of the grave cult of Oinopion, founder of Chios and inventor of viticulture'. To my knowledge the sphinx does not appear on funerary monuments at Chios; when used on gravestones of Chians outside the island (for such a gravestone see Kastriotis, 1910, pp. 55-58; also discussed in this study, p. 249) this is used in its capacity as the city's emblem, a way of recording that the dead person came from Chios, and not as a chthonic symbol.

⁹⁹⁸ Lacroix, 1982, pp. 75-80, suggests that the grapes and amphora next to the sphinx in the Chian coin types do not refer to the sphinx in relation to Dionysos, since these objects are not found next to the sphinx in the earliest issues of Chios. Loutrari, *Chian Sphinx*, p. 311 also believes that the sphinx was not a symbol of Dionysos.

⁹⁹⁹ Hardwick, 1993. *ibid.*, states that there is no direct evidence linking the sphinx with a cult at Chios. However he discusses the possibility that the sphinx may be connected at Chios with the cult of Apollo.

Maurogordato (1915, p. 4) claimed that when the sphinx was first adopted on the coinage it still retained some unknown religious significance.¹⁰⁰⁰ This possibly suggests a cult of the sphinx of which nothing is known.¹⁰⁰¹ However if the sphinx was depicted on the Chian coinage primarily as a religious type, it quickly seems to have acquired an even more important function. From c. 500 BC we have the earliest coins showing a sphinx together with an amphora and a bunch of grapes. This probably suggests that the sphinx had assumed the role of ‘protector’ of the Chian wine trade, and overseer of the island’s vital interests (Hardwick, 1991, p. 14). Later on during the Hellenistic period this relation between Chios and the sphinx becomes more apparent with the permanent depiction of the sphinx with one of its front paws lifted above a bunch of grapes, an amphora, or the prow of a ship, clearly affording its protection to Chian commerce and trade (Maurogordato, 1915, p. 4).¹⁰⁰²

¹⁰⁰⁰ He based this on a spiral ornament that frequently appears on the monsters’ head on coins of the Archaic period, and which also appears on contemporary depictions of the sphinx on local vases (Loutrari, *Sphinx*, p. 67) but which was subsequently dropped from all later coinage. Loutrari, *Chian Sphinx*, p. 234, advocates the existence at Chios of an established cult of the sphinx. This seems plausible, especially in light of the findings on the local coin typology presented in this study (see the next footnote); however Loutrari’s attempts to associate the sphinx with the Oinopion myth and cult lacks strong evidence.

¹⁰⁰¹ In the following section of this chapter, I discuss evidence from coin types that during the later Hellenistic and early Roman period the sphinx was linked to the Hestia fire of the city which suggests a civic cult of the sphinx at Chios, similar for example to that of Roma at Rome.

¹⁰⁰² For a similar case of a city adopting a mythical monster as its protector see Teos and its griffin symbol. There the griffin is depicted lifting its front paw during the Classical period.

4. Typological and stylistic developments of the sphinx on the coinage of Chios:

The sphinx appearing on the Chian issues bears a young woman's head and the squatting body of a lion, complete with paws and tail; wings are also attached to the sphinx's back.¹⁰⁰³ Though these general typological features appear on almost all issues struck at Chios, sphinxes vary in style between different issues. Obviously, the artists would not have been copying the type from a single source but were probably free to portray details of the type in their own style, providing that this did not interfere with features that were already established.

The sphinx on the coinage may have been drawn from the imagination of the artist, or copied from a work of art, or even a type on an earlier issue. In the latter case we come across sphinxes of identical type appearing on issues dating far apart and thus excluding any likelihood that their dies could have been produced by the same engraver. This creates problems in classifying the individual series and also shows that the style of the sphinx cannot be used in all cases as evidence for the chronology of issues. Such an example is provided by two different drachms bearing the same moneyer's name, ΑΡΤΕΜΙΑΔΩΡΟΣ, and showing an identical sphinx; for illustrations of the sphinx on the first issue see Pl. XV, figs. 2-4, and for the second one, Pl. XXVII, figs. 1-5. Both issues were recorded by Maurogordato as struck by the same moneyer.¹⁰⁰⁴ This is challenged by the present study, quoting strong evidence and

¹⁰⁰³ The head is usually depicted with a woman's headdress. On clear specimens the hair can be seen tied in locks and an earring on its ear. However Dr Loutrari has informed me of very rare representations of sphinxes on the Chian coinage of the Classical period with bearded heads. From the period concerning this study only a single coin shows a sphinx's head with a beard, (see Pl. XXXI, fig. 24, together with an enlarged photograph of the reverse where the beard is clearly visible on the face of the sphinx; I am grateful to Dr A. Loutrari for providing me with this enlarged photograph of the coin). Sphinxes with a bearded head often appear in works of art in Anatolia, but not Greece where it is depicted always with a female head; on this topic see P. Hellstrom, 'Sculpture from Labraynda', in *Sculptors and Sculpture of Caria and the Dodecanese*, eds. I. Jenkins and J. R. Walwell, British Museum Press, 1997, pp. 109-113, p. 110.

¹⁰⁰⁴ Maurogordato, 1917, p. 233, considers the issues to have been struck by the same moneyer shortly before and after c 86 BC. It is therefore not surprising that he failed to record the similarity in the sphinx type since he recorded that both issues were struck within a brief period of each other and by the same moneyer.

showing that the drachms belong to two different emissions dating over a century apart.¹⁰⁰⁵ In this light the issues could not have been signed by the same individual and dies produced by the same artist. We may assume that the die engraver of the later issue copied the sphinx type from the earlier namesake issue, suggesting that the mint was keeping records with depictions of coin types or actual coins from earlier issues for reference.¹⁰⁰⁶

Another similar case of a sphinx type copied from an earlier coin is provided by the sphinx with club in front of it, depicted on issues of Group I of Series 17 (Pl. XII) dating to the last quarter of the 3rd century BC, and issues signed by ΤΙ ΚΛ ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΣ of the mid 1st century AD (Pl. XXXI, figs. 17-20). The style of these issues is close, even though they are separated by more than three centuries. It may be that in both cases die engravers were copying the sphinx type from the same work of art or that the later engraver copied the type of the earlier issue.

Occasionally a detail on the sphinx would be copied in the same style on a number of different issues indicating that these would probably be near contemporary. The wing of the sphinx develops in different forms from the early Hellenistic period and onwards, with small changes usually recorded over long periods which may be followed in different stages on the coinage.

During the Classical and early Hellenistic period the sphinx's wing develops slightly and appears on most issues in a curved form resembling a wave. At one point early in the 3rd century BC this feature shows a radical change, appearing in the form of separate feathers springing from the sphinx's back and resembling the open petals of a flower. The earliest such

¹⁰⁰⁵ The first drachm belongs to Group A of the reduced Attic series, dating in the early 2nd century BC (see p. 215); the second drachm is part of the cistophoric series, dating in the late 1st century BC (see p. 371).

¹⁰⁰⁶ The Roman mint is known to have issued coins bearing types that were last used a considerable time before; on this topic see Burnett, 1987, p. 67. Kroll, *Athens Agora XXXI*, p. 116, claims that types of some issues of Athens dating to the mid 3rd century AD were copied from issues of the same mint dating from the previous century.

type appears on drachms of the moneyers ΘΕΟΠΟΜΠΟΣ, ΚΗΦΙΣΟΚΡ[ΙΤΟΣ] and ΗΙΘΕΟΣ (Attic Series I, see the coins illustrated in Pl. II), and became standard on issues of the 3rd century BC.

On issues of the last group of Series 17 (Group I, illustrated Pl. XII) the wing is of a slightly different type to that of earlier groups from the same series. It shows a simpler form, with individual sections of the feathers as rows of lines converging in a curve high above the sphinx's back. This type seems to have evolved on issues dating to the 2nd century BC into a small number of parallel lines, usually four or five, starting from the sphinx's front -the lines are visible on its body- and extending high above its back. In drachms of ΖΗΝΙΣ (illustrated Pl. XVIII, figs. 1-25), the end of these lines converge together in a small curve, exactly above the sphinx's head. With drachms of ΖΗΝΟΔΩΡΟΣ (illustrated Pl. XVIII, figs. 26-28) we have the earliest depiction of a new form of wing, which was later used on issues of Group F of the reduced Attic standard. The lines are no longer visible on this wing and its width is half that of the type on issues of the 2nd century BC; its curved end resembles a hook and appears above the sphinx's head.

Issues after c 80 BC resume the 'simple' type of wing comprising a number of parallel lines curved at their ends, and resembling the type used on the coinage of the 2nd century BC (see for examples coins in Pl. XXVI-XXVII). On a few issues of Roman Series I dating to the early 1st century AD a triangle shaped wing makes its earliest appearance (see Pl. XXX, figs. 3-5 & 8-11). This type seems to have been influenced by a foreign prototype, since the sphinx on the Chian coinage -and also on other objects produced at Chios- was never depicted in the past with a wing of this shape. The sphinx of Augustus, as it appears on coins and gemstones, is a likely source inspiring this innovation at Chios (see the discussion of the ΣΕΒΑΣΤΟΥ drachm issue in pp. 378-382). Other issues from Roman Series I retained the earlier type of the wing depicted as a row of lines springing from the sphinx's back and curved at the end.

Both these wing types used on issues of Roman Series I also depict a distinctive feature, comprising a number of large dots in the lower part of the wing at the point of attachment with the sphinx's body. This characteristic detail is visible on the wing of the Augustan sphinx, suggesting that the Chian coin type may have been copied from this type. This feature is an important indicator of date since it never appeared on the Chian coinage before, and starting with issues of Roman Series I it is adopted permanently on all issues.

The new, triangle shaped, wing appeared on most later issues -though the older type was not abandoned and continued to be used on a few later issues- and appears on most issues of Series II and Series III. Issues of Series II, Group B unusually depict both wings of the sphinx instead of one (for examples of this, see coins illustrated in Pl. XXXIII). The wing depicted on the sphinx of Series III, Group D is slightly raised backwards and shows some curvature at its end; this type is also thinner than the one depicted on earlier issues. This wing type became standard on all later issues of the series in the names of Preimos, Eirenaios and Chrysogonos. The very last issues of Chrysogonos, showing the head of the sphinx turned backwards, depict the form of two wings (Pl. XLV, figs. 12-17), probably following the example of the type of Series II, Group B.

The sphinx on the Chian coinage is depicted squatting, which is the established position for a sphinx, though I have traced two instances where the sphinx is shown in a slightly varied posture. On a number of issues from the final group of Series 17 the sphinx clearly shows both front paws -instead of only one- indicating the imminent movement of its front, as if it is about to stand up (see Pl. XII, fig. 1, 5). This type is close to depictions of the sphinx on vases of the Archaic period and the coin type may have been copied from a known work of art.¹⁰⁰⁷ On issues of Series III, Group B, of the Roman period, the sphinx foregoes the

¹⁰⁰⁷ A pottery stamp from the Classical period illustrated in Grace, 1979, no. 48, also shows a sphinx in this position.

squatting position altogether, and is clearly shown as standing on its back paws and leaning on its front ones (for illustrated examples, see Pl. XXXIV, 'Roman Series III', Group B). This type closely resembles that of a known victory figure (woman standing right, with wings on her backs) leaning on a shield, commonly depicted on Roman issues during the second half of the 1st century AD. It may be that this type was used as a model for this particular Chian type.¹⁰⁰⁸ Though this stance might seem awkward, especially to someone who is used to the squatting position of the sphinx on the rest of the coinage, this is in fact a natural pose for a lion. In other words we cannot claim that this type has added any human elements to the Chian sphinx, even though it may have been modelled on a human standing figure.

On the final Chian issues struck during antiquity, the sphinx is depicted squatting but with its head turned backwards. The type seems to possess an unknown symbolism. Interestingly, very similar sphinxes appear in decorative engravings in Greek churches from the Byzantine period.¹⁰⁰⁹ However I lack any evidence suggesting that the Byzantine artists could have drawn inspiration from this particular coin type.¹⁰¹⁰

As we saw the only movement on the part of the sphinx which is frequently recorded on coin types is the lifting of one of its front paws; this probably symbolized the sphinx's role as protector of Chios. The type was used in a few issues of the early Classical period and appears during the Hellenistic period for the first time as a mint mark of Chian Alexander type tetradrachms dating to the early 2nd century BC; from then on it is found with greater

¹⁰⁰⁸ The types appear in several issues of the Roman mint, e.g. see BMC, no. 577 and no. 625, *aes* of Vespasian. The same type also appears on hemidrachms of Caesarea in Cappadocea, see *RPC I*, no. 3646. The authors of *RPC I*, p. 46, discuss examples of Eastern provincial mints imitating types of the official Roman coinage.

¹⁰⁰⁹ Such an engraving from Athens is housed in the city's Byzantine Museum and is unpublished. It is dated in the 10th century AD

¹⁰¹⁰ I have been unable to trace any such engraving at Chios, in the local Byzantine Museum or any of the island's largest churches. Loutrari, *Chian Sphinx*, p. 102, also states that no depiction of a sphinx at Chios is known to date from the Byzantine era but is of the opinion that the sphinx would have continued to inspire artists at Chios during the Byzantine period through types of the ancient coinage and works of art with sphinxes that may have survived into this period.

frequency on silver civic type and bronze issues. In several instances a bunch of grapes, an amphora, or the prow of a ship, appears under the uplifted paw which, as we saw, alludes to the protection the sphinx gave to Chian trade, and in particular that of wine. By the early Roman period the sphinx is permanently shown with a front paw lifted over an object.

The sphinx as depicted on issues of different periods shows slight differences in details of its body suggesting that certain of these features were not dogmatically established from the beginning of the coinage. One such case involves the depiction of the sphinx's breasts. From the 3rd century BC until the middle of the 1st century BC the sphinx bears what is clearly a human breast in its front, just under the head. On clear coins dating to this period engraved lines appearing on the sphinx's side do not represent animal breasts but the bones of its chest (issues of ΖΗΝΙΣ clearly show this detail, see coins illustrated in Pl. XVIII, figs. 1-25),.

At some point during the late 1st century BC the sphinx acquired animal breasts, visible beneath its body in the form of short lines or dots. The first such occurrence is on the type of drachms signed by ΠΙΠΑΡΧΟΣ and ΛΕΩΝΙΔΗΣ, where the breasts are represented as three short lines (see illustrations in Pl. XXVIII); all sphinx types from this point onwards show the breasts of an animal. It may have been that the Chians were influenced in this feature from a foreign sphinx type. Once again the emblem of Augustus is likely to have played a role in this change since this particular sphinx bears animal, not human, breasts. Though the Chians never seem to have copied this type in all its details in anyone of their own issues, we have already discussed the possibility that they may have adopted certain of its typological details (e.g. the wing, see above) and this could also apply for the breasts.¹⁰¹¹ On the commemorative

¹⁰¹¹ It is worth noting that some sphinxes in works of art from the later Roman period continue to bear human breasts even though the body is supposed to be that of an animal,. The B. M. possesses two statues of sphinxes in the Egyptian gallery, found at Alexandria and dating from the Antonine period, with human breasts.

drachms of the cistophoric standard and issues of the early Imperial period the breasts are depicted as dots while all later issues replace them by short straight lines.

A similar confusion between animal and human characteristics of the sphinx seems also to have involved its front paws. On the whole, these were treated on the early Chian coin types as animal features lacking the ability to grasp objects in the manner of human hands. The sphinx is usually shown as simply lifting them or placing them on top of objects. Its inability to hold objects is vividly portrayed in the two different types of drachms signed by the moneyer ΔΕΚΜΟΣ (Pl. XXV, figs. 2-3). The die engraver was required to find a way of depicting the sphinx holding a torch but without the use of its front paws as hands. He seems to have solved this problem in two different ways. In the first issue (fig. 2) the sphinx holds the torch and supports it horizontally under one of its arms, while in the second issue (fig. 3) the torch is carried by a small human like hand that projects from the front of the sphinx. These depictions seem odd but clearly demonstrate that the paws of the sphinx were conceived by the die artist to be useless.

However from a later issue dating in the late 1st century AD the sphinx holds a club with one paw and a bunch of grapes in the other, as if the paws are human hands (see Pl., XXXIV, 'Roman Series III, Group B', figs. 1, 4-7, and especially fig. A). In an issue of the mid 2nd century AD, a dichalkon bearing the name of Preimos (see Pl. XL, fig.18), the sphinx is clearly holding the base of a cantharos in the grasp of its palm.

During the Hellenistic and Roman periods secondary features were added to the sphinx type. Some were adopted permanently and others were only used temporarily, on a few issues. A single known issue, signed by the moneyer ΘΕΡΣΗΣ of Series 17 (see Pl. V. figs. 20) shows the sphinx wearing a Corinthian helmet on its head. This is a unique occurrence for the type and is absent even from other obverse dies of the same moneyer and any other Chian

issue.¹⁰¹² It is far from clear what the helmet might have symbolized, probably a link to an aspect of the sphinx cult or -less likely- a victory in a contemporary military event which is unknown to us.¹⁰¹³ A helmet appears also at the feet of a standing figure in another Chian coin type, probably representing Oinopion the mythical founder of the city of Chios (see below), though it is not clear if there may be a link between the appearance of this object in the two different types.

On issues of Series 19 signed by the moneyers ΑΠΟΛΛΩΝΙΔΗΣ and ΞΑΝΘΙΠΠΟΣ, and the ‘reduced denarius’ drachm of ΜΗΤΡΟΔΩΡΟΣ, the sphinx wears a *modius* (a broken jar) on its head. The *modius* was used as a weight measure for grain, but as a headdress it was an attribute of the Egyptian god Serapis. It is therefore possible that the type of the sphinx with the *modius* on its head may combine these features and hold allusions to Egypt as the main supplier of grain to Chios.¹⁰¹⁴ The sphinx depicted on the 11/2-assarion of Group C, Series III, clearly wears the headdress of Isis (Pl. XXXV, figs. 10-11).¹⁰¹⁵ Finally sphinxes are depicted as wearing a crown of sun-rays on issues of Preimos (illustrated in Pl. XLII, figs. 11-12) and Eirenaios (illustrated in XLII, fig. 10). This feature may be linked with an unknown attribute of the Chian sphinx and was not simply a decorative feature.¹⁰¹⁶

¹⁰¹² J. Gronovius, *Thesaurus Graecorum Antiquitatum*, Lugduni, Batavorum, 1699, Pl. V, also shows a sphinx on a Chian coin wearing a corinthian helmet on its head. Though this drawing does not seem to be a realistic copy of a coin type it bears certain typological features which are also present on the issue of ΘΕΡΣΗΣ with the helmeted sphinx. Compare the obverse type of this coin with that of the drawing, illustrated as fig. A in Pl. V, alongside coins of this moneyer. The amphora and sword in front of the sphinx in Gronovius’s drawing are likely to have been confused for the barley head appearing in exactly the same position as these objects on the coin type. I would suggest on this evidence that the drawing may have copied the ΘΕΡΣΗΣ issue and does not suggest the existence of another Chian coin which is today lost.

¹⁰¹³ Boardman, *Emporio*, no. 724, fig. 106, published a Chian jar of the Archaic period bearing a drawing of a sphinx and suggesting that it wears a helmet on its head. It would be interesting if there might be a link with the helmeted sphinx in the coin type discussed above, but Loutrari, *Chian Sphinx*, p. 67, states that the worn condition of this drawing makes it uncertain if the sphinx does in fact wear a helmet.

¹⁰¹⁴ Maurogordato, 1917, pp. 237-8, has a different view considering the *modius* on the sphinx as suggestive of its presumed chthonic character.

¹⁰¹⁵ For a discussion of mint symbols appearing on the Chian coinage and linked with the Isis cult, see p. 615.

¹⁰¹⁶ J. Svoronos, ‘Sur la signification des types monétaires des anciennes’, BCH 18 (1894), pp. 101-128, p. 114, discusses the appearance of a star symbol next to the sphinx on issues of Series 17 and considers this as evidence of a presumed link of the sphinx with astrology. As further evidence on this topic he refers to a vase painting, published by A. Gennarelli, *La Montagna Primitiva e i Monumenti dell’ Italia Antica* (Roma, 1843), Pl. II, and

5. Historical references of the sphinx type: I referred to above to the helmeted sphinx type found on an issue of the early 3rd century BC, which may have historical connotations. However it is only during the 1st century BC that we come across a sphinx type which is plausibly linked to a recorded event in the island's history. The earliest such type appears on a bronze issues of ΜΗΤΡΟΔΩΡΟΣ, struck shortly after c 80 BC, and showing the sphinx seated within a ship (Pl. XXIV, figs. 89-95). On almost all of the coins signed by this moneyer only the front of the ship is visible, leading Maurogordato to suggest (1917, p. 350) that this is a mint symbol of the obverse as with other symbols appearing in this position in earlier issues of Series 19. However on a single coin, in the BN, the rudder of the ship is clearly visible behind the sphinx (fig. 94). The same type is also used on the drachm of ΤΡΥΦΩΝ (Pl. XXV, fig. 21) - a near contemporary issue of that of ΜΗΤΡΟΔΩΡΟΣ- and later drachms of ΑΡΤΕΜΙΔΩΡΟΣ (Pl. XVII, figs. 1-5), ΣΚΥΜΝΟΣ (Pl. XXVII, figs. 12-13) and ΜΕΝΕΚΡΑΤΗΣ (Pl. XXVII, figs. 6-7). On these drachms the rudder of the ship appears in the field above and to the left of the type showing that the sphinx is seated within a ship, even if only the prow is apparent at first glance. The type almost certainly alludes to the end of the banishment of the Chians following the conclusion of the 1st Mithridatic War in 85-84 BC, and the sphinx in the ship symbolizes the people's return home.¹⁰¹⁷

A few more details of the sphinx-ship type are added on drachm and bronze issues signed by the moneyer ΔΕΚΜΟΣ, further strengthening the proposed link of this type with the re-establishment of Chios in 85-84 BC and the return of its inhabitants (drachm: Pl. XXV, figs. 2-3; bronze: Pl. XXVI, figs. 10-12). On these issues the sphinx appears on the front of

showing a sphinx with sun rays coming out of its head. Even though the star beside the sphinx on the Chian issue is likely to be a mint symbol of no direct association with the sphinx, the sun rays on the sphinx appearing in the vase painting may possibly have a link with the sphinx depicted on the Chian issues wearing the crown of sun rays on its head.

¹⁰¹⁷ A similar type appears on an Athenian bronze issue where the owl is standing on a rudder. Kroll, *Athens Agora XXVII*, type 71, p. 52, interprets this as a representation of Athenian autonomy in that the rudder could stand for the government and the owl as the helmsman.

the ship carrying a torch with which it lights another torch planted on dry land opposite the ship. This is A clear reference to the re-lighting of the city's Hestia fire following the homecoming in c 85-84 BC. The fact that the sphinx is depicted as carrying the sacred torch is significant; it shows that by this time the sphinx had become more than just an emblem of Chios but represented the Chian people. Another type which seems to have developed out of the previous one during the Roman period shows the sphinx lifting its front paw over a lit altar, presumably the city's Hestia fire (see the 1 ½ assarion of Roman Series II, Group B; illustrated Pl. XXXIII, figs. 7-9; the altar is represented by a small circle and the fire by three straight lines). It would seem that the sphinx retained its position as the protector of the city's Hestia fire in this type.

A sphinx with the prow of a ship in front became the standard obverse type for the Roman period (see for example, Pl. XXX, fig. 2), but not one of these coins shows the rudder of the ship. It would seem that by this time the die engravers considered that only the prow of the ship was included in the type. Possibly by the Roman Imperial period this type may not have been any longer an allusion to events of c 85-84 BC but a symbolism of the island's past naval supremacy. On a type dating between the middle and late 2nd century AD with possible historical connotations to a contemporary event the sphinx is holding a cantharos over the front of the ship. Nothing is known about Chios during this period and it is impossible to suggest a likely event that may be commemorated with this coin type.

6. Absence of Imperial portraiture from the Chian coinage: The mint of Chios during the Roman Imperial period never used as a coin type the portrait of the Roman Emperor or that of any member of his family.¹⁰¹⁸ This is very rare for a Greek provincial coinage from the reign of Augustus and afterwards, since only the mints of Chios and Athens are known to have struck all of their coinage throughout the Roman period without these types.¹⁰¹⁹

The appearance or not of the emperor's likeness on a provincial coinage was in the past believed to be associated with the political status of the issuing city. It was claimed that free cities may not have been obliged by the Roman authorities to strike coins with imperial portraits,¹⁰²⁰ and both Athens and Chios are known to have been free under the Roman Empire. However this theory is no longer acceptable since we know that free cities struck coinage of this type even though no change occurred in their political status (Johnston, 1985, p. 103).¹⁰²¹ It is therefore odd why of the hundreds of provincial mints issuing under the Roman Empire only those of Athens and Chios systematically excluded imperial portraits from their coin types. Naturally we would expect that this common policy at both mints, vis a vis the Roman authority, could be the result of similar conditions in place at these cities.

¹⁰¹⁸ I have traced a few publications recording Chian issues that supposedly bear the portrait of a Roman emperor: V von Gonzenbach, 'Genius August-Theos Sebastos', *Stockholm Studies in Classical Archaeology*, V, Upsala, 1968, pp. 81-117, p. 81, and G. Siebert, 'Un portrait de Jules Cesar sur une coupe a Medaillon de Delos', *BCH* 1980, pp. 189-196, p. 190. Both record that coins, 'tetradrachms and large bronzes', struck at Chios bear the portrait of Octavian-Augustus. Both authors give as reference, Woodward, 1952, pp. 23-25, who -as we have already seen in p. 380, the chapter on 'Cistophoric weight Chian drachms'- wrongly attributed cistophoric tetradrachms bearing the portrait of Augustus to the mint of Chios.

¹⁰¹⁹ Termessus in Pisidia is another mint thought to have issued no coinage with Imperial portraits; however an issue bearing an imperial portrait is now attributed to this mint, *RPC I*, no. 3514. Many other cities in the eastern part of the Roman Empire issued coinage without imperial portraits (known as *pseudo-autonomous*) but these cities also struck concurrently issues bearing such types or adopted them on their coinage at a later period. For a good general account of the *pseudo-autonomous* coinage, see Johnston, 1985, pp. 89-112; *RPC I*, pp. 41-42

¹⁰²⁰ Head, 1911, p. 389; see also *RPC I*, p. 33 & p. 41. For an opposite view see S. E. Hijmans in 'Dionysus, Helios, and Rhodian Coinage in the First Century BC', *Pharos*, Vol. IV (1996), pp. 43-61, p. 46 & 57, where he makes the original, though odd, claim that Rhodes did not strike any issues during the reign of Augustus bearing that emperor's portrait because it was no longer a 'free city'. Hijmans therefore suggests a direct link between the absence of the imperial portrait from a provincial coinage and a supposed loss of civic freedom, but presents no evidence to support this view.

¹⁰²¹ For the latest discussions see *RPC I*, pp. 41-42 & pp. 15-16, where it is claimed that free cities, e.g. Aphrodisias, did not strike a different type of coinage to that of less privileged cities.

In fact, beside the lack of imperial portraits, the coinages of Roman Chios and Athens bear little else in common. Athens is known to have struck coinage during the Imperial period intermittently and including long intervals of over a century.¹⁰²² The limited issues of Athens were probably paid for by wealthy and cultured locals who opted for types referring to the glorious past of their city's history.¹⁰²³ It is therefore not certain that the Athenian series might have continued lacking imperial portraits had the coinage been struck on a more regular basis. At Chios the coinage was struck throughout the Imperial period, with probably only brief intervals, down to the late 3rd century AD. As a result of this, Chian coinage of this period is represented by a far larger number of series and range of denominations than Athens.

Kroll (*Agora XXVI*, p. 120) attributes the refusal by the Athenians to use the emperor's portrait on their coinage to a '*proud historical consciousness*' and a '*nostalgic conservatism*' and comments that these features were stronger at Athens than anywhere else in the Greek world. These features are also likely to have applied for Chios and played as much a decisive role in the continuation of the traditional coin type -and the lack of the imperial portrait- as at Athens. However in the case of Chios we seem to have a stronger reason behind this policy. This is clearly demonstrated by issues struck by the magistrate Preimos, whose *tria nomina* make clear that not only was he a member of a Roman family resident at Chios, but he also lacked any family ties with locals. Interestingly his issues also lack the emperor's likeness showing that even a Roman magistrate -who would probably have had personal reasons (in contrast to the Chians) to strike a coinage acknowledging the authority of the Roman Emperor- could not bring a change in the coin type by making it more 'Roman'.

¹⁰²² No issues seems to have been struck for over a century between the later reign of Augustus and the reign of Hadrian. Even when Athens resumed striking its coinage, during the latter's reign, it only continued doing so down to the reign of M. Aurelius and was then suspended for another century until the reign of Gallienus. See the discussion of the chronology in Kroll, *Athens Agora XXVI*, pp. 113-118.

¹⁰²³ See Kroll, *Athens Agora XXVI*, p. 114, who considers a possible link between the Hadrianic coinage of Athens and the local dignitary Herodes Atticus.

Finally Kroll has recently suggested (1997, p. 145) that the absence of imperial portraits from Greek provincial coinage might be linked with the existence of a Greek denominational system -as opposed to a 'Romanized' one, where the mint has adopted Roman denominational names. This theory however cannot stand in light of the fact that Chios was one of the earliest mints to adopt denominational values with Roman names (see p. 524).

I believe that the solution to the mystery of why Chian issues of the Roman Empire lack imperial portraits lies with the established position of the sphinx on the obverse of the coinage. I have already suggested above that the authorities might have enforced at one point the depiction of the sphinx on the obverse of every single coin. It would seem that a possible law passed at Chios safeguarding the presence of the sphinx on the coinage (see pp. 560-2) would have ultimately prevented the mint from adopting imperial portraits, since it would have barred the use of any other obverse type -note that portraits always appear on the obverse of the coin, never in the reverse- in the place of the sphinx. Furthermore, the Chians did not even comprise and use the imperial portrait alongside the sphinx type since this would have automatically relegated the sphinx to the reverse.

Johnston suggests that there was no legal impediment for the use of the emperor's portrait on the provincial coinage but the case of the Chian coinage also shows the opposite, that Rome may not have forced her own types on mints of the Greek East, at least those which were nominally free. In the historical background (p. 39), I presented evidence that during the early Imperial period Chios was allowed a large degree of autonomy, to the extent that even Romans living on the island were bound by its laws. The continuous use of the sphinx type during this period may also have been treated within this context, as a sign of Chian autonomy.

The absence of imperial portraits from the obverse of the Chian coinage had further repercussions concerning the identification of the various denominations. During the Imperial period a larger variety of values in bronze was struck than at any earlier time in the history of Greek coinage and new methods had to be found for marking their denominations. The use of Imperial portraits was one way of marking individual denominations on both the official Roman and the Greek provincial coinages.¹⁰²⁴ However the advantage of such a denominational marker was lost for the mint of Chios since it continued to use exclusively the sphinx as the obverse type. This may have led to the introduction of a variety of reverse types (unprecedented for Chios) and the adoption, and permanent use, of inscribed denominational values on the issues as alternatives for differentiating the denominations.

¹⁰²⁴ Johnston, 1981, p. 7, discusses the use of portraits of members of the emperor's family on the coinage of Sardis to denote denominations. This also seems to have been used by other cities, see *RPC I*, p. 371 and Johnston, 1995, p. 62, stating that: '*Types can then be helpful in distinguishing different denominations - the various members of the imperial family may appear in alternating order on the obverses, sometimes supplemented by personifications or heads of deities (e.g. Senate, Demos, Heracles, etc.).*'

7. Reverse type: Amphora

As we saw above in the introduction to this chapter, an amphora appears for the first time on the Chian coinage of the late Archaic period, as a subservient type to the sphinx on the obverse. This positioning of the amphora led Hardwick (1991, p. 14) to suggest that it may have first been used as a moneyer's symbol at the time. More than a century later, during the early the 4th century, the amphora makes its earliest appearance as a reverse type on the coinage, on what is probably the first Chian bronze issue (Hardwick, Series 11).¹⁰²⁵ Eventually the type was dropped from the bronze coinage during the middle of the 4th century BC (Series 13a-b, c 350-332 BC) and replaced by an elaborate vine wreath with the ethnic and the moneyer's name written within a cross. After Chios was conquered by Alexander in 332 BC, the amphora reappeared on the bronze coinage (Series 14), and was used shortly afterwards for the first time as a type on the silver issues (Attic civic type drachms, Series I). It now became established as the reverse type of the local mint appearing thereafter on almost all civic type issues, down to the early Roman Imperial period.

From the 1st century AD new types were introduced on the reverse of the Chian coinage but the amphora continued to be used as a main type. It is depicted on issues of three different denominations (dichalkon, assarion, and some three assaria) struck concurrently within the same series, while -with the single exception of the cantharos in Roman Series I- no other type appears concurrently on more than a single denomination at the same time. The fact that the three denominations bearing the amphora are very much different in size and weight - and are easy to distinguish, though they bear identical types- seems to confirm the idea that the local mint used new reverse types as denominational markers, since it retained the

¹⁰²⁵ Boardman, 1958-9, p. 308, suggests that during the Classical period the Chian mint used bronze coinage to introduce innovations, reserving traditional types for its silver. This, as I discuss below, contrasts with the Hellenistic period where it is shown that changes appear first on the silver coinage and afterwards on the bronze.

amphora on denominations which were struck on quite different modules and obviously would not have been confused for each other.

At Hellenistic Chios the amphora is used as a symbol on headings of official decrees,¹⁰²⁶ weights,¹⁰²⁷ and a clay bull;¹⁰²⁸ it is also found as a mint mark on the earliest series of Chian Alexander type issues.¹⁰²⁹ Its widespread usage in this official capacity suggests that it may have been a civic emblem from early in this period (see also the discussion above with the example of the sphinx). The importance of the amphora as a newly adopted emblem of Hellenistic Chios is also alluded to in the fact that issues of Series 13 lacking this type were completely withdrawn from circulation and restruck with an issue bearing an amphora; probably the Chian government decided that all coinage in circulation would have to bear this type (the adoption of the amphora during this period as a Chian monetary type is discussed in detail in the outline of the coinage, pp. 55-58).

The island's wealth during the Hellenistic period was mainly derived from trading its local wine and the amphora on the coinage would have copied an actual object linked to this important economic activity.¹⁰³⁰ At the same time the amphora as a coin type may also be considered an early form of advertisement for Chian wine since, as I discuss below, the amphora -as with the wine it contained- was of a distinctive type produced exclusively at Chios.¹⁰³¹

¹⁰²⁶ T. Ritti, 'Sigle ed emblemi sui decreti onorari greci', in *Atti della Accademia Nazionale dei Lincei: Memorie*, ser. VIII, vol. xiv, 5, 1969, pp. 259-360, p. 267, no. 4, p. 280, no. 22, a honorary decree for a Chian official at Athens, depicting a Chian amphora in its heading, and dating c 332 BC.

¹⁰²⁷ M. Amandry, 1989, p. 97, no. 18, a weight of Chios from the Hellenistic period depicting an amphora and the ethnic. Another weight of similar date bearing an amphora depiction was published by Kourouniotis, in his report of archaeological findings at Chios, AD, 1922-5, p. 51.

¹⁰²⁸ D. Berger, 'Die Tonsiegel aus dem Karthagischen Tempelarchiv Vorbericht', *Meit. Rom.*, 1993, pp. 245-268, Taf. 63, no. 8. I am grateful to Dr N. Hardwick for informing me of the publication of this clay bull

¹⁰²⁹ Price, 1991, p. 299; for examples see Price no. 2329, Bauslaugh. *Posthumous Chian Alexanders*, Series 8.

¹⁰³⁰ Maurogordato, 1915. also considers the amphora as a symbol of wealth.

