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# **THE CHRONOLOGY AND DEVELOPMENT OF THE COINAGE OF CORINTH TO THE PELOPONNESIAN WAR**

**in two volumes**

**by**

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**Volume One**

**Thesis presented for the degree of Doctor of Philosophy**

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# ABSTRACT

## Objective

This study's objective is to elucidate the numismatic history of the city of Corinth from the inception of the coinage to the beginning of the Peloponnesian War in 431BC.

## Methodology

The method used in pursuit of the objective was to carry out a comprehensive die study which collected and analysed all known Corinthian dies with curved wing Pegasus type. Hoard and overstrike evidence was used to help order the sequence of the dies, as was the stylistic development. The numismatic, historical and archaeological evidence provided key dates which anchored the sequence and allowed the chronology of the coinage of Corinth to be revealed.

## Analysis and conclusions

The results of this study show that Corinth was one of the earliest Greek cities to issue coins. The silver necessary for the coinage was obtained from the coins of other cities and probably also from mines in the Thrace and Macedonian area. The main mint of Corinth was supplemented by an auxiliary mint at times and it also provided either dies or coins for Corinthian colonies.

This study's conclusions indicate that the output from the Corinthian mint was sustained and prolific, and participation in the Corinthian economy was rigorously controlled by the city authorities. This study has also shown that the only evidence for a break in activity at the Corinthian mint is in the mid 450's BC, and that the operation of the mint was not affected by the outbreak of the Peloponnesian War.

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## PREFACE

Corinth was among the first Greek cities to strike a coinage and her “colts” were among the most prolific coinages of the cities of the archaic and early classical Greek world. The coins struck by the Corinthian mint were first studied by Oscar Ravel, who produced a die-study in a two volume work<sup>1</sup>. Whilst a pioneering work, Ravel’s Volume One, which covers the period under discussion, is now outdated and characterised by errors<sup>2</sup>. Another major flaw in his work is the quality of his plates which has made identification of dies very difficult for those museums, collectors and auction houses which still use Ravel as the standard work of reference.

However, modern advances in numismatic method and theory have shown Ravel’s chronology to be faulty in places, and the vast amount of new hoards and dies which have emerged post-1948 justifies a fresh attempt at a new die study and analysis.

As Ravel’s work remains the basis upon which assumptions about the coinage of Corinth are made, this study uses the new evidence to challenge these assumptions and draw new conclusions about the chronology and development of the coinage of Corinth, and the role of that coinage in the wider Greek world.

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<sup>1</sup> Ravel, 1936 & 1948.

<sup>2</sup> Wrong provenances are given for some coins and in the plates some of the casts have been transposed.

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## AUTHOR'S DECLARATION

I declare that this thesis embodies the results of my own special work, that it has been composed by myself and that it does not include work forming part of a thesis presented successfully for a degree at this or any other University.

Signed

Date

A large, empty red rectangular box intended for the author's signature and the date of declaration.

## DEFINITIONS

Die-linked	The obverse or reverse of a coin has been struck from a die which links it to another coin with a different obverse or reverse.
Die strings	Those coins grouped together by linked dies.
Earring issues	Period two coins where Athena wears an earring.
Experimental Pegasus	Those early period one coins (plate 1) where there is little uniformity to the style of Pegasus, and the horse is archaic in appearance.
Foreign coins	Coins found in locations which are not in the immediate vicinity of their mints (e.g. coins from Thrace and Macedonia found in Egypt)
Groups	In the die study, this term refers to coins and dies which are closely related by style or hoard context, but which are not actually linked through the dies.
Local hoards	Hoard containing only coins from the mints in the immediate vicinity of the location of the hoard. (i.e. no foreign coins are present)
Mill-sail reverse	The square punch reverse comprises triangular segments (fig. 1.1) within the square. These triangular segments are raised or depressed. Raised and depressed segments may alternate in a regular fashion, or they may appear in an irregular pattern. The direction of the segments determines whether the mill-sail reverse is described as clockwise or anti-clockwise (see fig 1.2-3).

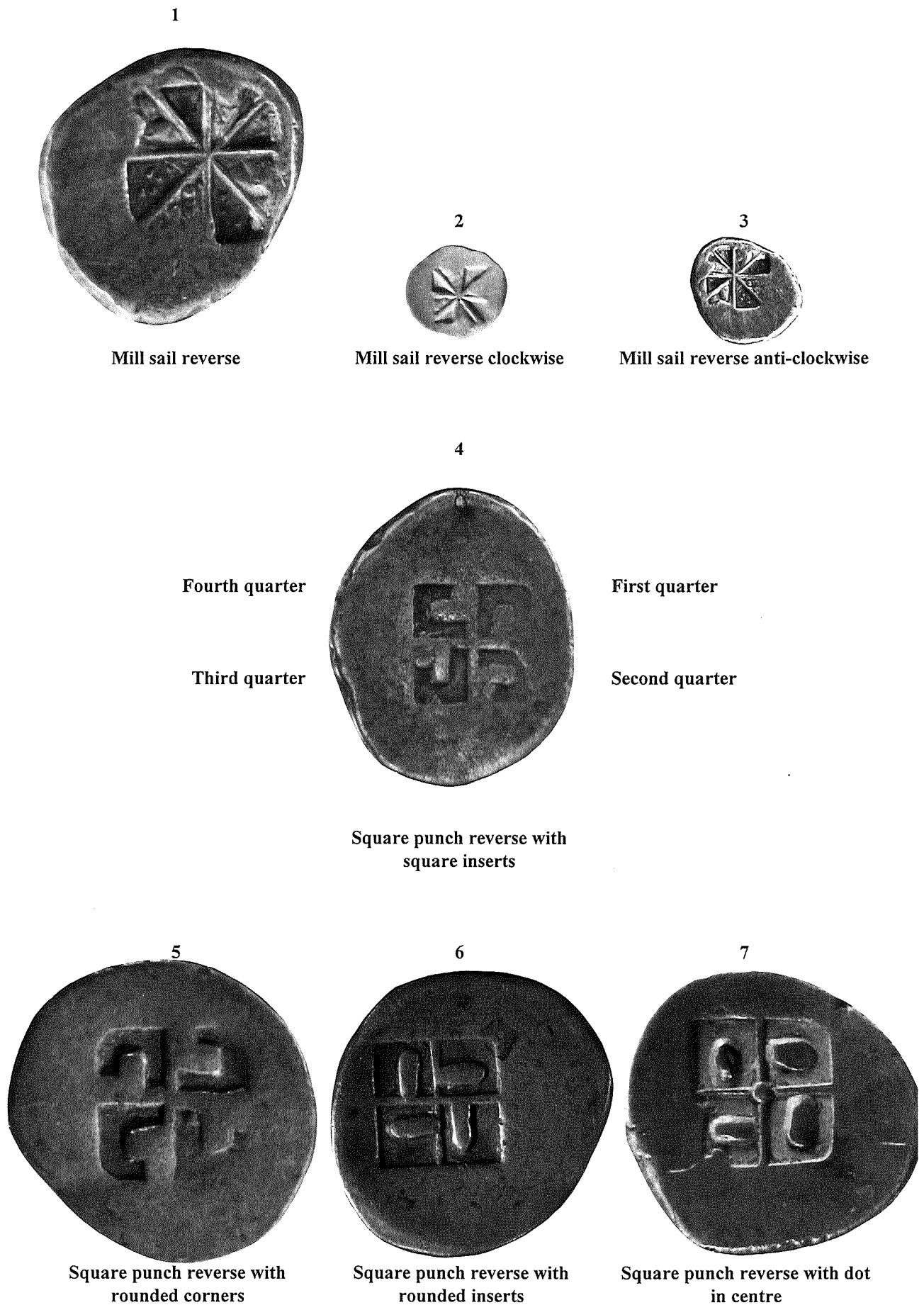


FIG 1. ILLUSTRATION OF THE TERMINOLOGY OF THE PERIOD ONE COINAGE.

Mixed hoards	Hoards which contain both foreign and local coins.
Pegasi	Generic name for those coins issued by Corinth and her colonies which all bore Pegasus on the obverse and the head of Athena on the reverse.
Pegasi mints	Those mints in the mid fourth century BC which began to issue pegasi. Some of these mints abandoned their traditional type, some did not have their own coinage prior to becoming a pegasi mint.
Period one coins	Those coins with the square punch reverse.
Period two coins	Those coins with the head of Athena reverse.
Placed at an angle	This refers to the period two reverses, and means that when Athena is facing straight ahead, the surrounding incuse square is pitched at an angle and not set on the horizontal.
Quarter	The four internal squares of the square punch reverse are known as quarters. The first quarter is that sunken area at the top right-hand side as the die is viewed (fig 1.4). Where there is a notable feature on the reverse die illustrated, this allows the reader to be directed to the appropriate part of the die.
Square punch reverse	The incuse design on the reverse of the period one coins. It is a square shape divided by internal lines into a quadripartite design (fig 1.4). The internal detail of this design varies, but the square remains constant.
Square punch reverse with dot in centre	The internal lines which form the divisions between the quarters have a dot at the point where they cross (fig 1.7).

Square punch reverse with rounded corners	The square has rounded corners, but the rectangular inserts remain (fig 1.5).
Square punch reverse with rounded inserts	The surrounding square remains, but the inserts now have curved sides and rounded tips (fig 1.6)
Square punch reverse with square inserts	The four internal squares have a raised rectangular shape in the sunken area. These shapes run both clockwise (fig 1.5) or anti-clockwise (fig 1.4).
Transitional coins	Those coins inter-linking both straight and curved wing Pegasus types. The classical head of Athena has a variety of styles including hair braided, hair loose and the neckflap is added to the helmet on some dies. Symbols behind the head of Athena also appear on some dies (see plate 30).
Unrealistic pose Pegasus	Those coins on which Pegasus is depicted in a pose which is hard to categorise. Attempts by the die makers to suggest motion are clumsy and unrealistic.
ϕ	This symbol is used in the thesis to denote the Greek letter <i>koppa</i> which appeared on Corinthian dies. The symbol is used in this form for reasons of typographical convenience.
ϕ behind the head	Period two coins where there is a <i>koppa</i> behind the head of Athena.

# 1. INTRODUCTION

The vast corpus of data relating to the autonomous coinage of Corinth cannot be dealt with in the context of this thesis. Chronologically, therefore, the span of the thesis is restricted to the curved wing Pegasus type which endures from the inception of the coinage to the years immediately preceding the outbreak of the Peloponnesian War in 431BC.

Part 2 provides an overview of the city of Corinth. It discusses the geographical position of the city and its character as recorded by the ancient sources. The Corinthian economy and the colonies of Corinth are described, and there is a brief historical account of the fortunes and development of the city until Roman times.

Part 3 is designed to set the period of the Corinthian coinage, with which this thesis is concerned, into context. It charts the development of the coinage of Corinth and looks at how the mythological traditions of the city were reflected in the iconography of the coins. The weight standard and the smaller denominations issued periodically by the mint are also briefly discussed.

Part 4 addresses the problem that Corinth, unlike Athens, does not have surviving documentation to tell us how the city was run, or which records its laws and policies. Thus, the numismatic, historical and archaeological evidence yielded by other parts of the Greek world are analysed to try and clarify Corinth's role and position within that world.

Part 5 is the die study. This is laid out in the chronological order as revealed by the hoard, overstrike and stylistic evidence, and comprises a comprehensive discussion and analysis of all known dies with curved wing Pegasus obverses.

Part 6 is the proposed chronology for the Corinthian coins, using the findings from the die study as well as the overstrike, hoard and historical evidence. Key dates for anchoring the sequence are discussed and appraised, and the analysis goes on to show how these findings relate to current numismatic perceptions regarding the coinage of Corinth. Also discussed is the contention that Corinth ceased minting during the Peloponnesian War.

The appendix comprises a list of all known hoards containing Corinthian coins to c400BC. Where the Corinthian chronology revealed by the die study has led to new dates for these hoards to be proposed, this is discussed.

The catalogue is presented in a separate volume, along with illustrations of the dies and die combinations found in the course of this study. This facilitates reading the thesis as the catalogue can be independently consulted without losing place in the text. All material germane to the coins used in the die study is presented in the catalogue.



## 2. THE HISTORY OF CORINTH

In order to set the coinage of Corinth in context it is desirable to begin with a survey of the history of the city and its development.

### 2.1 The political structure of the city

The origins of the city and the nature of its political life in the earliest period remain obscure. Like other Greek cities, early Corinth was ruled by hereditary monarchs, but surviving details are unreliable and the evidence for this period is scant.

The Bacchiads came to power in Corinth at some time in the mid eighth century BC and unified the Corinthia during their regime. The Bacchiads, some 200 strong, according to Diodorus<sup>3</sup>, became the ruling aristocracy of the city. Although the exact nature of their rule is not clear, the sources say that every year one member of the Bacchiads was appointed to the leading role of king or chief magistrate<sup>4</sup>. It is probable that his annual office was supported by the existence of a council and a body of magistrates who fulfilled various functions<sup>5</sup>. Salmon thinks it most likely that young men became magistrates at the outset of their careers and then sat on the council, ascending to higher levels of participation in the government<sup>6</sup>.

Thus, the political system of the Bacchiads may have closely reflected the monarchy of earlier times, although the infusion of a new class of men into the government lent greater vigour to Corinthian development.

Although the surviving evidence indicates that public works remained small-scale and relatively unimportant, the Bacchiads played an important role in the colonisation process

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<sup>3</sup> Diodorus, *Historical Library*, 7.9.6 (All citations are from the Loeb Classical Library Series unless otherwise noted. Full details are given in the bibliography)

<sup>4</sup> Diodorus and Pausanias use the term *prytanis* (Diodorus, *Historical Library*, 7.9 and Pausanias *Description of Greece*, 2.4.4) and this can be translated either as king or chief magistrate. cf. Andrewes, 1956, p.48.

<sup>5</sup> Salmon, 1984, p.56-7.

<sup>6</sup> Ibid.

which flourished in the late eighth century BC. Syracuse was first to be founded in the mid 730's and Corcyra shortly afterwards.

Cypselus, the tyrant, came to power c655BC. According to Herodotus, he was the son of a Bacchiad mother and non-Bacchiad father whose rule and status was predicted by the oracle at Delphi<sup>a</sup>. There was a tradition of hostility towards the Bacchiads, although specific evidence of behaviour or events which generated their unpopularity is hard to find<sup>b</sup>. Cypselus was described by the Delphic oracle as “a boulder which will come crashing down on the exclusive rulers, and will set Corinth to rights”<sup>7</sup>, and the phrase “set to rights” seems to suggest that there was animosity towards the Bacchiad rulers from at least some factions of the population.

Tradition was generally favourable to Cypselus who ruled Corinth for thirty years. Herodotus portrayed both Cypselus and Periander in the worst possible light<sup>c</sup>. Other sources<sup>d</sup>, however, record that Cypselus “continuously throughout his period of office dispensed with a bodyguard”<sup>e</sup>. Despite these discrepancies, widespread popular support for Cypselus is inferred from the fact that he was able to rule for thirty years without a bodyguard.

Cypselus' son Periander, who succeeded Cypselus on his death, and ruled for forty four years<sup>8</sup>, was far more extreme in his actions and lifestyle and the sources are more ambiguous towards him. Analogies have been made between the tyrants and the Roman emperors Augustus and Tiberius. Leucas, Ambracia, Anactorium, Apollonia and Epidamnus were, according to the sources, founded by Cypselus, and Periander is attributed as having founded Potidaea.

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<sup>a</sup> Herodotus, *Histories*, 5.92.1

<sup>b</sup> Salmon, 1984, pp190-195.

<sup>7</sup> Herodotus, *Histories*, 5.92.2

<sup>c</sup> Periander became “much more bloodthirsty than Cypselus”, Herodotus, *Histories*, 5.92.1

<sup>d</sup> Nicolaus of Damascos (?after Ephorus) cf. Salmon, 1984, p.188

<sup>e</sup> Aristotle, *Politics*, 1315b (Barnes, 1984)

<sup>8</sup> Ibid

The fall of the Tyranny c583BC saw the government of Corinth return to an oligarchy, although details of this are obscure. There is also not much detail of the workings of government recorded in the sources, but thereafter Corinth remained very stable under an oligarchic regime<sup>9</sup>.