¹⁰³¹ Seltman, 1957, p. 132. states that wine producing cities usually used types on their coinage for advertising their wine, e.g. amphorae, grapes, vine leaves or themes relating to Dionysos.

8. Typological development of the Chian amphora during the Hellenistic period:

Amphorae were produced by the ancient Greeks as containers for storing and transporting liquid produces such as wine and oil. Many different types of this jar are known from the archaeological record, bearing features that help experts in determining their approximate period and place of origin.¹⁰³² Since a few cities -Chios among them- exported large quantities of wine or oil during most of the Greco Roman antiquity, it is possible to identify stages in the development of the shape of different amphorae over a long period.¹⁰³³ Chios offers us such an example, and the evidence from the study of archaeological finds and coin types reveal typological changes in its amphorae produced in the period from the early Archaic period down to the late Hellenistic period. Evidence on the development of Chian amphorae for the period between the 1st century BC and the late 3rd century AD is very limited, compared to the earlier period, since no amphora dating to this period was previously identified from the archaeological record with certainty as Chian (see below). Only the study of the coinage of the period bearing amphorae types seems to throw light on the production and typological development of Chian amphorae during the Roman Imperial period.

Past studies have established that amphorae on the Chian coin series dating to the Archaic and Classical periods copied the forms of local amphorae and that developments in the shape of actual jars may also be reflected in details of the coin types.¹⁰³⁴ Accordingly the study of the amphorae proved to be of importance for establishing the chronology of the coinage, and vice versa.¹⁰³⁵ It is worth noting that during the Classical period the Chian

¹⁰³² See, I. K. Whitbread, 1995, p. 38, for cities in the Ancient Greek world that were major amphorae producers, e.g. Thasos, Rhodes, Cos etc.

¹⁰³³ Lasting usually from the time the city began producing and exporting its produce down to the period when it ceased to export.

¹⁰³⁴ See in particular, Whitbread, 1995, p. 41, where it is stated that the depiction of amphorae on Chian coins in general copies with enough accuracy details of the actual amphora to make possible the identification of its form from the coin type.

¹⁰³⁵ H. B. Mattingly, 'Coins and Amphorae-Chios, Samos and Thasos in the Fifth century B. C.', JHS 101 (1981), pp. 78-86, p. 80; Boardman, 1958-9, p. 308; Whitbread, 1995, pp. 36-37. All these refer to amphora

amphora underwent radical changes over brief periods which were also detected on types of the contemporary coinage.¹⁰³⁶ No similar study is known for the Hellenistic and early Roman periods, even though the ceramic evidence shows that the Chian amphora continued to develop,¹⁰³⁷ and almost all coins still bore this type.

Different amphora forms were produced and used over brief periods, usually around a quarter of a century (see below), and show stylistic developments which may be traced on amphorae recovered in successive archaeological levels which are dated.¹⁰³⁸ In particular, the excavations at the Kofina Ridge of Chios and the Athenian Agora have yielded intact Chian amphorae and fragments from contexts of the late Classical and early Hellenistic periods, and established a pattern of change in the form produced between the late 4th and late 3rd centuries BC.

depictions on Chian issues dating exclusively before the end of the Classical period (see also the following footnote).

¹⁰³⁶ For example, the limited use of an amphora form with a distinctive neck (known as the 'bulbous-necked' type) was particularly helpful in linking the actual jar with a Chian coin type. Mattingly, *ibid*, considers that the production of the 'bulbous-necked' amphora type coincided with the depiction of this amphora type on contemporary issues of the 5th century BC. Boardman, *ibid*, discusses the appearance of a conical foot on amphorae depicted on the early Chian bronze coinage (first half of the 4th century BC) and suggests that this detail was copied from contemporary amphorae; this feature was dropped from amphorae after the late 4th century BC (see the discussion below). In both these cases independent evidence confirms that the coinages date to the same period as the amphorae they copied, and that their types were not copied from amphora forms that were no longer produced at the time.

¹⁰³⁷ V. Grace & M. Savvatianou-Petropoulakou, 'Les timbres amphoriques grecs', 'V Chian' in *L'ilot de la Maison des Comedies*, EAD 27 (1970), pp. 359-63, p. 359, '(we can follow)...the development of Chian wine amphorae from the latter 6th to the end of the 5th century BC, and, more sketchily, from the 4th to the 1st century B. C.'

¹⁰³⁸ Grace, 1979, with illustrations of a few Chian amphorae from the early Classical period and down to the 1st century BC. See also Monsieur, 1990, pp. 235-45, where the development of Chian amphorae is discussed down to c 300 BC. Intact published Chian amphorae of the late Classical and early Hellenistic period are in storage in the Athens Agora Museum (Stoa of Attalus), the Archaeological Museums at Chios and Tournais, France, and the Greco-Roman Museum in Alexandria. Grace, 1979, fig. 46 depicts a Chian amphora of the late 4th century (P 25947, from the Athens Agora, deposit F 17:3); Monsieur, 1990, p. 237, illustrated in fig. 1, of this article dates the Chian amphora in the museum at Tournais to the late 4th century BC. Illustrations of two undated Chian amphorae on display in the Archaeological Museum of Chios are included in *Chios: Art and Archaeology*, Chios, 1988, 'Ancient Chios' prepared by Dr. A. Loutrari, p. 16, fig. 14. The one on the right side of the illustration is identical to the amphora of Grace, 1979, fig. 46, and would therefore date to the late 4th century BC. Grace, 1979, fig. 47, includes an illustration of an amphora dating to the early 3rd century BC (P III4) and the second amphora illustrated in *Chios: Art and Archaeology*, fig. 14, is of an identical shape suggesting that it would also belong to the 3rd century BC. For an illustration of a Chian amphora in Alexandria, see J.-Y. Empereur and A. Hesnard, 'Les Amphores Hellenistiques', pp. 1-67, p. 62, in *Ceramiques Hellenistiques et Romaines II*, eds. P. Leveque and J. Morel, Paris, 1987, Fig. 17, inv. no. 11837, with a proposed date in the end of the 4th century BC.

In general the Chian amphora of the early Hellenistic period (early 3rd century BC) bears a thinner neck than earlier forms, part of which clearly projects over the points where the shoulders of the handles are attached to the amphora's neck. Chian amphorae at the end of the Classical period (c 330 BC) only show the thin roll lip surmounted on the amphora's neck above the handles.¹⁰³⁹ Another important change on amphorae of these periods concerns their lower part. The toe button, typical of amphorae dating to the Classical period, is still to be seen on amphorae of the late 4th century BC (for example, Grace, 1979, fig. 46); this feature however disappears completely by the early 3rd century BC and in its place we find a toe cap with a sharp end (Anderson, 1954, pp. 169-70).

We may also note that certain amphorae combine features of the late Classical shape and that of the early 3rd century BC. For example, the illustration of the Chian amphora in Alexandria shows the wide neck of the earlier Chian type, but the button toe is replaced by a sharp pointed toe and the neck extends further upwards from the point of attachment of the handles with the neck (for an illustration of this amphora see J.-Y. Empereur and A. Hesnard, p. 62, no. 11837, fig. 17).¹⁰⁴⁰

Having established the features of the Chian amphora produced during the early Hellenistic period and its main differences to the form current in the late Classical period, it is possible to associate it with representations of amphorae on the local coinage which may be contemporary with this amphora. It seems that the typological development of the actual amphora is also closely followed on the type depicted on the coinage. Coins of Series 14 show a type which is typical of the amphora dating to the late 4th century BC. This type does not show the neck extending over the handles and only a thin line in this place represents the rim

¹⁰³⁹ These changes are also discussed in Anderson, 1954, pp. 169-170; Grace & Savvatanou-Petropoulakou, 1970, p. 361; Grace, 1979, p. 19; J.-Y. Empereur & A. Hesnard, 1987, pp. 21-22.

¹⁰⁴⁰ Identical in shape to the Chian amphora in the Alexandria, Greco Roman Museum is the amphora at Tournais, see Monsieur, 1990, p. 237, fig. 1.

of the neck of the contemporary amphora. The body of the amphora is of a triangular shape and the toe on the coin type has not yet developed into its sharp end which is typical of later amphorae (see below). The button toe is still visible as a dot at the very end of the amphora; see **Pl. XLVII, fig. A**, with the illustration of an amphora dating in the second half of the 4th century BC (Athens Agora, P 25947) and the reverse of a coin belonging to Series 14.

Coins of Series 15 depict a slightly different type showing certain new elements absent from the type of Series 14. The end of the amphora has lost its button toe and acquired a sharp end. Only the rim is still barely visible above the top of the handles suggesting that this type was struck before the amphora with a long neck extending over the handles began to be produced, and therefore unlikely to copy an amphora dating after c 300 BC. These features of the amphora type of Series 15 match those of the Chian amphora in the Alexandria Greco-Roman Museum and the Tournais Archaeological Museum (illustrated in this study as **fig. B**), both dating to the end of the 4th century.

The amphora type, dating in the early 3rd century BC, with the long thin neck extending over the point of attachment of the handles with the neck, and the characteristic toe cap at the end (*Athens Agora PIII4*, is a known example of this amphora), appears to have been first copied on issues of Series 16, and their contemporary Attic drachms of Series I, and then on issues of bronze Series 17; see **fig. C** with an illustration of the amphora found in the Athens Agora (PIII4) and the reverses of a drachm of Attic Series I and bronze Series 17 for comparing the amphorae types.¹⁰⁴¹

The Chian coin series of the early Hellenistic period are dated with some accuracy and it would seem that the most conspicuous change in their respective amphora types occurs in

¹⁰⁴¹ Grace, 1979, is clearly wrong in suggesting that the amphora illustrated in fig. 46 of her booklet (of the early 1st century BC), is the same as the amphora type appearing on a drachm of Attic Series I signed by ΘΕΟΠΟΜΠΟΣ and illustrated on the front cover of her booklet. The amphora on the coin copies the amphora illustrated in fig. 47, not fig. 46, and this may be attributed to a printing error.

different stages, between c 330 and c 280 BC, the period coinciding with the striking of bronze Series 14, 15, 16, and Attic drachms of Series I. As we saw this also happens to be the period when similar changes took place in the shape of the real amphorae. It is worth noting that both chronologies for the coin series and the amphorae were based on different types of evidence for each other, and we seem to have here independent confirmation on the validity of the proposed datings for these classes of artifacts.¹⁰⁴²

The only visible change in the shape of the amphora during the 3rd century BC occurred in its end part, where different toe caps appear to have been used over brief periods.¹⁰⁴³ Some of these types of toe caps were found in dated and successive levels of the Kofinas Ridge excavation which helped to date the different forms with some precision and trace their typological development. This evidence shows that the toe cap of the Chian amphora was becoming longer and narrower during the course of the 3rd century BC, and it is likely that the first half of the century may have witnessed the use of more than one type (Anderson, types, *k*, *l*, *m*).¹⁰⁴⁴ From the middle of the 3rd century BC and afterwards, a particularly long and narrow toe cap became standard on the amphorae (Anderson type *o*). One of the intact amphorae in the Archaeological Museum at Chios bears this type of toe cap and should therefore date during the second half of the 3rd century BC.¹⁰⁴⁵ This proposed date is at least five decades later than that of the last known intact Chian amphora (Agora, PIII4) which I discussed above. A comparison of the two amphorae shows no real difference in the

¹⁰⁴² Grace & Savvatanou-Petropoulakou, 1970, p. 359, f. 1, '*Definitive studies of Chian amphorae and of Chian coins of the period of the representation of the one on the other cannot be made separately, since each series is prime evidence for the other, and calls for reexamination of the basis of dating in the other at many points in its accepted chronology.*'

¹⁰⁴³ For what follows see Anderson, 1954, pp. 169-70, discussing the development of the toe cap on Chian amphorae based on finds made at Kophinas. During this period the end section of the amphora seems to have been moulded separately and then attached to the main body.

¹⁰⁴⁴ Anderson type *k* was probably the most common used during this period.

¹⁰⁴⁵ Illustrated in *Chios: Art and Archaeology*, 1989, p. 3, the amphora in the left side of the photograph. The amphora was retrieved from the sea bed off the coast of Chios (from a ship wreck?) by fishermen and no further details are available.

middle and upper section with the body, neck, and handles; the two amphorae forms are only distinguished by the use of different toe caps. It follows that the depictions of the amphora types on the coinage, which is contemporary with the above amphorae, would be similar, probably only with the exception of the toe cap.

The amphora types appearing on the coinage of the 3rd century BC (which include Series 17-18 and Attic Drachm Series II) show little stylistic differences, a factor which agrees with the suggestion already made, that there was limited change in the shape of the amphora produced during most of this century. Most of these types bear a close similarity to both the amphora of Athens Agora *P1114* and that of the Chios Archaeological Museum. However, on coins where the end of the amphora is visible, this is usually in the form of a long pointed toe cap (Anderson *type o*),¹⁰⁴⁶ identical to the one appearing on the amphora of the Chios Archaeological Museum and typical of amphora shapes produced during the second half of the 3rd century BC. This same feature of the pointed toe is also visible on an amphora type appearing in an official clay bull of Chios found at Carthage and dating in general during the 3rd-2nd centuries BC (Berger, 1993, Taf. 63, no. 8).¹⁰⁴⁷

In very few coins of Series 17 we come across a type of amphora with the neck not extending over the upper point of attachment of the handles, in a style resembling that of amphorae dating before the late 4th century BC. However the rest of the type, its body, neck, and toe, are typical of the amphora dating to the second half of the 3rd century BC. This type appears on a few of the issues belonging to Groups E and G of Series 17 (Pl. IX, fig. 2, 14, 25; Pl. XI, figs. 6, 11) and seems unlikely to be a reproduction of an earlier form of amphora

¹⁰⁴⁶ See for example, Series 17, Pl. IV, figs. 1, 3-4, 6-7, et al. Pl. V, figs. 17, 22-30, 33, (Group A); Pl. VI, figs. 1-2, 4, et al. (Group B); Pl. VII, figs. 1, 3-4, et al., (Group C); Pl. VIII, figs. 1, 10, et al., (Group D); Pl. IX, figs. 6-8, 16 et al. (Group E); Pl. X, figs. 1, 3, 7, 9-11, et al., (Group F); Pl. XI, figs. 1, 3, 4, 8 et al., (Group G); Pl. XI, figs. 15-18, (Group H); Pl. XII, fig. 1-5, 7-8 et al., (Group I).

¹⁰⁴⁷ The amphora is in the centre and a bunch of grapes to the left and right. The toe of the amphora is clearly visible though other details such as the neck and handles are mostly worn. The clay bull is included in Pl. LVI, fig. D of this study.

by one or more die engravers. The quality of these die engravings is poor and may have been produced in haste or by a person lacking the skill in copying the minor details of the type which distinguish the different amphora forms. It may be noted that other die engravers producing dies for issues in the same series, or even for the same moneyers, were competent enough to depict on the coin types realistic copies of the contemporary amphora forms.¹⁰⁴⁸

On issues of the last group of Series 17 (Group I) we possibly have the earliest case of a coin type that is likely to have been copied from an amphora unknown to us from the archaeological record (see the type illustrated on coins of Pl. XII, figs. 1-3, 8, 10-11, 17, 20). This type differs from all earlier ones, including those used on the other issues of Series 17, and is also absent from later issues (see below), suggesting that the jar used as the model for this type would have been briefly produced around the time of issue of Group I (late 3rd century BC). The jar's shape seems to have been smaller compared to the other amphorae and may have contained a smaller quantity of wine. Handles are thin, cylindrical with some curvature at the upper point of attachment with the neck. These handles are clearly of a more elegant style compared to the sharp shoulders of handles on amphora types of other issues from the same series. Another distinctive feature of this amphora is the broad profiled rim which is not visible on earlier types on the coinage. These typological features will be particularly helpful in trying to identify such an amphora if one was ever found intact. In **fig. D I** include an illustration of the reverse of a coin from Group I bearing this type of amphora and a likely reproduction of the real amphora.¹⁰⁴⁹

¹⁰⁴⁸ It is also unlikely that there may have been amphorae produced at the time that continued to bear features from earlier amphorae since experts consider that Greek cities, producing amphorae, usually made only one amphora form at any one time, see Whitbread, 1995, p. 37.

¹⁰⁴⁹ This amphora type seems to have been copied in an amphora depicted on a Chian lead weight under the sphinx, (published by Soutso, 1895, p. 535-6). An illustration of this amphora type on the weight is included in fig. E, alongside other types of this amphora. The lead weight dates in the mid/late 3rd century BC, from the similarity in style of the sphinx with the type appearing on coins of this period, and is further evidence for dating this amphora in the same period.

The coinage dating to the first half of the 2nd century BC generally shows an amphora type resembling the one established during the second half of the 3rd century BC, with the long thin neck projecting over sharp handles and the body ending with a thin long and narrow toe cap. Occasionally small changes in details of the body appear on different issues though it is not clear if these may reflect changes in real jars or slips by the artists producing the dies. This identification of the amphora form is further hindered by the fact that no intact amphora has been published dating between the late 3rd century BC and the early 1st century BC (see below, for the publication of a large fragment of a Chian amphorae dating within this period). I think that this lack of intact Chian amphorae should not be attributed to a decline in the production of amphorae but may be attributed to other reasons, such as the lack of excavations of any Chian sites dating to this period.¹⁰⁵⁰ The fact that the largest number of stamped Chian wine-jar handles date in the period 3rd-1st century BC has made it clear that far from dwindling during this period amphorae of Chios continued to be produced in quantity.¹⁰⁵¹

The coinage of this period (first half of the 2nd century BC) was struck during a limited period and no clear typological development may be discerned from the study of the amphora type over this period. A few changes in the amphora type are visible on the coinage from the middle of the 2nd century BC in the upper section of the neck and in particularly the area between the handles and the neck. Some types show a thin horizontal line surmounting the rim, probably suggesting that it may have become broader and wider (see for example coins of Series 19, Pl. XXIII, figs. 8, 14, 25, 28, 34). However the only published large

¹⁰⁵⁰ The only site on Chios to have been inhabited during the Hellenistic period and fully excavated is the settlement at Pindakas (Kophinas has also yielded finds dating from the Hellenistic period but this site includes on the whole graves). However Pindakas was deserted during the 3rd century BC (Boardman, 1958-9, p. 301)

¹⁰⁵¹ The greatest numbers of stamped Chian handles are recorded from Alexandria, Athens, Delos and Pergamum; most of these come from contexts dating between the early 2nd-early 1st century BC; see Grace & Savvatanou-Petropoulakou, 1970, p. 362 (Delos); V. R. Grace, *Small Objects from the Pnyx: II. Hesperia*, Supplement X, Princeton, 1956, pp. 166-167 (Pnyx, and references to the Chian stamped handles found in the Athens Agora and Alexandria); Burow, 1998, pp. 117-125 (Pergamum)

fragment of a Chian amphora approximately dating from this period seems to lack this type of rim.¹⁰⁵² The handles tend to become closely attached to the neck during the course of the 2nd century BC as a result of which they become shorter compared to earlier types.

The earliest intact Chian amphora to be found in a dated archaeological context after the 3rd century BC is Athens Agora *P19120*, from a deposit of the early 1st century BC associated with the siege of Athens by Sulla in 86 BC.¹⁰⁵³ This find offers clear proof of a development in the Chian amphora form between the middle of the 3rd and the early 1st century BC. What distinguishes its form from earlier ones is the fact that the handles are shorter and closer attached to the body of the amphora. The amphora does not show a separate toe cap, as with amphorae of the previous two centuries, but instead has a solid, short, and sharp end. Another distinctive feature is the upper level of the amphora's body where the neck connects to the body. This section is flat and the neck appears as if springing directly from the body, while on earlier amphorae a slight curvature appears between the neck and the rest of the body.¹⁰⁵⁴ The amphora form just described closely resembles the type depicted on coins of the late Hellenistic period;¹⁰⁵⁵ this even applies for the last feature since the coin type shows a straight line at the point where the neck starts, where as earlier types copied contemporary amphorae and depict a curve in this section.

¹⁰⁵² See Grace & Savvatanou-Petropoulakou, 1970, p. 361, & pl. 60, an illustration of the upper half of a Chian amphora found at Delos and dating to the 2nd-1st century BC (see **XLVII, fig. E** in this study). This amphora sherd is damaged in the rim section but enough is still left to show that the rim line was not broad. For amphorae dating to the 1st century BC and bearing such a type of rim (see below).

¹⁰⁵³ Grace & Savvatanou-Petropoulakou, 1970, p. 361, with details of the discovery of this amphora but no illustration; Idem, *Agora*, 1979, fig. 47, the amphora illustrated on the right side of the photograph. It was found in deposit N20:4 with debris from the siege of 86 BC. The same amphora is also illustrated in *Agora*, fig. 36 together with associated pottery from other cities recovered from the same context.

¹⁰⁵⁴ This particular feature of the Chian amphora was first described by Whitebread, 1995, pp. 136-137; however she ascribed it in general to Chian amphorae dating between the 4th and 1st century BC, where as in fact it is only documented for amphorae down to the 3rd century BC.

¹⁰⁵⁵ This also seems to have been suggested by Grace in *Agora*, 1979, pp. 19-20, where she has an illustration of late Hellenistic Chian drachm with ΔΕΡΚΥΛΟΣ (fig. 51), under the illustration of this latest Chian amphora shape represented from the find in the Athenian Agora. However she failed to mention anywhere in the text that this coin type was copied from the amphora, but it is clear that this is the reason why she has the illustration of the coin together with that of the amphora.

The proposed chronology of the coinage seems to offer evidence on the period and approximate duration of use of this particular amphora. The earliest appearance of the type is on a drachm of the reduced Attic standard signed by ΖΗΝΟΔΩΡΟΣ (Group E) dating c 100 BC (see illustrations in Pl. XVIII). The type is also found on issues of later moneyers belonging to Group F who seem to have struck coinage in the early 80s BC; see **fig. F** with an illustration of the amphora found in the Athens Agora (*P 19120*), dating c 86 BC, and the reverse of a coin of ΔΕΡΚΥΛΟΣ of approximately the same period. It is suggested from the numismatic evidence that this amphora form may not have been produced a long time before the destruction of Chios, during the 1st Mithridatic War, brought a halt -temporarily, as we will see in the following section- to the production of amphorae by Chios.

9. Typological development of the Chian amphora during the Roman period:

The early 1st century BC marks the latest period from when we possess amphorae that are attributed with certainty to Chios. Grace (1970, p. 359) considered that no amphorae of Chian manufacture were identified and published with a secure date after this period. However, as I discuss below in the chapter on economy (pp. 659-662), Chian wine seems to have continued to be exported during the Roman Imperial period, -even if on a limited scale compared to earlier periods- and it is likely that Chios may have continued producing its own distinctive type of amphora for exporting wine. The only evidence we possess on the development of the Chian amphora during the Roman period is the type appearing on the coinage. This was also considered by V. Grace and Savvatanou-Petropoulakou who recorded in 1970 (p. 359), ‘...*in fact the later developments (of the Chian amphorae after the 1st century BC) are not yet established in actual jars, though we should in due time identify them from their representations on the coins of Chios.*’. This task falls within the limits of the present

study and the following section deals with the question of whether or not coin types may be used as reliable evidence in establishing a chronological sequence for Chian amphora forms of the Roman period down to the late 3rd century AD.

Before looking at individual amphora types on the Chian coinage of the Roman period we need to determine if these in fact copy contemporary jars, or if they depict a fossilized shape from a time when Chian trade was at its height (Archaic-Hellenistic period). On the whole the former seems to apply since there is strong evidence that the representations of the amphora types on the coinage struck during the Roman period were realistic copies of contemporary amphorae. Firstly the amphorae appearing as coin types bear certain typological features and show developments that are absent from earlier amphorae. Some of these Chian amphorae also share features with known amphorae forms produced in other regions of the Roman Empire during the Imperial period (these are discussed in detail below). Secondly, on issues of the 1 1/2-assarion denomination a small amphora appears as a symbol beside the sphinx, in a combination of the sphinx and amphora types, quite similar to that found on most silver issues of the Classical period. The form of this small amphora type in the obverse is always identical to that of amphora used as the main reverse type on other contemporary issues of different denominations (3-assaria, assarion, dichalkon). It is clear that the die engraver went to the trouble of recording distinctive details, even on the small scale of this amphora symbol, demonstrating that he was using a real model for his type.¹⁰⁵⁶ These features strongly suggest that the coin types were copied from amphorae that were contemporary with the issues and manufactured locally at Chios.

¹⁰⁵⁶ For example the 1 1/2-assarion issues illustrated, Pl. XXXVII, figs. 22-24, XLII, figs. 11-12, XLIII, figs. 17-18, XLIV, figs. 23-24. The type on this denomination seems to continue the tradition of the coinage of the Classical period where the amphora appearing beside the sphinx copies contemporary amphorae (see above).

Issues of the 1st century BC struck after c 80 BC, and down to the late century, bear an amphora showing no visible difference from the one depicted on issues struck earlier in the century. It would seem from this that the form may not have changed much over the few decades prior to and after c 87 BC. This idea seems to be confirmed from a number of finds of Chian amphorae of this period. The first one originates from the Athens Agora (*P. 9670-F. 92*, illustrated in **Pl. XLVII, fig. H** of the present study) but its place of production was not identified and recorded in its publication.¹⁰⁵⁷ The illustration of this amphora shows it clearly to be Chian, identical in form to that of Athens Agora *P19120*. It was recovered in a context with material dating between c 75 BC and the late 1st century BC and would therefore have been produced after the re-establishment of Chios in c 84 BC, following the end of the 1st Mithridatic War.¹⁰⁵⁸ Many Chian amphorae of this type were reported as found during an archaeological exploration of an ancient shipwreck located close to the isle of Tradeliere off the coast of Southern France.¹⁰⁵⁹ The contents from this shipwreck are dated in the late 1st century BC, or at the latest, the early 1st century AD (P. Fiori & J.-P. Joncheray, 1975, p. 67).

Finally, an amphora recovered from another shipwreck off the coast of Cannes, France, and now part of the collection of the Fort Saint-Jean, Marseilles,¹⁰⁶⁰ also bears a great similarity to this latest type of Chian amphora. Nevertheless it shows a slight typological

¹⁰⁵⁷ H. S. Robinson, *The Athenian Agora, Vol. V, The Pottery of the Roman Period, Chronology*, New Jersey, 1959, p. 20, F 92, illustrated Pl. 3.

¹⁰⁵⁸ Robinson, 1959, p. 10, with the proposed date of the material found in this context. All of the identified amphorae recovered alongside the Chian one were imported in Athens a few years after the city's sack by Sulla in 86 BC. The Chian amphora bears an inscription in black paint on the shoulder (illustrated in Robinson, Pl. 59, F 92; the reading is uncertain, probably a name) suggesting that Chian handle stamps bearing names would have been replaced after the early 1st century BC by graffiti, which rarely survives. This graffiti find is important since the absence of stamped Chian wine jar handles after the early 1st century BC (Grace & Savvatanou-Petropoulakou, 1970), was seen as evidence for a decline in the export of wine by Chios at the time. It is therefore very likely that this can no longer be attributed to a supposed end in the production of amphorae at Chios in this period but to a switch from amphorae stamps to graffiti.

¹⁰⁵⁹ P. Fiori & J.-P. Joncheray, 'L' epave de la Tradeliere', *Cahiers d' Arch. Subaquatique* 4, 1975, pp. 61-69. One of these Chian amphorae was illustrated in this article and is identified as 'Chian' (brackets added by the authors). The illustration was reproduced by J.-Y. Empereur & A. Hesnard, 1987, p. 62, fig. 18. See **XLVII, fig. I** for an illustration of this amphora.

¹⁰⁶⁰ Published in the booklet *Amphores comment les identifier?*, ed. M. Sciallano & P. Sibella (Aix-en-Provence, 1991), no page numbers. The amphora is rightly classified by these authors in the section 'Chian'.

difference to the Chian amphorae of the 1st century BC presented above. The shoulders of the handles are not sharp -as with the other amphorae- but show a slight curve in the upper part at the point of attachment with the neck of the amphora.

This feature is absent from coin types of the reduced Attic drachms -where the shoulders of the amphora are always depicted as straight lines- but appears to have been copied on the type of issues on the 'reduced denarius' standard, in particularly those signed by the moneyer ΜΗΤΡΟΔΩΡΟΣ with a proposed date of c 70 BC; see **fig. F** with an illustration of this amphora and the reverse of a coin of ΜΗΤΡΟΔΩΡΟΣ. The great similarity between the 'Cannes' amphora and the type depicted on issues of ΜΗΤΡΟΔΩΡΟΣ suggests that both belong to the same general period and that probably this type of amphora may have been produced by the Chians at some point after the end of the 1st Mithridatic war. This type of amphora, with the handles curved at the upper point of attachment with the neck, is also depicted on a small Chian lead weight (illustrated in **fig. F**). All evidence points to a date of production for this weight about the mid 1st century BC, adding further evidence for placing this amphora type in this period.¹⁰⁶¹

As we saw this form of amphora continued to be used on the coinage down at least to the middle/late 1st century BC since the latest issues depicting it belong to Series 20. However during the early 1st century AD a new amphora type was adopted on the coinage bearing features not recorded before on a Chian amphora. The body is ovoid, the toe extremely long and narrow and a toe cap appears in its end. The neck is long and thin with sharp, straight, handles and a broad profiled rim. As we have seen in this chapter, some earlier amphora types

¹⁰⁶¹ The weight is a half *mna* and is published by M. Amandry, 1989, pp. 97-8, who generally placed it in the Hellenistic period. However there is good evidence for attempting to date it with greater precision. It weighs 226.18, which gives a drachm of approximately 3.50g on this weight standard. This is identical to the 'reduced denarius', used by Chios between c 80-50 BC and no other period during the Hellenistic period (see pp. 308-24). We may also note the use of the letter form *sigma C* in the ethnic ΧΙΟC appearing beside the amphora on the weight. This letter form seems to have been used at Chios from the 1st century BC and onwards.

represented the rim as a thin line but it was far from clear if this represented a broad rim or simply the lip of the neck's opening. However with this amphora type the line of the rim is clearly marked, showing that this part became broader and more prominent.

This amphora appears on issues of ΠΤΟΛΕΜΑΙΟΣ of Series 24, probably dating to the early 1st century AD (see illustrations Pl. XXIX, figs. 11, 13-16), the 3-assaria and dichalkon of Roman Series I, issues of ΑΣΜΕΝΟΣ (Pl. XXXI, figs. 1-10) and ΤΙ. ΚΛ. ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ, (Pl. XXXI, figs. 17-20) and one of the issues of the 'Antiochus' drachms (Pl. XXVII, fig. 11). The fact that this type only appears on near contemporary coinage (early-mid 1st century AD) suggests that it may represent a realistic copy of a contemporary amphora form. Since this type is absent from later coinage it is possible that this jar may have been exclusively produced by Chios over a brief period in the first half of the 1st century AD. The characteristic typological details appearing in this jar would probably make it easy to identify in any extant intact jars.¹⁰⁶² In **Pl. XLVII, Fig. J**, I include an illustration of a coin signed by the moneyer Ti Kl. Gorgias Dorotheou and showing this amphora type together with a drawing of how this form would have probably looked like.

The series struck during the second half of the 1st century and the 2nd century AD show an amphora type with marked development in individual features. The body resumes the long oval shape of earlier periods showing a short and sharp end without a button or toe cap. The amphora on issues of Series III, Group D, depicts a rather elegant jar with long, cylindrical handles of extreme curvature joined at the neck with sharp shoulders. The neck

¹⁰⁶² P. Fiori & J. -P. Joncheray, 1975, p. 61, record that a large number of Chian type amphora found in the shipwreck off the isle of Tradeliere (see above) display different types of toes. This probably suggests that some of the amphorae may have been of the type discussed here -with the distinctive long thin foot-, which agrees with the date proposed for both the amphora type and the shipwreck (late 1st century BC-early 1st century AD). As we saw, the publication of this excavation only includes a single illustration of a Chian amphora find and this is of the common type produced during the first half of the 1st century BC (one of the earliest amphorae in the ship's cargo?) It is hoped that further Chian amphorae from this shipwreck will be published so that a possible link with the type appearing on this coinage may be firmly established.

extends slightly over the points of attachment with the handles and ends in a narrow and flaring, roll lip. The amphora appearing on coins of Preimos show certain changes from the above amphora in the shape of the handles, the rim and the neck (see **Pl. XLVIII, Fig. K**). The handles are broader and much shorter than with types on the earlier series and the shoulders are curved in the upper points of attachment to the neck. The lips on the jar's opening are replaced by a wide and broad rim which is wider and broader than that on any previous amphora type. Notably the shoulders of the handles are attached to the body immediately under the rim which is unknown for a Chian amphora; all earlier types show part of the neck between the upper point of attachment of the handles and the rim. This feature is typical of Roman amphorae in general, and suggests foreign influences in the shape of the amphora produced at the time by Chios.¹⁰⁶³

The amphora on the 'Eirenaios Series' also shows features that seem to have been copied from a contemporary jar (see **Pl. XLVIII, Fig. L**). The handles are similar to those on the Preimos type, though the rim is less conspicuous, and the shoulders of the handles are attached on the upper point of the amphora on exactly the edges of the rim. The neck is very wide for a Chian amphora while the end of the amphora shows a long cylindrical shaped toe cap similar in appearance to the one found on amphora types of coins dating to the first half of the 1st century AD (see above). However a major difference between these two types is that in the earlier amphora the toe shows a sharp end, while on the Eirenaios issues the end appears to be flat. It would seem that this flattened toe cap was introduced in order that the amphora could stand on its own without support; the depiction of the type on the coins certainly conveys this impression. This innovation makes it clear that we are dealing here with a

¹⁰⁶³ For this feature on Roman amphorae, see Grace, 1979, p. 35; J.-Y. Empereur and A. Hesnard, 1987, p. 67, Pl. 7, 'Dressel I'.

practical jar that would have existed at the time (below I discuss the discovery at Chios of this part from such an amphora).

Issues of Chrysogonos show the oddest shaped amphora for the Roman period, and on this ground I believe the easiest one to identify in an actual jar (see **Fig. M**). The rim is wider than any previous type and the handles are completely straight and lack shoulders; the top points of attachment of the handles are exactly under the edges of the rim. This is the only instance of an amphora type depicted on the Chian coinage lacking shoulders on their upper points of attachment. The toe cap is similar to the one appearing on coins of Eirenaios showing that it had become established on local amphorae during the early/mid 3rd century.

The above discussion of the development of Chian amphora types, as they appear on the local coinage of the Roman Imperial period, dismisses the idea that they might represent a traditional form copied from issues of earlier periods. Clear stylistic changes are also evident in successive types, reflecting developments occurring on real jars, contemporary with the coinage. The basic features of a few main types as they appear on coins, may be of assistance to the expert in identifying actual Chian amphorae of the period, already in storage in museums, or possibly found in future. We saw instances where coin types suggest that the Chian amphorae may have adopted certain elements from other contemporary amphora shapes, basically 'Roman' types, which may lead to confusion between local (Chian) and foreign jars.¹⁰⁶⁴ Fortunately we have petrological analyses of Chian amphorae from the Archaic to the Hellenistic period (Whitbread, 1995) and these would be useful in distinguishing local amphorae of the Roman period, from foreign ones, since they would have been made from the same type of clay as earlier amphorae.

¹⁰⁶⁴ On the imitation of e.g. Koan amphora in foreign regions see Sherwin, 1979, p. 237. Amphorae of Knidos and Rhodes are also known to have been copied by other cities during the late Hellenistic and early Roman periods, Grace, 1979.