## 2.2 Physical geography

The city of Corinth is situated just south of the isthmus which connects central Greece and the Peloponnese. The ancient city of Corinth stood at the base of Acrocorinth, its mountain citadel, which was a dominant feature in the landscape and provided a focal point for settlement from the earliest times. Acrocorinth also provided sanctuary from hostile forces as well as an excellent vantage point.

Corinth benefited from the physical geography of the area. Alluvial waters washed down from the mountains enriched the coastal plain<sup>10</sup>. These rich coastal plains were encircled by a series of low hills and settlement in the area was mainly restricted to these hills so as not

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<sup>9</sup> Corinth possessed “men skilled ... in the affairs of state” according to Strabo (Strabo, *Geography*, 8.6.23) and was “gentle to her own citizens” (Pindar, *Olympian*, 13)

<sup>10</sup> “most excellent and productive land”, “rich and fertile”, Cicero, *On the Agrarian Law*, 1.5 and 2.51 (Yonge)

to encroach on valuable agricultural land<sup>11</sup>. The presence of many natural springs in the area was also important, water being a sought-after commodity in Greece.

Corinthian territory north of the isthmus included the peninsula of Perachora, with the Geraneia mountain range beyond providing a natural and obvious boundary between the territory of Corinth and that of Megara. This boundary was also marked by the sanctuary of Apollo Latous in Pausanias' time<sup>12</sup>.

South of the isthmus, the River Nemea provided a boundary with the territory of Sicyon<sup>13</sup>. The most famous of the few rivers of the Corinthia, it was referred to in antiquity as a "torrent" and seems to have been an imposing frontier<sup>14</sup>. The extent of the southern reach of Corinthian territory can only be estimated as there are no obvious natural features to give a physical boundary.

Control of the isthmus was lucrative for the Corinthians as they collected revenue from traffic passing between the Peloponnese and central and northern Greece as well as from carrying trade across the isthmus on the diolkos. The seas around the tip of the southern Peloponnese could be dangerous<sup>15</sup> so the diolkos offered an alternative route for travellers and traders. Approximately 7km long, it was a paved roadway over which vessels and cargoes could be transported. Archaeological evidence suggests that some kind of wooden sled was used for this as there is a uniformity to the remaining ruts in the road and what appears to be a towpath runs beside it. Epigraphical evidence suggests that the diolkos was built during the time of Periander<sup>16</sup>.

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<sup>11</sup> Wiseman, 1978

<sup>12</sup> Pausanias, *Description of Greece*, 1.44.10

<sup>13</sup> Strabo, *Geography*, 8.6.23

<sup>14</sup> Wiseman, 1978, p.10

<sup>15</sup> The voyage around Malea was particularly dangerous (Strabo, *Geography*, 8.6.20)

<sup>16</sup> Wiseman, 1978, p.45

The diolkos, however, remains something of a mystery. It is rarely referred to in ancient literature and this has raised questions over the extent of its use. As Cook points out, the ancient historians were often more interested in wars than commerce<sup>a</sup> and this may suggest that the primary use of the diolkos was commercial. Although there are some references to a war fleet being dragged over the isthmus, the logistics of this appear to have been rather complex. Thucydides mentions “hauling machines” required for this operation<sup>b</sup> and the dimensions of the diolkos do not allow two-way traffic so a signalling system must have existed to prevent traffic travelling in opposite directions from blocking the route. Wiseman also points out that the route of the diolkos is sinuous rather than straight<sup>c</sup> and this would have implications for the time required to traverse the isthmus. The consensus is that the diolkos was intended primarily for commercial use and occasionally accommodated the transport of warships<sup>d</sup>.

That said, the volume of traffic, commercial or otherwise, using the diolkos is also unknown. Aristophanes the celebrated comic poet, wrote in one of his plays in 411BC a rather bawdy reference to someone who was having sex “even more [often] than the Corinthians shove ships across their diolkos”<sup>e</sup>. This could mean either that the diolkos was very busy, or perhaps the opposite with Aristophanes seeking comic effect. Cook probably offers the best interpretation with his suggestion that “the diolkos was modestly successful...[but] not very successful, or we might expect to have heard more about it”<sup>f</sup>.

Corinth also had two harbours, Lechaëum and Cenchreae which were both linked to the city with walls.

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<sup>a</sup> Cook, 1979, p.152

<sup>b</sup> Thucydides, *Histories*, 3.15.1

<sup>c</sup> Wiseman, 1978, p.45

<sup>d</sup> See Cook, 1979, p.152 and Salmon, 1984, p.136ff

<sup>e</sup> Aristophanes, *Thesmophoriazousae*, 647-8

<sup>f</sup> Cook, 1979, p.153

The advantages of Corinth's geographical position were obvious to all and often commented on in the ancient sources. As Cicero wrote,

It was situated on the straits and in the very jaws of Greece, in such a way that by land it held the keys of many countries, and that it almost connected two seas, equally desirable for purposes of navigation, which were separated by the smallest possible distance<sup>18</sup>.

Strabo also recorded that Corinth

...is master of two harbours, of which the one leads straight to Asia, and the other to Italy; and it makes easy the exchange of merchandise from both countries that are so far distant from each other<sup>19</sup>.

Thucydides also attributed Corinth's power and wealth to her geographic location.

Planted on an isthmus, Corinth had from time out of mind been a commercial emporium; she had consequently great money resources, as is shown by the epithet 'wealthy' bestowed by the old poets on the place, and this enabled her, when traffic by sea became more common, to procure her navy and put down piracy; and as she could offer a mart for both branches of the trade, she acquired for herself all the power which a large revenue affords<sup>20</sup>.

The city itself was a thriving, cosmopolitan place. Proximity to the sea also seems to have played a role in defining the character of the city. It has been posited that variations in the degree of access to the sea helped to create some of the political differences between Greek city states. Those with easy access developed lifestyles, values and even political structures that were significantly different to those of inland inhabitants<sup>21</sup>. Plato, a conservative Athenian, perceived the proximity of the sea to be detrimental to the ideal polis.

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<sup>18</sup> Cicero *On the Agrarian Law* 2.87 (Yonge)

<sup>19</sup> Strabo *Geography* 8.6.20

<sup>20</sup> Thucydides *Histories* 1.13.5

<sup>21</sup> Demand, 1996, p.7

He remarked that the sea,

is, in very truth, a briny and bitter neighbour. It fills a city with wholesale traffic and retail huckstering, breeds shifty and distrustful habits of soul, and so makes a society distrustful and unfriendly within itself as well as toward mankind at large<sup>22</sup>.

### 2.3 The Corinthian economy

Corinth had many sources of revenue, as attested by the sources. Harbour dues and diolkos revenues were major sources of revenue for the Corinthians<sup>23</sup>. Taxes would also have been an important part of the Corinthian economy. It is likely that Corinth stipulated taxes and payments in its own coin (the hoard evidence provides support for this) and those people arriving in Corinth without pegasi to pay dues or taxes had to change their money at a cost to them.

Corinth also had a large and thriving market<sup>24</sup>. Figueira makes the point that Aegina, not at a natural crossroads like Corinth, was a point for trans-shipment whereas Corinth was a passive market<sup>25</sup>. Thus, the Corinthian traders did not have to seek trade as Corinth had become a major commercial power by virtue of her geographical position and she attracted many travellers and traders who sought out her market and attractions rather than the other way around. The traders from Aegina, on the other hand, sought out trade and created a commercial emporium on their island. The Aeginetans traded directly in commodities such as grain, adapted to the “port of trade” system in both Aegina and Naucratis in Egypt and

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<sup>22</sup> Plato, *Laws*, 705a. Although the revenue earned by the diolkos is unknown.

<sup>23</sup> Strabo, *Geography*, 8.6.20

<sup>24</sup> Thucydides, *Histories*, 1.13.5

<sup>25</sup> Figueira, 1981, p.84

sent out itinerant traders whose eclectic mix of trinkets became famously known as “Aeginetan things”<sup>28</sup>.

The market at Corinth had much to offer the visitor or trader. Corinthian fabrics were very popular, and produced at Corinth on a massive scale<sup>29</sup>. Strabo records that a courtesan was reproached by another woman, not for her choice of profession, but because the courtesan “did not like to work or touch wool”<sup>30</sup>. Involvement with the textile trade obviously provided honourable work for the women of Corinth and was regarded as very important<sup>31</sup>.

Although Corinthian pottery was usurped in the international market by Athenian wares by the middle of the sixth century BC, aryballoi continued to be popular. These small perfume jars remained desirable and they perhaps contained the “iris perfume” which was famous for a very long time throughout the Greek world<sup>32</sup>. Corinthian building materials such as roof tiles and terracottas were popular and Corinthian tradesmen were also in demand and were held in high regard<sup>33</sup>. The sale of slaves was also lucrative for Corinth<sup>34</sup>. They may have been sold via slave markets in other cities but there was possibly a large slave market in Corinth itself.

Corinth also catered for those traders, visitors and tourists who sought attractions other than the market. It always had available ships to hire for merchants and other cities<sup>35</sup>. It hosted the Isthmian games which “drew crowds of people”<sup>36</sup> and the courtesans at the temple of Apollo enjoyed international fame, and they gave rise to the proverb “not for

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<sup>28</sup> Figueira, 1981, p.87

<sup>29</sup> Salmon, 1984, p.119

<sup>30</sup> Strabo, *Geography*, 8.6.20

<sup>31</sup> Aristophanes compares politics to wool processing techniques, suggesting that if some of the principles of the latter were applied by the Corinthian politicians, they may solve some of the political problems of the Peloponnesian War. (Aristophanes, *Lysistrata*, 567-586).

<sup>32</sup> Pliny, *Natural History*, 13.4-5 (Bostock & Riley, 1855)

<sup>33</sup> Herodotus, *Histories*, 2.167.2

<sup>34</sup> Thucydides, *Histories*, 1.55 and Herodotus, *Histories*, 7.195.1

<sup>35</sup> Diodorus, *Historical Library*, 16.61.4

<sup>36</sup> Strabo, *Geography*, 8.6.20



every man is the journey to Corinth”<sup>37</sup>. The magnificent temple of Poseidon was also an attraction for visitors. Strabo compared the city of Comana to Corinth<sup>38</sup> saying that it also had a large number of courtesans and where “outsiders resorted in great numbers and kept holiday”<sup>39</sup>.

Thus, Corinth attracted revenue through harbour dues, diolkos revenues and taxes, had a vibrant commercial economy, and attracted free-spending traders and visitors to the city. Even in Cicero’s time Corinth was still described as “that most beautiful and elegant city of Corinth full of all sorts of riches”<sup>40</sup>. All of these factors ensured the steady arrival into the city of silver from many parts of the Greek world and this was occasionally supplemented by booty, gifts and colonial dedications.

## 2.4 Corinthian trade

Finds of Corinthian vases c900 BC in Phocis, the Argolid and Boeotia are evidence of Corinthian contact with other regions, although these pieces are few in number and cannot be necessarily construed as evidence of trade<sup>41</sup>. In the eighth century BC however, Corinthian vases are found abroad in increasingly large numbers. The pottery found at Delphi dating to the first half of the eighth century BC is found in household contexts rather than sanctuaries. This changes after c750BC however, when large numbers of pottery votives are found in the shrines. Salmon believes that this evidence implies that prior to 750BC the Corinthians visited Delphi for secular rather than religious reasons<sup>42</sup>. Pottery of this period has also been found at Ithaca, Vitsa, Ambracia and other locations around the coast of northern Greece and at Pithecusae in Italy<sup>43</sup>. Salmon suggests that these voyages

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<sup>37</sup> Strabo, *Geography*, 8.6.20.

<sup>38</sup> “a lesser Corinth” (Strabo, *Geography*, 12.3.36)

<sup>39</sup> Strabo, *Geography*, 12.3.36.

<sup>40</sup> Cicero, *Against Verres*, 1.55 (Yonge)

<sup>41</sup> Salmon, 1984, p.82

<sup>42</sup> Ibid, p.88

<sup>43</sup> Ibid, p.90-1

of exploration were important in that they acted as reconnaissance missions for the colonisation movement<sup>44</sup>.

In the early seventh century BC the establishment of a new cemetery to the north west of the city, and the archaeological evidence which shows that houses were constructed over old graves, suggests that the population of the city was increasing<sup>45</sup>. At this time also the Potters' Quarter plateau became established about 2km from the centre of the city. This area was well supplied with clay and water with wood for the kilns probably available on the surrounding slopes<sup>46</sup>. The Potters' Quarter may have been founded as a direct result of the rising popularity of Corinthian wares<sup>47</sup>.

By the seventh century BC the Potters' Quarter had expanded significantly to meet the increasing demands of the export market which saw Corinthian wares dominate the pottery export market across the Greek world. This period is also notable for the introduction of new building techniques developed specifically for monumental architecture, and advances in naval architecture and military technology (such as the Corinthian helmet introduced soon after 700BC). This expansion of arts requiring skilled craftsmen also increased the wealth of the city as it moved the focus away from the land itself and agricultural pursuits and allowed artisans to acquire skills and flourish<sup>48</sup>.

Pottery plays a large role in Corinthian trade as do roof-tiles and architectural terracottas, the remains of which are still preserved in archaeological contexts, but other commodities involved in Corinth's import and export trade do not leave traces in the archaeological record. Corinthian aryballoi may have contained perfumes or oils, and large installations at Corinth produced textiles and dyes<sup>49</sup>. The appearance throughout the Greek world of fairly crude transport amphorai suggests that it was the contents rather than the vases which were a sought-after commodity. Two types have been identified and the current hypothesis is that one was designed to transport wine, the other oil. However, this evidence has, until

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<sup>44</sup> Salmon, 1984, p.93

<sup>45</sup> Ibid, p.83

<sup>46</sup> Ibid, p.96

<sup>47</sup> Ibid, p.97

<sup>48</sup> Ibid, p.100

<sup>49</sup> Ibid, p.119

recently, been ignored in favour of more glamorous vessels and it is not possible to draw definite conclusions from it<sup>50</sup>. The architectural evidence suggests that the skills of Corinthian craftsmen were another valuable export<sup>51</sup> and that the city supplied skilled men for building projects elsewhere.

The import evidence is scantier. The Punic Amphora Building in Corinth was active for almost fifty years until the onset of the Peloponnesian War. Large quantities of Corinthian transport amphorai along with Chiot and Punic vessels were found at this site with some (perhaps all) having contained dried or salted fish<sup>52</sup>. Corinth had no metal resources but ivory and both precious and base metals appear in Corinthian graves from the late 10<sup>th</sup> century BC<sup>53</sup>.

Corn was a probable import and is mentioned by Thucydides, who records that in 427BC the Athenians sent ships to Sicily in a bid to “prevent the import of corn from there to the Peloponnese”<sup>54</sup> with the most likely destination being Corinth. In the classical period, the area where Corinthian pottery was most frequently found corresponds with corn exporting trade<sup>55</sup>. As mentioned above, Sicily appears to have had a corn surplus to trade with as did areas of North Africa, and it is possible that the position was the same in the archaic period although perhaps not on such a large scale<sup>56</sup>.

In early times when land was the basis of wealth and the produce of the land was most likely the main export, only the land-owning aristocracy would have had the necessary wealth to finance commercial ventures abroad<sup>57</sup>. However, in later periods when the manufacture of other items which could be traded (such as pottery, textiles, wine and oil)

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<sup>50</sup> Salmon, 1984, p.127

<sup>51</sup> A Corinthian nobleman called Demaratus who emigrated to Etruria in the mid seventh century BC took a painter and three clay modellers with him, who subsequently passed on their techniques to the local craftsmen. cf. Boardman, 1980, p.202

<sup>52</sup> Salmon, 1984, p.128

<sup>53</sup> Ibid.