In recent years a few intact amphorae and a large numbers of fragments have been found at Chios in contexts dating to the early and middle Roman Imperial period. This material would provide a good basis for applying the evidence of coin types in identifying amphorae manufactured on the island. Few of these finds have been published to-date, amounting to less than ten fragments,¹⁰⁶⁵ but their study has so far produced the first clear link between an amphora and a type appearing on the coinage of Roman Chios. The fragment of an amphora toe recovered off the coast of Chios (Boardman, 1961, illustrated, p. 109, fig. 8, no. 16) is identical to that appearing on the amphora types on issues of Eirenaios and Chrysogonos. The context of this find is undated, but this type of toe also appears on an amphora recovered in the Athenian Agora (P. 3104, K 109) in an archaeological level dated to the middle of the 3rd century AD (see the illustration in the present study as **Fig. L**).¹⁰⁶⁶ The Athens find suggests that this feature was used on amphorae during the first half of the 3rd century AD, the period which saw issues of both Eirenaios and Chrysogonos. A fragment of the upper half of a 'Roman' amphora recovered in the same underwater survey at Chios bears a general resemblance to the type appearing on the Eirenaios Series.¹⁰⁶⁷ Unfortunately this fragment cannot be dated with greater precision than 'Roman Imperial'.

During the Hellenistic and Roman periods Chios also exported wine in a container smaller than the amphora and with one handle and a wider rim, known as a *lagynos*. Since this jar was never used as a coin type a study of its typological development is not of particular use

¹⁰⁶⁵ Tsarabopoulos, 1986, Appendix II, pp. 139-141, pp. 140-141, published two fragments from amphorae ends and a neck found next to a late Roman pottery kiln in the city of Chios. All the other amphorae fragments were recovered from the sea bed of the Chian coast and published by Boardman, 1961, pp. 102-113. A large number of Roman amphorae found at Emporio, most of which are intact and published in *Emporio*, pp. 106-108, date after the 5th century AD and fall outside the chronological scope of this study.

¹⁰⁶⁶ The amphora from Athens is published in Athens Agora V, Pl. 15, no. K109; Boardman, 1961, p. 109, refers to this find in Athens but gives a wrong reference.

¹⁰⁶⁷ Boardman, 1961, p. 110, fig. 9, no. 22, referred to simply as 'Roman'.

to this study.¹⁰⁶⁸ However finds of Chian lagynoi outside Chios are important evidence on the local economy and I have included them alongside amphorae finds in the relevant discussion in the chapter on the economy.

10. Reverse: cantharos: Another jar represented as a type on the Chian coinage and directly linked to wine is the *cantharos*. Since this jar was only used in the consumption of wine we may consider the type as a celebration of this activity. Its earliest appearances as a main type is on issues of the trichalkon and the obol of Roman Series I, and shortly afterwards on the final chalkous issue of Chios, signed by the moneyer ΑΣΜΕΝΟΣ. The type quickly became associated with the obol and hemiassarion denominations since it appears on the obol of Roman Series II (on both Groups A and B) and all issues of the hemiassarion belonging to Series III and Preimos. The cantharos is replaced by the figure of Oinopion on all obols of Series III and the 2-assaria bearing the name Preimos. However the type later returned on the Chian coinage and was used in its traditional place as a denominational marker of the 2-assaria (formerly the obol denomination). It is found on the ‘anonymous’ 2-assaria issues of the Preimos and Eirenaios Series lacking the name of the moneyer. The type appears on issues of the same denomination from the Chrysogonos Series on types signed either by the moneyer or only with the ethnic, though the latter have recorded the majority of issues showing this type.

The use of different types of this jar on successive issues reflects a development which is likely to represent changes in the form of real cantharoi produced at Chios between the early 1st century AD and late 3rd century AD. This typological development for the cantharos appears to have been slower than that of the amphora type used on the contemporary coinage,

¹⁰⁶⁸ It was never used either as a mint symbol or a main type on the coinage which is odd considering that the mint seems to have exhausted all other themes linked to wine.

but may be followed on issues struck a long time apart. As with the amphora, coin types could be used in identifying and dating different cantharoi forms at Chios in the Roman period.¹⁰⁶⁹

The earliest depiction of the cantharos on the Chian coinage is found on different issues dating during the early/middle 1st century AD signed by the moneyers ΣΤΕΦΑΝΗΦΟΡΟΣ (Pl. XXX, figs. 8-11) and ΑΣΜΕΝΟΣ (Pl. XXXI, 'chalkoi', figs. 8-11). Though dies for these issues were probably produced by different artists it is clear that the same cantharos form was used as a type. This type also appears on issues of the obol for Series II, Group A, (Pl. XXXII, figs. 2-7) dating a few decades later than the above mentioned issues. However a few coins from this issue show a cantharos with a different type of foot of a conical shape with a flat base (see figs 2-4), possibly reflecting the use of different toe forms on contemporary cantharoi.

On issues of Series II, Group B, (Pl. XXXIII, figs. 3-6) we come across a cantharos of a new shape with a wider body compared to that of earlier types. The foot is now short and thinner than the rest of the body, while the lower part of the body has become bigger and acquired an oval shape. The handles of this cantharos are shorter than those on the earlier type and are slightly curved at the points of attachment with the body; the earlier type only show the upper end of the handle curved while the lower one is directly attached to the body of the cantharos. This type appears on the hemiassarion of Series III, Group B, C D, and Preimos, and the anonymous 2-assaria of this series. The only visible development for the cantharos appearing on these successive issues is the neck which becomes thinner on successive issues and acquires a wider opening. In all likelihood this type is probably copied from a jar produced

¹⁰⁶⁹ Since this jar does not seem to have been exported, its use would have been restricted to Chios, suggesting that it might only be represented by finds on the island. This is in contrast to Chian amphorae and lagynoi where the majority of finds are recorded from outside the island. Though no intact cantharos or even fragments dating to the Roman period have been published as originating from Chios it is likely that the local museum may possess ceramic finds of this jar, which are unpublished, and representations on the coinage might be useful in identifying and dating them

during the first half of the 2nd century AD. On the cantharos used on issues of Preimos deep engraved lines appear on its body and neck similar to those on the amphora on issues of the same series (Pl. XLII, figs. 15-16, 26-27, 33-34)

Compared to the cantharos depicted on issues of Preimos, that on issues of Eirenaios (Pl. XLIV, figs. 20-22) has a thinner neck and also lacks the engraved lines on its body and neck; the foot is short and of a conical shape. The cantharos on issues of Chrysogonos (Pl. XLVI, figs. 19, 23, 28, 30) shows a radical departure from that of earlier types. Its shape closely resembles that of a bottle, rather than that of a cantharos, showing a thin long neck and a large circular body. The handles are wider than on any other previous type and far apart from the body of the jar. It is likely that by the time of the issue of Chrysogonos, Chios was no longer producing cantharoi and had replaced them with 'bottle shape' vessels.

11. Thyrsos: The type appears as a main type on two out of three issues that lack the amphora during the Hellenistic period. It is frequently shown with the sphinx standing on top of it though it is rarely used as a mint symbol. The two crossed thyrsos became the standard type used on all 1 ½ assaria issues and thus became a mark of value for this denomination.

12. Bunch of grapes: Since the Classical period the bunch of grapes was a popular choice at Chios as a mint symbol and is frequently found in association with either the sphinx or the amphora. As with the other types, the bunch of grapes is a reference to the island's wine, but in this case we have a celebration of the fruit from which wine is made. During certain periods the symbol appears regularly in the obverse of successive issues suggesting that it may have been incorporated in the sphinx type.

The bunch of grapes as a mint symbol usually appears with a small branch attached to its top. The only exception to this type is the mint symbol and countermark appearing on different near contemporary issues of Roman Series I and where the bunch of grapes lacks the branch and in its place we find a small vine shoot (see p. 398).

A large bunch of grapes occurs as a main type on only two issues, which are separated by more than three centuries. The first one already discussed is a single coin in SNG Copenhagen belonging to Series 18 and signed by ΗΡΟΚΡΑΤΗΣ (Illustrated in Pl.XIII, fig. 2, 'Series 17 III). It is interesting that the same moneyer also struck issues of the same denomination (chalkous) but with the standard amphora type. It is likely therefore that the bunch of grapes type was not introduced as a distinctive marker between different denominations, and its use on a single issue probably suggests that the issue may have been commemorative. The other occurrence of the bunch of grapes as a main type dates during the Roman period on a tetrachalcon associated to the series bearing the name of Preimos. Here the type was clearly chosen as a typological marker for a new denomination.

13. Reverse: anthropomorphic types: From the late 1st -early 2nd century AD two different types of standing figures start appearing on the reverse of the large denominations of Chios. The first type depicts a single male figure depicted semi naked, leaning on a draped staff and wearing a vine wreath on his head; a helmet lies beside his right foot. It appears on the obols of Roman Series III, Group C, D, and on most of the later 2-assaria signed by Preimos, Eirenaios and Chrysogonos.¹⁰⁷⁰ The second type consists of two draped figures pouring libation over a small altar located in the gap between them. This type appears on the 3-assaria of Roman Series III, Group B, C, D, and a few issues of this denomination signed by Preimos,

¹⁰⁷⁰ As we saw above, some issues of the 2-assaria, lacking the name of a magistrate, bear a depiction of a cantharos on their reverse type.

Eirenaios, and Chrysogonos. These depictions of standing figures, together with the seated Homer (also discussed below), represent the only anthropomorphic types on the Chian coinage, and as we will see were probably copied from statuary representations.

The sole figure is depicted in the mode of a hero, or demigod, lacking attributes that could identify him with any known deity. This has led scholars to identify him with a local mythological hero named ΟΙΝΟΠΙΩΝ, a son of Dionysos who founded and ruled over the city of Chios and taught the locals how to cultivate vines and produce wine.¹⁰⁷¹ During the Roman period we have evidence that a cult existed at Chios in honour of this hero. Pausanias noted (late 2nd century AD) that a magnificent building in the city of Chios was held to be the grave of Oinopion and its walls were inscribed with deeds attributed to this hero.¹⁰⁷² Below I also refer to inscriptions from the Roman period bearing the name Oinopion.

The figure of Oinopion would therefore have been a suitable reverse type for the Chian coinage, bearing a direct link to both Dionysos and wine,¹⁰⁷³ but at the same time also commemorating the mythical foundation of the city. The fact that this important figure in Chian myth was probably adopted as a coin type at such a late period -by the time that Chios is likely to have adopted this type on its coinage (the early 2nd century AD) it had been striking coinage for almost seven centuries, and mythological founders of cities were already being used as coin types by Greek mints during the Classical period (Kraay, 1976, p. 4)- may be the result of the conservatism of the Chians in their choice of coin types.

¹⁰⁷¹ Athenaios, *Deipnosophists*, I, 26, who quoted Theopompos, the Chian historian of the Classical period. A good account of the Oinopion myth and its relation to Chios is given by A. Loutrari in her article, 'Oinopion-Sklerion-Anhlios Basilias, A Chian king disappears in the earth, An ancient Chian myth survives through the centuries' *Φιλολογική Χίος*, Vol. 4, pp. 15-36, Chapter 1, pp. 16-25, (Chios, 1995), who quotes all ancient literary references to this Chian hero.

¹⁰⁷² Pausanias, VII. 5, 13; Loutrari, 1995, p. 21, states that this is the only monument of Chios Pausanias recorded in his travels showing that it was important enough to have made an impression to foreign visitors to Chios.

¹⁰⁷³ Not only were the Chians taught by Oinopion the art of producing wine but even his name refers to wine since it translates as 'the one who drinks wine' (Oinos: wine, pinw: to drink), on the etymology of the name see Loutrari, 1997, p. 316, f. 148

The likely depiction of Oinopion on the coinage adds little to the slight literary evidence that has survived about this figure. Coin types depict a helmet at the feet of this figure which may be a reference to an aspect of the myth not available to us. I would guess that this probably alludes to Oinopion's role as a war lord, and as such to his violent usurpation of power at Chios.¹⁰⁷⁴ The figure appearing on successive series displays the same features showing that it was drawn from a single source, most probably a cult statue of the hero erected above his grave.¹⁰⁷⁵

The Chians are known to have honoured Oinopion during the Imperial Roman period from a number of inscriptions dating to this period and bearing his name.¹⁰⁷⁶ An inscription commemorating individuals who served in the office of *stefaneforos archon* during the 2nd century AD, also includes the name of Oinopion with the indication that he held this office in three different terms (Forrest, 1966, pp. 197-8). It is clear from the context of the inscription that this particular case was a nominal appointment of the mythical hero of Chios, probably at a time when there was no candidate for the office.¹⁰⁷⁷ In my opinion this appointment of the hero as the eponymous archon of the city may have been considered a suitable occasion by the mint to start using Oinopion's figure as a coin type. As we saw in the outline of the coinage the name of this magistrate during the Roman period occasionally appears on the coinage, ostensibly for dating purposes. A similar case may have occurred with the depiction of

¹⁰⁷⁴ According to mythology, Oinopion originally came from Crete and was not a Chian by birth suggesting that he may have ruled the island through conquest; on the foreign origins of Oinopion see Diodoros, V, 84: Loutrari, 1995, p. 16, n. 4b.

¹⁰⁷⁵ Cult statues were increasingly used as coin types on civic issues from the Hellenistic period onwards, see Morkholm, 1991, p. 25-27.

¹⁰⁷⁶ One of these, according to Forrest, 1963, pp. 57-8, no. 8, line 4, 'might be or might include a prayer for the people of Chios regarded as descendants of Oinopion'.

¹⁰⁷⁷ I would like to acknowledge my supervisor Mr J. Casey for suggesting that the name may represent the hero himself rather than an individual named after the hero. This phenomenon of electing local deities to magistracies appears to have been common during the Roman period in the Greek East; for example during the 1st century AD the incumbents of the priests of Apollo at Halasarna on the island of Cos included six times the name of the god Apollo himself and four times that of the local demos, see Sherwin-White, *Cos*, p. 254.

Oinopion's figure on the coinage since it seems to have been established as a permanent type following his first appointment to the office of eponymous magistrate.

On an unique issue of the 2-assaria signed by the magistrate Chrysogonos the standing figure is clearly identified as that of Herakles, holding club in his right hand and lion skin in his left, even though all other issues of this denomination -with standing figure- show the standard type of Oinopion. Herakles was the main civic emblem of Erythrae, as the sphinx was for Chios, and its exceptional use as a coin type at Chios seems to indicate a 'commemorative' nature.¹⁰⁷⁸ The mint at Chios only employed this type on its coinage commemorating the so called 'alliance' between Chios and Erythrae during the mid 3rd century AD,¹⁰⁷⁹ suggesting that the adoption of the Herakles type for the 2-assarion may also be reference to this event.¹⁰⁸⁰

The two standing figures are identified on the right as Apollo, crowned with sun rays, and Dionysos on the left holding a thyrsos and wearing on his head a vine-wreath. The cult of Apollo had long been established on Chios -his temple at Phana was the largest sanctuary of the island- and the appearance of his figure as a coin type in conjunction with Dionysos seems to be a departure from the tradition of only including themes on the coinage relating exclusively to Dionysos. A Chian inscription dating to the late 1st or early 2nd century AD records the building of a temple dedicated to both Dionysos and Apollo and includes in lines

¹⁰⁷⁸ Herakles is known to have been revered at Chios with a temple in the region of Nagos outside the city (Yalouris, 1986). However it seems that he may not have been one of the favourite deities since the Chians would have remembered that the establishment of the cult of Herakles at Erythrae was linked with a humiliating defeat by Erythrae, their archenemy at the time. This would probably allude to a period from early times, when Chios was subject to Erythrae. According to Pausanias, VII, 5 & Athenaios, IX 387, a cult statue of Herakles miraculously appeared in the narrow sea strait dividing Chios and Erythrae causing the two cities to come to blows over its possession. Eventually the inhabitants of Erythrae grabbed this statue and installed it in their own temple of Herakles in their city.

¹⁰⁷⁹ As I discuss in the chapter dealing with the series signed by Chrysogonos, see p. 464, this 'alliance' caused a number of 'commemorative' issues to be struck at mints of both cities and the figure of Herakles appearing in these types represents Erythrae while Chios is represented by a sphinx

¹⁰⁸⁰ At Chios both the names of Oinopion and Herakles appear together in the same inscription as they do as types on the 2-assaria of Chrysogonos; see Forrest, 1963, p. 57-8, no. 8.

3-4 a reference to the foundation of a festival in honour of these gods.¹⁰⁸¹ The new temple seems to have been located within the city of Chios, where the inscription was found, and the festival would have been held locally.

A comparison of the type appearing on successive series makes it clear that the two figures have been copied from a single statuary representation, probably a cult statue that was dedicated in the new sanctuary honouring these gods. It is likely that the issues of 3-assaria, bearing depictions of Apollo and Dionysos were struck within the context of the festival in their honour, offering the opportunity for the city to make a profit out of the foreigners visiting Chios at the time.¹⁰⁸² The fact that many of these coins are pierced suggests that they may have been kept as souvenirs from this obscure festival.¹⁰⁸³ Unfortunately there is no further evidence on the theory linking the coinage with this festival, beside these types, which, however, are devoid of any legends referring to such an event.

The Chian mint also used a type of a seated figure of Homer on certain issues known as *Homereion*. These do not seem to have formed part of the regular coinage since they lack an inscribed denominational value. Four different emissions are known, each belonging to a different series and discussed in the relevant series of the Roman period. As with the above case of Apollo and Dionysos we have some limited evidence for a festival held in honour of Homer at Chios every five years (Esdaile, 1912, p. 309). This seems to have been famed throughout the Greek world since we draw information about it from an inscription, not of

¹⁰⁸¹ For the inscription see Kourouniotis, 1916, p. 213, with proposed date. The inscription records that a Chian, ΙΟΛΑΣ son of ΙΟΛΑΣ paid for this new temple, see Sarikakis, *Chian Prosopography*, p. 244, for this individual and other benefactions linked to his name at Chios

¹⁰⁸² No literary references are known for these festivities, outside the inscription discussed above. In the inscription recording the construction of the temple of Dionysos and Apollo, the latter is recorded as *xenios* (of the foreigner), a possible reference to the presence of foreigners at Chios during the festival honouring these gods. For a festival in honour Dionysos at Chios see Aineas, *Taktika*, 17, and the inscription recording Chian recognition of the Aetolian games of Sotereia, (P. Amandry, 1986, p. 200).

¹⁰⁸³ That these coins were deliberately pierced as souvenirs is suggested by the fact that the 3-assaria coins of the same issue illustrated in Pl. fig 2 & Pl. fig. 8 appear to have been pierced in the same manner and probably at the same time.

Chios but Argos in the Peloponnese (Esdaile, 1912, *ibid*). It records that a local delegation participated in the Homeric festival of Chios and contributed in a 'sacrifice'. It is likely that this festival may have initiated the issue of the *Homereion* issues, something also suggested by the fact that this coinage lacked a denominational value and would not have formed part of the regular coinage of Chios. However the small number of different series that survive rule out the possibility that this coinage would have been struck on every such occasion. It is likely that old dies were retained and used whenever the need appeared for this type of coinage.

14. Discussion of iconography: The discussion in this chapter has made clear that the typology of the Chian coinage was one of the most traditional and least innovative in the Greek world. Maurogordato (1915, p. 2) with good reason comments on its dullness and lack of artistic interest. Anyone would arrive to the same conclusion simply by viewing illustrations of the coins in the plates included in the present study. Coin after coin, irrespective of denomination or its metal, almost the entire production of the Chian mint for the Hellenistic and early Roman period, repeats the same motif of sphinx/amphora; exceptions are so rare during this period -less than 10 out of more than 2000 recorded coins- to be almost non-existent.

Even during the Imperial Roman period when we start finding different reverse types - the cantharos, thyrsos, standing or seated figures- these quickly become standardized and reappear almost unchanged on successive issues. Though this study has established that the amphora and cantharos depicted on the coinage do undergo typological changes, probably copying developments on the real jars that are contemporary with the coinage, this is generally a slow process involving only a few minor details. Such changes on types of jars are usually

detected on issues struck some time apart and are hardly visible on issues that are close in date.

To what can we attribute such a conservatism on the part of the Chian mint?

It is known that ancient Greek issues that gained popularity in international trade usually retained the same types over a long period of time.¹⁰⁸⁴ Chian silver coinage of the Classical period is known to have been used to a large extent in foreign transactions which would probably account for it showing little change in its types (Maurogordato, 1914, p. 56). However civic type silver and bronze issues of Chios dating to the Hellenistic and early Roman periods were primarily struck only for local circulation (see below the discussion in the economy). It is clear that the choice of types for these issues was not dictated by external conditions but reflected an internal policy of the Chian mint.

The sphinx probably refers to the earliest Chian ventures overseas when the island established economic ties with Egypt during the early Archaic period, while the amphora alludes to its wine trade. The former may be seen as a traditional type, a reference to the island's past, while the latter is linked to its present, since Chios traded wine throughout the Greco-Roman antiquity and die engravers usually copied details of contemporary amphorae forms on the coin types.

The fact that the Chians deliberately restricted their types to the sphinx and wine (see the discussion above of the individual reverse types that are linked to different stages in the production, trading and consumption of wine) is not only disappointing for the student of this particular coinage but also denies to the historian an important source on Chian history and culture. Very little historical information may be derived from the study of coin types since important events recorded in literary sources, for example the island's participation in wars of

¹⁰⁸⁴ See for example the coinage of Athens, J. Theodorou, 'Athenian Silver Coins: 6th-3rd centuries BC: the current interpretation', in *Mneme M. Price*, pp. 51-96.

the Hellenistic and early Roman periods, do not seem to have elicited any reference on the coinage. As we saw only a single type bears a direct link to a recorded event which is the return of the Chian population from the banishment of 87 BC.

Chios played a major role in cultural and artistic developments in the Greek world from the Archaic period onwards,¹⁰⁸⁵ but its coin types fail to reflect this contribution. Even issues of the *Homereion*, depicting the poet Homer and struck during the Roman period, never became part of the regular coinage but may have covered a need for money within the context of a local festival honouring him. Chios was widely believed in ancient times to have been the likely birth place of Homer¹⁰⁸⁶ and it seems odd that the local mint delayed so long in employing a type referring to him. In fact types with Homer had already appeared centuries before on issues of other cities, also claiming him as their own son, without Chios considering him a worthy subject for a coin type at the time.¹⁰⁸⁷

Religion represented the basic pool from which mints of ancient Greece drew themes for their coin types.¹⁰⁸⁸ Once more Chios is an exception to this since not a single known type prior to the 2nd century AD refers to any of the deities worshipped on the island, even though the island is recorded in ancient sources as possessing several famous temples and sanctuaries.¹⁰⁸⁹ Even from the 2nd century AD onwards such types are restricted to standard representations of Oinopion and Apollo with Dionysos; these almost certainly copy the same statuary representations. Some restricted information on cults is only derived from mint

¹⁰⁸⁵ See Loutrari, *Chian Sphinx*, p. 25, recording the most important artists, scholars, philosophers, scientists and politicians of Chios who made a contribution to Greek culture

¹⁰⁸⁶ On Homer's birth at Chios, see the ancient literary references collected by A. Koraes, 1830, pp. 240-3, and Esdaile, 1912, p. 307.

¹⁰⁸⁷ Of the other cities claiming to be the birthplace of Homer, Smyrna was striking issues bearing a seated figure of Homer since at least c 190 BC; see Milne, 1927, p. 4. Colophon started issuing its coinage with Homer from the 2nd century BC; see Kinns, 1980, p. 334, AE 24. For a discussion of issues made by various cities see K. A. Esdaile, 'Homeric Coin Types', JHS, Vol. XXXII (1912), though almost all of the dates ascribed to the various issues have since been revised.

¹⁰⁸⁸ Hill, *Handbook of Greek and Roman Coins*, London, 1899, pp. 166-169; Kraay, 1976, pp. 3-4.

¹⁰⁸⁹ On temples and sanctuaries at Chios see Lacroix, 1982, p. 76. A detailed study of ancient Chian religion is promised by Dr Loutrari.

symbols. However these types are more likely to be the symbols of individual moneyers and therefore 'private' rather than 'public' types.

15. Mint symbols: Nearly all issues struck by Chios during the Hellenistic period, and a few of the Roman period, bear symbols as mint marks that are usually found beside the main type. It seems that these were either used for identifying the moneyers who signed the specific issues or as symbols belonging to secondary officials who oversaw the striking of the issues.¹⁰⁹⁰ Maurogordato has demonstrated that these symbols were not used at Chios as 'canting devices' of the moneyers signing the issues.¹⁰⁹¹

Further evidence suggesting that most mint symbols might have not belonged to moneyers but were used by others (for example mint officials) is the fact that we find on several occasions moneyers signing different issues with different mintmarks. In these cases it seems likely that the symbols were added by individuals other than moneyers signing the issues. The same also applies for mint symbols appearing on more than one contemporary issue that were signed by different moneyers and were probably personal symbols of the same official in overall charge of these issue. However, in cases where only a single issue from a group bears a particular symbol, we cannot exclude the possibility that this symbol could have belonged to the moneyer.

Mint symbols frequently appear on Chian silver issues of the early Classical period (Hardwick, 1993, pp. 211-18) though they disappear from silver and bronze issues of the 4th century BC. Only during the 3rd century BC was this feature adopted permanently on the

¹⁰⁹⁰ Barron, 1966, p. 151, suggests that mintmarks were applied as a means of fixing responsibility for the coinage; contra A. R. Bellinger, 'The First Civic Tetradrachms of Ilium', ANSMN 7 (1958), pp. 11-24, pp. 15-18, who suggests that the moneyers were not held legally personally responsible for any malpractices to the coinage.

¹⁰⁹¹ See, 1916, p. 335, where he states that the moneyer ΣΤΑΦΥΛΟΣ does not have the common bunch of grapes symbol on his coinage -which appears on issues of other contemporary moneyers- even though his name is translated as 'a bunch of grapes'.

coinage, appearing on almost all of the issues. The use of mint symbols at Chios has helped to establish that during the Hellenistic period the bronze coinage copied features from the silver coinage and not vice versa. As we saw in the outline of the coinage, the earliest mint symbols appear on the silver and were later adopted on the bronze coinage. This is in contrast to the Classical period when types of the silver coinage were first introduced on the bronze and then copied on the silver issues.

The most common symbols during the Hellenistic period are the bunch of grapes, the prow of a ship, a single eight-rayed star or a pair of stars. In a few cases the mint symbols appearing on the obverse became fossilized and closely associated with the sphinx over a long period, losing their significance in relation to individual moneyers or mint officials. Symbols appearing beside the sphinx on issues of the Roman period seem to have played a role of denomination markers.

The use of mint symbols on the coinage of Chios breaks the dull uniformity of the main types and introduces new features to the coinage. They also offer us a slight insight into religious, political and cultural developments at Chios which are almost always ignored in the main types. The majority of mint symbols are influenced by trade, which is expected since this formed the basis of Chian wealth and power. In this category we find the bunch of grapes, prow of a ship, ear of grain, and the cornucopia. Other symbols refer to deities that are known to have been worshipped at Chios; the club of Herakles, the caduceus of Hermes, and the staff with coiled serpents of Aesclepius. Hermes was the main deity linked with trade and the use of his symbol on the Chian coinage may be seen of economic as well as religious significance. We saw that Herakles was revered at Chios with a temple, and festival and games in his honour, and the club used as a mint symbol further alludes to his cult at Chios. The cult of Aesclepius was established at Chios with its own temple (Vanseveren, 1937) and an

unpublished and fragmentary inscription in the local Archaeological Museum possibly refers to the foundation of a festival honouring this deity.

Hermes together with Herakles were also revered as protectors of the gymnasium at Chios, and as such the pair is commemorated in local inscriptions.¹⁰⁹² It is therefore likely that their mint symbols may possibly be associated with the *gymnasiarch*, the magistrate who was responsible for the gymnasium. An issue signed by the moneyers ΑΠΟΛΛΩΝΙΟΣ and ΙΕΡΟΝΥΜΟΣ depicting the sphinx seated between a standing club on the right and a caduceus on the left could allude to a moneyer or mint official who may also have held the office of *gymnasiarch* at the time.¹⁰⁹³

The wreath appearing occasionally as a mint symbol on Chian issues is likely to refer to the moneyer signing the particular issue as holder of the title of eponymous archon, the highest magistracy in a Greek city from the early Hellenistic period onwards (see below). The bearer of this title was known at Chios as *stephaneforos* which is translated as the ‘one crowned with a wreath’. The wreath appears as a reverse mintmark on drachms of ΔΕΚΜΟΣ (Pl. XXV, figs. 2-3) and ΜΕΝΕΚΡΑΤΗΣ (Pl. XXVII, fig. 6-7); a wreath is also visible in front of the sphinx on the obverse type of one of the drachms bearing the name of Antiochus IV of Commagene (Pl. XXVII, fig. 9-13) and in the uplifted front paw of the sphinx of bronze issues of ΑΡΙΣΤΑΙΧΜΟΣ of Series 24 (Pl. XXIX, fig. 2-3). The fact that this symbol is never found on more than one issue from the same group -it was not used as a ‘group symbol’- seems to add weight to the idea that it might be linked to the particular moneyer signing the issue rather than being the symbol of an official of the mint. In the outline of the coinage (p.

¹⁰⁹² IGR, IV, 950; Forrest, 1966, pp. 205-6, no. 11, a dedicatory inscription recording games in honour of Hermes and Herakles; Sarikakis, 1975, p. 27, f. 36, with reference to Herakles and Hermes as deities protecting the Chian gymnasium. For a general account of the deities protecting the gymnasium in the Greek world, see M. N. Nilsson, *Die Hellenistische Schule*. (Munich, 1955), p. 62.

¹⁰⁹³ A *gymnasiarch* in charge of coinage during the Julio-Claudian period is recorded from Pergamum and from other cities, see RPC I, p. 3.

388), we saw that Antiochus was recorded in Chian inscriptions as having held the office of eponymous archon at Chios and a local named ΔΕΚΜΟΣ -possibly the same individual with his namesake moneyer- was also elected to this office (see p. 318).

The appearance of symbols foreign to Chios may allude to religious and cultural developments. For example, the appearance of objects linked to the cult of Isis as mint symbols on Chian issues, e.g. her headdress or the joined palm hands, is testament to the growing popularity of Egyptian religion at Chios and Greece in general during the late Hellenistic period.¹⁰⁹⁴ The earliest of these do not date before the early/mid 2nd century BC (Series 19, Group A), suggesting that the Chians would probably have become familiar with this cult by way of Delos, rather than Egypt itself.¹⁰⁹⁵ During the late Hellenistic period Isis became linked to sea navigation which may account for her popularity with the seafaring Chians.¹⁰⁹⁶ Another mint symbol that may have been linked to Egypt is the lotus flower. It appears frequently on the Chian coinage during the late 1st century BC and early 1st century AD (Series 24, Roman Series I, cistophoric drachms). We have seen (p. 567) that a lotus symbol is sometimes found in earlier Chian coin types as an attribute of the sphinx, probably alluding to the Egyptian origin of the type. This seems to be reinforced by the depiction of sphinxes from the Archaic and Classical period with a lotus flower in the field in front of them.¹⁰⁹⁷

¹⁰⁹⁴ Vitruvius, I. 7. 1, records that by the early Imperial period Chios possessed temples of Isis and Serapis in its harbour area. For a Chian dedicatory inscription to these, and other Egyptian gods, dating during the Roman Imperial period see CIG, p. 2230, p. 208.

¹⁰⁹⁵ The cult of Isis was well established at Delos after c 166 BC; see J. Day, *An Economic History of Athens under Roman Domination*, Columbia, 1942, p. 67. Egyptian cults were first imported to Delos by individuals in the early 3rd century BC but only became popular from the middle of the 2nd century BC when the island became a cosmopolitan centre of the Eastern Mediterranean, see Frazer, 1972, p. 171.

¹⁰⁹⁶ A festival celebrated the launching of Isis' sacred ship at Alexandria and marked the start of the sailing season in the Eastern Mediterranean, see K. Garland, *The Piraeus from the fifth to the first century BC*, London, 1987, pp. 127-8.

¹⁰⁹⁷ Loutrari, *Chian Sphinx*, pp. 311-312, discusses the appearance of this symbol next to sphinx paintings on vases of the Archaic period, and suggests that during this period the lotus flower may be considered an attribute of the sphinx. The lotus flower also appears in the front paw of the sphinx on a few issues of the Classical period, see Maurogordato, 1915, p. 5.

A mint symbol particular common on issues of Chios during the 1st century BC is the twin caps of the Dioscuroi, usually depicted with eight rayed stars or small flames on their tops. The earliest appearance of this symbol is on the drachm issue signed by ΖΗΝΙΣ (reduced Attic standard, Group E) and dating to the late 2nd century BC but it appears frequently on the bronze coinage (but surprisingly, not drachms) after c 80 BC and down at least to the middle or late 1st century BC (Series 20). Afterwards it is dropped completely from the coinage, though the presence of twin stars on a few issues of different denominations dating to the 2nd century AD (assarion, 1 1/2 assarion, 3 assarion) may also be linked to the Dioscuroi.¹⁰⁹⁸

The Dioscuroi were revered during antiquity as protectors of sailors and it is reasonable to expect that they would have been popular at Chios (see also the above case of Isis, another deity linked to the sea). This is suggested by the frequent appearance of their twin caps as a mint symbol at Chios and the occurrence of their name in a few fragmentary inscriptions.¹⁰⁹⁹ An inscription, once part of a marble altar, and dating to the first half of the 1st century BC,¹¹⁰⁰ bears an engraving of the twin caps of the Dioscuroi mounted by stars which is identical to the mint symbol found on several contemporary coin issues.¹¹⁰¹ The legend on this plaque (ΘΕΟΙ ΠΑΝΤΕΣ) declares that the altar was dedicated to ‘all the gods’ revealing that the cult of Dioscuroi would have played a central role in religion at Chios. The proposed date for the inscription bearing the engraving of the twin caps and the issues using them as mint symbols suggests that these deities would have been particularly popular at Chios during the 1st century BC. A likely explanation for the increased popularity of this cult

¹⁰⁹⁸ Note also the appearance of two stars beside each other also on an earlier issue, a drachm of the reduced Attic standard belonging to Group F and signed by the moneyer ΜΕΝΕΚΛΗΣ (proposed date of issue in c 90 BC).

¹⁰⁹⁹ For the cult of the Dioscuroi at Chios see Forrest, 1963, pp. 61-2.

¹¹⁰⁰ Forrest, *ibid*, for the proposed date for this inscription. The plaque has long been lost but an illustration was included by Forrest in pl. 17a of his article.

¹¹⁰¹ Forrest, p. 61, associated this engraving with the mint symbols appearing on the coinage, and used this evidence to date the inscription to the first half of the 1st century BC. The letter forms of this inscription are also typical of the period.

at the time may be the fact that the Dioscuroi were specially linked to Rome (Crawford, 1974, Vol. II, p. 721, f. 2). Consequently the extensive use of this symbol may reflect the dominant position of Rome in the East following the end of the Mithridatic Wars.¹¹⁰²

Another mint symbol appearing on the Chian coinage of the period that may have historical connotations is the *aplustre* symbol. It sometimes appears on coins as a symbol of naval victory and as such is found on several Greek and Roman issues struck in honour of Pompey the Great.¹¹⁰³ Most of the Chian coins with this symbol were struck shortly before the mid 1st century BC ('reduced denarius' drachms and Series 20) and probably coinciding with the period of Pompey's wars against Mithridates and the Cilician pirates. Chios seems to have waged war against the pirates and may have contributed ships to Pompey's fleet for his war against the pirates in 67 BC (see pp. 40-41) and it is likely that these military events might have been commemorated in this mint symbol.

¹¹⁰² It is worth noting that the frequent use of this mint symbol on Chian issues of the 1st century BC also coincides with the period when many other cities friendly to Rome used it as a main coin type or as a mint symbol; see for example issues of Tabai, Sparta, and other cities.