<sup>54</sup> Thucydides, *Histories*, 3.86.4

<sup>55</sup> Salmon, 1984, p.141

<sup>56</sup> Ibid.

<sup>57</sup> Ibid, p.150

increased, wealth was no longer directly linked to land. Once coinage became available, it provided the means for investing in trade and providing credit for trading voyages<sup>58</sup>.

## 2.5 Colonies of Corinth

The earliest colonies of Corinth were Corcyra (modern Corfu) and Syracuse in Sicily. They were both founded within a short time of each other in the eighth century BC<sup>59</sup> by the Bacchiads, who were in power in Corinth at that time.

Corcyra was situated on an island off the coast of the north west of Greece and its advantageous position was noted by Isocrates who recorded that “Corcyra has the best strategic position among the cities in the neighbourhood of the Peloponnese”<sup>60</sup>. Corcyra was also a convenient staging post on the route from Sicily to the Peloponnese<sup>61</sup>. Thucydides acknowledged that the geographic position of Corcyra was conducive to independence<sup>62</sup>.

Although a Corinthian foundation<sup>63</sup>, Corcyra did not maintain close, or particularly friendly, links with the mother city of Corinth. Herodotus noted that “ever since the island was colonised, they have been at odds with each other despite their kinship”<sup>64</sup>. Corcyra also refused to send “the customary sacrificial animals to the mother city”, according to Diodorus<sup>65</sup>. In fact, the earliest sea battle known to Thucydides was between Corinth and Corcyra<sup>66</sup>, and he also recorded that the Corinthians “hated the Corcyraeans for their contempt to the mother country”<sup>67</sup>.

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<sup>58</sup> “bottomry” loans

<sup>59</sup> 734 BC and 733 BC respectively.

<sup>60</sup> Isocrates, *Antidosis*, 108

<sup>61</sup> Xenophon, *Hellenica*, 6.2.9

<sup>62</sup> Thucydides, *Histories*, 1.37.3

<sup>63</sup> Thucydides, *Histories*, 7.57.7 and Pausanias, *Description of Greece*, 5.22.4

<sup>64</sup> Herodotus, *Histories*, 3.49.1

<sup>65</sup> Diodorus, *Historical Library*, 12.30.4

<sup>66</sup> Thucydides, *Histories*, 1.13.4

<sup>67</sup> Thucydides, *Histories*, 1.25.3

By the fifth century BC Corcyra had become a very wealthy city. Thucydides noted that “while they seldom make voyages to their neighbours, they are constantly being visited by foreign vessels which are compelled to put in to Corcyra”<sup>68</sup>. This reference is hard to interpret. There is no evidence suggesting that Corcyra controlled Adriatic shipping, but it is possible that trading vessels running between the Peloponnese and Italy found it a convenient place to pick up supplies. It is also possible that Corcyra, like Aegina, realised that the creation of an attractive emporium on the island would attract free-spending foreigners who may otherwise not have visited<sup>a</sup>.

Syracuse, the other Bacchiad foundation<sup>69</sup>, grew to be an extremely wealthy city. Her harbour was in a favourable position, and the land was very fertile yielding an “abundance of harvests” according to Diodorus<sup>70</sup>. The wealth of the region is also attested by Herodotus who recorded that a friend of Periander “wished to sail to Italy and Sicily, and that after he had made a lot of money there, he wanted to come back to Corinth”<sup>71</sup>. The city of Syracuse was compared to Athens in terms of both size and amenities<sup>72</sup> and it grew so wealthy that it became a by-word for excessive extravagance<sup>73</sup>.

Cypselus founded Leucas, Ambracia and Anactorium, in north west Greece, appointing his sons as oecists, and these three colonies were founded within a very short time of each other<sup>74</sup>. Apollonia was founded in the late seventh or early sixth century BC, and Epidamnus was also founded during Cypselus’ reign. As far as is known, the oecists were not relatives of Cypselus<sup>75</sup>, but they were probably powerful political allies whose loyalty to Cypselus was rewarded by their appointment as oecist/tyrant of the new colonies<sup>76</sup>. As with some of the

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<sup>68</sup> Thucydides, *Histories*, 1.37.3

<sup>a</sup> See also p.211 for the importance of tourists and visitors to an economy.

<sup>69</sup> Strabo, *Geography*, 6.2.4

<sup>70</sup> Diodorus, *Historical Library*, 11.72.1

<sup>71</sup> Herodotus, *Histories*, 1.24.1

<sup>72</sup> Thucydides, *Histories*, 6.37.2, 7.28.3 and Plutarch, *Nicias*, 17.2

<sup>73</sup> Strabo, *Geography*, 6.2.4

<sup>74</sup> Strabo, *Geography*, 10.2.8. Plutarch attributes the foundation of Leucas, Anactorium and Apollonia to Periander (Plutarch, *Moralia*, 552E) but this is unlikely, cf. Salmon, 1984, p.210-211.

<sup>76</sup> Salmon, 1984, p. 212

<sup>77</sup> Ibid, p. 215

other Corinthian colonies, Corcyraean colonists seem to have been present when Epidamnus was founded. This is implied by the difficult political situation in 435BC. Epidamnus first appealed to Corinth in 435BC for help, but when met with a refusal, turned to the Corinthians with the promise that, in return for Corinthian aid, she would declare Corinth her “single mother city”<sup>78</sup>.

Potidaea, in the Chalcidice, was founded in Periander’s reign, but became a tributary subject of Athens<sup>79</sup>. Potidaea is notable as it is the only Corinthian colony in eastern Greece. This colony is most likely to have been founded to facilitate trade with Macedonia. There were silver and gold mines in this area which was also rich in wood<sup>80</sup>. As the Corinthians were pre-eminent among ship builders, a supply of wood would be a necessity for the shipyards, and it is possible that much of the wood the Corinthians used came from the Macedonian area. There are also mints from this area which use the Pegasus as a motif on their coins, possibly an allusion to friendship with Corinth, and the mints of Thrace and Macedonia also provided Corinth with silver for her coinage<sup>81</sup>.

Other colonies of Corinth founded in the sixth and fifth centuries BC included Molycreium (west of Naupactus), Chalcis (west of Molycreium), Sollium in Acarnania, and possibly also Heracleia in the Ambracian gulf<sup>82</sup>.

The first two colonies of Corinth did not maintain as close a relationship with the mother city as the colonies founded under the Tyranny. This may be due to the fact that they were Bacchiad foundations, and the Bacchiads fell out of favour when Cypselus assumed power. Cypselus deprived many of the Bacchiads of their wealth, killed them and drove the remainder into exile<sup>83</sup> (Plutarch recorded that the Bacchiads who fled from the new regime in Corinth shaved their heads in sorrow and looked “mean and unsightly”<sup>84</sup>). Syracuse was, relatively speaking, far away from Corinth and did not pose any immediate threat.

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<sup>78</sup> Diodorus, *Historical Library*, 12.30.3

<sup>79</sup> Plutarch, *Pericles*, 29.4

<sup>80</sup> The best wood came from Macedonia (Theophrastus, *Enquiry into Plants*, 5.2.1)

<sup>81</sup> See Part 4.

<sup>82</sup> Salmon, 1984, p.213

<sup>83</sup> Herodotus, *Histories*, 5.92e.1

<sup>84</sup> Plutarch, *Lysander*, 1.2

She seems to have had a cordial relationship with the mother city as she allowed Corinth to trade with Italy and Sicily, and there is no discord between the cities recorded in the sources during the sixth or fifth centuries BC.

Corcyra, on the other hand, was closer to Corinth and it seems that the most disaffected element of the Bacchiads went there, as relations with the mother city were often strained and sometimes downright hostile. It may have been the case that the colonies of Leucas, Ambracia and Anactorium were founded by Cypselus to act as “buffer cities” or early-warning stations for Corinth over possible hostile moves by Corcyra toward the mother city. It is also possible that piracy played a significant part in the wealth of the Corcyraeans (implied by Thucydides’ reference to foreign ships being “compelled” to put in to Corcyra - see above) and the cities of Leucas, Ambracia and Anactorium were strategically situated to try and give assistance and protection to Corinthian shipping travelling between Italy/Sicily and the Peloponnese.