¹¹⁰³ The use of the *aplustre* symbol on coin issues as a possible reference to Pompey is proposed by Crawford, 1974, Vol. II, pp. 733-4.

16. Moneyer's legends: authority in charge of the issue of the coinage:

One of the great problems of Ancient Greek numismatics is identifying the authority of the individuals whose names appear in legends of issues with great frequency from the late Classical period onwards.¹¹⁰⁴ However, coins of these mints before the Roman period do not usually include the office or the title next to the moneyers' name.¹¹⁰⁵ It is far from clear if individuals named on the coinage represented the highest ranking official of the city, the *eponymous archon*, a magistrate of lesser importance, or an official responsible for the mint (as in the Roman Republic), or simply a wealthy person, whether a magistrate or not, who paid for the expenses of the mint.

During the Roman period most Greek issues bear in their legends the title or the office of the individual in charge of the issue; in the majority of cases he is recorded as the eponymous magistrate but other offices also appear in the legends next to the name, e.g. ΓΡΑΜΜΑΤΕΥΣ, ΣΤΡΑΤΗΓΟΣ, or ΤΑΜΙΑΣ -the latter an office linked with the state finances. There are also cases where coin legends record the name of an individual who paid for the issue but lacking any reference to title or office (see *RPC I*, pp. 2-4, for examples).

From the late Classical period down to the Flavian period it seems that it was the rule at Chios for all issues to be signed with the name of an individual. There are only two recorded cases of issues (Series 21 and the diobols on the reduced Attic standard) that were not signed by moneyers during this period. 145 different names appear on Chian issues of civic type dating between c 330 BC- c 70 AD, which have added immensely to the

¹¹⁰⁴ On this subject see, in particular P. Garter, 'Legendes monetaires Greques', pp. 168-179 in *Numismatique Antique: problemes et Methodes*, eds P. Gathier & T. Hackens, Nancy-Louvain, 1975. For likely authorities in charge of Greek coinages during the late Roman Republic and early Imperial period, see the discussion in *RPC I*, pp. 2-4.

¹¹⁰⁵ Only very rarely do we come across the office of an individual signing a coin issue of a Greek mint before the Roman period: see Kinns, 1980, p. 23, for an issue of Erythrae signed by financial magistrates with the title of ΕΞΕΤΑΣΤΗΣ. I would like to acknowledge Dr A. Burnett for the reference to this issue.

prosopography of Hellenistic and Roman Chios.¹¹⁰⁶ After a break of about a century, between c 70 AD-170 AD, names reappear in legends of coins, and a further three names are recorded down to the late 3rd century when the mint was shut down.

On the Chian coinage the only names appearing in the legends bearing a title belong to the later Roman period. The letters APX in front of their names are the abbreviation for APXΩN (translated as ‘chief magistrate’) showing that these would have held the office of eponymous archon at Chios at the time when their issues were struck. The preposition ΕΠΙ makes it clear that the name may have been used for dating purposes.¹¹⁰⁷ However, based on numismatic evidence I suggest in this study that these magistrates may also have had an active involvement in the issue of the coinage, probably contributing financially to the issues bearing their names.¹¹⁰⁸

As we saw in the outline of the coinage, during a brief period coinciding with the early Roman imperial period a few issues of Chios were concurrently signed by two different moneyers.¹¹⁰⁹ The presence of the names of two moneyers concurrently on the coinage suggests that at the time the coinage was probably entrusted to two individuals, in line with other mints throughout the Roman Empire. This may suggest that the moneyers in particular may also have been holding magistracies which required the services of two individuals instead of one.¹¹¹⁰ In the case of the Antiochus drachms (Pl. XXVII, figs. 8-14) a Chian name

¹¹⁰⁶ To these we may also add 30 names appearing on the final issues of the Alexander type tetradrachms of Chios (Bauslaugh, *Posthumous Chian Alexanders*, Period 4, pp. 29-37) bearing the name of a moneyer. I have not included in this count the monograms appearing on the earlier Alexander type coinage of Chios (see the appendix with all names of moneyers and their denominations during the Hellenistic and early Roman period).

¹¹⁰⁷ In Smyrna the preposition with the name of the *stefanephoros* was used for dating purposes. However the same coins also include the name of the *strategos* in the nominative who struck the coinage, see *RPC I I*, p. 3

¹¹⁰⁸ For members of the elite paying the expenses of the mint, see Howgego, 1985, pp. 85-7 & 90-1. Kroll, 1966, pp. 95-6 suggests that during the Classical period the striking of coinage at Cos was paid for by wealthy citizens in the form of voluntary contribution (‘choregy’).

¹¹⁰⁹ These are the cistophoric drachms signed by ΔΙΟΓΕΝΗΣ and ΕΥΔΗΜΟΣ (Pl. XXVII, ‘commemorative’, figs 1-8) and the bronze issues of Roman Series I signed by ΙΕΡΟΝΥΜΟΣ and ΑΠΟΛΛΩΝΙΟΣ (Pl. XXXI, figs 13-16)

¹¹¹⁰ For example, *Duoviri quinquennales* -the two main civic magistrates- at Corinth signed the coinage produced during their term in office; this was probably the case of *quaestors* (three individuals) at Emporiae. See on this topic, *RPC I*, p. 4.

appearing in the exergue of the obverse is more likely to represent the eponymous magistrate at the time the issue was struck, since the main legend records that Antiochus was responsible for the issue of the coinage.

For many other individuals named on the Hellenistic and early Roman coinage no title appears beside their names and we have no evidence from the coins themselves giving a clue on the identity of the individuals in charge of the issue of coinage and if these were the chief magistrates of the state or officials of lesser importance.¹¹¹¹

The study of inscriptions offer clues as to the authority of individuals in charge of the coinage at Chios. A number of individuals named on the coinage also appear to have been the eponymous magistracy of the city from the middle of the 1st century BC (though we cannot say if they were also magistrates during the same period as they struck coinage). This was first suggested by L. Robert based on the study of inscriptions which include the rare names of two eponymous magistrates, also found on coinage of around the same period as the inscriptions. This theory seems to be further confirmed by the present study which recorded further cases of likely eponymous magistrates sharing the same name with contemporary moneyers.¹¹¹² It is therefore conceivable that from at least this period onwards the name on the coin may have been that of the eponymous archon.¹¹¹³ It is also worth noting that during this period coinages in both silver and bronze were struck by the same individuals, possibly a sign that these

¹¹¹¹ Very little is known on the political organization of Chios during the Hellenistic and Roman periods. Based on the study of the epigraphic evidence from Chios and other Greek cities Vanseverren, 1936, pp. 344-7, argued that the *Prytanes* was the highest ranking official at Chios during the Classical period but during the Hellenistic period -which is of relevance to the present study- this was replaced by the *stefaneforos*, or *eponymous archon*.

¹¹¹² For a discussion of L. Robert's arguments and further evidence -unknown to him- supporting his theory, see the discussion in the outline of the coinage, the chapter on the series of the 'reduced denarius' standard, pp.318-9.

¹¹¹³ Maurogordato invariably identifies the moneyers at Chios -irrespective of the period of issue- as the eponymous archon at the time of the issue. At Cos during the 4th century BC it would seem that the eponymous magistrate, known locally by the title of *monarchos*, was in charge of the coinage; see Sherwin-White, *Cos*, p. 188.

possessed a greater authority than others who only signed issues of one type. This may suggest that the moneyers in question could have had a high political office at the time.

An inscription dating to the early 3rd century BC includes a number of names also appearing on the coinage struck during the same general period. Most of these names are of the highest rarity, and their appearance only on this inscription and the contemporary issues gives a strong indication that these are the same individuals. The inscription probably identifies holders of the office of eponymous magistracy but it is also possible that this may have been a list of officials in charge of the coinage.

Another feature that may be of significance in the discussion of the authority in charge of the coinage is the recurrence of the same names on issues which are separated by a long period of one or two generations. This long interval in the striking of namesake issues shows that it is unlikely that they may have been signed by the same moneyer on different occasions. Examples of this phenomenon recur in issues throughout the Hellenistic period. In a few cases the names involved are quite unusual suggesting a family link between the two bearers of the name, occasionally confirmed from epigraphic findings. I have already referred to this occurrence in most series of this period, but we may note that this is particularly common for certain series. There are certain cases where this happens for more than one moneyer in a single series, something which suggests that it was applied in general and not to a single individual.

It is likely that these namesake moneyers may have been father (or grandfather) and son. However, it is far from clear if this signals that certain families in Chios had a monopoly on the office of the eponymous archon, or moneyer, or because they had a tradition of paying for the expenses of the coinage.¹¹¹⁴

¹¹¹⁴ Barron, 1966, pp. 198-9, encountered a similar phenomenon at Samos where a father and a son are likely to have signed different though contemporary issues. He explained this as a possible liturgy on behalf of this family.

The most clear example of this repetition of family names on different series occurs on issues of Series 16, discussed on pp. 93-4. The names of ΗΡΙΑΔΑΝΟΣ, ΚΗΦΙΣΟΚΡΙΤΟΣ, ΘΗΡΩΝ and ΠΟΣΕΙΔΙΠΠΟΣ, who signed issues of Series 16 -as we saw, the first two were also in charge of issues of Chian civic type drachms, Series I- have identical names to moneyers striking silver issues during the middle of the 4th century BC.¹¹¹⁵ There is more than a fifty year gap between these two coinages and it is unlikely that the namesake moneyers are the same individuals. However, in light of the fact that at least three of the names, ΗΡΙΑΔΑΝΟΣ, ΘΗΡΩΝ and ΚΗΦΙΣΟΚΡΙΤΟΣ, are uncommon at Chios (the first two appear on no inscriptions from Chios) it is likely that these might represent family names and that the earlier moneyers of the Classical period were fathers or grandfathers of the namesake moneyers issuing silver and /or bronze coinage during the early Hellenistic period. Series 16 seems to offer the best evidence of a hereditary succession in the production of coinage at Chios during the late Classical and early Hellenistic period, though as we saw, it is not clear if this offers evidence of certain families controlling an office linked to the issue of money, or wealthy private citizens following a family tradition of paying for the expenses of the mint as a *leitourgy*. However, in this case we might also consider that the names appearing on Series 16 could reflect a re-establishment of the old oligarchic clans, driven out of power under Alexander and his early successors, since the last time these names appeared on the coinage Chios was ruled by the oligarchs (mid 4th century BC). This could allude to a change in the form of the government from democratic to oligarchic around 300 BC.

¹¹¹⁵ For issues of the Classical period see Maurogordato, 1915, pp. 410-1, nos. 51-3, issues in the name of ΗΡΙΑΔΑΝΟΣ; p. 405, no. 48, issues in the name of ΘΗΡΩΝ; pp. 410-1, nos. 51-52, issue in the name of ΚΗΦΙΣΟΚΡΙΤΟΣ; p. 405, no. 48, for issues in the name of ΠΟΣΕΙΔΙΠΠΟΣ.

VI. ECONOMIC DEVELOPMENT OF CHIOS DURING THE HELLENISTIC AND ROMAN PERIODS

1. Sources on the Chian economy of the Hellenistic and Roman periods:

The study of the Chian economy during the Hellenistic and Roman periods is fraught with problems, owing to the lack of ancient literary evidence on this subject. Only a few random references are known, dating within a limited period during the early Roman Imperial period (see below, p. 661). The absence of any notable archaeological remains at Chios is another factor inhibiting the research of its economy. As we already saw in the introduction, this is not so much a sign of poverty, but attributed to the fact that the island's only important civic centre at the time was the city itself, which now lies mostly unexplored beneath its namesake modern town.

Nevertheless there are three classes of material evidence pertaining to the local economy, namely ceramics, inscriptions and coins. In general, inscriptions and ceramics are a good source on the local economy for most of Hellenistic period down to the early 1st century BC. Afterwards the former become scarce while the latter are thought by modern scholars to have ceased. Only Chios's successive and almost uninterrupted issue of coinage constitutes evidence on the economy throughout the Hellenistic and Roman periods. However, it is rarely found outside the island and we cannot draw any conclusions on the local economy or any economic relations between Chios and other states based exclusively on the numismatic evidence. I have attempted to overcome the limitations of the numismatic material in relation to the economy by drawing on the other available evidence. Since some of this material is plentiful and has already been the subject of other studies I have examined the economic aspect of the coinage in parallel with this evidence.

Recent studies are available on the ancient Chian economy based on the epigraphic and ceramic findings. In particular Professor Sarikakis of Athens has done research in this field lately, the results of which appeared in a series of articles published in Greek journals.¹¹¹⁶ In one of these articles he has reconstructed the pattern of Chian trade from the early Archaic period down to the early Roman period (Sarikakis, 1986). The later period covered in Sarikakis's economic survey, from the time of Alexander and afterwards, is relevant to the present study and the following discussion on the economy owes much to his findings.¹¹¹⁷

In his economic survey, Sarikakis made use of all available material remains (e.g. wine jar finds, inscriptions) together with the limited number of references to the Chian economy in ancient literary sources. However he did not treat the coinage as a supplementary source on the economy,¹¹¹⁸ but instead referred to an article by P. Gardner (1920, pp. 160-173), discussing the financial history of Archaic and Classical Chios in the light of Maurogordato's numismatic study.¹¹¹⁹ Even this economic review of the early Chian history now needs to be redefined, following N. Hardwick's proposed new dates for the main series struck during these periods.

¹¹¹⁶ Sarikakis has drawn a picture of the ancient Chian economy, in the following articles, 'The Commercial Relations of Chios' in *CHIOS, A Conference at the Homereion in Chios* (1984), Oxford 1986; 'Η Οικονομική ανάπτυξη της Χίου στην Αρχαιότητα' ('The Economic Development of Chios during Antiquity'), first given as a paper to the 'Conference on the Aegean, 21-23 December 1989', and published in *Parnassus*, Vol. 23, Athens, 1990, pp. 140-151. Sarikakis discusses the economy mostly on the evidence of Chian amphorae finds abroad, Chians named in foreign inscriptions and foreigners named in Chian inscriptions.

¹¹¹⁷ I would like to thank Professor Sarikakis for clarifying in private communications certain points concerning aspects of the local economy that are included in this chapter.

¹¹¹⁸ Sarikakis, 1984, p. 36, f. 2, where he states that he deliberately avoided using any numismatic evidence in his studies.

¹¹¹⁹ Gardner's study was produced almost eighty ago, at a time when no studies of Chian pottery were available and only a few local inscriptions had been published. As a result, Gardner's study is restricted to the coinage and literary references. The title of his article suggests that this economic survey would have covered the whole of antiquity; in fact it is limited to the Archaic and Classical periods -when we find the majority of literary references of economic nature to Chios- and there is hardly any mention of the period from Alexander and afterwards. On this point see Gardner, p. 173, where he concludes with a brief reference to the Alexander type coinage of Chios and treats it as a sign of the island's supposed economic decline during the Hellenistic period.

The following chapter discusses the extent to which the numismatic findings produced by this study -especially the new chronology for the bronze series and the identification of standards used for the silver- may throw light on aspects of the island's economy. It aims at bridging the gap between the study of the coinage and that of the other sources on the economy. This is the first time that the Chian coinage of the Hellenistic and Roman periods is treated as a source of evidence of the economy.

2. Outline of the Chian economy during the Hellenistic period (c 332-86 BC):

The only sector of the Chian economy of the Hellenistic period which is documented in the evidence is overseas trade, with particularly emphasis on the export of wine. The latter activity formed part of the economic life of the island but would have been the most important in terms of the revenue it generated for Chios,¹¹²⁰ and the number of people from a wide range of occupations that were involved in the various stages of production, processing and trading of wine.¹¹²¹

As we saw in pp. 583-601, the island's wine jars, amphorae and lagynoi, are found on many foreign sites and are also testament to the economic activities of Chian traders overseas (see also pp. 628-9). These finds show that the export of wine continued to figure largely in overseas trade well into the period under study. During the early Hellenistic period we also find Chians trading other commodities beside wine, or involved overseas in other economic activities other than trade.

¹¹²⁰ As we saw in the introduction (p. 11), Chian wine was the most expensive in the Greek world during the Classical period and continued to be so throughout Greco-Roman times.

¹¹²¹ A large part of the population at Chios, from different social and economic backgrounds, depended on the wine trade for its livelihood. This would have included owners of vineyards, labourers (many of them slaves) who cultivated the vines, harvested the grapes, and produced wine, traders and others. Many other occupations would also have been involved; for example, potters manufacturing wine containers, ship builders and owners, merchant sailors, harbour labours and officials etc.

Chian and foreign inscriptions, including papyri from Egypt, make passing references to the island's traders doing business in the regions of the Aegean, mainland Greece, Asia Minor, the Black Sea and Egypt.¹¹²² A Chian named ΗΡΟΔΩΡΟΣ, is honoured in two different inscriptions of Delos for having sold to this city two consignments of pitch and lumber during the period 305-296 BC (IG, XI2, 144, A 113 & IG, XI 2, 154, A 48; Vanseveren, 'Inscriptions de Chios', p. 331). Chios was a lumber producer during antiquity and it is almost certain that this trader would have acquired it locally;¹¹²³ the island however did not produce pitch and ΗΡΟΔΩΡΟΣ seem to have been trading abroad a non Chian product.¹¹²⁴ Another trader from Chios recorded in a Delian inscription dating during the middle of the 3rd century BC, and whose name has not been preserved, provided the temple of Apollo at Delos with roof tiles (IG XI 2. 287 A 113-4; Reger, 1994, p. 62). It is not clear from the inscription if these tiles were imported from Chios, but in light of the large scale pottery industry on the island -mostly centred on the production of containers used in the wine trade- it is likely that the tiles were manufactured locally at Chios. Finally, a Chian with the name of ΕΥΤΥΧΟΣ son of ΦΙΛΩΤΑΣ, honoured in a Delian inscription of the 3rd century BC, was a banker based at Delos with interests in shipping.¹¹²⁵ It is worth noting that all these references date to the 3rd century BC and from the remainder of the Hellenistic period the only evidence we possess on economic activities of Chians abroad refers exclusively to the wine trade.

¹¹²² For these areas of heavy Chian trading during the Hellenistic period, see Sarikakis. 1990, p. 146.

¹¹²³ The mountain of Pelinaios at Chios was known to have been covered with dense forests during Antiquity though today it is almost bare of trees, see Ailian, *Περί Ζώων Ιδιοτήτες*, XVI, 39, who noted that in his time (Roman period) there were many tall trees on this mountain.

¹¹²⁴ Reger, 1994, p. 69, & p. 70, f. 83, states that Chios produced pitch during Antiquity and refers to *mastic*! Obviously Reger ignores that mastic bears nothing in common with pitch since it is an edible product produced in limited quantities and quite expensive.

¹¹²⁵ He seems to have been very wealthy and powerful at Delos since he is honoured in a local inscription (dating from c 230 BC) with the foundation of a festival named after him ΕΥΤΥΧΕΙΑ (IG XI 4. 691). This same individual dedicated in 196 BC a silver phiale to the temple of Apollo showing that he would have lived to an old age; on this important individual at Delos and Chios see Rostovtzeff, SEHHW, p. 1373; Sarikakis, 1984, p. 40; Reger, 1994, pp. 70-1.

The study of find spots of Chian amphorae and lagynoi dating between the 3rd and 1st century BC has revealed a widespread pattern of distribution along the Eastern Mediterranean coastline.¹¹²⁶ During the Hellenistic period the Chians traded their own wine abroad which was then consumed locally where purchased.¹¹²⁷ By plotting the find spots of amphorae and lagynoi we may reconstruct the pattern of the Chian wine trade abroad and over a long period. Such finds are recorded from a number of sites in mainland Greece, with the largest concentration of Chian pottery at Athens, and fewer at Pella -the Hellenistic capital of the Macedonian kingdom-, Corinth, Argos, Eretria, and other cities. In the Aegean the largest number has been recovered at Delos, with fewer at Rhodes, Euboia, Cyprus, and some smaller islands (Samos, Lesbos and the Cyclades: Tenos, Thera, Andros etc) Egypt is largely represented by many pottery finds in Alexandria, and smaller numbers from Naucratis and other cities in the region. Palestine and Syria have also yielded some Chian pottery.¹¹²⁸ Some amphora fragments -though none of lagynoi- are recorded from the early Hellenistic period on sites along the coast of the Propontis and the Black Sea. From Asia Minor, only Pergamum and Smyrna have yielded Chian pottery dating to the Hellenistic period.¹¹²⁹ This evidence shows that Chios was trading with several cities and regions during the Hellenistic period.

¹¹²⁶ For what follows on the distribution of Chian amphorae and lagynoi from the Hellenistic period, see Sarikakis, 1984, pp. 36-39, and Idem, 1986, p. 123, who collected all publications of discoveries of Chian pottery. Furthermore his study also included a large number of finds from Greek sites that have never been published. Sherwin-White, *Cos*, p. 238, has a compilation of finds of amphorae handles throughout the Eastern Mediterranean and the Near East, including some Chian. Grace & Savvatanou-Petropoulakou, 1970, pp. 359-363, record a number of Chian wine jar handles with stamps found at Delos and also refer to such finds in other Greek sites. For Chian stamped handles from other sites, recently published and not included by either Sarikakis or Sherwin, see for example G. Johrens, 'Zur Herkunft Der Amphorenstempel', BCH Sup. 13, pp. 497-503, p. 503, no. 19 (Heraion, Samos). D. T. Ariel, *Excavations at the City of David II*, Quedem monographs of the Institute of Archaeology 30, The Hebrew University of Jerusalem (Jerusalem, 1990), p. 74 (Jerusalem); Burow, 1998, pp. 117-125 (Pergamum)

¹¹²⁷ There is no evidence that empty Chian amphorae and lagynoi were resold by foreigners after the wine was consumed. This seems to have happened for Koan and Knidian amphorae, see Sherwin, 1979, p. 240, f. 109, for a full bibliography on this subject.

¹¹²⁸ Chian wine jars from excavations at Jerusalem are recorded in D. T. Ariel, *Excavations at the City of David II*, Quedem monographs of the Institute of Archaeology 30, The Hebrew University of Jerusalem (Jerusalem, 1990), p. 74, n. 5453-6.

¹¹²⁹ For finds of Chian stamped wine jar handles found at Pergamum see Burow, 1998, pp. 117-26.

Another source of information on the island's economy of the period consists of inscriptions with catalogues of names, together with a foreign ethnic, probably recording proxenoi at Chios.¹¹³⁰ The presence of a *proxenos* in a Greek city -very much the same as that of a foreign ambassador in a modern state- shows that his city of origin and that of his residence had established economic as well as political ties. The latter is further stressed by the fact that many proxenoi during the Hellenistic period were men of business.¹¹³¹

The cities represented in the 'proxenoi catalogues' include all major city ports located between the Euxine Pontus and the southern coast of Caria. This is no coincidence since these were stopovers on the sailing route from the Black Sea to Alexandria and would have been used by the Chian ships during the early Hellenistic period (see below).¹¹³²

Other proxenoi recorded in the Chian inscriptions originate from cities located inland of the Troad and Eastern Macedonia; both happen to be the only regions in the Greek world known to have produced pitch during antiquity.¹¹³³ As we saw, a Chian trader acquired a monopoly in the trading of this product at Delos and Vanseveren (1937, pp. 329-32) has plausibly suggested a link between his activities and the presence of proxenoi at Chios from these regions.

Chian trade in the region of the Black Sea and the Propontis seems to have started during the Archaic period and lasted until the middle of the 3rd century BC (Sarikakis, 1984, p. 35). Individuals from five different cities of these regions are found in the 'proxenoi

¹¹³⁰ Four different inscriptions of this type are known and were published by Vanseveren, 'Inscriptions de Chios', pp. 325-32, with a proposed date between the early-mid 3rd century BC. For a discussion of the economic importance of these inscriptions see Vanseveren, pp. 325-30.

¹¹³¹ See Rostovtzeff, SEHHW, p. 1372, no. 62, an example of a proxenos of a Greek city at Delos who was involved in banking and trade.

¹¹³² First considered, Vanseveren, p. 328, and reiterated by Sarikakis, 1984, p. 43

¹¹³³ Vanseveren, pp. 329-32; p. 327, Face C: proxenoi of Gargara and Antandros, cities of Troas; p. 325, Face A: proxenoi of Amphipolis in Eastern Macedonia.

catalogues' dating to the first half of the 3rd century BC.¹¹³⁴ Further evidence on commercial contacts between Chios and this region is provided from an Egyptian papyrus of the mid 3rd century BC recording the import of agricultural products of Pontus in the markets of Alexandria sealed in Chian transport jars (Frazer, 1972, p. 150, f. 144); see also below in this chapter (p. 638), the discussion of economic contacts between Chios and Egypt. On this evidence Vanseveren has suggested that the Chians were involved in the transit trade between Egypt and Pontus by importing Pontic products, processing them at Chios, and then transporting and reselling them at Alexandria. It seems that part at least of the trade between Egypt and the Black Sea may have been in Chian hands at the time (Vanseveren, p. 331; Sarikakis, 1984, p. 35).

During the second half of the 3rd century BC Chian presence in the region of the Black Sea diminished since the island's amphorae, quite common in earlier periods,¹¹³⁵ are no longer found there. This is probably attributed to the increased presence of traders from other Greek cities in the region, mostly from the islands of Rhodes and Kos.¹¹³⁶ A historical event reflecting the demise of Chian trade in the region is the diplomatic war of 220-219 BC between Rhodes and Byzantium.¹¹³⁷ This affair began in 220 BC when the city of Byzantium introduced a heavy tax on all shipping using the Bosphorus Straits, thus disrupting the flow of trade between the Black Sea and Greece. The cities in the Aegean region, which traded

¹¹³⁴ Vanseveren, p. 325; Face A: Panticapeum, line 21; Sinope, line 14; Lampsacus, line 10; Cyzicus, line 12. Proxenoï of Byzantium are recorded on Face A, line 18 & Face B, line 3. Rostovtzeff, SEHWW, p. 1375, no. 74, also suggests that the presence of proxenoï of these cities at Chios is strong evidence of trade between the island and this region during the first half of the 3rd century BC.

¹¹³⁵ Sarikakis, 1984, *ibid*; *Idem*, 1986, p. 123, records the discovery of Chian amphorae of the Archaic-Classical periods in most cities of the Black Sea (Apollonia, Mesembria, Tomi) as far north as Olbia and Theodosia.

¹¹³⁶ For Rhodian trade in the Black Sea, see Berthold, 1984, pp. 94-6; for references to Koan traders in this region, see Sherwin-White, *Kos*, pp. 239-40. Chios was not the only victim of the ever growing influence of Rhodes in the region, since Rostovtzeff, SEHWW, p. 676, 692, claims that during the early Hellenistic period a major part of the grain trade of the Black Sea was controlled by traders of Delos but this trade was lost by the early 2nd century BC to traders of Rhodes.

¹¹³⁷ For details of this conflict see Polybius, IV. 4.45-51. An account of the involvement of Rhodes is found in Berthold, *ibid*.

heavily in this region of the Black Sea and had the most to lose, appealed to Rhodes to force Byzantium to revoke the tax. As Polybius records, this was exactly what happened. However nowhere in the sources is Chios named among the trading cities affected by this measure of the Byzantines -even though the tax would have also applied for Chian ships- suggesting that by the late 3rd century BC Chian presence in the Black Sea, and Pontus in particular, may have been much more restricted than in previous periods, or even to have completely ceased.¹¹³⁸

Further to the south, Chios seems to have developed close economic ties with the cities on the coast of Asia Minor. The 'proxenoi catalogues' include representatives from a number of cities on the littoral of Aeolis,¹¹³⁹ Ionia,¹¹⁴⁰ and Caria.¹¹⁴¹ Some cities from inland of Asia Minor in Lydia, were also represented by proxenoi at Chios.¹¹⁴² Another region of Asia Minor with evidence of close economic ties to Chios during the Hellenistic period was the Attalid kingdom of Pergamum, and proxenoi of Elaia, the most important city-port of this kingdom, are recorded in three different entries of the catalogues at Chios (see above, proxenoi from Aeolis). Information on economic links between Chios and Pergamum is also provided from the inscription recording donations of Attalus I towards expenses of the city. This records that the king was in possession of plots of land in various regions of the island - including a pottery work shop and plots with olive and fig trees- which he rented out to locals and in return offered the proceeds -or part of them- for funding various projects in the city of

¹¹³⁸ Interestingly, the significance of this historical event in relation to the absence of any reference to Chios as one of the cities with economic interests in the region seems to have been missed in all previous studies on the Chian economy. Another important indicator on the demise of Chian trade in the Black Sea during the 2nd century BC is the lack of any lagynoi finds in this region. Chian lagynoi were exported after c 200 BC and are mainly found in dated contexts of the 2nd century BC and afterwards.

¹¹³⁹ Vanseveren, 'Inscriptions de Chios', pp. 325-8, Elaia: Face A, line 10; Face B, line 29; Face C, line 8.

¹¹⁴⁰ Idem, Clazomenae: Face C, line 1. Teos: Face B, line 14; Face C, line 5. Lebedus: Face C, line 3. Erythrae: Face B, line 20. Phokaia: Face A, line 2.

¹¹⁴¹ Idem. Halicarnassus: Face A, line 4; Face B, line 13; Face C, line 7. Bargytia: Face C, line 8. Alabanda: Face C, line 2. Nysa: Face C, line 10. Orthosia: Face C, line 13.

¹¹⁴² Idem, pp. 327-8. Sardis: Face C, line 4. Thyatira: Face C, line 12.

Chios. As already stated in the discussion of the historical background (p. 30), Attalus may have been cultivating political ties with Chios by way of these donations. However, at the same time this policy would also helped forge economic ties between the island and the Attalid kingdom.¹¹⁴³

Chian amphorae and lagynoi finds dating between the 3rd and 1st century BC have been recorded at Pergamum (see p. 629) but -also with the exception of Smyrna- these are generally absent from other regions of Asia Minor; this may be attributed to the few published findings from the smaller sites but may also reflect a shift of Chian trade away from Asia Minor during the later Hellenistic period. It may be noted that economic ties, well established between Chios and cities of Asia Minor during the Archaic and Classical period, is also evident from archaeological finds of this region and dating in this period.

For a period of close to sixty years, between 247 BC and 189 BC, Chios was a member of the ruling council of the Delphic Amphictiony and a political ally of the Aetolian League (see the chapter on the historical background, pp. 25-28). There is no evidence that this led to closer economic ties between the two states. No Chian pottery is published as found in this region of Greece and a single Aetolian recorded in a Chian inscription comes from a much later period. However the formation of political ties between Chios and Aetolia is certain to have greatly benefited the Chian economy in an indirect way. The Aetolians are known to have controlled many of the pirate bands that were ravaging the Aegean islands and coastal areas throughout the 3rd century BC (see the discussion in the historical background, p. 26). Such raids against Chian ships and even Chios itself would almost certainly have ceased upon Chios becoming a member of the council at the Delphic Amphictiony.¹¹⁴⁴

¹¹⁴³ On donations of the Attalids to various Greek cities and political and economic reasons dictating this policy, see M. Rostovtzeff, CAH VIII, pp. 613-8; E. V. Hanley, *The Attalids of Pergamon*, Cornell University Press, (N. York, 1947), pp. 262-274.

¹¹⁴⁴ One of the terms in the decree accepting Chios in the Amphictiony stipulated that the Aetolians would refrain from attacking any Chian property, see lines 3-7 & 12-17; on this topic see Rostovtzeff. SEHW. p. 196 & p.

Other regions with evidence of trade with Chios include the islands of the Aegean,¹¹⁴⁵ and the Greek mainland.¹¹⁴⁶ Finds of Chian wine jars in the Athenian Agora show that Athens imported wine from the island throughout the Hellenistic period. During the same period Chios was importing from Athens its famous ‘Attic’ ware, though such imports saw a sharp decline shortly before the middle of the 3rd century BC (see below, p. 636). Berthold (1984, p. 100) has linked a fall in the export of ‘Attic’ ware to the Black Sea region with the Chremonidean War (c 267/6-262/1 BC) and the Macedonian occupation of Athens (264-229 BC).¹¹⁴⁷ This may probably also explain the reduced imports of this type of pottery at Chios after the early 3rd century BC (see the discussion below).

The greatest mercantile power in the Aegean region during the 3rd and early 2nd century BC was the island of Rhodes.¹¹⁴⁸ It is therefore likely that Chios might have developed close economic ties with this other city/island of the Aegean. Confirmation of contacts between the two cities is found in the relatively large number of individual Chians attested epigraphically as residents at Rhodes between the 3rd and the middle of the 2nd century BC.¹¹⁴⁹ All of these seem to have been traders, some even acting as representatives of Chios at Rhodes (Sarikakis, 1984, p. 40).¹¹⁵⁰ In contrast to this, there is not a single Rhodian

198. This clause would have equally applied for the ‘official’ Aetolian army and the piratic bands under Aetolian control in the Aegean (Rostovtzeff, *ibid*). It is worth noting that we seem to lack references to any piratic raids against Chios during the second half of the 3rd century BC, a period when such raids were widespread in Greece.

¹¹⁴⁵ Islands with representatives recorded in the proxenoi catalogues include: Mytilene, Face A, line 18; Tenos, Face A, line 20; Samothrace, Face A, line 6; Astypalaia, Face A, line 16. For contacts between Chios and Samothrace during the early Roman period, see the historical background, pp. 40-41

¹¹⁴⁶ For Boetian proxenoi at Chios, Face C, lines 5 & 16 (Plataia); from Euboia in general, Face C, lines 2 & 4 (Karystos).

¹¹⁴⁷ Chian amphora from Athens during this period have been dated too general to allow us to see if the Macedonian occupation of Athens had an effect in the import of wine from Chios.

¹¹⁴⁸ For the latest publication on Rhodian international trade during the Hellenistic period, see V. Gabrielsen, *The Naval Aristocracy of Hellenistic Rhodes*, (Aarhus, 1997) with the earlier extensive bibliography on this subject.

¹¹⁴⁹ Sarikakis, 1984, p. 40, includes 14 Chians appearing in inscriptions of Rhodes during this period; D. Morelli, ‘Gli stranieri in Rodi’, *Studi Class. e Orient*, 5, (1956), pp. 176-177, states that 15 Chians are attested epigraphically at Rhodes of this period. However Sarikakis, p. 48, dismissed two of these as non Chians and has added one whose name appears in an unpublished inscription in the Archaeological Museum at Rhodes.

¹¹⁵⁰ Most of the Chians were recorded in Rhodian inscriptions listing the names of foreign traders residing at Rhodes.

individual named on any of the contemporary Chian inscriptions, though in the most fragmentary of the 'proxenoi catalogues' found at Chios there seems to be reference to proxenoi from Rhodes (Zolotas, 1908, p. 214, no. 13; Vanseveren, 'Inscriptions de Chios', pp. 329-30, line 4). Chian amphorae and lagynoi have been found on sites at Rhodes (see above), though little Rhodian pottery originates from Chios.¹¹⁵¹

The evidence suggests an uneven economic relationship between Chios and Rhodes. The presence of Chian traders, and possibly proxenoi, at Rhodes suggests that the island's ships would have been using the facilities of the Rhodian harbours. The overseas trade of Chios during the Hellenistic period was centred on the Aegean-Egypt route (see above) and, due to its key geographical position on this route, the island of Rhodes would have been used as the main port of call for any Chian ships sailing to and from Alexandria. The Chians, as all Greeks trading with Egypt, had to pay high tolls to the Rhodians in exchange for using their harbour facilities and, most importantly, receiving protection from pirates while sailing through the seas where the Rhodian war navy operated.¹¹⁵² It may be expected that some limited trading would have taken place while the Chian ships were docked in the harbour at Rhodes, which would account for the presence of Chian amphorae on sites of this island.

Though Chios would have depended on Rhodes for its trade with Ptolemaic Egypt this does not mean that it would have needed the services of this city's traders. Rhodes built its overseas trade mainly on the import of Egyptian grain to Greece (L. Casson, *Ancient Trade and Society*, Ch. 3, 'The Grain trade of the Hellenistic World', pp. 70-95, (Detroit, 1984), p.

¹¹⁵¹ Rhodian wine amphorae are extremely common for the Hellenistic period, and are found in large quantities on many sites during the Hellenistic period. This is clear from Sherwin-White, *Cos*, p. 238, a compilation of amphora handle finds according to site and number of specimens, and where Rhodian amphorae are commonly found in the majority of sites of the Hellenistic world.

¹¹⁵² According to Diodorus, XX, 81, 4, most revenues entering the coffers of Rhodes came from foreigners trading with Egypt and calling at Rhodes. As the most important naval and trading power in the region Rhodes was constantly at war against pirates mostly of Crete and Cilicia, see Gabrielsen, 1997, pp. 20, 23, 37, 43-44.

73) and its trading of local wine (Haywood, et al., 1938, p. 610)¹¹⁵³ Many cities in Greece depended on Rhodian traders for supplies of grain (Casson, 1984, p. 74); Chios was not among these, since it imported its own grain directly from Egypt in exchange for its wine. This would probably explain the lack of references to Rhodians in Chian inscriptions.

Rhodes exported its local wine on an enormous scale, but this was relatively cheap, since it was not of good quality and mainly consumed by the masses.¹¹⁵⁴ As such it would not have been particularly sought after at Chios, where -as we saw see in the introduction (p. 11)- the wine produced locally was the best, and therefore the most expensive, in the Greek world.¹¹⁵⁵ This difference in quality meant that Chian wine would have had a ready market even in a wine producing region such as Rhodes. We may also consider that wine seems to have been rather plentiful on Chios and therefore much cheaper than its price abroad.¹¹⁵⁶

Nevertheless there is evidence that Chios was importing limited quantities of foreign wine during the Hellenistic period. Successive levels with deposits of pottery excavated at the Kofina Ridge are indicative of imports to Chios between the late 4th and the middle of the 3rd century BC. They also reflect changes in commercial contacts between Chios and foreign regions. A deposit dating to the late 4th century BC included some Attic ware and almost all of the amphorae recovered were Chian.¹¹⁵⁷ The third deposit dating c 275-50 BC had very little Attic ware, and the majority of amphorae was still Chian with a few from Rhodes, Cos,

¹¹⁵³ See the previous page for the widespread distribution of Rhodian wine jars in the Eastern Mediterranean.

¹¹⁵⁴ See Frazer, 1972, p. 167, f. 274, claiming that Rhodian wine was of no particular merit.

¹¹⁵⁵ For references to Chian wine during the Classical period see the introduction. Literary references to this product are absent for the Hellenistic period -with the exception of the comment by the poet Callimachus quoted on p. 639- but such references reappear during the early Roman period (see p. 661) suggesting that this wine continued to be among the best produced in the Roman Empire and still quite popular.

¹¹⁵⁶ This is suggested by the excavation reports from the Kofinas Ridge and other sites on Chios (see below) showing that the great majority of amphora found are Chian and would have been filled with local wine.

¹¹⁵⁷ Anderson, 1954, pp. 147-50, with the proposed date for this deposit in p. 159. The Attic ware is recorded as nos. 138-48 and the amphorae, nos 181-2. Sheds of over 17 Chian amphorae were found, in contrast to two amphorae of Cos and one from Knidos. Not a single shed of a Rhodian amphora came from this deposit.

and Knidos (Anderson, pp. 150-9).¹¹⁵⁸ Off the harbour at Kato Phana the cargo of an ancient ship was identified as carrying amphorae of Cos and dating to the 4th-3rd centuries BC (Boardman, 1961, p. 105). This limited evidence shows that even though Chios was self sufficient in wine, the city did import some wine from abroad, probably as part of cargoes brought to the island by its own traders returning back from trips abroad.¹¹⁵⁹

The Rhodians as we saw became the primary Greek traders in the Black Sea probably at the expense of Chios. Another aspect of Chian trade that may have suffered from Rhodian competition was the slave-trade. Though we still have references to slaves at Chios during the Hellenistic period (see the 'Revolt of Drimakos', pp. 31-32) there is not a single literary source attesting to the involvement of Chians in this trade after the Classical period.

The evidence suggests that Chios and Rhodes may have been competitors in trade -at the expense of the first- but common interests seem to have bound them together politically. As we saw in the discussion of the historical background, pp. 26-28, joint Chian and Rhodian embassies are recorded as trying to settle disputes between Greek states that were disrupting international trade, and during the 2nd Macedonian and the Antiochine war both cities fought on the side of the Romans and benefited from the Peace of Apamea.

Nevertheless at the conclusion of the 3rd Macedonian War (172-168 BC) a serious disruption in the economic relationship between Chios and Rhodes occurred. In 167-166 BC the Romans declared Delos a free port, and placed it under the nominal control of Athens, thus turning this tiny island of the Cyclades into the commercial centre of the Eastern Mediterranean. This calculated move aimed at and succeeded in seriously damaging Rhodian interests, since foreign merchant ships were no longer calling at Rhodes on their way to Egypt.

¹¹⁵⁸ Only two sheds of Attic ware were found (nos 189-90). but fragments from over 70 amphorae (nos. 270-4). Of these more than 50 were identified as Chian and the rest from various Greek regions.

¹¹⁵⁹ Anderson, 1954, p. 170, based on the evidence from the excavation at Pindakas, states the Chians imported some wine but relied mostly on their own produce.

Within a very short period international trade changed radically; the Chians would probably have been among the first to adapt to this new reality by transferring their business from Rhodes, with its high taxation, to the tax free haven of Delos (see below). Obviously the Chians would have not seen the local market at Rhodes as important enough to retain commercial contacts with this city and continue paying the high harbor tolls and import taxes. It is not a coincidence that from around the middle of the 2nd century BC the number of Chians appearing in Rhodian inscriptions drops dramatically (Sarikakis, 1984).

For centuries prior to the Hellenistic period Chios had religious ties with Delos. This reflected to a large degree the significance that the Ionians -including the Chians- attached to the cult of Apollo and the position Delos held within this cult as the god's birthplace, (see the introduction, p. 9). Ever since the Archaic period Chian pilgrims are recorded as visiting Delos and making offerings to local sanctuaries and temples (Sarikakis, 1984). Such contacts are still attested for the Hellenistic period but during the 3rd century BC relations between Chios and Delos also extended to trade, and possibly politics.¹¹⁶⁰ Chian traders and businessmen are known to have lived and worked at Delos during the 3rd century BC (see p. 628) and a few Chian amphorae dating to that century have been found on the island. However the vast majority of dated Chian jars recovered from Delos belong to the period between the early/mid 2nd century BC and the early 1st century BC (Sarikakis, 1984, p. 42).¹¹⁶¹ The same also applies for Chians named on local inscriptions dating after the middle of the 2nd century BC since these exceed by far the number of Chians recorded on earlier inscriptions (Sarikakis, 1984, pp. 46-7). 18 different individuals identified as Chians from their ethnic are named in Delian inscriptions between the middle of the 2nd century and the

¹¹⁶⁰ On a possible political link between Chios and Delos during the 3rd century BC, see the evidence presented in the historical background, p. 24.

¹¹⁶¹ See Grace & Savvatanou-Petropoulakou, 1970, pp. 361-2, for Chian stamped handles of the Hellenistic period found at Delos and dating in general to the 3rd-2nd centuries BC; see Sarikakis, 1984, p. 42 for a discussion of Chian amphorae found at Delos.

early 1st century BC. These finds attest to the fact that Chios developed even closer economic ties with Delos from the 2nd century BC, probably with greater impetus after Delos was declared a free port in 166 BC. Chian traders would have used Delos as a centre for the distribution of their wine and other local products but also as the main port of call for their ships on their way to Egypt, in the place of Rhodes.

Egypt represented the most important foreign market for Chian wine during the Hellenistic period (Sarikakis, 1984, p. 45). Chios was trading with this region since early in the Archaic period (see the introduction, p. 10) but during the Classical period contacts between the island and Egypt seem to have dwindled and eventually disappeared completely, probably as a result of the Greco-Persian wars during the 5th century BC.¹¹⁶² The situation completely changed with the founding of the city of Alexandria and the creation of the Ptolemaic kingdom in the late 4th century BC. The Ptolemies actively supported trade between Greece and Egypt, and Chios seems to have made full use of this new political situation. The 3rd century BC in particular sees a revival of Chian trade in Egypt, probably encouraged by the friendly political relations that the island seems to have cultivated with the early Ptolemies (see the historical background, p. 22). The best evidence on the importation of Chian products to the markets of Alexandria is found in various papyri of the *Zeno Archives*, with records of ship cargoes carrying Chian wine but also amphorae of the island containing products of Pontus.¹¹⁶³ It is also significant that Alexandria has yielded the largest number of

¹¹⁶² Laimou attributes the lack of Chian pottery in Egypt after 520 BC to the dominance of Attic ware and the Persian conquest of Egypt. Hardwick, 1993, pp. 220-2, states that while Chian coinage is common in Egypt for the period c 550-493 BC, and less common for c 490-425 BC, none is recorded for the period c 412-300 BC.

¹¹⁶³ These papyri are records of an official of Ptolemy II named Zenon and include interesting documents of economic and social nature such as letters, receipts for payments of rent, etc. The collection of papyri is published in *Greek Papyri in the British Museum, Vol. VII, The Zenon Archive*, ed. T. C. Skeat, London 1974. For references to Chian products, see pp. 36-7, no. 1948 (dated 257 BC), 'Chian wine'; pp. 234-5, no. 2141, 'Chian pottery'; p. 237, no. 2142, 'Chian pottery'; p. 238, no. 2144 'Chian wine'. On Chian products recorded in documents of the Zenon Archives see Fraser, 1972, pp. 149-50, and Bauslaugh, *Posthumous Chian Alexanders*, p. 21.

stamped Chian amphorae handles dating to 3rd and 2nd centuries BC of all foreign sites showing that Chian trade with Egypt would have been on a wide scale (Frazer, 1972, pp. 165-7; Bauslaugh, *Posthumous Chian Alexanders*, p. 21, f. 34; Sarikakis, 1984, pp. 37-39). These finds seem to confirm the statement by the 3rd century BC poet Callimachus (fragment 399, II. 1341-42) that in his days Egypt was importing large quantities of wine from Chios. Finally we may also note that the majority of Chians recorded in Egyptian papyri belong to the 3rd century BC.¹¹⁶⁴

Sheds of Chian amphorae have been found in what is likely to have been one of the camps of Ptolemaic troops stationed in Attica during the Chremonidean War of 268/7-262/2 BC supporting Athens against Macedonia.¹¹⁶⁵ In light of the evidence we have on the pattern of Chian trade at the time there are three possible explanations for the presence of Chian wine at Attica and within the context of this war. It may have been sent as part of the provisions to the garrison from either Egypt or Athens, both of which, as we saw, were importing Chian wine at the time; it is also possible that it was purchased from Chians trading directly with the garrison.

There is very limited information on other Chian economic activities outside trade during the Hellenistic period. The production of pottery was linked to the wine trade and must have been important at Chios considering the large numbers of amphorae and lagynoi that were required in the wine export business. A pottery workshop at Chios is recorded as owned by Attalus I in the inscription with his donations to the city of Chios, though no site associated with the manufacture of ceramics during the Hellenistic and the early Roman period has been located and excavated at Chios. The inscription of the Attalus donations also includes

¹¹⁶⁴ For Chian residents and traders in Egypt see Sarikakis, 1984, p. 41. A Chian, ΑΡΙΣΤΟΣ son of ΊΜΟΔΗΜΟΣ rose to become a minister of Ptolemy V and finally governor of Cyprus.

¹¹⁶⁵ For sheds of Chian amphorae in Ptolemaic camps see E. Varoucha, 'Συμβολή εις τον Χρεμωνιδειον Πόλεμον' ('Contribution to the Understanding of the Chremonidean War'), *Αρχαιολογική Εφημερίς*, 1953-4, part III, (Athens, 1961), pp. 321-49. For a summary of events of this war see C. Lagos, 1996, p. 275, f. 17.

references to plots of land where olive and fig trees were cultivated (see above). We lack any evidence that the Chians traded these products abroad and they were probably used for local consumption.

The signing of the Apamea treaty in 189 BC almost certainly had a beneficial effect on the Chian economy.¹¹⁶⁶ One of its terms awarded Chios with overseas territory, which would have been the 'Chian Peraia' in Aeolis of Asia Minor. This region was last under the island's rule almost two centuries earlier, during the mid 4th century BC (Sarikakis, 1975, pp. 356-9). It was situated in an important route linking the Aegean with the interior of Asia Minor and thus serving the best interests of Chian trade in the region. A few Chians are known to have possessed land in this region and would have been especially favoured by the return to Chian rule. The newly acquired territories would also have probably attracted settlers from the island.¹¹⁶⁷

As I discuss in the historical background (pp. 32-34), Chios was a Roman ally and developed close contacts with this power especially during the Antiochenean war and its aftermath. As a consequence of this political relationship the island seems to have been one of the first regions in the Greek East to accept Roman and Italian *negotiatores* as residents.¹¹⁶⁸ Sarikakis (1970, p. 170), states that these foreigners were attracted to Chios from its proximity

¹¹⁶⁶ Maurogordato, 1916, p. 304; Sarikakis, 1975, pp. 355-56, with all modern references to this theory. In contrast to these, Bauslaugh, *Posthumous Chian Alexanders*, p. 36, agrees with a flourishing Chian economy, but only between c 188 and 166 BC.

¹¹⁶⁷ On Chians owing land in the region see Sarikakis, *ibid.* Nothing is known of Chian rule in this region due to the lack of archaeological finds and any literary references dating to the Hellenistic period. It is also unclear when and how Chios lost this territory.

¹¹⁶⁸ For accounts of the involvement of Roman businessmen in the economic affairs of the Eastern provinces see Magie, 1950, pp. 162-66 & 250-58; A. J. Wilson, *Emigration from Italy in the Republican Age of Rome*, (Manchester, 1966). Sarikakis, 1975, p. 360, suggests that Chios was among the first areas to receive Roman settlers. This he based on the study of inscription, SEG 16, (1959), no. 486, and particularly line 20, where the word 'παρεπιδημουντες' appears in conjunction with a group of Romans at Chios. Sarikakis translates this word as *residents* and distinguishes these Romans from another group of Romans that are referred to in line 12 as 'παραγινόμενοι' translated as *visitors*, who seem to have been temporarily at Chios possibly during the war against Antiochus. Forrest & Derow, 1982, pp. 87-88, reject this argument and consider both groups to represent the same groups of Romans temporarily stationed at Chios during the Antiochenean War. Note that Italian *negotiatores* began arriving in large numbers in the East from the middle of the 2nd century BC and after Delos was declared a free port; see J. Hartzfeld, *Les Trafiquants Italiens dans l' Orient Hellenique*, (Paris, 1919), p. 30.

to their newly founded Province of Asia, its location on the major maritime routes between mainland Greece, Asia and the Black Sea, and its agricultural products, most important of which was wine. During the 1st century BC we have references to Romans in possession of land at Chios (Appian, *Mithridatic Wars*, 47) but many of these would have been involved in the export of Chian wine to the markets of Italy (Magie, 1950, p. 255).¹¹⁶⁹ No Chian amphorae or lagynoi of the Hellenistic period are known to have been found in Italy,¹¹⁷⁰ but the island's wine is referred to in Roman literary sources of the Republican period thus confirming its import in Italy.¹¹⁷¹

The presence of Roman residents on the island would have had a positive effect on the local economy from the business that they would have generated. In particular the transit trade of wine to Italy would have gained impetus since the Roman residents of Chios had connections with Italy and possessed knowledge of the local markets there. We also have some evidence that these new residents also undertook civic duties for Chios and also performed certain leitourgies and benefactions.¹¹⁷²

¹¹⁶⁹ However, not a single Latin name is found on a Chian amphora handle which might suggest that the Romans were not directly involved in the production and trading of wine before the early 1st century BC, the latest period when we have stamped handles of Chian amphorae. At Cos, where Romans are recorded by different sources to have been involved in the wine trade, we find Latin names on amphora handles from the 2nd century BC, see Sherwin-White, *Cos*, p. 250. The Roman residents at Chios are unlikely to have been *publicanoi* (tax farmers), since the city retained its freedom and was immune from paying taxes to foreign powers during the Hellenistic and early Roman periods (see the historical background, pp. 32-34).

¹¹⁷⁰ For the discovery of Chian amphorae of the 1st century BC in shipwrecks off the coast of Cannes in France see the discussion in the chapter on typology (p. 596). In the same chapter I also discuss an earlier Chian amphora in the possession of the Archaeological Museum at Tournais; since this has no recorded provenance it seems likely not to have been found locally but smuggled out of the Eastern Mediterranean in recent years.

¹¹⁷¹ Plautus, *Curc. I. I.* 78, with reference to Chian wine in lagynoi and *Poenulus*, line 699; Pliny the Elder, *NH*, XIV, 96, on the medicinal value of Chian wine quoting a reference from Varro, *Res Rusticae*, II introduction, 3, dating in 37 BC but referring to the import and distribution to Chian wine in Rome in 94 BC; on this reference see the discussion by Derow & Forrest, 1982, p. 83. Finally, Philodemus, a poet from Gadarene of Palestine who lived in Naples and Rome during the 1st century BC, includes a reference to wine of Chios in a poem showing that it would have been available in markets of Italy -on this reference see Seltman, 1957, p. 119.

¹¹⁷² This is alluded to from the emergence of Roman names on the Chian coinage during the 1st century BC; see the outline of the coinage in the chapters on Series 20 and drachms of the reduced denarius standard (Decius) and drachms of the reduced cistophoric standard (Rabirius). A Roman resident of the name Nassius left during the 1st century BC his large fortune to the Chian state; on this individual and the Chian inscription recording his donation, see Sarikakis, 1975, p. 361.

Ancient literary sources reveal almost nothing about Chios between the Peace of Apamea and the start of the 1st Mithridatic War in 89 BC. However, most scholars seem to agree that the Chian economy was flourishing during this century and down to the city's destruction in 87 BC by Mithridates. This picture is drawn only from the few ancient literary sources referring to Chios as one of the Greek cities that benefitted from the Peace of Apamea. Nevertheless the evidence presented and discussed above suggests that after the early Hellenistic period Chios would have been profiting from its overseas trading. It is likely that during the 2nd century BC, probably as a result of the Peace of Apamea, Chian profits from its wine trade would have been even larger.¹¹⁷³ Possible evidence on an expanding economy after Apamea is provided from a recorded increase in the number of stamped Chian wine jar handles from the early 2nd century BC. The largest number of stamped Chian handles found after Alexandria are from Athens (the Agora and Pnyx), Delos and Pergamum; most of these handles come from contexts dating between the early 2nd-early 1st century BC (see p. 592, for references).

There is very little evidence from the island itself pertaining to the state of the economy during this period, since only a few artifacts belonging to the Hellenistic and Roman periods originate from Chios. Two fragmentary inscriptions found locally might give an idea of the island's suggested prosperity. The first one is inscribed with part of Homer's Iliad (J. Cook & J. Boardman, 1954, p. 162) and the second one epigrams (Trypanis, 1960, pp. 69-74; IG XII, 6, pp. 143-4, no. 497). Both were found in the city of Chios, date to the 3rd-2nd century BC¹¹⁷⁴ and are thought to have been used as text references in schools or libraries. The quality of the marble slabs and the lettering is the finest showing that these inscriptions

¹¹⁷³ Bauslaugh, *Posthumous Chian Alexanders*, p. 21, also arrives at the same conclusion, but for the period prior to the declaration of Delos as a free port in 167/6 BC (idem, p. 36).

¹¹⁷⁴ The first inscription is dated by Cook & Boardman to the 3rd century BC, the second inscription by Trypanis to the 2nd century BC. Dr Forrest has informed me in private communication that the second inscription is more likely to belong to the 3rd century BC -not the 2nd century BC, as hitherto proposed- based on its letter forms.

would have been expensive to produce. Obviously they were luxury items that only a wealthy society could produce during antiquity (Trypanis, 1960).

Evidence on the economic state of the island and probably also indicative of prosperity may be found in the inscriptions linking Chios to the Delphic Amphictiony (see the discussion in the historical background, pp. 25-26). There we have references to expensive gifts of the Chians honouring the Aetolian League (mostly wreaths of gold, but also other objects in gold and silver) and also gifts and money for their representatives at Delphi. Between the late 3rd century BC and early 2nd century BC a number of Chians are also attested in inscriptions as having paid large sums of money for the erection of statues at Delos or dedicating luxurious gifts to the temple of Apollo on this island (Reger, 1994, pp. 70-1). These references seem to indicate that private wealth would have been accumulating at Chios during the Hellenistic period, probably on a scale not seen since the 5th century BC.

Not a single public building from the period has been excavated in the city of Chios but in recent years it has become known that the splendid altar of the Chians at Delphi, ruins of which are still visible, was erected in its latest form during the 3rd century BC and not the 5th century BC as was previously held.¹¹⁷⁵ This new altar would have been constructed as a reflection of the city's high status as member of the council of the Amphictiony. It is also a demonstration of wealth since it was reconstructed entirely of marble (P. Amandry, *ibid*).

¹¹⁷⁵ This altar was built on the spot of an earlier one of the Classical period which caused it to be confused with the structure belonging to the Classical period. However it is now established that it dates to the Hellenistic period, see the discussion by P. Amandry, 1986, pp. 216-18.

3. The coinage as source of evidence on the Chian economy during the Hellenistic period

(c 332-87 BC):

3. i. Introduction: The majority of ancient Greek precious metal coinages tended to be used locally within the region of the issuing city and that of its neighboring cities. Occasionally a few coins would travel abroad either through trade, payments to mercenaries, artisans, and other professionals employed abroad and returning home, plunder of war, levies, and ransoms to pirates. The standard on which a precious metal coinage was struck also played a major role in the extent to which it circulated outside the region of its mint. Coinages struck on a weight standard that was commonly used at the same time by a number of different mints (for example the ‘Attic’ standard), circulated abroad with greater frequency than coinages that were on local standards.

In this respect the study of finds of precious metal issues throws light on economic ties between different cities and regions. The study of this type of coinage may also provide us with evidence on the general state of the economy of the state producing the coinage, the scale of its public expenditures and other economic aspects.

The circulation of base metal coinage was not restricted in the same way as that struck in precious metal. As I discuss in the chapter on bronze denominations, p. 510, bronze coinage tended to circulate freely among the Greek cities and states. However since the value of this coinage was small it was not used frequently in trade and therefore did not see a wide circulation outside the region it was issued.¹¹⁷⁶ Any bronze coins found in foreign sites would have been brought there as small change and reflect in an indirect way economic links

¹¹⁷⁶ Trade was usually conducted in precious metal coinages and not base metal, see on this point Macdonald, 1981, p. 15. In rare cases bronze coins of one mint might have purposely been selected to circulate in the territory of another mints, providing that there was a correspondence in the denominational systems of these mints. This signals economic but also political links between the issuing state and the user of the coinage; see for example the circulation of the bronze coinage of Hellenistic Corinth in cities of the Peloponnese in general, McIssac, 1995, p. 24, f. 4.

between different cities (Howgego, 1985, p. 33). However this coinage is not helpful for offering evidence on the extent of these contacts, something which is possible for precious metal coinages. Furthermore, the small value of base metal coinage offers us no evidence on other aspects of the economy, such as state expenditures.

Few Chian coins dating to the Hellenistic period have been published as found in excavations or hoards outside Chios. Drachms and tetradrachms with Posthumous Alexander types make up the bulk of precious metal coinage, with very few civic type drachms. This mint's base metal coinage has also been found abroad. There is a great discrepancy in the number of coins from different bronze series found on these sites; issues of certain series are found in relatively large numbers while others are only known to have been found at Chios. This also applies for coins of certain denominations which are better represented in foreign finds than others. For example issues of the chalkous and dichalkon are found abroad but this does not apply for issues of the trichalkon, though the latter belong to the most common bronze denomination. References to individual coin finds are included in the relevant sections of the outline of the coinage.

3. ii. Silver Chian coinage found abroad: No Chian precious metal issues are known to have been struck during the last quarter of the 4th century BC and the Chians as we saw relied on mints of Alexander's empire, and his early successors, for their continued supply of silver coinage. Even though coins of this type are yet to be published with a secure Chian provenance, circulation of this coinage on the island is considered certain since it is attested in a number of local inscriptions of the period.

We do not know through what channels Chios received coinage from the Macedonian Empire and its succeeding states; most probably in exchange for wine and other local

commodities. Much of this money, as I suggest, would have eventually returned back to these states in the form of taxes (see the historical background, p. 80). The numismatic evidence reveals that the island depended for its entire stock of precious metal coinage on foreign mints, suggesting that its economy would have probably been underdeveloped and controlled by foreign powers.

The beginning of the 3rd century BC ushered in a new period for the issue of precious metal coinage by Chios, which minted at the time its first silver coins for almost half a century (since the 330s BC). The coins were struck on the internationally accepted Attic standard and copied types of 'Alexander's Posthumous' coinage, commonly used on issues of many other contemporary mints. Production of this type of coinage continued on the island on a regular basis down to its cessation in c 160 BC.

Posthumous Alexander type coinage of Chios has been found in a number of hoards from southern Greece, Asia Minor, Syria and Mesopotamia.¹¹⁷⁷ As we saw, archaeological sources have established that Chios exported wine to these regions, and probably had developed long term economic contacts with them. However it is not clear if the Chian coinage found locally in these regions arrived there through trade and therefore we cannot consider it as evidence of economic ties between Chios and these foreign regions, as was established for finds of Chian wine jars abroad. Precious metal coinage tended to circulate further afield following its initial use, which is especially the case with the Alexander type coinage with its unrestricted circulation in many regions of the East.¹¹⁷⁸

¹¹⁷⁷ Bauslaugh, *Posthumous Chian Alexanders*, pp. 42-44, lists 18 hoards of the 3rd century BC that included this type of Chian coinage. From the first half of the 2nd century BC, Bauslaugh, pp. 44-45, lists 16 hoards containing this coinage struck during the period c 200-165 BC. Hoards containing 2nd century BC Alexander type coinage of Chios have been found in the same areas as those containing issues of this mint from the previous century. Southern Greece is likely to be an exception since Chian Alexanders found in hoards from this region mostly belong to the 2nd century BC.

¹¹⁷⁸ The wide circulation of this coinage was the result of its use of the Attic standard and internationally recognized types; see M. Rostovtseff, 'Some Remarks on the Monetary and Commercial Policy of the Seleucids

We also have to consider that some of this Chian coinage would have left Chios through other channels beside trade, for example as payments to mercenaries or ransoms to pirates.¹¹⁷⁹ The earliest of the Alexander type series at Chios (Bauslaugh Period 1) and later ones (Bauslaugh, Period 3) were probably struck within the context of war and are most likely to have been initiated to cover military expenses abroad, either for purchasing provisions or for hiring mercenaries.

It is therefore not possible to tell if such coinage ended up in a foreign hoard following transactions between locals and Chian traders and is not therefore useful in reconstructing to any extent the pattern of Chian trade as proved the case for the ceramic evidence. The find spots of Alexander type coinage of Chios should not be considered as reliable evidence on economic links between Chios and other cities and states.

Regardless of the above, this coinage is significant to our understanding of aspects the economy since it reveals that Chios would have had the financial capability to mint regularly silver issues and maintain their issue over a long period.¹¹⁸⁰ It also suggests that the local economy was starting to recover and had access to readily available coinage. As we saw, during this period we come across the earliest references to a resumption of Chian international trade since the Classical period, suggesting that the issue of precious metal

and Attalids' in *Anatolian Studies Presented to W. H. Buckler*, Manchester, 1938, pp. 282-84 & 287-89; Bauslaugh, *Posthumous Chian Alexanders*, p. 11.

¹¹⁷⁹ For payment of mercenaries see the discussion in the historical background, p. 54, and in the chapter discussing Attic drachms, Series I. Piratic raids and kidnappings seem to have been commonplace throughout the 3rd century BC, with plenty of evidence on people from Greek cities being held for ransom, see Rostovtzeff, *SEHWW*, p. 202. Chians would certainly have suffered from this menace, at least down to the middle of the 3rd century BC (see p. 633), even if though we possess no direct literary evidence of Chians held for ransom.

¹¹⁸⁰ Gardner, 1920, p. 173, considers that the Alexander type coinage was struck by Chios after c 190 BC and that it reflected a decline in the economy. Bauslaugh, *Posthumous Chian Alexanders*, p. 21, was the first to associate the coinage struck during most of the 3rd century BC (Bauslaugh, Period 2) with other sources attesting to prosperity. The same however may also apply for the final series (Bauslaugh, Period 4), struck during a period when Chios was not involved in war and which Bauslaugh fails to discuss in relation to the economy.

coinage may also have been dictated by a need to facilitate monetary transactions between Chian traders and foreigners abroad.¹¹⁸¹

Early in the 3rd century BC the mint at Chios struck its first drachm series bearing the local civic types (Series I), followed in the middle of the century by a second civic type drachm series (Series II). Both issues were on a much smaller scale compared with the production of the island's Alexander type issues of the same period. They seem to have been produced to cover local needs at Chios, even though their Attic standard would have made possible their circulation abroad. None however is known to have been found outside the island and this may be attributed to the fact that the Chians had access to their own issues of Alexander type coinage for international transactions. The volume of the civic type silver coinage during the 3rd century BC was relatively small at Chios and I would suggest that the coinage circulating locally would also have been supplemented to a large extent by Posthumous Alexander type coinage of the local mint.¹¹⁸²

Between the early 2nd and early 1st century BC Chios struck drachms and some very rare silver fractions on a standard that was lighter than the Attic. This civic type coinage seems to have been issued for over a century, down to the city's destruction during the 1st Mithridatic war in 86 BC. At a time when only a few cities produced civic silver coinage, the Chian mint was striking its silver issues regularly showing that it still had access to bullion and probably its economy was strong. The standard of the drachms was incompatible with that of the major silver coinages in circulation in the Hellenistic world during the same period which would probably explain their absence from foreign sites. It is certain that they were

¹¹⁸¹ Morkholm, 1991, p. 142, states that Chios may have struck some rare issues of the stater with 'Alexander' types to trade with the cities of the Black Sea. This is plausible since as we saw in this chapter, (p. 630) Chians are known to have been trading in this region at the time.

¹¹⁸² As we saw in the chapter on the reduced Attic standard (p. 225), evidence on the circulation of local Alexander type coinage at Chios is provided by the example of a Chian civic type drachm that was overstruck on a local drachm with Alexander types.

issued to cover local needs and were intended to circulate within the local monetary system in place at Chios (Bauslaugh, *Posthumous Chian Alexanders*, p. 37, f. 58).

The issues appear to have been struck in small quantities, probably in brief intervals, and the scale of the coinage was similar to that of the island's contemporary Alexander type tetradrachms. M. J. Price (1991, p. 299) records that each issue of the Chian Alexander type tetradrachm struck in the period c 190-160 BC was small but that the overall quantity of coinage would have been relatively large; the same pattern of issue also seems to apply for the civic type drachms. The issue of limited quantities of coinage on a regular basis suggests that the economy was stable and could afford paying for its short term expenses. It is likely that part of these issues may have been struck to cover expenses emanating from the administration of territories in Asia Minor annexed by Chios in 189 BC.¹¹⁸³ Only coins signed by ΔΕΡΚΥΛΟΣ seem to have been common, but this was a single issue struck over a very brief period. Furthermore, it is probably linked to conditions of the 1st Mithridatic war and bearing therefore no real long term economic significance.

There is some evidence that a few coins from this drachm series found their way abroad. A drachm of this type bearing a countermark featuring a bust of Athena -which is foreign to Chios- alludes to it circulating in a foreign region. It has not been possible to ascertain which authority applied the countermark, probably a city in Ionia or the kingdom of Pergamum.¹¹⁸⁴ I know of no other silver coin of the Hellenistic period bearing such a countermark, but similar ones are known on bronzes of Erythrae dating to the 3rd century BC

¹¹⁸³ Smyrna also produced a silver coinage during the same period that may be linked to expenses from the administration of territories annexed in 189 BC. However Erythrae, that also had its territory extended as a result of the same treaty, did not strike any silver coinage during the first half of the 2nd century BC; this is commented on by Kinns, 1980, p. 154. I have been unable to trace any reports of coin finds from the region of Atarneia which seems to have come under Chian rule in 189 BC.

¹¹⁸⁴ The coin is signed by the moneyer ΑΠΕΛΛΑΣ (illustrated Pl. XVI, fig. 10) The bust of Athens is similar to that present on coins of Pergamum.

and therefore of an earlier date to that already proposed for the Chian drachm.¹¹⁸⁵ The Delian inscriptions recording temple accounts and dating to the 2nd century BC, include references to Chian drachms of the period (see pp. 213-4); though these suggest that this Chian drachm coinage entered Delos, they are not considered as evidence of its circulation there locally since it is more likely that the coins were donated to the temples directly by Chians bringing them to the island. The only cases of clear circulation of Chian civic type drachms in foreign regions date to the early 1st century BC and seem to be linked to events of the 1st Mithridatic war at Chios. I have included a discussion of this monetary feature in the following section with the numismatic evidence on the Chian economy of the Roman period.

In light of the cessation of the local Alexander type tetradrachms in the middle of the 2nd century BC, Chians would have resorted to the importation of foreign tetradrachms for use in large transactions locally. Such coinage would have consisted of the voluminous Athenian *New style* tetradrachms during the 2nd and early 1st century BC and circulating on a wide scale outside Athens.¹¹⁸⁶ This tetradrachm was quickly established as the international currency of the Eastern Mediterranean (Crawford, 1985, p. 127; Kroll, *Athens Agora XXVI*, pp. 14-15; Howgego, 1995, p. 57) and the island of Delos, nominally under Athenian control from 167/166 BC, was the centre of its export (see previous references). The many Chians with trading and commercial interests at Delos would have received payments in this type of coinage, part of which would have then entered circulation at Chios.¹¹⁸⁷ On the other hand

¹¹⁸⁵ See, SNG Copenhagen, *Ionia*, no. 729, for an example; for a discussion of the Athena bust countermark at Erythrae see Kinns, 1980, pp. 101-2.

¹¹⁸⁶ On this Athenian coinage see M. Thompson, *The New Style Silver Coinage of Athens*, Numismatic Studies 10, (New York, 1961).

¹¹⁸⁷ For the find of an Athenian tetradrachm of this type at Chios, and dating in the late 2nd century BC, see pp. 210-3. The fact that the local drachms at Chios were not on the full Attic weight does not seem to have inhibited the use and circulation of the Athenian tetradrachms -which were on the full Attic weight- on the island. As we already saw Smyrna was striking during the same period (2nd century BC) drachms on the reduced Attic weight but its tetradrachms were on the full Attic standard (see outline of coinage, p. 203); for a discussion of economic activities undertaken by Chians at Delos, see pp. 637-8.

tetradrachms of the *stephanephorus* type are less likely to have circulated at Chios in large numbers, since these coins are absent from hoards and excavated sites at Greece and the Aegean islands (Kinns, 1987, p. 106-7), regions where Chians were mostly trading during the 2nd century BC. In any event this tetradrachm coinage may have been highly overvalued making it unpopular with foreign traders.¹¹⁸⁸ Nevertheless a number of mints producing these tetradrachms were located close to Chios, and as we saw in the discussion above, the island still retained contacts with the cities on the Ionian coastline during the Hellenistic period, all be it on smaller scale than in earlier periods. We can therefore assume that some of these issues may have eventually found their way to Chios, even though none have a recorded Chian find spot.