Unlike the colonies founded by the tyrants, Syracuse and Corcyra adopted their own coin standards and types. The hoards and evidence from the die study has shown that in order to participate in the Corinthian sphere of trade, cities had to obtain or strike pegasi. That Syracuse and Corcyra chose not to adopt this is best seen as a numismatic declaration of independence.

## 2.6 Foreign policy

The late sixth century BC saw Spartan hegemony in the Peloponnese, and a system of alliances saw her power and influence extend even further. The Peloponnesian League had its foundations in the second half of the sixth century BC. Herodotus records that visiting messengers from Croesus of Lydia arrived in the Peloponnese to be told that the Spartans were pre-eminent among the Peloponnesian states in terms of political power and military might<sup>85</sup>.

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<sup>85</sup> See Herodotus, *Histories*, 1.53.1-1.56.1 and 1.68.6

Cleomenes' campaign against Hippias in 510BC began with his army marching north across the isthmus of Corinth, implying that Sparta has some kind of alliance with Corinth and Megara, through whose territory the Spartan troops passed. In the sixth century BC Sparta concentrated on achieving bilateral treaties with the Peloponnesian states rather than attempting to absorb them into her territory as she had done previously with Messenia, her south-western neighbour. At some time in the late sixth or early fifth centuries BC, the Spartans and their allies confederated into a more organised system, where under a multilateral agreement all members of the League were bound to accept the majority decision of a specially held congress to which delegates from all member states were sent.

The Peloponnesian League was a new development in the political structure of Greece as cities discovered that a policy of cooperation could be more effective than individual action. Sparta remained the most powerful city state in the League, but the Corinthians were able to provide a counterbalance to Spartan operations against other states. The Corinthian withdrawal from the Hippias affair, for example, succeeded in limiting Spartan expansion north of the Peloponnese. Thus, the importance of the Peloponnesian League to Corinth was not only the promise of assistance against enemies from Sparta and other allies but was also the ability to influence Spartan policy when it ran contrary to Corinthian wishes.

Corinth's good relationship with Athens in the late sixth and early fifth centuries should be noted at this point. Corinth refused to participate in Sparta's support of Isagoras, whom the Spartans wished to install at Athens as tyrant<sup>a</sup>. Cleomenes' army comprised troops "from all the Peloponnese"<sup>b</sup> but arriving in Attica, the Corinthians did not feel comfortable participating in the Spartan attempt to put down democracy in Athens and withdrew, sparking a similar reaction among the other allies<sup>c</sup>. Corinth also opposed Sparta's subsequent attempt to re-introduce Hippias at Athens<sup>d</sup> and thereby frustrated Sparta's attempts to interfere in Athenian affairs.

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<sup>a</sup> Herodotus, *Histories*, 5.74.1

<sup>b</sup> Herodotus, *Histories*, 5.74

<sup>c</sup> Ibid

<sup>d</sup> Herodotus, *Histories*, 5.90-3



Like the Athenians, the Corinthians were not well disposed to either Megara or Aegina<sup>e</sup>, and in the early fifth century when the Athenians were at war with Aegina, Corinth provided twenty ships to the Athenians at a nominal charge<sup>f</sup>.

The good relationship between Corinth and Athens in the late sixth and early fifth centuries BC was most likely occasioned by circumstances rather than close ties of friendship<sup>g</sup>, as despite disagreement over Athens, Corinth remained a loyal ally of Sparta. The “bitter hatred” between Corinth and Athens c460BC<sup>h</sup> is a marked contrast to earlier relations, and a series of events so intensified hostility between the members of the Peloponnesian League and Athens that war broke out<sup>i</sup>.

In 490BC, Darius of Persia launched an attack on Greece. The Persian fleet sailed straight across the Aegean and sacked Naxos then Eretria. The Persians engaged the Athenians at

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<sup>e</sup> Salmon, 1984, p.251

<sup>f</sup> Herodotus, *Histories*, 6.89 and Thucydides, 1.41.2

<sup>g</sup> Salmon, 1984, p.252

<sup>h</sup> Thucydides, 1.103.4

<sup>i</sup> The so-called First Peloponnesian War.

Marathon and, despite the odds, were repulsed by the smaller Athenian force. Xerxes (son of Darius) put down rebellions in Egypt (485BC) and Babylonia (482BC)<sup>a</sup> and again Persian attentions were focused on Greece. In these campaigns, Xerxes moved round the Aegean via Thracian territory, which had been acquired by his father some years before, and advanced from the north. In 481BC the Greeks met in conference to agree a general truce between the Greek states and to form an alliance against the Persians. After various battles, the Greeks were forced to withdraw to Salamis in 480BC as the Persians sacked Athens and burnt the acropolis. In 479BC the conflict finally came to an end with the Greeks defeating the Persians at Plataiai in Boiotia.

The Corinthians supplied four hundred soldiers who fought at Thermopylae<sup>86</sup>, forty Corinthian ships were present at Artemisium<sup>87</sup> (the second largest fleet after the Athenians) and she also supplied forty ships for the battle at Salamis (supplemented by seven from Ambracia and three from Leucas<sup>88</sup>). The forces who marched from the Peloponnese to eject the Persians who remained in central Greece after the Battle of Salamis included over six thousand troops supplied by Corinth and her colonies (Potidaea, Ambracia, Leucas and Anactorium<sup>89</sup>). The sources do not record that the Corinthians were master tacticians or strategists, but their contribution to the war effort saw Corinth only third behind Athens and Sparta in terms of providing committed and loyal troops<sup>90</sup>.

However, in the aftermath of these wars, the political unity between the Greeks city states soon disappeared. Spartan hegemony in the Peloponnese was challenged<sup>b</sup> and Athens now began to establish herself as the leading naval power in Greece. She formed the Delian league (consisting of Samos, Chios, Lesbos, Delos and much of the Chalcidice) which formed strong bonds between the states and provided a force to counter any potential Persian threat. Thucydides records that the purpose of the League was to carry out attacks

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<sup>a</sup> Burn, 1962

<sup>86</sup> Herodotus, *Histories*, 7.202, Pausanias, *Description of Greece*, 10.20.1

<sup>87</sup> Herodotus, *Histories*, 8.45

<sup>88</sup> Herodotus, *Histories*, 8.43

<sup>89</sup> Salmon, 1984, p.255

<sup>90</sup> Ibid, p.256

<sup>b</sup> Herodotus records battles at Tegea and Dipaea, and although the Spartans won these, they indicate anti-Spartan feelings among some of the allies (Herodotus, *Histories*, 9.35.2)

on Persian property to “compensate themselves for their losses”<sup>c</sup> and, although not mentioned in the sources, another objective was to liberate the Greeks living under Persian domination in the process. However, there was unrest and rebellions among the allies.

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<sup>c</sup> Thucydides, *Histories*, 1.96

Naxos rebelled in c469/8BC but this was put down by the Athenians. Thasos also revolted and appealed to Sparta for help in repelling the Athenians. However, an earthquake in c464BC (an estimated 7.0 on the Richter scale<sup>91</sup>) prompted a helot revolt in Sparta who then had to ask the Athenians for help in suppressing it. While the Athenians pulled down the city walls of Thasos and made her forfeit her fleet, they also resumed their anti-Spartan stance and made allies of Sparta's near neighbour, Argos, and of Thessaly.

The rise in Athenian power and influence in the Aegean was a growing source of concern to Corinth and led to tensions between the Peloponnesian League and Athens. The defection of Corinth's immediate neighbour to the north, Megara, to the Delian league resulted in the outbreak of the first Peloponnesian war in 460BC. Although Corinthian troops and allies successfully repulsed the attempted Athenian landing at Halieis at the onset of the war<sup>a</sup>, the Athenians were victorious at the sea battle of Cecryphaleia and took seventy Peloponnesian vessels in the first sea battle of the Aeginetan war<sup>b</sup>. These Corinthian defeats at sea were followed by a humiliating defeat on land when a Corinthian-led attempt to seize control of the Megarid went badly wrong<sup>c</sup>. The previous good relationship between Corinth and Athens was now replaced by one of "bitter hatred"<sup>d</sup>.