3. iii. Bronze Chian coinage found abroad as economic evidence:

Chian bronze coinage struck during the first three decades of the Hellenistic period (Series 14-15) is rare and none of the coins are known to have been found outside Chios. This may be the reason why their circulation would have been restricted to the island. Considering that the earlier bronze coinage, struck during the final years of the Classical period, was probably recalled from circulation it seems that the Chians may have been facing a shortage of bronze coinage during the early Hellenistic period. We may assume that foreign coinage would have made up at the time a large proportion of the coinage circulating locally at Chios but there is no evidence on this subject in the absence of any coin finds from the island dating to this period.

¹¹⁸⁸ Though the *stephanephorus* tetradrachms were issues of individual cities, they seem to have been linked with the financial policies of the Attalides of Pergamum who ruled over the issuing cities. It is likely that the Attalides may have overvalued such civic issues and shared the profit with the local mint. This is suggested by the fact that the official Attalid coinage of the middle of the 2nd century BC, the cistophoric tetradrachm, was certainly overvalued at the time; on this topic, see Kinns, 1987, pp. 106-7.

A few Chian bronze coins of the 3rd century BC (Series 16-18) have been found abroad, almost all consisting of issues of the chalkous denomination (see the relevant chapters in the outline of the coinage with finds of this coinage). It may be that this particular denomination fitted well with the denominational system used by the majority of Greek cities, where an obol was divided into eight chalkoi (see the discussion in the chapter on denominations, p. 509). Only two coins of the chalkous of Series 16 (16.II) have known provenances and both originate from sites outside Chios; the first one was part of a hoard deposited near the eastern coast of Attica and the second a stray find from the city of Rhodes. The coin found at Rhodes shows signs of long circulation and it is not clear if it entered in the local coin circulation at the time of its issue or later alongside coins of the succeeding Chian series belonging to the same denomination (see below).

The circulation of the chalkous denomination of Series 17 (17.III) copies the same pattern as that of the same denomination from the preceding series. Coins of 17.III have been found in the Athenian Agora (2), and Rhodes (2). The presence of one of these coins at the Archaeological Museum of Fethiye alludes to its likely circulation in the general region of the ancient city of Telmessus in Lycia.¹¹⁸⁹ A chalkous from the next series, Series 18, was found on the island of Thera, in what is likely to have been a hoard of local bronze coinage.

Further evidence on the circulation of Chian petty currency at Rhodes during this period may be deduced from a Rhodian chalkous clearly overstruck on a coin of Chios.¹¹⁹⁰ Though the undertype belongs to a Chian issue dating to the late Classical period, the coin itself is of an identical module to issues of the chalkous from the early Hellenistic period and may have therefore been brought to Rhodes alongside such Chian coinage.

¹¹⁸⁹ Coin finds in the museum at Fethiye originate from eastern Caria and western Lycia, see R. A. J. Ashton, 'Pseudo-Rhodian Drachms from Central Greece', *NC* 155 (1995), pp. 1-70, p. 8, f. 6.

¹¹⁹⁰ As the undertype belongs to an issue of the Classical period, it is excluded from this study. I would like to acknowledge Mr Ashton for providing me with information and a photograph of this coin.

In contrast to the chalkous, other Chian denominations are very rarely found outside the island. A coin from the Athenian Agora constitutes the only recorded find outside Chios of the very common issue of the trichalkon denomination of Series 17. The issue is represented in many hoards and stray finds on sites of Chios; most coins originate from the city of Chios with sites of lesser importance yielding smaller numbers. Even though the overall quantity of coinage produced by the local mint increased dramatically with this issue, it seems to have had little effect on the Chian coinage that found its way into circulation abroad. Here we are probably dealing with a case of a common coinage that seems to have been deliberately excluded from international transactions, while at the same time its much rarer chalkous fraction continued to circulate abroad. As with the trichalkon only a single known dichalkon, a coin of Series 18, originates from a foreign site (Rhodes).

Between the early 2nd and early 1st centuries BC Chios struck a single bronze coinage consisting of Series 19 which circulated abroad in large numbers. 12 coins of this series dating down to c 90 BC were found at Delos and, significantly, all of these seem to have been stray finds, alluding to an extensive circulation of Chian bronze coinage in this city.¹¹⁹¹ Two coins from this series, probably dating to the mid 2nd century BC, were found at Corinth and must have circulated there before the city's destruction in 146 BC. Finally the extremely rare chalkous issue of this series continued to circulate abroad as attested by the discovery of a coin during an archaeological excavation in Thrace.¹¹⁹² None of the coins dating before the early 2nd century BC were found in Athens, though sites of this city have yielded a number of coins from later groups (E, D, F, c 100-70 BC) of Series 19.

¹¹⁹¹ It may be noted that Delos has a higher number of recorded stray finds from this series than any other region, even including Chios.

¹¹⁹² Information kindly provided by Dr N. Hardwick. The coin belongs to the Archaeological Museum of Komotini and no further details have yet become available.

This compilation of find spots of Chian bronze coinage abroad agrees well with localities which saw heavy Chian trade during the Hellenistic period as documented in other sources. All the Chian bronzes found at Rhodes, and its overseas possessions of Telmessus and Thera,¹¹⁹³ date exclusively to the 3rd century and early 2nd century BC. As we saw this also coincides with the period when Chian presence at Rhodes was at its highest peak. The Chian coinage recovered at Delos is strong evidence of the extensive Chian contacts with this island from c 166 BC onwards since all of these coins date after the early 2nd century BC and down to the early 1st century BC.

Athens is the only site where Chian coin finds do not seem to agree with other evidence pertaining to economic ties with Chios. The total absence of any Chian coins from the Athenian Agora dating throughout the 2nd century BC seems odd in light of the relatively large quantity of contemporary Chian pottery recovered there (see p. 633), and especially the large number of Chian coins found at Delos, which, as we saw, was ruled at the time by Athens. This probably suggests that the Chians may not have been trading at the time directly with Athens but sold their wine at Delos, which was then transported to Athens by that city's traders.¹¹⁹⁴

The wide circulation of this coinage in southern Greece during the later Hellenistic period suggests that Chian trade would have mostly concentrated on this region.

¹¹⁹³ Most of the Cyclades islands, including Thera, were effectively under Rhodian rule during the period c 200-167 BC, see Reger, 1994, p. 20. Rhodes controlled part of Caria during the 3rd century BC and most of this region came under Rhodian occupation between c 187-166 BC, see Berthold, pp. 83-89.

¹¹⁹⁴ This was probably because Athens had a 2% import tax on all foreign merchandise (*pentecosti*) during the Hellenistic period. This was kept in place even after the Athenians abolished a similar tax at Delos in 166 BC, see Gabrielsen, 1997, pp. 68-69

3. iv. Foreign coinage at Chios: Two sites on Chios, Kato Phana and Emporio, offer evidence on the foreign coinage that was brought to Chios during the 3rd century BC and afterwards. These sites are located close together in southern Chios and have been extensively excavated; among the artifacts recovered are coins, most of which were published. Surprisingly these sites are known to have yielded for the period between the 3rd century BC and 3rd century AD exclusively foreign coinage; not a single coin find is recorded that can be securely identified as Chian, struck after the end of the Classical period.

The excavation of the temple of Apollo Phanaeus at Kato Phana yielded two non Chian coins of Hellenistic date. They consist of a coin of Cos and another one of Pergamum.¹¹⁹⁵ The temple itself seems to have been used only occasionally after the Classical period since few artifacts were found in this site after this period¹¹⁹⁶ A small anchorage, recorded by Strabo (XIV, 1, 35), located near the temple, was probably used as a minor export centre for the wine produced in the vicinity.¹¹⁹⁷ This business would have brought foreign traders to the region who would have also visited the temple, and the two foreign coins may represent offerings by these visitors.¹¹⁹⁸

The region of Emporio possesses a good natural harbour and played a similar role to that of Kato Phana as one of the entrances into Chios. However Emporio was of far greater

¹¹⁹⁵ The coin of Pergamum is dated to the 3rd century BC and was published by Lamb, 1934-5, p. 153. One of the trays with coins from Chios in the Athens Numismatic Museum includes a corroded bronze coin of Cos with head of Herakles/ crab, a type used commonly by this mint during the Hellenistic period. Records of the museum show that this particular coin was found in the 1914 excavation of the temple at Phana by Kourouniotis though it was not published in his report. A Chian bronze coin of the Classical period in the same collection has a ticket which records its provenance as Chios-Phana; this coin also seems to have been found in the excavation of the temple but is not included in the present study since it pre-dates the Hellenistic period.

¹¹⁹⁶ Not a single published artifact found at Kato Phana (with the exception of the coins) dates between c. 300 BC-300 AD, see Lamb, 1934-5. However Kourouniotis, 1915, pp. 64-93, alludes to the discovery of a few of Hellenistic pottery.

¹¹⁹⁷ For wine produced at Phana see the reference by Virgil quoted in p. 661.

¹¹⁹⁸ It may be noted that this anchorage is likely to have been used by Varro, the Roman magistrate who stole the statues adorning the temple at Phana, since his ship would seem to have left Chios undetected; this would not have happened had his ship been docked at the city harbour of Chios; on this event see the historical background, p. 39.

economic significance for Chios during the Hellenistic and Roman periods than Kato Phana, since it has yielded plenty of evidence pertaining to its use at the time.¹¹⁹⁹ This region is the only part of the island where mastic is grown, which could mean that the harbour may have been the trading and export centre for this product (J. Cook & J. Boardman, 1954, pp. 162-4). Coins at Emporio were found in the excavation of the harbour area and date between the 4th century BC and the 3rd century AD, with the majority in the period 3rd century BC-1st century AD.¹²⁰⁰ No Chian coin dating after the 4th century BC was found anywhere on this site, suggesting that it may have become a designated point for the exchange of foreign coins from the early Hellenistic period.¹²⁰¹ Interestingly all foreign coinage were recovered during the excavation of an early Byzantine church that was built on the foundations of another building.¹²⁰² It would seem that the earlier building may have been linked to economic activities during the Hellenistic/Roman periods which would explain the presence in situ of coinage from different regions and periods.

The fact that Emporio has yielded the largest number of coins as stray finds from anywhere in Chios is not surprising since this site was a large scale excavation.¹²⁰³ However, the coins found locally, and also those at Kato Phana, are not typical of the coins circulating at Chios in general after the Classical period, because of the exceptional nature of the sites.

¹¹⁹⁹ Emporio had a large settlement only during the Archaic and the later Roman periods. Between these periods it would seem that only the buildings of the harbour -including an important sanctuary founded during the Archaic period- were in use or inhabited. At least one large building has been excavated that seems to have been built during the early Imperial Roman period and a fortified hill next to the harbour shows signs of habitation down at least to the early Roman period. For a good account of the different stages in the history of Emporio, see the 'Introduction' by S. Hood, in *Byzantine Emporio*.

¹²⁰⁰ Many early Byzantine coins of the 5th-7th centuries AD were also found at Emporio but are not part of this study.

¹²⁰¹ Dr V. Penna, who has worked as archaeologist at Chios, has agreed in personal communication with me, on the theory that foreign coinage would probably have been exchanged locally at Emporio for Chian coinage by traders doing business in this part of Chios.

¹²⁰² 'Analysis of Coins from the Church Complex' by S. Hood, *Byzantine Emporio*, pp. 33-34.

¹²⁰³ Even today Emporio represents the only important ancient settlement at Chios to have been fully explored archaeologically. This is illustrated by the fact that the British School at Athens that excavated at Emporio published its findings in three supplementary volumes of ABSA (see above).

Therefore the presence of foreign base metal coinage at both sites does not constitute evidence of a lack of local base metal coinage at Chios during the Hellenistic/Roman periods.

The currency found at Kato Phana and Emporio would have been brought to Chios by foreigners or local traders returning home from trips overseas. This coinage is therefore evidence of economic contacts between Chios and foreign cities in the same way as Chian base metal coinage found abroad. The issues represented in these finds include mints in the Greek mainland, Mysia, Ionia, Caria and Egypt.¹²⁰⁴ All these regions, as we saw, are attested in other sources as having economic ties with Chios during the Hellenistic period. A hoard of Ptolemaic issues dating to the end of the 3rd century BC found at Chios, outside the city, should not be seen as evidence of the circulation of this coinage locally (see p. 31). The hoard is likely to be linked with the presence of Ptolemaic troops at Chios during the 2nd Macedonian War.¹²⁰⁵

¹²⁰⁴ The coins are published by J. Boardman, 1967, p. 229. Few Chian bronze coins of the Classical period were recovered (nos. 432-6), Hardwick Series 11-12; a coin of Erythrae dating to the 3rd century (no. 437), type of BMC 131f; a coin of Ephesus dating to the early 3rd century BC (no. 438), type BMC, 63; a coin of Sparta dating between 146-132 BC (no. 439), type BMC, 24-25; a coin of Myndos in Caria dating to the 2nd century BC (no. 440), type BMC, 42-44; two further unidentified coins of the Hellenistic/early Roman period (nos. 441-2). The illustrations of these coins shows a Ptolemaic bronze of the 3rd-2nd centuries BC, (the description of this particular coin is wrong since the reverse type depicts two eagles and not one, which is why this coin was not identified in the first place) and possibly a 1st century AD coin of Sardis. Other coins from the Hellenistic/late Republic found at Emporio were published in *Byzantine Emporio*, p. 139-140. These include, C1, a coin of Phaselis in Lycia dating in the period 1st century BC/AD, type BMC, 82, 19; C2, a coin of Elaea in Troas dating to the 1st century BC, type BMC, 127, 20-7; the last find is discussed in detail below alongside other finds of this coinage made at Chios.

¹²⁰⁵ Ptolemaic troops used to carry their own coinage while in expeditions outside their empire: this applied even for areas where this coinage was not current, see Lagos, 1996, pp. 274-5, for coinage brought to Attica by Ptolemaic troops during the Chremonidean War of 267-262 BC.

4. Outline of the Chian economy during the Roman period (c 84 BC- late 3rd century

AD):

As I discuss in the historical background (p. 38), the city of Chios was seized by forces of Mithridates in 86 BC and most of its inhabitants were forced into banishment abroad. The signing of the Dardanus treaty put an end to the war (85 BC), and allowed the Chians to return back home, only to find the city destroyed and their personal belongings looted. An idea of the scale of this destruction is deduced from the fact that the city walls were under reconstruction shortly after the end of the war.¹²⁰⁶ The city had been taken by surprise, without a siege, suggesting that the forces of Mithridates may have pulled down the city walls while the city was already under their occupation.¹²⁰⁷ The same may also have happened to a large public building in the city that lay in ruins until the late 1st century BC and which according to Josephus (*Jewish Antiquities*, XVI, 18-19) was destroyed during the 1st Mithridatic war. These references suggest a deliberate destruction of the city on an extensive scale by the Pontic occupation force.

It would seem that much of the Chian merchant and war fleets were destroyed or seized by Mithridates, since the literary sources reveal that the population was transported back to Chios on ships of Ponto-Herakleia.¹²⁰⁸ It was also believed that from this period until

¹²⁰⁶ On a proposed date for the rebuilding of the city walls shortly after c 84 BC, see the discussion in the outline of the coinage, the chapter on drachms of the 'reduced denarius' standard, (p. 316). Pliny (NH, XXXVI, 46) records that Cicero happened to be visiting Chios at the time the walls were being rebuilt. While the Chians were proudly showing off to him sections of these new walls, built with expensive marble slabs, Cicero is said to have commented that he would have admired their work even more 'if they had built the walls with bricks made from the mud of the Tiber.'

¹²⁰⁷ The city walls of Chios were rebuilt at the time of the 1st Macedonian War, only a century prior to the 1st Mithridatic war (see p. 30).

¹²⁰⁸ As I discuss in the historical background, p. 36, when Zenobius attacked Chios, its war navy was part of Mithridates's navy participating in the siege of Rhodes. There can be little doubt that all these ships would have been seized by Mithridates at the time he turned against Chios. The Chian merchant fleet is hardly likely to have fared any better. Part of it would have been at Rhodes carrying provisions for the war navy and would almost certainly suffered the same fate as the war fleet. The rest of the ships would have been docked in the harbour of Chios, since the war in the East would have seriously interrupted trade, and these would have been confiscated by Zenobius.

the late Roman period, Chios ceased exporting wine since not a single amphora post-dating c 86 BC was previously recorded as found in a dated archaeological context (Grace, 1970, p. 359). These known facts have made scholars consider that the Chian economy may not have recovered from the blows of the war with Mithridates.¹²⁰⁹

Though Chios is unlikely to have attained the same level of prosperity as before 86 BC, it seems unlikely that the island's economy continued to be in tatters long after the return of its population. Chios was one of the few places in the region to be exempt from the crippling levy of 20.000 talents that Sulla imposed in Asia Minor following the end of the 1st Mithridatic War and which bankrupted many other cities in the region.¹²¹⁰ The fact also that this city was free and outside a Roman province would have been particularly advantageous for its economic development since any acquired wealth would not have been taxed by Rome.¹²¹¹

This study has established that Chian amphorae are found in foreign sites in contexts dating after c 75 BC (Athens) and down at least to the late 1st century BC, or even the early 1st century AD (southern coast of France), showing that the island would have continued to export wine during this period. Furthermore, in the chapter on typology (pp. 594-5), we saw that the type of amphora appearing on the coinage continues to develop into distinctive forms suggesting that it may have been copied from an actual jar produced locally. The typology of

¹²⁰⁹ Maurogordato, 1916, p. 304; Sarikakis, 1975, p. 371; Idem, 1986, p. 122; A. Loutrari, 'Η Ιστορία του Χιώτικου Λιμανιού' (A History of the Chian harbour) article published for the Conference in European Heritage Days, September 1997, held at the Homereion Culture Centre, Chios, pp. 1-30, p. 8.

¹²¹⁰ The levy was imposed by Sulla in 84 BC on all communities in the Province of Asia that had aided Mithridates in his war and represented five years of tribute not paid to Rome during the war (88-84 BC), plus Roman costs of the war; the sum of money demanded was huge, see Plutarch, *Life of Lucullus*, 20; Crawford, 1992, p. 173-4; Howgego, 1992, p. 5.

¹²¹¹ In the historical background, p. 39, I discuss all known references to Chios as a free city under the late Republic and early Imperial period. The reference in Josephus, XVI, 26, does not constitute evidence that Chios was paying taxes to Rome. Sarikakis, 1975, p. 371 (followed by others), partly blames a supposed economic decline of Chios on Roman taxation; this however is not borne out from the evidence showing that Chios retained its freedom and tax immunity down to the late 1st century AD (see the following discussion).

the coinage constitutes the best evidence we have of Chios still producing amphorae for exporting wine throughout the Roman Imperial period.

We may only expect that in the first years after their return to the island, the Chians would have concentrated all their efforts on rebuilding their city's infrastructure and trade would have been treated as a secondary priority. It is not clear when a possible recurrence of Chian trade on a large scale could have taken place. The earliest coinage after c 84 BC shows an amphora type which I have proposed in this study (the chapter on typology, pp. 595-6) as identifying with a real jar and suggests that this amphora form might have been produced at the same time as the issue bearing its type. I have already referred to above to the fact that specimens of this particular amphora were found outside Chios suggesting that the island may have started trading abroad not long after c 80 BC.

The general situation in the Aegean during the 70's-60's BC was not at all favourable for maritime trade in light of the renewed war between Mithridates and Rome (3rd Mithridatic war 74-63 BC) and the large scale attacks of pirates in the Aegean region within the context of this war. A major economic centre such as Delos was overrun and destroyed by pirates during this period (69 BC) and other communities suffered terribly from raids by pirates. It is therefore likely that if Chians resumed trading their wine after c 80 BC this would have been on a limited scale. Only after Pompey cleared the Eastern Mediterranean of piracy in the Aegean (67 BC) and brought an end to the war with Mithridates (63 BC) could trade resume in the region (see also the discussion in the historical background, pp. 40-41). However this would not have lasted long since successive Roman civil wars between 49 and 30 BC -mostly fought in the eastern part of the Empire- would have repeatedly disrupted all commercial activities.

It is only with the end of these wars and the establishment of Octavian as the sole ruler of the Roman Empire that Chios seems to have resumed trading its wine abroad in quantity. Once again we find references to Chian wine in literary sources of the period, and both Virgil and Strabo record specific regions of the island producing the better quality of wine.¹²¹² These literary sources suggest that Chios may have been exporting its wine during the Augustan period and confirmation also comes from an archaeological discovery. The exploration of an ancient shipwreck off the coast of Southern France, dating during the early Imperial period, yielded a large number of amphorae; the great majority of these were of a type produced at Chios and shows that the cargo of this ship would have originally come from the island.¹²¹³ This is an example of the export of Chian wine to the western part of the Roman Empire during the early Imperial period.¹²¹⁴

Inscriptions from Chios dating early in the Augustan reign make references to labourers and officials in charge of the city harbour.¹²¹⁵ They also mention that the labourers purchased wreaths made out of gold as gifts for honouring the officials of the harbour. This type of expenditure was costly, and so would have been the commissioning of the inscription which was also paid for by the labourers. We seem here to have evidence indicating that this particular class of workers at Chios was accumulating wealth, probably as a result of the large scale commercial activity attracted to the harbour.¹²¹⁶ The island's key position on the Aegean

¹²¹² Virgil, *Georgics*, II, 98, with reference to the wine made at Phanae as the best of Chios. Strabo, XIV, 1, 35, with reference to Ariusa a 'rugged and harbouless country' at Chios as the region producing the best wine in Greece; Whitbread, 1995, p. 144, identifies this region with the western side of the island.

¹²¹³ According to P. Fiori and J.-P. Joncheray, 1975, p. 61, the largest number of amphorae found in this wreck were of the 'Chian type'; however the authors record the provenance of the cargo as 'Eastern Meditteranean', without suggesting a specific area. Other amphorae types -*Dressel 1, 2-4, 6, 9*, Rhodian etc- were represented by one or two specimens each, and this adds weight to the idea that the provenance of the ship would have been Chios.

¹²¹⁴ The date for this wreck in the period, late 1st century BC-early 1st century AD, was proposed by the archaeologists.

¹²¹⁵ L. Robert, 'Bulletin Epigraphique', REG 42, 1929, pp. 32-38; IG XII, 6, no. 382.

¹²¹⁶ Based on this evidence, Magie, 1950, p. 257, states that Chios would have been prospering from the middle of the 1st century BC.

sailing routes and the facilities of its harbour would have been much appreciated during the Roman period since Chios is recorded at the time as a major stopover for ships travelling between the Levant, the Black Sea, Greece and Asia.¹²¹⁷ The harbour is recorded during the late 1st century BC by Strabo (XIV, 1, 35), as holding up to eighty ships docked at the same time. These aspects of the Chian harbour would have facilitated contacts between Chios and the outside world helping the Chians to continue trading.¹²¹⁸

However Strabo (XIV, 1, 35) claimed that Chios once possessed a large fleet, implying that it no longer did so in his time. This was taken by Sarikakis (1975, p. 371) as evidence that the island did not rebuilt its merchant fleet after the end of the 1st Mithridatic War. However the context of this passage shows that Strabo was referring to a war fleet, as opposed to a merchant one.¹²¹⁹ Naturally the former would have been of little use to Chios, or any other Greek city for that matter, following the establishment of *Pax Romana* in the Mediterranean under the rule of Augustus.

During the early Roman Imperial period another source of evidence on the local economy consists of the benefactions made to the city of Chios by foreign (non Greek) rulers, all of whom were client kings of the Roman Empire.¹²²⁰ Donations by these foreigners to Greek cities seem to have served two different purposes on the part of the benefactors; firstly, they were open displays of their philhellenism (Robert, 1938, p. 126) and secondly, a pretext for cultivating economic ties between their own state and cities receiving benefactions (see

¹²¹⁷ This I deduce by the list of dignitaries visiting Chios during this period; see the discussion in the historical background, pp. 42-43. Volutius, a friend of Horace, was travelling to Lesbos when he recorded in a letter to Horace that the ship made a necessary stop at Chios for provisions (Sarikakis, 1975).

¹²¹⁸ Strabo had first hand knowledge of the harbour at Chios since he records that he visited the island.

¹²¹⁹ Strabo in the same reference links this navy with struggles for the *freedom of Greece*.

¹²²⁰ As I discuss in the historical background, pp. 43-44, Chios also seems to have received benefactions from Roman magistrates; these however were no more than gifts made by individuals who had personal interests on the island and are not of the same importance as those made by foreign rulers.

below). As I discuss in detail below cities receiving such gifts seem to fit one of the two requisites; they were either great cultural centres or of economic significance.

Chios is known to have received benefactions from three foreign kings, Herod I of Judaea (37 BC-4 BC), Rhoemetalkes I, king of Thrace (11 BC-2 AD), and Antiochus IV of Commagene (41 AD-72 AD). As we saw in the discussion of the historical background, p. 42-43, only Herod is attested in literary sources to have been a benefactor of the Chians, while the other two became known from inscriptions or commemorative coin issues.¹²²¹

Herod's donations may have aimed encouraging closer economic ties between his kingdom in Judea and Chios.¹²²² This also seems to be reflected in the other cities that are recorded as having received benefactions from this ruler.¹²²³ The fact that Chios is also known to have had a sizable Jewish community during the early Roman period may also have influenced Herod's policy.¹²²⁴ Rhoemetalkes's benefaction may have aimed at attracting Chian interest in the import of grain from his kingdom in Thrace.¹²²⁵ This is further implied by the fact that ΑΠΟΛΛΩΝΙΟΣ, recorded in the same inscription as having been elected eponymous magistrate alongside Rhoemetalkes, offered 10.000 drachms as a gift to the Chians for purchasing grain. It is likely that this individual may have been an agent of Rhoematalkes and the purchase of grain would have taken place in his kingdom in Thrace.

As I discuss elsewhere in the study, Antiochus of Commagene seems to have cultivated a personal relationship with the island stretching over a period of three decades.

¹²²¹ For the inscription recording Rhoemetalkes's donation, IGR IV 941, Vanseveren, 'Inscriptions de Chios', pp. 335-6.

¹²²² Amphorae of the island have been found in Palestine showing that Chian wine was imported to the region, see Sherwin, *Cos*, p. 238, the chart with amphorae handle finds, and Ariel, 1990, p. 74, with finds of Chian wine jars in Jerusalem.

¹²²³ Ephesus, Athens, Sparta, Pergamum, Nikopolis, Rhodes, Cos, Byzantium, Sinope and others, see A. H. M. Jones, *The Herods of Judaea*, (Oxford, 1938), pp. 97-101 and L. Robert, 1938, pp. 136-137.

¹²²⁴ On the Jewish community at Chios see A. Argenti, *The Jews of Chios*, (Oxford, 1935).

¹²²⁵ See Casson, 1984, p. 77, for a similar case where Massinissa, king of Numidia, gave to the city of Delos a gift of grain in 179 BC. Casson suggested that this might have been an attempt by Massinissa to win orders to supply Delos with grain, something which seems to have been unsuccessful.

The long period of association between Antiochus and Chios seems to have marked it out as a permanent feature in the foreign affairs of both. However there is no indication of the reasons dictating this policy, and why Chios in particular would have attracted this generosity from Antiochus, especially in light of the absence of any known benefactions by this ruler to other Greek communities outside his kingdom.¹²²⁶

In general I believe that such benefactions to the Greek cities should not be considered as charity to poor communities, but as an 'investment' for developing economic ties between these cities and the benefactor's state. Chios would have benefited in the short term from these displays of generosity but we also need to consider that these may have given a further impetus to its foreign trade. This evidence suggests that Chios may have retained during the early Imperial period its reputation as one of the economic centres of the Greek world. On the whole the literary and epigraphic evidence seems to suggest that Chios may have continued trading even if this was on a smaller scale than before.

There is little information of any kind on the Chian economy from the Flavian period onwards. During the reign of Vespasian, Pliny the Elder (NH, XII, 72; XIV, 73) noted the fine quality of the island's wine and also its export of marble and mastic. The latter is likely to have been produced by Chios centuries earlier but Pliny was the first to record the fact that the island exported this product. It would seem that mastic was becoming increasingly known and popular during the Imperial period. By the late 3rd century AD its production and export seems to have been large enough to be included in Diocletian's Price Edict.¹²²⁷

¹²²⁶ See L. Robert, 1938, pp. 137-138, where he only includes evidence of the benefactions of Antiochus to Chios, while other foreign rulers gave donations to many other cities. We can safely dismiss the possibility that Chios might have represented an overseas possession of Antiochus, offered to him by Rome, in light of the free status the city retained throughout the period of his reign.

¹²²⁷ R. Meiggs, *Trees and Lumber in the Ancient Mediterranean World*, (Oxford, 1982), p. 471.

An import of wine from Chios to Egypt is recorded in a papyrus dating 197-8 AD.¹²²⁸ This is the first literary reference to Chian wine in Egypt or any other region after almost two centuries of silence. Furthermore it records that the wine was contained in Chian lagynoi,¹²²⁹ evidence that the local ceramic industry would have continued producing jars for storing and exporting wine during this late period. The amphora type on the coinage continued to develop showing that amphorae of a distinctive shape continued to be made at Chios. A rare archaeological discovery confirms that the island was producing ceramics during the 3rd century AD. Two kilns were excavated, one of which seems to have been used for firing amphorae.¹²³⁰

From the early 4th century AD we once again start finding strong evidence of a flourishing economy at Chios,¹²³¹ but by this time the island's coinage had already ceased to be struck and this period falls outside the scope of the present study.

¹²²⁸ *Papyrologica Florentina*, Vol. 1, *Dai Papiri della Biblioteca Medicea Laurenziana*, Rosario Pintaudi, Florence, 1976, no. 12, pp. 37-8.

¹²²⁹ line 4, ...Χίου λαγυνοι....

¹²³⁰ A. N. Tsaravopoulos, Η αρχαία πόλη της Χίου (The ancient city of Chios), *HOROS* 4 (1986), pp. 124-144. Appendix II, pp. 139-141. The excavator also reported fragments of amphorae of the Roman period not far from the furnaces.

¹²³¹ For example, the discovery of an impressive public building in the city of Chios dating to the early 4th century AD with fine mosaic panels; A. N. Tsaravopoulos, 'A mosaic floor in Chios', pp. 305-15 in *Chios: a conference*, 1986. Loutrari, *Chian Sphinx*, p. 9, discusses the recurrence of trade at Chios during the early Byzantine period.

5. The coinage as evidence on the economy during the Roman period (c 84 BC-late 3rd century AD):

The 1st Mithridatic War seems to have caused Chian civic type drachms to travel abroad for the first time since the end of the Classical period. 14 of these coins, most from the final issue on the reduced Attic standard (Group F), were found in a hoard in the region of Çesme in Ionia, and a single coin from the same group originates from northwestern Asia Minor in the region of what is today the province of Bolu, Turkey. The Chian coins of the Çesme hoard were almost certainly seized from Chios following the siege of 87 BC, while the coin found in Bolu may also have travelled into Asia Minor following this event.¹²³² The presence of these Chian drachms in Asia Minor is not evidence of economic contacts between Chios and this region but the result of the large scale coining by the island in 87 BC and its plunder by troops of Mithridates immediately afterwards.

Roman silver currency appears to have been temporarily in use at Chios in the aftermath of the 1st Mithridatic War. Two such finds have been published from the island in contexts dating before the late 1st century BC; they include a denarius from the Gridia hoard, and a silver quinarius recovered in a grave at the Kofina Ridge, close to the city of Chios.¹²³³ Both issues are dated to the early 1st century BC and the coins show little sign of circulation. It is clear that this coinage arrived at Chios shortly after it was struck, and was not circulating there during the early Imperial period when the Chians followed the rest of the Greek East and began using Roman silver coinage on a permanent basis (see p. 669).

¹²³² The region of Bolu is not far from Pontus suggesting that the coin may have been brought there by a soldier of Mithridates returning home. However the city of Ponto-Herakleia is within easy reach of this region and it is also possible that the coin was brought there by an exiled Chian.

¹²³³ For the denarius see the discussion of the 'Gridia' hoard, Papageorgiadou, 'Gridia Hoard', p. 188, identified as RRC I, 77, 340; the quinarius was published by Anderson, 1954, p. 160, identified as BMC II, p. 304, no. 662 (c 100-90 BC)

The date of these issues and their contemporarity suggests that they may have been brought to Chios by Roman soldiers in the closing stages of the 1st Mithridatic war. As we saw in the historical background (p. 39), in 85 BC an army under L. Licinius Lucullus drove out the Pontic soldiers from Chios, offering us a likely context for the arrival of Roman silver coinage at Chios. This may have then been used temporarily to fill in a gap in silver coinage locally; the Chians returning back to their island would hardly have had any money at their disposal since this would have all been seized by Zenobius following their surrender in 87 BC.

On the whole, the use of silver Roman issues at Chios only seems to have been a brief episode, directly linked to events of the Mithridatic war and its immediate aftermath. However, even after the city of Chios was re-established it is still likely that silver Roman coinage might have continued playing an important role in local transactions for a brief period, until the state could start striking fresh issues of drachms (probably during the 70s BC).

Chios did not permanently adopt the Roman silver coinage at the time and the economic significance of this circulation was limited to the few years that this appears to have been used locally. Some time after c 80 BC Chios struck coinage on the 'reduced denarius' standard -one of the handful of Greek cities to resume striking silver coinage after the early 1st century BC- showing evidence of a recovery in the local economy. This study has revealed that drachms dating to the period c 80 (or 70 BC)-50 BC were struck in large quantities and may have financed the city's reconstruction (see p. 316). The fact that the island had access to stocks of bullion and could afford to strike its own silver coinage, at a time when most other Greek cities had given up coining in precious metal -or were about to do so-, indicates that the city was probably better off financially than most others in the region.¹²³⁴ The case of Chios

¹²³⁴ I discussed in the historical background (p. 39), the fact that the issue of silver civic coinage by Greek cities after the end of the Mithridatic wars may have been a sign of favour by the Romans. This however does not

may signal that similar contemporary civic coinages in Asia Minor (e.g. Tabae, Stratonikeia, Aphrodisias and others) could have also been struck to pay for expenses relating to the rebuilding of their cities after the end of the Mithridatic wars. Some of these cities, issuing silver coinage after the early 1st century BC, are known to have suffered siege and destruction by forces of Mithridates.¹²³⁵

None of the Chian drachms on the 'reduced denarius' standard are known to have been found abroad, but the presence of an anchor countermark (not a Chian symbol) on one of the drachms suggests that it may have found its way into a foreign region, probably Thrace or Commagene.

A bronze foreign coinage of the 1st century BC that seems to have circulated widely at Chios is that of the city of Elaea in Aeolis. Three coins of this mint, bearing identical types and dating to the same general period,¹²³⁶ were found during excavations in different regions of Chios; one at Emporio,¹²³⁷ and two further coins, one each in two different graves at the Kofina Ridge.¹²³⁸ The discovery of the coin at Emporio suggests that this coinage may have been brought to Chios by traders.¹²³⁹ However the coins found in the outskirts of the city shows that these were accepted in circulation beyond Emporio and into Chios city proper. More importantly the use of the coins as *charon's obol*¹²⁴⁰ in two different, but contemporary

contradict the claim that the economy of the issuing city would have been strong at the time, since the striking of precious metal coinage is more of economic, than political, nature.

¹²³⁵ For example Stratonikeia and Rhodes; see Magie, 1950, pp. 234-5. From a later period, Ashton & Weiss, 1997, pp. 35-6, suggest that the issue of Attic weight drachms by Rhodes during the 1st century BC may be linked with the city's reconstruction following its destruction during the Civil war of 44-42 BC.

¹²³⁶ The coins are identified as BMC, *Aeolis*, Elaia, nos 20-27; *RPC I*, p. 408; Kroll, *Athens Agora XXVI*, p. 408.

¹²³⁷ *Excavations in Chios 1952-5, Byzantine Emporio*, by M. Ballance, J. Boardman, S. Corbett, S. Hood, ABSA, 1989, Suppl. vol. 20, 4, 'Coins, Roman', p. 139.

¹²³⁸ Anderson, 1954, pp. 161-2 (Grave 10 & 11).

¹²³⁹ Two individuals from Elaea are included in the catalogues which are thought to be of foreign *proxenoi* at Chios (see above), but these belong to an earlier period (first half of the 3rd century BC) than that considered here.

¹²⁴⁰ The coins bear the bust of Persephone, a deity of the underworld, which probably explains why they were placed in the graves.

graves, shows that a large quantity of this coinage may have been briefly circulating at Chios.¹²⁴¹

Chios continued striking its own silver coinage -by this period on the cistophoric standard- down to the late Augustan period, and probably into the reign of Tiberius. An inscription from the first year of the reign of Caligula (L. Robert, 1933, pp. 497-8) documents the earliest known reference to the use of the denarius at Chios. This is an official state decree recording honours bestowed on Caligula, presumably upon his elevation to emperor. One such honour is the foundation of a festival celebrating his birthday; the expenses of this festival would have been covered by an unknown sum of money, collected by public subscription, giving an annual income of 9.600 denarii (line 19).¹²⁴² Another inscription dating to the same period or slightly later records a gift of 10000 denarii by Antiochus IV of Commagene to Chios (see p. 391). This coinage would presumably have been spent at Chios on public works or distributed to locals, showing that the denarius had already formed by this period the official silver coinage of the island.¹²⁴³

Bronze coinage of Chios of the 1st century BC is commonly found abroad, with most finds from different issues recovered in the same sites. Coins from the two last groups of Series 19 (Groups E and F) have been found in the Athenian Agora (4), Corinth (4), Delos (4), Ithaka (1), Elis (1), Messene in the Peloponnesse (1), Euboia (1), and the region of Telmessus in Lycia (1). Finds of coins of Series 20 are recorded from the Athenian Agora (3), Peiraeus (1), Delos (1), Corinth (1), Kerkyra (2), Tenos (1), and Pergamum (1). A single coin of Series

¹²⁴¹ There is a slight possibility that the coins of Elaea may have been carried to Chios by Pontic troops during the occupation of 87-85 BC. During his first war against Rome, Mithridates frequently operated from Pergamum and Elaea possessed the closest harbour to this city. Unfortunately the issues of Elaea found at Chios are not dated with precision and the link with the presence of troops of Mithridates on the island is rather tentative.

¹²⁴² Haywood, et al., 1938, p. 948, have wrongly recorded the denomination as drachms in this inscription, and not the correct, denarii.

¹²⁴³ Howgego, 1985, p. 94, suggests that the special coin issues bearing the legend 'gift of king Antiochus' (see p. 388) were probably minted at Chios with bullion sent by Antiochus and then distributed to the population. The same is likely to have happened for the denarii sent by him to Chios.

21 was found at Delos and one of Series 22 at Pergamum. Four coins of Series 23 were recovered in the excavation of Ancient Corinth and so was one coin of Series 24.

As we can see from this compilation of site finds, the majority were made in the south of Greece and adjacent islands, with Pergamum a notable exception. These issues are dated with some precision in the half century c 80-30 BC making it possible to associate their circulation with certain periods in the history of the regions. The coins at Athens circulated there following the sack under Sulla in 86 BC, and two coins of the later groups of Series 19 found at Delos originate from a site that was abandoned following the city's destruction in 69 BC; they would have been lost there before this date. One of these coins belongs to Group F dating in the period c 84-70 BC and suggesting circulation at Delos during the 70's BC. This may also apply for the coin of Series 21 found locally, if the proposed date of c. 84-70 BC in the present study stands. All of the coinage found at Corinth would have arrived there after the Roman colony was founded in 44 BC.

The pattern of finds of Series 19 and 20 is similar, suggesting that the circulation of these coins abroad may have overlapped. In particular, the presence of a large number of Chian dichalkoi from the last issues of Series 19 and Series 20 in Athens shows that this coinage would have circulated extensively alongside local issues. This, as I suggested in the discussion of the outline of the coinage (pp. 331-2), is probably because the Chian issues were compatible in module, denomination, and type, with a certain denomination struck by the Athenian mint and which is not far in date from these Chian issues.

We seem to have a similar situation at Corinth where four Chian coins from Series 23 found there are on the same standard as local issues. The coins are countermarked suggesting that they were purposely selected to circulate at Corinth. The module of these coins agrees

well with that of the earliest issues of the as denomination of the Roman Colony and it seems that they circulated locally as the same denomination (see pp. 359-61).

These finds of 1st century BC Chian bronze coins suggest that the main area of interest for Chian traders during the late Republic/early Empire is likely to have been the south of Greece and the adjacent islands. The small quantity of base metal coinage struck locally at the time in this region would also have played a role in the presence of a high number of Chian coinage there, since the island's traders may have been forced to carry large quantities of their own coinage.

The coin finds at the Athens Agora are indicative of the increase in Chian bronze coinage finding its way to Greece during the 1st century BC. Coins of Chios were missing from Athens throughout the 2nd century BC but a large number of stray finds dating from the early to middle of the 1st century BC have been found on this site. This change in the find pattern for Chian coinage at Athens may have been caused from a switch of business by Chian traders -and other foreigners- from Delos to Athens following that island's sack by Mithridates in 89 BC, and especially the piratic raid of 69 BC.¹²⁴⁴ The finds at Corinth suggest a close economic relationship between Chios and the newly founded colony of Corinth. Two Chian coins that were found together in the foundations of a wall in the sanctuary of Demeter and Kore at the Acrocorinth, reconstructed soon after c 44 BC, are likely to have belonged to a Chian labourer employed on this building site, or a visitor making a small donation in this sanctuary while it was still under reconstruction. The find at Tenos was made in the excavation of the temple of Poseidon and is likely to represent a casual loss or donation by a pilgrim.

¹²⁴⁴ Delos seems to have been abandoned by traders after the piratic sack of 69 BC. M. Hoff, 'The Early History of the Roman Agora at Athens' in *Greek Renaissance, Papers from the 10th British Museum Colloquium*, London Institute for Classical Studies, Bulletin Supp. 55, ed. Walker-Cameron, (London, 1989), p. 7, notes the absence of any references to trade at Delos from the middle of the 1st century BC and suggests that traders may have already transferred business from the island to Athens.

The wide circulation of coins of Series 20 on the Greek mainland is also likely to be linked with events contemporary with these issues, such as the movement of Roman troops in the Greek East brought upon as a direct result of the Civil wars of the 40s and 30s BC. Chians were probably serving or trading with these forces which may account for finds of Chian coinage of this period at the sites of Peiraeus and Delos which were of little or no economic significance during this period. However Roman armies are known to have been stationed there on a few occasions in the period.

The Peiraeus was deserted following its destruction by Sulla in 86 BC -down to the reign of Augustus- and the temporary use of its harbour by M. Antony's navy during the 30's BC affords a good context for the presence there of a coin of Series 20. Delos was no longer of any economic importance by the mid/late 1st century BC -at the time of the issue of Series 20- and a local find of this coinage may be attributed to a similar short term use of its harbour by the Roman military during the period of the Civil wars.

The Chian coins of Series 20 found at Kerkyra, on a site which also yielded a number of contemporary foreign coins of the middle/late 1st century BC, may have been brought there by Roman military returning to Italy from the East during the 40s and 30s BC or by a trader exporting Chian wine to Italy.¹²⁴⁵ The same may also apply for a Chian coin of Series 19 found at Ithaka.

¹²⁴⁵ While concluding the composition of the thesis Dr. A. Tsavaropoulos made available to me likely evidence on Chian traders travelling to Italy and the western Mediterranean. This is the cast of a Chian coin of Series 19 with a note stating that the coin was found in his excavation at an islet, 'Dragonera', near the island of Kythera and opposite Cape Tainaron in the Peloponnese. Furthermore Dr Tsavaropoulos has given me additional information on the discovery on this islet of seven more Chian coins all of them of Series 19, as the previous coin find. The site seems to have included a shrine to a sea deity -Poseidon?- and large numbers of coins of the Hellenistic and Roman periods (Ptolemaic, Athenian and other mints) were recovered there. Tsavaropoulos believes that the islet was located on the main sailing route between the Aegean region and Italy and that the finds would have been offerings by traders and sailors to this deity. We could therefore associate the presence of the Chian coins on this islet with traders travelling between Chios and Italy, but this will be better considered after the full publication of the site finds becomes available, since this islet has also yielded sheds of Chian amphorae.

Between the 1st and 3rd centuries AD it would seem that Emporio was not much used by traders from outside Chios and this is reflected in the coin finds. During these two centuries only two coins have been found locally belonging with certainty to this period.¹²⁴⁶

Chios struck issues during the early Imperial period with or without denominational values. Only the latter are found in sites outside Chios. This is probably attributed to the small number of coins bearing marked values. The most common Chian coin finding its way abroad is the unmarked issue signed by ΑΣΜΕΝΟΣ (probably a trichalkon) and finds are recorded from the Athenian Agora, Sardis, Apollonia in the Adriatic, and Patrae. Of the issues bearing denominational legends only the unique dichalkon coin is known to have been found in a foreign site, the sanctuary of Aesclepius at Epidauros, and seems to represent a casual loss or donation of a Chian visitor.

Not a single coin from Series II and III, covering a period of probably half century (late 1st century AD-mid 2nd century AD), is known to have been found outside Chios. The period between the middle of the 2nd and the middle of the 3rd century coincides with issues of Chios in the names of magistrates Preimos, Eirenaios, and Chrysogonos, and issues bearing exclusively the ethnic but stylistically linked to those with a magistrate's name. Coins of Chios appear once again on foreign sites with the Series of Preimos. Two have been found in the Athenian Agora (a tetrachalkon, and assarion of his second coinage), and Corinth (tetrachalkon, and 2-assaria); one each in Kyparisia in the Peloponese (3-assaria), Pergamum (tetrachalkon), Assos (tetrachalkon), and Smyrna (tetrachalkon); a coin of this series of the 3-assaria denomination bearing a countermark shows that it would have been circulating in the region of Ionia, since it was probably countermarked at Ephesus, but this occurred during the

¹²⁴⁶ *Byzantine Emporio*, pp. 139-140. C3, Patrae, 1st century AD; C5, Diadumenian, Ephesus, 217-218 AD, BMC Ionia, 90, 298-299.

middle of the 3rd century AD (Howgego, 1985, no. 811, k), and almost a century after the issue was struck.

What is particularly striking in the above compilation of finds from the 'Preimos Series' is the wide circulation of the tetrachalkon abroad. The denomination was only struck once by Chios and in limited numbers. Only a single obverse and two reverse dies were used, and the same obverse die was also used in two other low value denominations (hemiassarion, dichalkon). Regardless of this fact, this denomination saw a wide circulation abroad, in contrast to other small denominations of Chios. Not only is it found in different foreign sites but the coin catalogue reveals that this is by far the most common fraction of the assarion from the series of Preimos to have survived. This is probably because large numbers of this coinage found their way abroad. In the same way many Chian 3-assaria of Series III and Preimos have survived because they were pierced and then used as jewellery and withdrawn from circulation at one time.

We saw above that Chian coins bearing marked denominational values were circulating abroad. One of the questions concerning their foreign circulation is the value (denomination) they carried abroad. As we saw in the chapter on the bronze denominations at Chios, it is likely that the island's mint struck its bronze coinage on the same denominational system as that of the Province of Achaëa, (p. 556). In such a case the issues of Chios finding their way to Achaëa would have retained the same value as local denominations. In other words the assarion at Chios would be worth an assarion at Athens, Aigion, Corinth or wherever else in this region it would have circulated. The same would naturally apply for the $1\frac{1}{2}$, 2, 3 assaria and the tetrachalkon: the latter would also have represented in Achaëa the third of the obol (as was for Chios), the system being twelve chalkoi to the obol.

However the presence of a number of Chian tetrachalkoi in sites of Asia Minor does not seem to be the result of chance circulation. In Asia Minor the most widely used denominational system seems to have been the 8 chalkoi to the obol, suggesting that the Chian tetrachalkon would have circulated locally there as a half assarion. This shows that the circulation of this issue in sites of Asia Minor -as this has been established from site finds- would have been highly profitable for Chios. I would suggest that the issue may have been struck for circulation abroad. To some degree this is also alluded to in the fact that this denomination seems to have played a minor role within the local (Chian) denominational system, which is why it was never needed before. In the inscription setting taxes paid by citizens of the province of Asia the value of *tetrachalkion* frequently appears (Habicht, 1975, p. 64). This value is not found next to the Chians but it is always possible that they may have been called at one point to pay their sum in a four chalkous coin.

The only site outside Chios which has yielded finds of the 'Eirenaios Series' is the Athenian Agora with three coins reported, two of the 3-assaria and one of the 1 ½ assarion. This probably suggests that a recurrence in commercial contacts between Chios and Athens may have taken place during the early 3rd century AD at a time when this coinage was circulating. One of these coins was found in the same context as coins of cities on the coast of Asia Minor close to Chios suggesting that they could have been brought to Athens by a visitor to these cities and probably the coin find does not reflect direct contacts between Chios and Athens. The discovery at Athens of a coin of this series with the value of 1 ½ assarion, which was only known previously from a single coin, is a good example that uncommon bronze issues may be found in sites far from their city of origin.

Even though the 3 and 2-assaria coins of Chrysogonos are relatively common they are rarely found in sites outside Chios. The Athenian Agora, Delos and Corinth are recorded as

having yielded coins from this series.¹²⁴⁷ The presence of a single 3-assaria coin at Athens and 2-assaria at Corinth may not hold any economic significance and should rather be attributed to random circulation. On the other hand the discovery of a number of coins of this series and different denominations at Delos probably suggests the reestablishing of direct contacts between Delos and Chios. These include three coins of the 3-assaria and one each of the 2 and 1 1/2-assaria coins of Chrysogonos. The coins were summarily recorded by Svoronos where they are described simply as finds without, however, noting if they were found together in the same hoard or as stray finds. The condition of the coins is similar but they have been cleaned and it is not possible to tell if they come from the same hoard. Their discovery at Delos probably suggests that Chios resumed contacts with Delos during the 3rd century AD.¹²⁴⁸

¹²⁴⁷ For the finds at Athens and Delos see the discussion in the outline of the coinage, (p. 494). The coin at Corinth is a 2-assaria recorded as T 1928-88, and found in the excavations of the ancient Odeion by T. L. Shear, but was not published in the coin report of this excavation. Information about this coin was kindly provided by Dr. O. Zervos.

¹²⁴⁸ Very little is known of Delos during the late Roman Imperial period but the coin reports of the island's excavations, published by Svoronos (see above), include a large number of coins from the 3rd century AD and afterwards. The excavation finds also include a number of imported goods from this period showing the existence of an emerging trade with foreign regions (Bruneau, 1968, pp. 691-709). On this evidence it is likely that economic contacts between locals and foreigners may have resumed during the later Roman period and Delos could have been used once more as a stopover for shipping between Greece and Egypt, as it had during the late Hellenistic period. We know from a passage in a speech by the orator Aelius Aristides (quoted from Bruneau, 1968, p. 700) that ships were docking in the harbour at Delos at his time (mid 2nd century AD). This is the first literary reference of economic significance to Delos after more than two centuries of silence or references to the place as deserted.

CONCLUSION

The main aim of this study was to produce a survey of all silver and bronze issues of civic type produced by the mint of Chios over a period of six centuries, between c 330 BC and c 270 AD. Local issues of the Hellenistic period bearing 'Posthumous Alexander' types were not included in the research since these have been the subject of recent numismatic studies. However this type of coinage was also treated in the study, wherever it bore a link to the civic coinage. I have also included here any findings from the study of the civic coinage that may be important for the study of the local Alexander type coinage. For example, during the first half of the 2nd century BC the same authority at Chios would have been in charge of civic and Alexander type issues and both coinages were struck on the same declining standard. This suggests that Chian Alexander coinage of the 2nd century BC was essentially struck to cover the city's monetary needs, and was essentially 'local' money, no different from that bearing civic types, even though it used types foreign to Chios.

The central part of the thesis consists of the discussion of the coin series and much of the material included was previously unknown. Issues were dated on the basis of various types of evidence such as archaeological finds, epigraphic evidence, metrology, style, die studies, etc. On the whole, the proposed chronologies differ radically to those followed until now. This proved especially the case for the coinage of the Hellenistic period (late 4th-early 1st century BC) where we have a larger variety of evidence available than for later issues. In the same section I also considered other aspects of the coinage such as, moneyers in charge of the issues, links to foreign coinages, and others. However more work is still to be done in this section, and the publication of coin finds from excavations on Chios in recent years will offer new evidence on this topic

The study also looked into various general aspects of the coinage such as typology, style, metrology, denominations, coin circulation, etc. The Chian mint employed standard types for most of its issues and we might have expected that little would be gained from a typological study of the coinage. However, even here the study proved rewarding. The sphinx, main civic emblem of the city of Chios, was depicted on the coinage throughout this period revealing different aspects of its use as a coin type. The study of the reverse type of the amphora -and to a lesser extent that of the cantharos of the Roman Imperial period- showed that this type followed probably an identical typological development to the real jar produced and used at the same time as the coin issue. It is clear from the coins that amphorae continued to be produced even after a period -late Hellenistic period- when these were no longer known for Chios, and that it is possible to identify such amphorae forms from coin types. This was already attempted in a few cases in this study but more amphorae types are expected to be identified in future. The link between the coin type and amphorae has repercussions that go beyond the study of the coinage, or that of the local ceramics, adding to our knowledge of the economy during the Roman period, since it constitutes clear evidence that the island's main source of income -the wine export business- continued to exist even after c 87 BC. Though this was hinted in contemporary literary sources it was previously held that the trade would have ceased in the early 1st century BC.

The study of the typology of Chian coinage of the Roman Imperial period also seems to hold the key to explaining certain features of this coinage that are almost uniquely Chian, not considered before. The coinage never shows the portrait of the Roman emperor, one of only two mints throughout the Empire. It seems that this was linked with the continued presence of the sphinx on the obverse. In a similar way the permanent use of inscribed denominational values on the coinage is likely to have emanated from this mint's use of a

limited number of types. This feature was revolutionary for the period during which the coinage was struck -no other mint marked the value of its coinage on a permanent basis with denominational values down to the modern era- but in fact has its roots in the conservatism of this mint and the restrictions it seems to have followed in the choice of coin types.

Chian issues of the Roman period bear marked denominations and therefore are identified with certainty. The study of this aspect of the coinage seems to be of great importance for Greek provincial coinage of the Roman Empire, which only rarely includes values of denomination. Chios offers us a way of identifying denominational values and systems for other Greek mints. However, this study showed that in order to compare Chios with other mints we need to start back in the Hellenistic period. The study proposed likely identifications for individual denominations and the system the mint used for striking coinage. It established that this was the 12 chalkoi to the obol system, used by other Greek mints at the time. Furthermore, this denominational system continued well into the Imperial Roman period and suggests that the introduction of a multid denominational system was based on the same standard and system as with the earlier coinage.

The discoveries made of the Chian coinage for both the Hellenistic and Roman periods have repercussions for our knowledge of denominations for other Greek mints. Chios provides us with the first case where the denominational system was identified through numismatic and epigraphic evidence and opens the way for doing so for other mints. The most important finding is that the system at Chios followed closely monetary developments of mints in the Greek mainland and not those of Asia Minor, as had been previously accepted. This was made possible because Chios at the time was mainly trading with Greece, and not so much with Asia Minor as in the previous centuries.

The study of the coinage has thrown light on unknown aspects of the economy and the history of Chios, where little was known previously. The coinage seem to reaffirm that during the early Hellenistic period Chios was under the absolute rule of Alexander and his successors. The large production of coinage during the 3rd century BC shows that the economy would have been flourishing and the same may also be suggested for the economy during the middle of the 1st century BC when we also seem to have a large issue of local silver drachms. During both these periods Chios was thought by scholars to have been in decline. The circulation of the coinage -especially bronze- seems to coincide with areas where other evidence -epigraphic, archaeological and literary- shows that Chian traders were active.

MONEYERS	DENOMINATIONS	PERIOD
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SERIES 14		330 BC
ΑΓΓΕΛΗΣ	TR	
ΑΣΜΕΝΟΣ		H/C?
ΕΡΜΩΝΑΞ	TR	
ΦΑΝΟΔΙΚΟΣ	TR	
ΦΙΛΤΗΣ	TR	C
ΧΙΡΩΝ	TR	
SERIES 15		320-310 BC
ΕΡΜΟΣΤΡΑΤΟΣ	TR	
ΘΕΟΔΟΤΟΣ	TR	
ΙΣΤΙΑΙΟΣ	TR	
ΚΛΕΙΤΩΝ	TR	
ΦΑΝΟΔΙΚΟΣ (same as moneyer of Series 14)	TR	
SERIES 16 & ATTIC DRACHMS I		300-280 BC
ΑΘΗΝΙΚΩΝ	TR	
ΒΑΤΙΣ	TR	C
ΕΟΝΟΜΟΣ	DR	
ΗΙΘΕΟΣ	DR	C H/C
ΗΡΙΑΔΑΝΟΣ	DR	TR
ΘΕΟΠΟΜΠΟΣ	DR	
ΘΗΡΩΝ		TR
ΚΗΦΙΣΟΚΡΙΤΟΣ]	DR	TR
ΜΗΤΙΚΛΟΣ		TR
ΜΗΤΙΚΟΣ		TR H/C
ΝΙΚΟΜΗ[ΔΗΣ]		TR
ΠΟΣΕΙΔΙΠΠΟΣ		C
ΣΑΝΝΑΣ		TR
ΤΙΜΟΚΛΗΣ	DR	
ΦΙΛΙΣΤΗΣ		TR

MONEYERS	DENOMINATIONS	PERIOD
SERIES 14		330 BC
ΑΓΓΕΛΗΣ	TR	
ΑΣΜΕΝΟΣ		H/C?
ΕΡΜΩΝΑΞ	TR	
ΦΑΝΟΔΙΚΟΣ	TR	
ΦΙΑΤΗΣ	TR	C
ΧΙΡΩΝ	TR	
SERIES 15		320-310 BC
ΕΡΜΟΣΤΡΑΤΟΣ	TR	
ΘΕΟΔΟΤΟΣ	TR	
ΙΣΤΙΑΙΟΣ	TR	
ΚΛΕΙΤΩΝ	TR	
ΦΑΝΟΔΙΚΟΣ (same as moneyer of Series 14)	TR	
SERIES 16 & ATTIC DRACHMS I		300-280 BC
ΑΘΗΝΙΚΩΝ	TR	
ΒΑΤΙΣ	TR	C
ΕΟΝΟΜΟΣ	DR	
ΗΙΘΕΟΣ	DR	C H/C
ΗΡΙΑΔΑΝΟΣ	DR	TR
ΘΕΟΠΟΜΠΟΣ	DR	
ΘΗΡΩΝ		TR
ΚΗΦΙΣΟΚΡΗΤΟΣ]	DR	TR
ΜΗΤΙΚΛΟΣ		TR
ΜΗΤΙΚΟΣ		TR H/C
ΝΙΚΟΜΗ[ΔΗΣ]		TR
ΠΟΣΕΙΔΙΠΠΟΣ		C
ΣΑΝΝΑΣ		TR
ΤΙΜΟΚΛΗΣ	DR	
ΦΙΛΙΣΤΗΣ		TR

SERIES 17 & ATTIC DRACHMS II

270-220 BC

ΑΓΓΕΛΙΣΚΟΣ	DR			
ΑΡΓΕΙΟΣ		TR		
ΑΡΙΣΤΟΜΑ[ΧΟΣ]		TR		C
ΑΣΠΑΣΙΟΣ		TR		
ΓΝΩΣΙΣ		TR		
ΔΗΜΗΤΡΙΟΣ		TR	D	
ΔΙΔΥΜΟΣ				C
<i>ΕΡΜΩΝΑΞ</i>			D	C H/C
ΗΓΕΜΩΝ		TR		
ΗΡΟΔΟΤΟΣ	DR		D	
ΗΡΟΚΡΑΤΗΣ				C
ΗΡΟΣΤΡΑΤΟΣ		TR		C
ΘΕΟΔΩΡ[ΟΣ]				C
ΘΕΡΣΗΣ		TR	D	
<i>ΙΚΕΣΙΟΣ</i>		TR		
ΚΑΥΚΑΣΙΩΝ		TR		
ΚΗΦΙΣΙΔΗΣ		TR	D	
ΚΥΛΛΑΝΟΣ		TR		
ΛΑΜΠΡΟΣ		TR		
ΛΕΩΜΕΔΩΝ	DR	TR	D	
ΛΥΣΙΚΡΑΤΗΣ				C
ΜΕΝΕΣΘΕΥΣ		TR		
<i>ΤΙΜΟΚΛΗΣ</i>		TR		
ΠΟΛΙΑΝΘΟΣ		TR		
<i>ΣΚΥΜΝΟΣ</i>				C
ΣΤΑΦΥΛΟΣ		TR		C
<i>ΣΩΣΤΡΑΤΟΣ</i>		TR		
ΤΗΛΕΜΑΧΟΣ		TR		
ΤΙΜΑΝΔΡΟΣ		TR		C
<i>ΤΙΜΟΚΛΗΣ</i>		TR		

ΦΑΝΑΓ[ΟΡΑΣ]	C
ΦΟΙΝΙΞ	TR

SERIES 18 & SERIES 19 & REDUCED ATTIC DRACHMS

200-87 BC

ΑΓΑΘΟΚΛΗΣ	DR			
ΑΘΗΝΑΙΟΣ	DR	D		
ΑΘΗΝΙΚΩΝ		D		
ΑΙΣΧΙΝΗΣ		D		
ΑΛΚΙΜΑΧΟΣ	TE DR			
ΑΝΔΡΩΝΑΞ	DR			
ΑΠΕΛΛΑΣ	DR			
ΑΠΕΛΛΗΣ	DR	D		
ΑΠΟΛΛΟΔΩΡΟΣ	TE DR			
ΑΠΟΛΛΩΝΙΔΗΣ	DR	D		
ΑΡΓΕΙΟΣ	TE DR	D	C	
ΑΡΙΣΤΟΜ		D		
ΑΡΤΕΜΗΣ		D		
ΑΡΤΕΜΙΔΩΡΟΣ	DR			
ΒΑΚΧΩΝ	DR			
ΓΛΑΥΚΟΣ	DR		C	
ΓΟΡΓΙΑΣ		D		
ΔΕΡΚΥΛΟΣ	DR			
ΔΗΜΗΤΡΙΟΣ	DR			
ΔΗΜΟΚΛΗΣ		D		
ΔΙΔΥΜ			C	
ΔΩΡΟΘΕΟΣ	DR			
ΕΡΜΟΦΑΝΤΟΣ	DR			
ΕΣΤΙΑΙΟΣ	DR		C	
ΕΥΞΕΝΟΣ		D		
ΖΗΝΙΣ	DR			
ΖΗΝΟΔΟΤΟΣ	TE DR			
ΖΗΝΟΔΩΡΟΣ	DR			
ΖΗΝΩΝ	DR		C	
ΗΓΗΜΩΝ		D		

ΗΓΗΣΙΠΠΟΣ	DR		C?	
ΗΛΙΟΔΩΡΟΣ	DR			
ΗΡΑΚΛΕΙΤΟΣ	TE		C	
ΗΡΟΚΡΑΤΗΣ (same as moneyer of Series 17)		D		
ΘΕΥΜΝΙΣ	DR			
ΚΛΕΙΔΗΣ		D		
ΚΟΡΩΝΟΣ	DR			
ΜΕΝΕΚΛΗΣ	DR			
ΜΕΝΕΚΡΑΤΗΣ	TE DR			
ΜΗΝΟΓΕΝΗΣ		D		
ΜΗΝΟΦΙΛΟΣ	DR	D	C	
ΜΗΤΑΣ	DR			
ΜΗΤΡΟΔΩΡΟΣ		D		
ΜΙΛΤΙΑΔΗΣ		D		
ΜΟΣΧΙΩΝ	DR			
ΞΑΝΘΙΠΠΟΣ		D		
ΠΑΤΑΚΑΙΩΝ	DR			
ΠΙΝΔΑΡΟΣ		D	C	
ΣΤΡΑΤΟΝΙΚΟΣ		D		
ΦΑΙΝΟ[ΜΕΝΟΣ]		D	C	
ΦΑΝΗΣ	DR			

SERIES 20 & REDUCED DENARIUS DRACHMS		80-50 BC
ΑΣΠΑΣΙΟΣ		D
ΓΟΡΓΙΑΣ (same moneyer as Series 19)	DR	D
ΔΕΚΜΟΣ	DR	D
ΖΗΝΟΔΟΤΟΣ		D
ΜΗΝΟΔΩΡΟΣ		D
ΜΗΤΡΟΔΩΡΟΣ (same moneyer as Series 19)	DR	
ΠΑΥΣΑΝΙΑΣ	DR	
ΠΥΘΙΩΝ		D
ΣΙΛΛΙΣ	DR	
ΣΩΣΙΝΙΚΟΣ		D
ΤΡΥΦΩΝ	DR	D
SERIES 23 & ATTIC DRACHMS III		50-30 BC
ΑΓΓΕΛΗΣ		H/O?
ΙΠΠΑΡΧΟΣ	DR	
ΔΙΟΜΕΙΔΩΝ		H/O
ΔΙΟΜΗΔΗΣ		H/O
ΛΕΩΝΙΔΗΣ	DR	
ΜΕΝΙΠΠΟΣ		D
ΜΗΤΡΟΔΩΡΟΣ		H/O
ΠΑΥΣΑΝΙΑΣ (same as moneyer of reduced denarius)	DR	
.....ΚΛΗΣ		H/O?

SERIES 24 & CISTOPHORIC DRACHMS		30 BC-60 AD		
ΑΡΓΗΟΣ		D		
ΑΡΙΣΤΑΙΧΜΟΣ		D		
ΑΡΙΣΤΟΚΛΗΣ		D		
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ΤΙ. ΚΑ. ΓΟΡΓΙΑΣ ΔΩΡΟΘΕΟΥ		TR	D	
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TE: TETRADRACHM