Corinth and Sparta both engaged the Athenians in battle but the fall of Aegina in 456BC and a truce with Sparta in 451BC saw the Athenians and the Spartans emerge as the two leading powers in Greece. The removal of the Aeginetan fleet from the Peloponnesian league fleet<sup>92</sup> must have also been of concern to Corinth as the naval stranglehold of the Athenians grew stronger.

The second Peloponnesian War arose from several events which created discontent in mainland Greece. Athenian desire to control the northern Aegean arose from their need for grain which they imported from the Black Sea region, timber for the fleet (as this was

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<sup>91</sup> McGeehan Liritzis, 1996, p.380

<sup>a</sup> Thucydides, *Histories*, 1.105

<sup>b</sup> Ibid.

<sup>c</sup> Ibid 1.106

<sup>d</sup> see page 32ff

<sup>92</sup> Thucydides, *Histories*, 1.108

not available in any great quantity in Attica) and a wish to access and control the rich silver and gold resources in Thrace and Macedonia. After a protracted and brutal battle with a hostile native population, Athens founded the city of Amphipolis on the river Strymon in Thrace which was a strategic crossing point of great importance<sup>93</sup>. This caused great resentment, not only among the displaced local population, but among the other Greek states.

Also in 434/3BC Corinth was in dispute with her colony at Corcyra who had entered into an allegiance with Athens. This was only one of various intrigues involving Corinthian colonies (Potideae was another) and resulted in aggravating Corinthian aggression against

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<sup>93</sup> Demand, 1996, p.248

Athens. Corinth lobbied the Peloponnesian League to declare war on Athens and were successful in securing the support of the League members.

It has also been suggested that in 433/2BC the Megarian Decree, passed by Athens which forbade access by Megara to any of the Athenian markets or ports in the Athenian sphere of influence, caused severe economic hardship to Megara - a traditional ally of Corinth.

These events were precursors to the war which finally broke out in 431BC following skirmishes between Plataea in Boiotia, just north of Megara, and Athens. These triggered the war and in the first year, the Athenians laid waste to Megara, expelled the Aeginetans from their home island and replaced them with Athenians, and carried out a series of raids on the coast of the Peloponnese.

In 430BC Potidaea surrendered to Athens, but in this year the Spartans also invaded Attica. However, the large population of Athens entrenched behind the city walls led to the Athens plague breaking out<sup>94</sup> so the Peloponnesian League besieged Plataea. Then in 428BC, Lesbos, an important ally of Athens as she had her own fleet, attempted to revolt from Athens, depending on Spartan help to achieve this. The Spartans delayed so the Mytileneans had to surrender to Athens. In 427BC the Spartans took Plataea and carried out wholesale executions of the Plataeans.

Corinthian fortunes took a turn for the worse in 425BC when sixty ships were captured by the Athenians at Pylos<sup>a</sup>. An Athenian campaign in Corinthian territory in the same year saw the Corinthian troops forced into defensive positions while the Athenians looted the evacuated territory before the arrival of Corinthian reinforcements caused their retreat<sup>b</sup>.

In 424BC Athens tried to extend into Boeotia but was defeated by the Thebans who inflicted heavy losses. Also in this year the Spartans marched north from the Peloponnese putting pressure on Athens. This saw, in 423BC, Athens and Sparta agreeing a one year truce based on acceptance of the status quo. This arrangement was formalised in 421BC

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<sup>94</sup> This plague was to return in 429BC and 427/6BC

<sup>a</sup> Thucydides, *Histories*, 4.16

<sup>b</sup> Thucydides, *Histories*, 4.42-4.44

by the Peace of Nicias, a supposed truce between Sparta and Athens, but characterised by many skirmishes.

In 414BC the Athenians attempted a siege of Syracuse but they were ultimately unsuccessful. After this Sicilian disaster, Spartan aid was sought by former Athenian allies such as Euboea, Lesbos and Chios. However in 410BC the pendulum swung the other way

as an Athenian victory at Cyzicus was followed by the capture of Chrysopolis, Chalkedon and Byzantium on the Bosphorus, all wealthy cities of great strategic importance.

Finally, 406BC saw the battle of Arginusae. This was to be the Athenians last great victory over Sparta. The following year, 405BC, saw the battle of Aegospotami. This was the final decisive battle of the Peloponnesian War. It saw the majority of the Athenian fleet destroyed by the Spartans and Athens put under siege. After eight months Athens was forced to concede and accept terms. As the events above show, Corinth was a leading force in provoking the Peloponnesian War but shortly after the war beginning, Corinth's main role was as provider of naval strength for the Peloponnesian League in the form of a fleet.

The years 395-386BC saw the Corinthian War. The Peloponnesian War lead to a rift between Corinth and Sparta as, following the war, Sparta asserted authority and interfered in the affairs of others, one such contentious act being the placement of the tyrant Dionysius I on the throne in Syracuse. Sparta found itself in a war against Corinth, Thebes, Argos and Athens. The Persians, angered by Spartan interference in Asia Minor, provided the anti-Spartan allies with a fleet and funding, and it was the Persians who achieved peace in 387/6BC<sup>a</sup> and dictated terms.

Historical events show that Corinth could not sustain independent action. Her role was generally passive in the later fourth century BC in respect of Greek political affairs, but her important geographical position and pre-eminence in naval matters made her an attractive ally to others. Courted variously by Sparta, Boeotia and Athens she sometimes aided by providing ships, but generally maintained a position of neutrality.

The sources don't give much detail of Corinth's policy and role during the rest of the fourth century BC. In the wake of the Corinthian War Sparta embarked on a series of offensives which created ill-will against it and initiated the decline of Spartan hegemony in the Peloponnese. Corinth remained an ally of Sparta initially, but difficulties arose when others sought her alliance so from the early 360'sBC she assumed a neutral role<sup>b</sup>. She was

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<sup>a</sup> The King's Peace (cf. Salmon, 1984, p.368-70).

<sup>b</sup> Salmon, 1984, p.378ff



among the allies who joined Athens in 340BC to fight Philip of Macedon who was challenging Greek independence. Philip emerged victorious from the wars in 338BC after a decisive battle at Chaeronea, in which Corinthian troops fought, and he set up the League of Corinth, held in Corinth, attended by delegates from the Greek states. The member states were confederated into a force with Philip declared as commander, as the purpose of this force was to supply Philip with military forces and enable him to control Greece.

After Philip's death in 338BC, his son, Alexander, marched into Greece in 336BC to claim his right to be commander of the Corinthian League. When Alexander died in 323BC his empire fragmented and was fought over by his successors. After a period of upheaval and warfare Antigonus Gonatas established himself in power in Macedon in 276BC and the Antigonid dynasty ruled until overthrown by Rome in 168BC.

Corinth remained important and in 221BC when Philip V of Macedon came to power she was one of the "Fetters of Greece" along with Demetrias and Chalcis<sup>c</sup>. Corinth's Macedonian garrison was able to resist Flamininus' attack in 196BC but she was added to the Achaean League by the Romans after Philip was finally conquered. Flamininus held two pan-Hellenic conferences in Corinth where the Greeks were finally declared free under Roman protection.

However Sparta revolted and seceded from the Achaean League in 189BC and this triggered off battles and bickering among the Greek cities as well as resistance by some to Roman rule. In 148BC when the Spartans complained to the Romans about attempted coercion by the Achaean League, the Romans decreed that full independence be granted to Sparta, Corinth and Argos. Strongly anti-Roman Corinth did not want to leave the League and this resulted in the Roman ambassadors bearing the decree being abused and the subsequent Corinthian refusal to punish their attackers.

The Achaeans rose up against Rome but were finally conquered by Mummius in 146BC who defeated the Greeks at the isthmus and then entered Corinth. In retaliation for the

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<sup>c</sup> Scullard, 1980, p.244

treatment of their ambassadors, the Romans decreed that Corinth be made an example of and the city was completely destroyed<sup>95</sup>.