DR: DRACHM

TR: TRICHALKON

D: DICHALKON

C: CHALKOUS

H/C: HALF CHALKOUS

3A: THREE ASSARIA

OB: OBOL

11/2 A: ONE AND A HALF ASSARION

A: ASSARION

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PLATE I

GROUP 13a



GROUP 13b

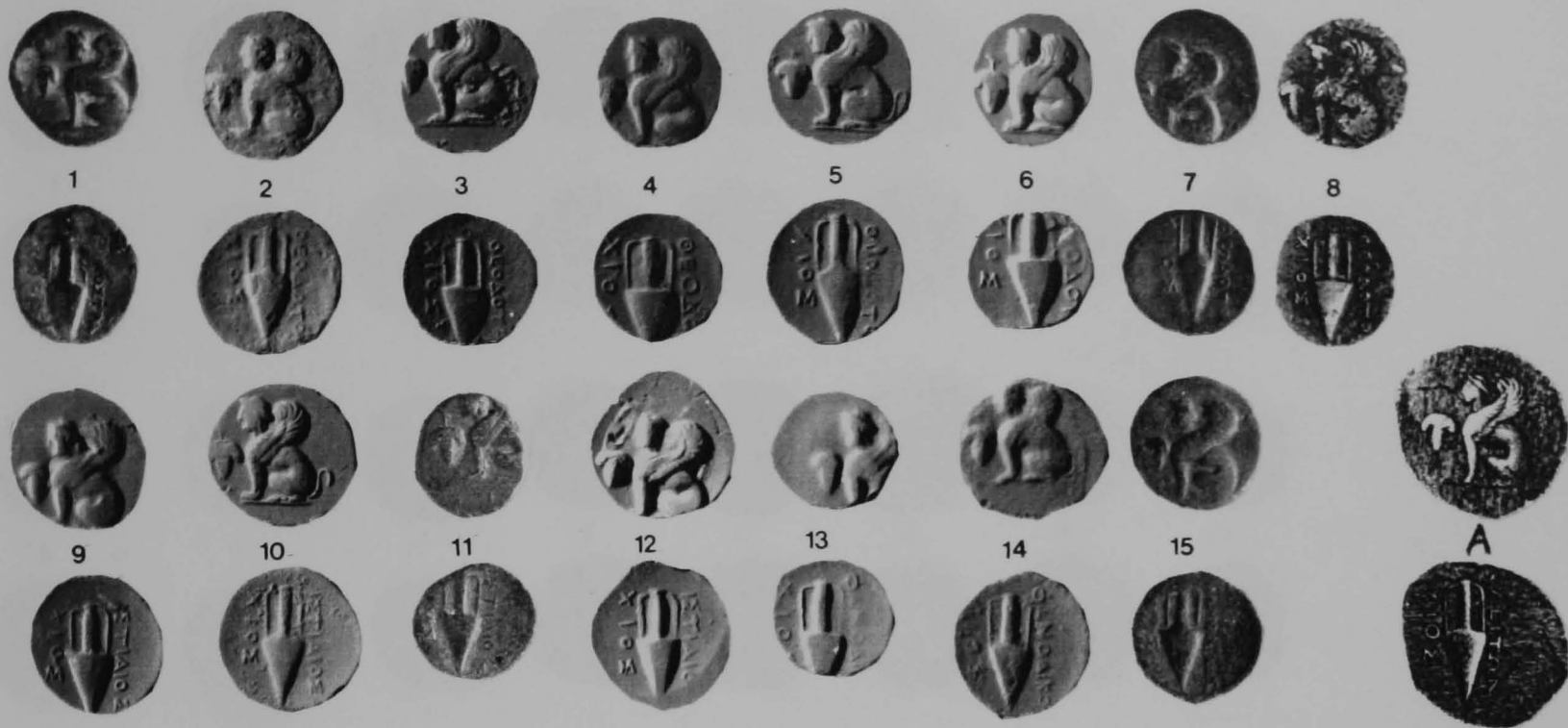


SERIES 14



PLATE II

SERIES 15



DRACHMS, SERIES I



PLATE III

SERIES 16



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PLATE IV

DRACHMS, SERIES II



SERIES 17, group A

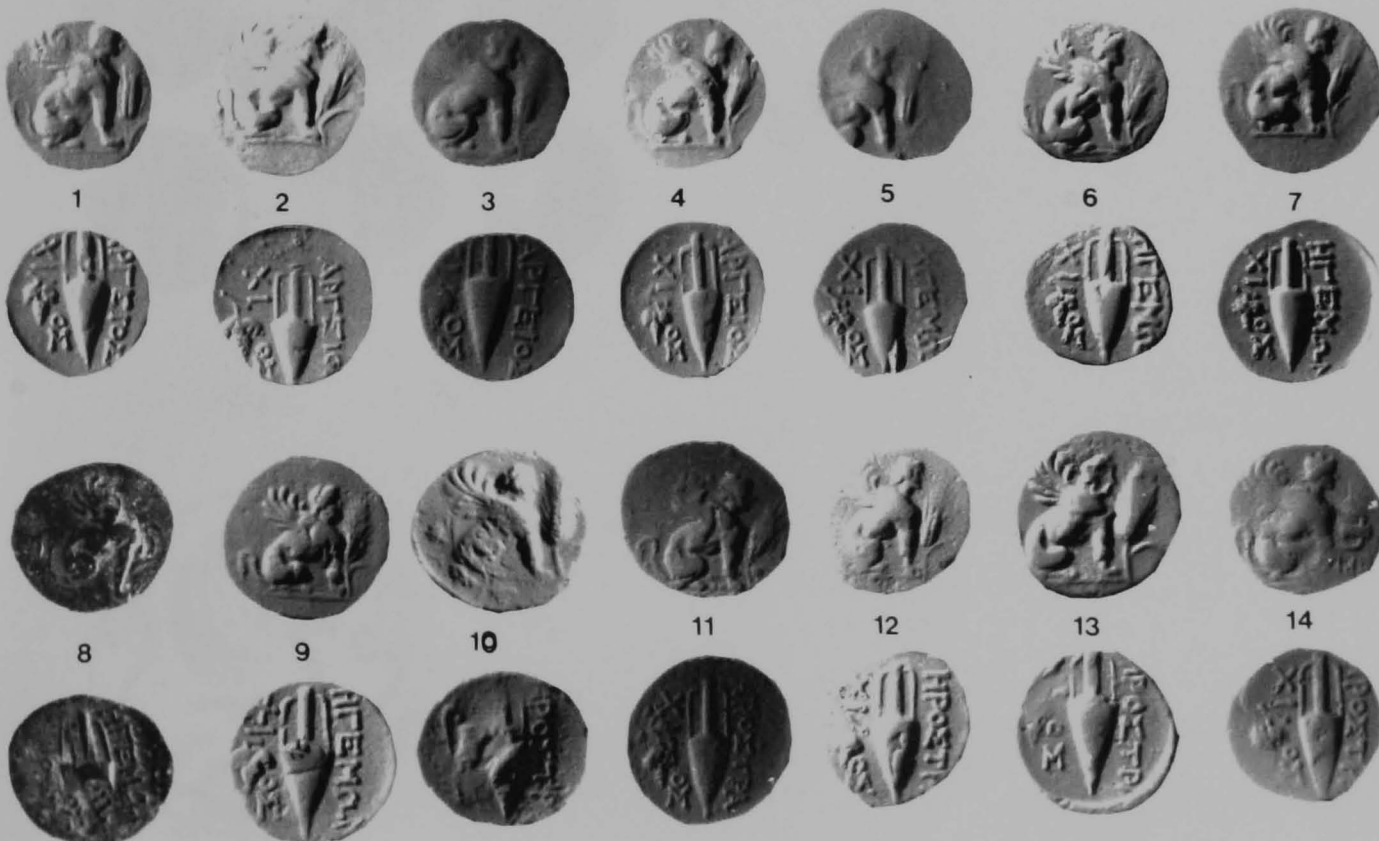


PLATE V

SERIES 17, group A



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A

PLATE VI

SERIES 17, group B

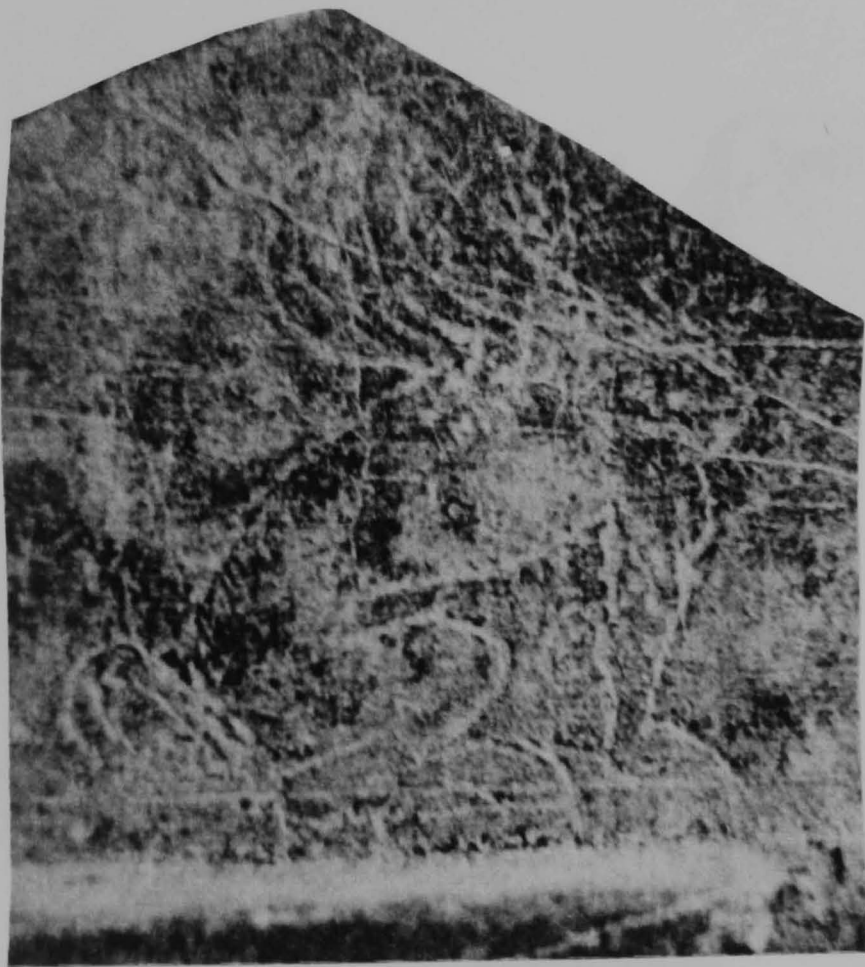
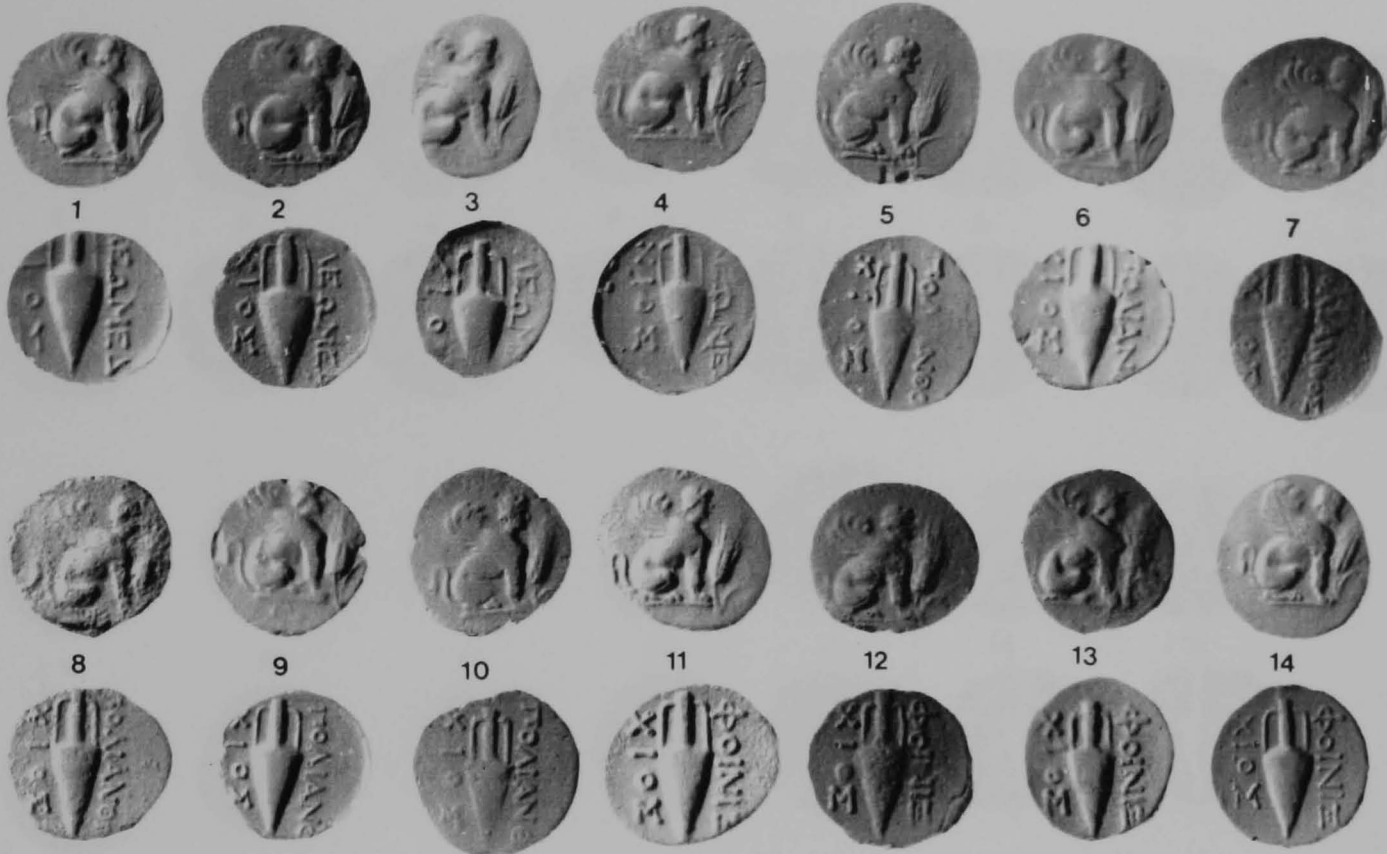
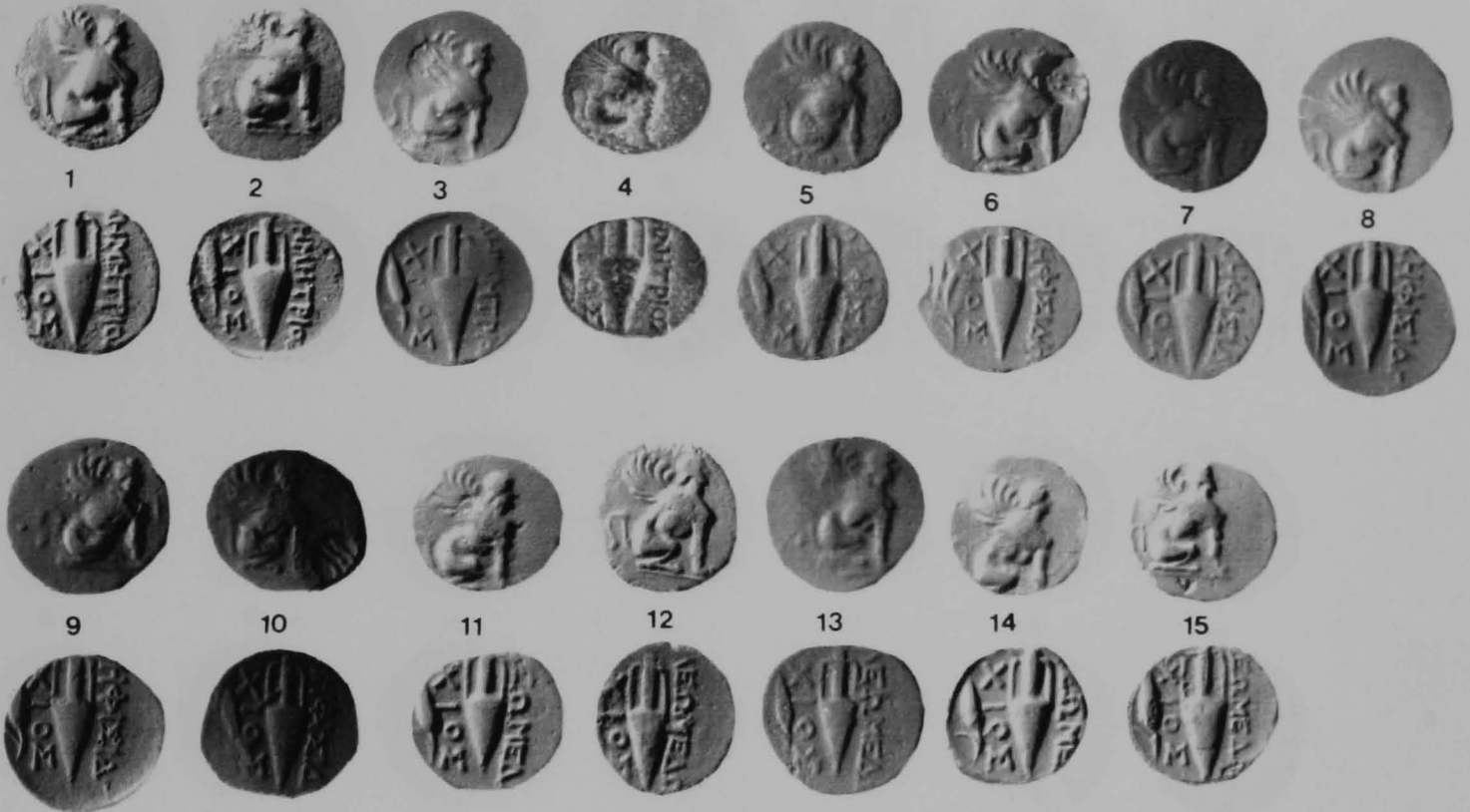


PLATE VII

SERIES 17, group C



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A



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PLATE VIII

SERIES 17, group D



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PLATE IX

SERIES 17, group E



PLATE X

SERIES 17, group F



PLATE XI

SERIES 17, groups G and H



PLATE XII

SERIES 17, group I

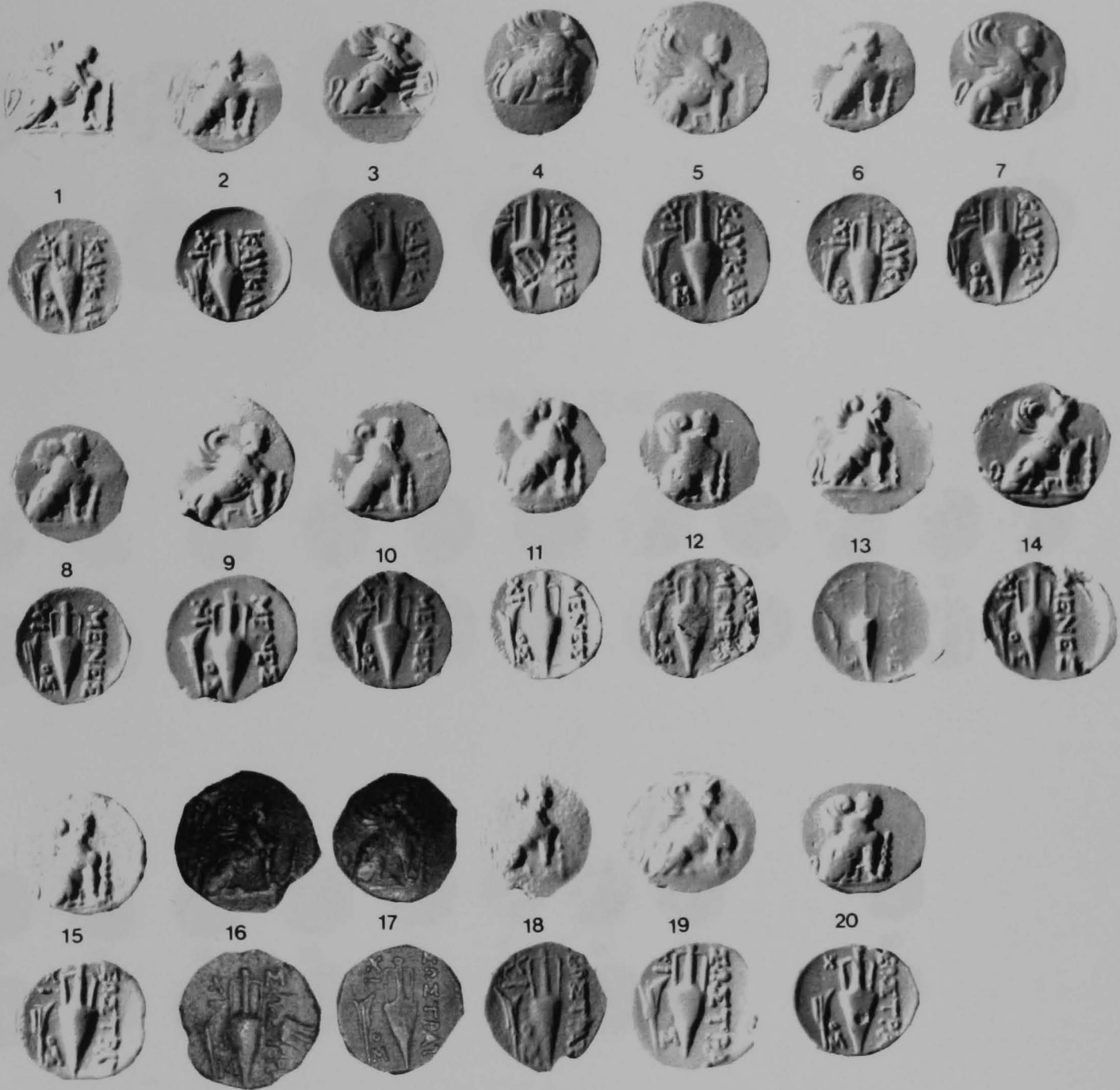


PLATE XIII

SERIES 17.II



SERIES 17.III



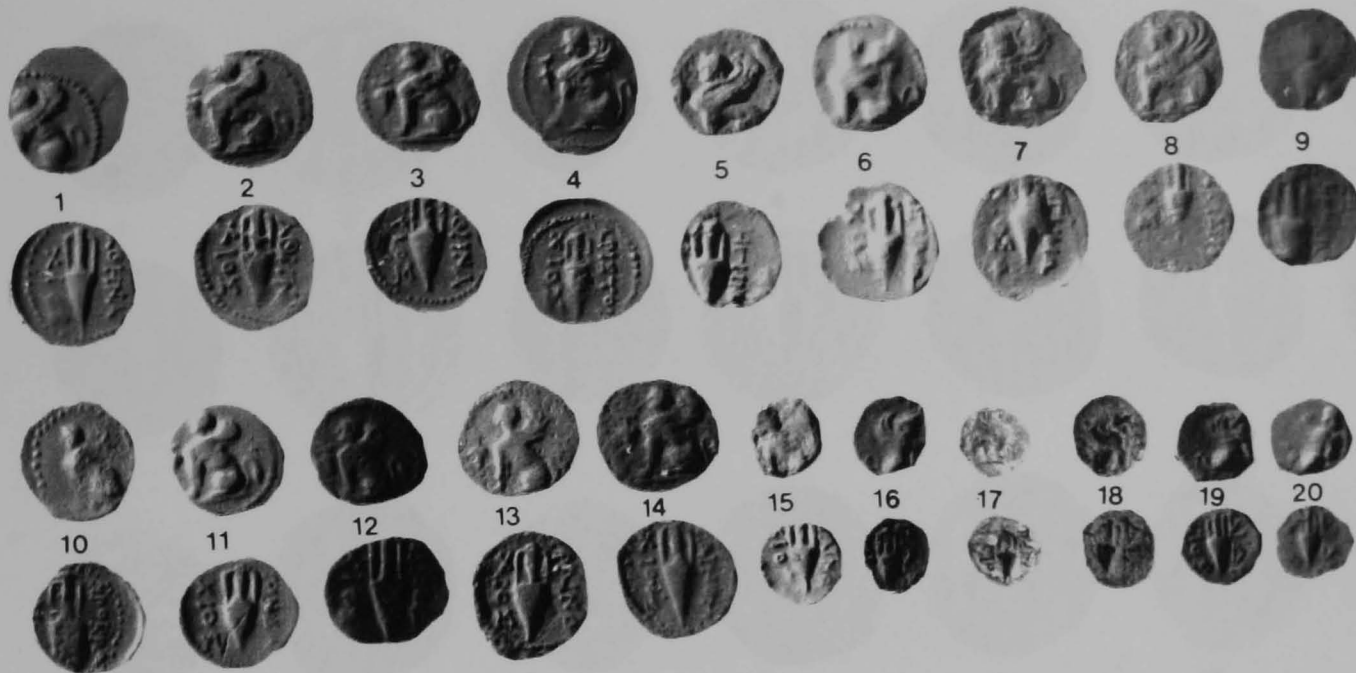
17. IV



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PLATE XIV

SERIES 18



AE SPHINX / THYRSUS



REDUCED ATTIC WEIGHT DRACHMS, groups A and B



ΙΙΙΙΟΝΙ(ΚΟΣ)



B



AS 774

C



PLATE XVI

REDUCED ATTIC DRACHMS, group C



PLATE XVII

REDUCED ATTIC DRACMS, groups C and D



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PLATE XVIII

REDUCED ATTIC DRACHMS, group E



PLATE XIX

REDUCED ATTIC DRACHMS, group F



PLATE XX

REDUCED ATTIC DRACHMS, group F



PLATE XXI

REDUCED ATTIC DRACHMS, group F



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PLATE XXII
 REDUCED ATTIC DRACHMS, group F



96 97 98 99 100 101 102



103 104 105 106 107 108 109



110 111 112 113 114



115 116 117 118 119 120



DIOBOLS

AE SPHINX / THYRSUS



1 2 3



1 2 3

PLATE XXIII
 SERIES 19, groups A and B



SERIES 19, groups C, D, and E



PLATE XXIV
 SERIES 19, group E



SERIES 19, group F

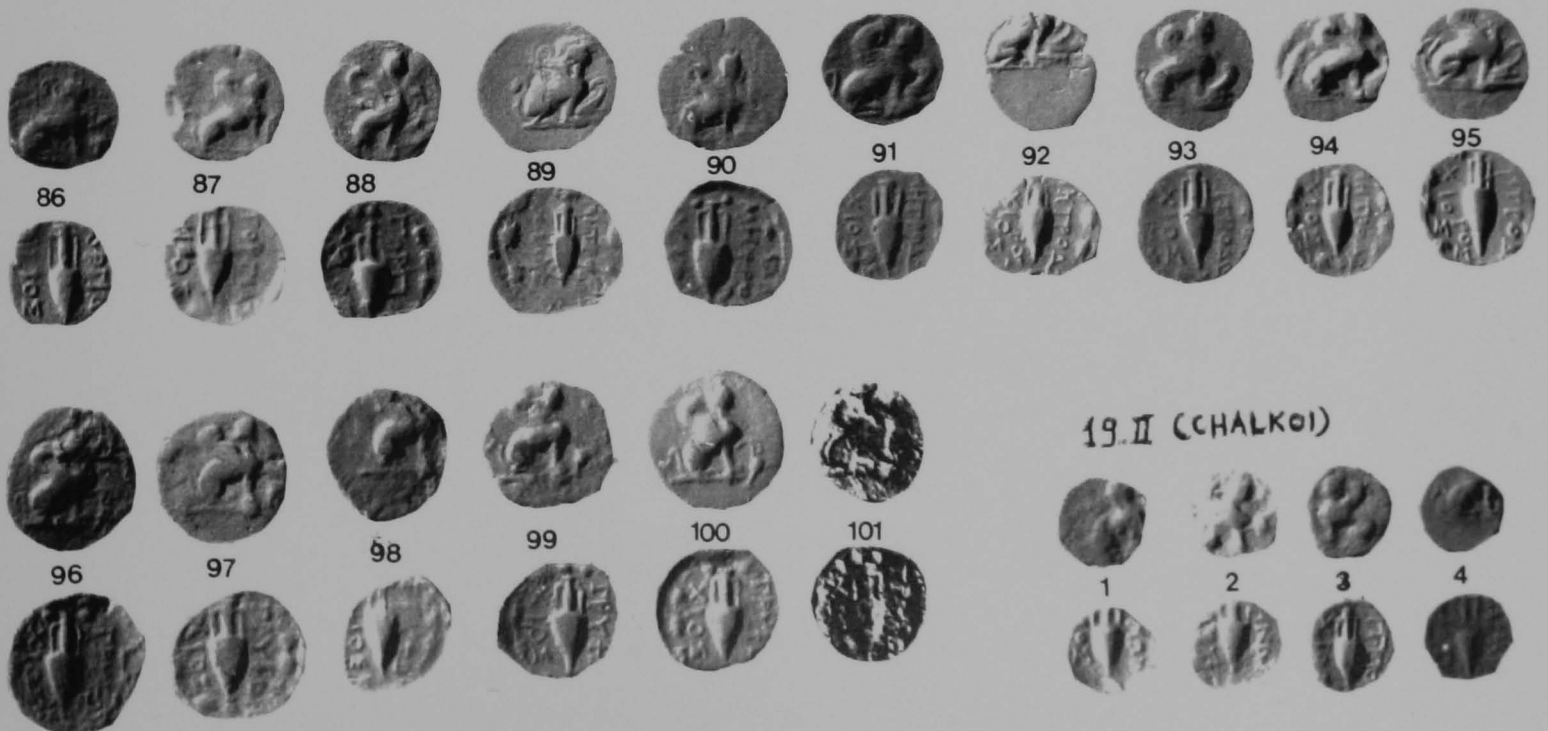


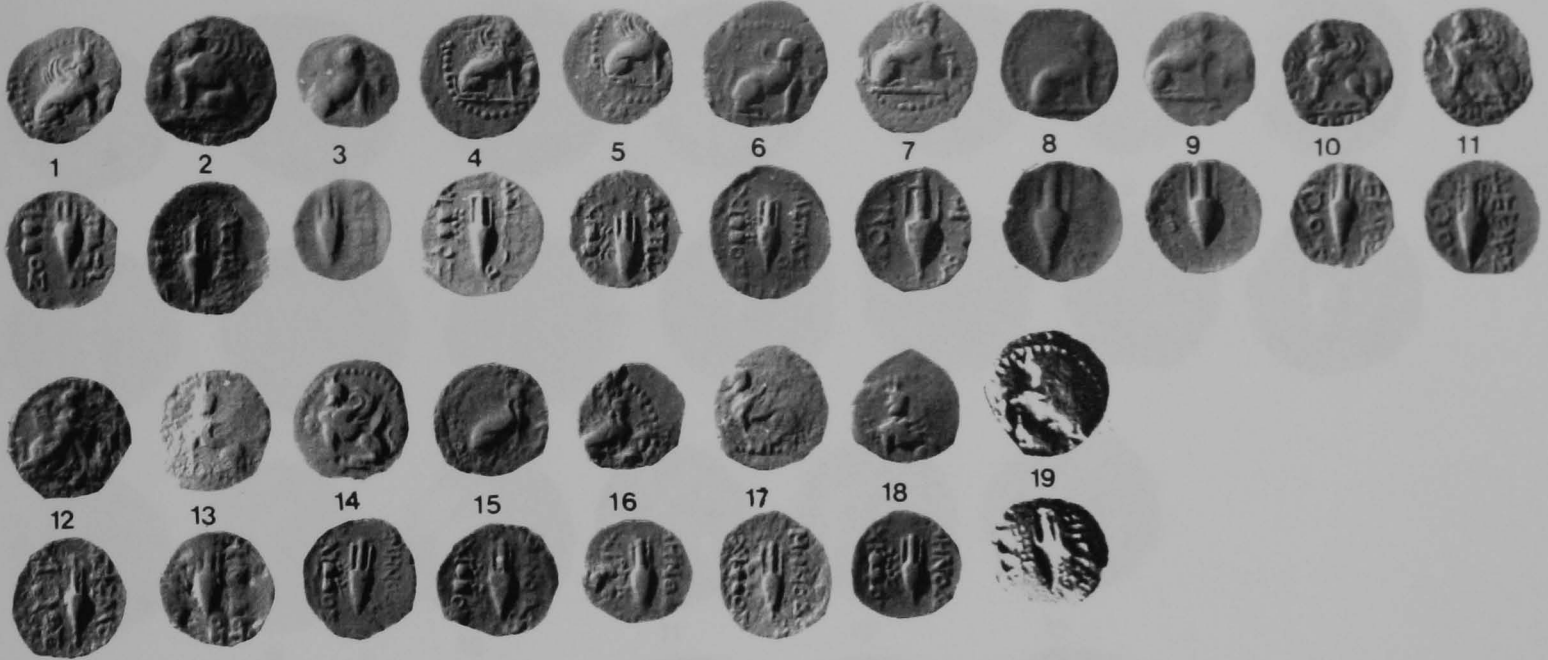
PLATE XXV

DRACHMS ON THE REDUCED DENARIUS STANDARD



PLATE XXVI

SERIES 20



ΠΥΘΙΟΝ AND ΕΒΕΣΙΝΙΚΟΣ ΓΡΟΥΠ



PLATE XXVII
 DRACHMS OF THE CISTOPHORIC STANDARD



COMMEMORATIVE



PLATE XXVII

SERIES 21



SERIES 22



DRACHMS OF ATTIC/DENARIUS WEIGHT



SERIES 23



PLATE XXIX

SERIES 24

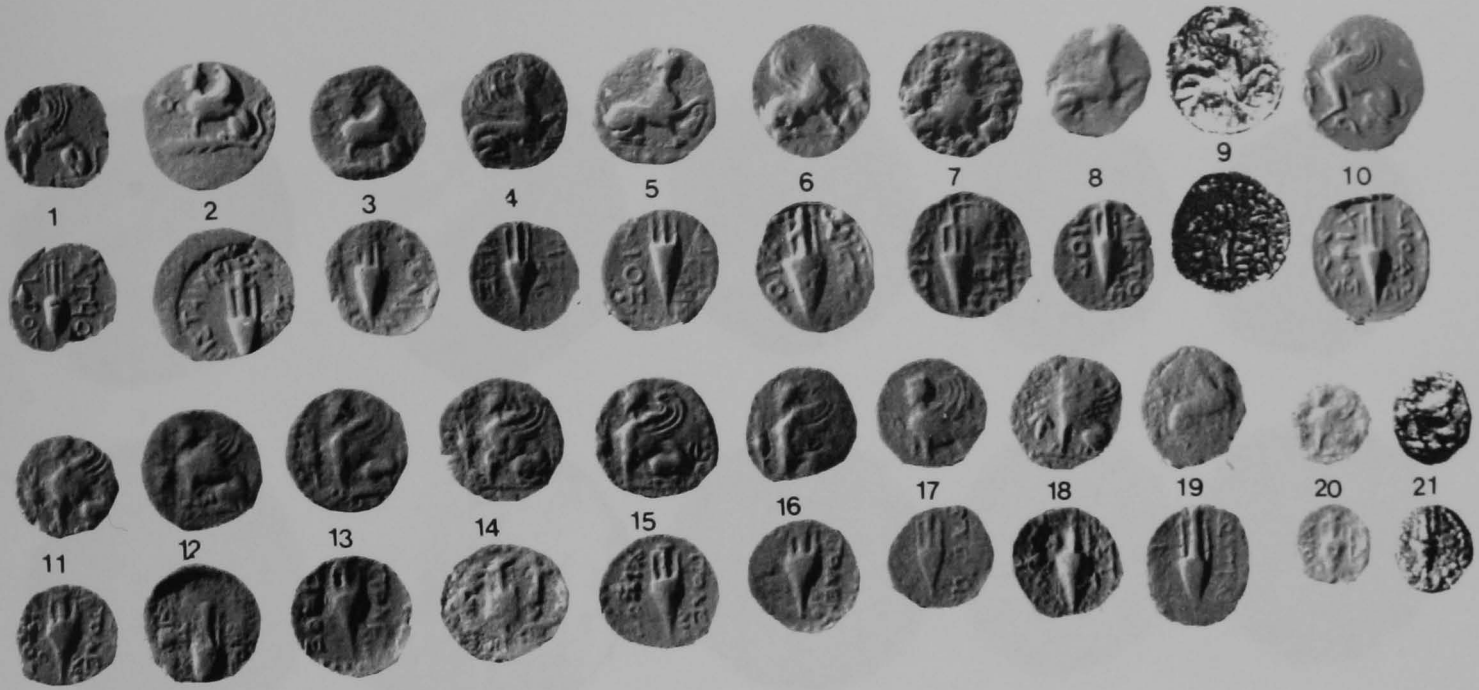


PLATE XXX

ROMAN SERIES I



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PLATE XXXI

ROMAN SERIES WITHOUT INSCRIBED VALUES



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PLATE XXXII

ROMAN SERIES II, group A



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PLATE XXXIII

ROMAN SERIES II, group B



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PLATE XXXIV

ROMAN SERIES III, group A



ROMAN SERIES III, group B



PLATE XXXV
ROMAN SERIES III, group C



PLATE XXXVI

ROMAN SERIES III, group D



PLATE XXXVII

ROMAN SERIES III, group D



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PLATE XXXVIII

ROMAN SERIES III, group D



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PLATE XXXIX
SERIES OF PREIMOS A



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PLATE XL
SERIES OF PREIMOS A



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PLATE XLII
SERIES OF PREIMOS B



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PLATE XLII
SERIES OF PREIMOS B



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PLATE XLII
SERIES OF EIRENAIOS



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SERIES OF CHRYSOGONOS



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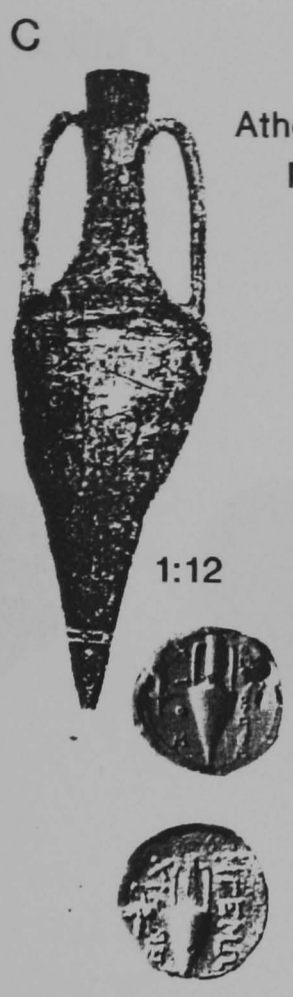


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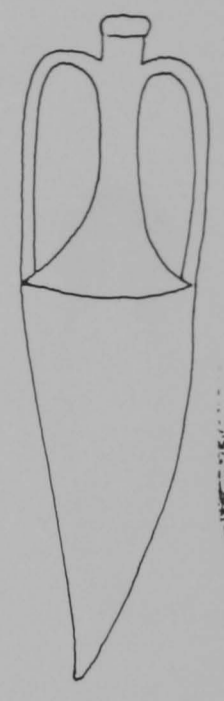
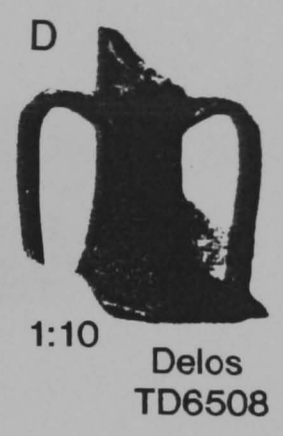


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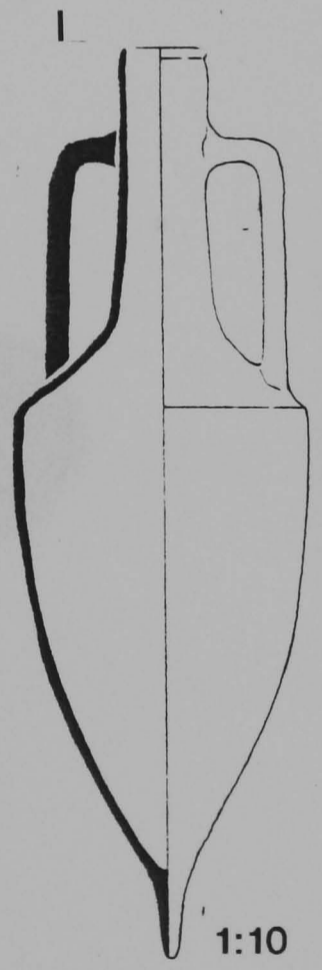




Athens Agora
P1114



Cannes



Tradeliere

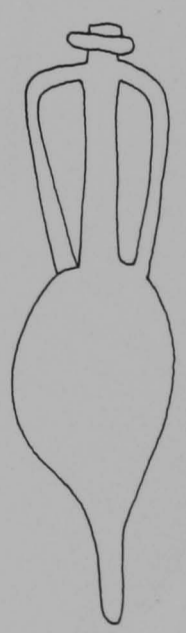


Fig. K



Fig. L



Fig. M