The ruins of the ancient city of Corinth lay abandoned for 100 years until it was refounded in 46BC by Julius Caesar. This explains why the archaeological remains of the archaic Greek city have been scant. The archaeological work at the harbours, for example, has only retrieved details of the Roman era.

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<sup>95</sup> "laid waste" (Pausanias, *Description of Greece*, 2.1.2); "scarcely a vestige left...utterly destroyed" (Cicero, *On the Agrarian Law*, 2.87) (Yonge)

### 3. A SHORT OVERVIEW OF THE COINAGE OF CORINTH

#### 3.1 Introduction

This chapter is intended to give a brief overview of the output of the Corinthian mint, to set the coins which are the subject of this thesis in context.

#### 3.2 Iconography

The choice of Pegasus as the motif for the obverse of the Corinthian coinage is due to the close association of the winged horse with the city itself.

According to legend<sup>96</sup>, Bellerophon (who came from Corinth) left the city under a cloud having killed his brother and another man. A handsome man, he attracted the attention of an Argive queen. When her attempts to seduce him were rebuffed, she told her husband that Bellerophon had attempted to seduce her. As Bellerophon had arrived from Corinth as a suppliant, the King was unwilling to kill him and sent him instead to the King of Lycia who he asked to execute Bellerophon for him. Reluctant to do this, the King of Lycia instead set Bellerophon a series of impossible tasks, one of which was to catch and tame the winged horse Pegasus.

The goddess Athena gave Bellerophon a golden bridle to help him tame Pegasus who he found drinking at the fountain Peirene in Corinth. When he successfully completed this and other tasks, the King of Lycia gave him his daughter in marriage and made him heir to the throne. Unfortunately, Bellerophon flew on Pegasus to Olympus, a move which angered the gods. Zeus sent a gadfly which stung Pegasus under the tail and threw Bellerophon to earth as punishment for his presumptuousness. Lamé and blind he was doomed to wander the earth alone until his death. He was hated by all the gods for his hubris in attempting to fly to the home of the gods, and compounded his offence by using his gift from the goddess Athena to make the attempt.

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<sup>96</sup> Graves, 1981, p.85-6.

The female helmeted head on the reverse of the Corinthian staters has long been interpreted as the goddess Athena. Blomberg has argued that the coins actually show Aphrodite who had an extensive cult presence in the city where Athena appeared to have no such importance<sup>97</sup>. However, Kraay and other numismatists and historians are agreed that it is Athena on the coins given her role in the Pegasus mythology<sup>98</sup>.

The reverse of the smaller denominations sometimes bore Aphrodite who enjoyed a strong cult presence at Corinth and had an important temple there<sup>99</sup>. The hair of Aphrodite is “beaded” in appearance and she is rendered in a very similar style to the archaic coins of Syracuse<sup>100</sup>. There is also a unique stater<sup>101</sup> which is very similar in style. Head has argued that the many variations of the unhelmeted head on the Corinthian fractions may mean that they are not all Aphrodite, but as the other main deities of the city are male rather than female (Poseidon and Apollo<sup>102</sup>) it seems that the die-makers of the fractions were allowed a greater degree of artistic license than the die-makers of the staters.

The gorgoneion, with tongue protruding, is also sometimes used as a symbol on the fractions. The gorgoneion is symbolic of Athena as she fixed its severed head to her aegis after receiving it from Perseus whom she had supported in his adventure<sup>103</sup>. Finally, there is the Corinthian helmet, another image evocative of the helmeted Athena on the staters and, indeed, of the city itself.

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<sup>97</sup> Blomberg, 1996, p.76

<sup>98</sup> Kraay, 1976, p.80.

<sup>99</sup> Blomberg, 1996, p.76

<sup>100</sup> see *BMC Corinth*, 91-4

<sup>101</sup> Cat. Jameson 1205.

<sup>102</sup> Blomberg, 1996, p.81

<sup>103</sup> Graves, 1981, p.79-82.

### 3.3 The history and development of the coinage

Although the date of the start of the coinage of Corinth is unknown, it is fairly certain that it commenced c580-570BC within a few years of that of Aegina and probably just before the coinage of Athens began<sup>104</sup>.

The first coins of Corinth bear a reverse punch in a mill-sail or “union jack” design reminiscent of the style of the reverse on the early Aeginetan coins. Like the Aeginetan coins, the first Corinthian coins are also small and globular in fabric. Soon, however, the fabric of the Corinthian coins became broader and flatter and the reverse punch developed into a quadripartite incuse square.

From the very beginning, the coinage of Corinth has borne the figure of Pegasus, the winged horse, on the obverse along with the letter *koppa* which was the initial of the city. The only major change in the design of the autonomous Corinthian silver stater coinage throughout its history is the change in reverse type from the square punch reverse to the use of a helmeted female head, generally accepted as the goddess Athena.

This change saw also a change in fabric which went from a large flan to a smaller, more globular coin. The earliest of these coins saw the head of Athena in an incuse square surrounded by a linear border. As the coinage developed, the linear border was discontinued, and the head became larger with the incuse square surround finally dropped altogether.

Around c440/435BC, the staters enter a transitional phase. During this time, the head of Athena becomes fully classical in form. The “archaic eye” and “archaic smile” disappear, the head becomes larger and Athena is depicted with a variety of different hairstyles, and acquires a neckflap to her helmet. On the obverse, this transitional phase sees a new-style Pegasus with pointed wing used.

In the later fifth century BC when the new-style Pegasus and classical head of Athena become the norm, ancillary symbols appear on the reverse behind the head. Initially these

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<sup>104</sup> Discussed in Part 6, the absolute chronology section.

symbols take the form of an object of some sort, such as trident, palmette, dolphin etc. By about 350BC<sup>105</sup> these symbols are joined by a letter. The symbols and letters are used over too long a period to qualify them as annual magistrates marks, but they are probably related in some way to the workings of the mint, perhaps the marks of authority of the controllers of the mint at various times<sup>106</sup>.

This period of coinage lasted to 307BC when Ptolemy occupied Corinth as a result of the fragmentation of the empire of Alexander the Great, and issued some coins there. The Hellenistic period was characterised by leagues of cities who grouped together to try and resist threats from royal power<sup>107</sup>. Corinth became a member of the reformed Achaean League in 243BC<sup>a</sup> and, between then and 224BC when it was recovered by the Macedonian Antigonos Doson, issued League coins. These coins emphasised the idea of confederacy by using a common obverse type (in this case the laureate head of Zeus) but the reverse varied according to the issuing city. Corinth retained Pegasus as her motif although the famous flying horse was now accompanied by the League monogram.

The very scant surviving numismatic evidence for the late third and second centuries BC indicates that Corinth did not issue any coinage between 224BC and 196BC when the Romans reunited it with the, by now, emasculated Achaean League<sup>b</sup>. The coinage ceased altogether in 146BC when the Romans destroyed the city of Corinth following the defeat of the Achaean League<sup>108</sup>. When refounded in 46BC, Corinth issued her coins under the control of the Romans - the Greek Imperial series.

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<sup>105</sup> Jenkins, 1958, p.374

<sup>106</sup> Kraay, 1976, p.87

<sup>107</sup> Boardman et al, 1989, p.329

<sup>a</sup> When it was liberated from the Macedonians under Antigonos by Aratus, the Achaean leader (Walbank, 1981, p.95)

<sup>b</sup> Head, 1911, p.403

<sup>108</sup> Although hoard evidence has given rise to some doubts over the chronology of this coinage - see Carradice and Price, 1988, p.78

### 3.4 Weight standard

Corinth struck on her own standard of a stater of 8.6g which equalled three drachmae of 2.9g. The Corinthian stater was equivalent to two Attic drachmae, the standard at which the Athenian *wappenmunzen* series was struck, and the whole Corinthian system is half of the Euboeic standard of 17.2g for a stater.

It has been suggested that this standard was chosen by Corinth to facilitate transactions with Aegina as the Aeginetan drachma is equivalent in weight to the Corinthian drachma<sup>109</sup>. A similar case could be made with Athens whose wappenmunzen coins would have been interchangeable (in terms of weight) with the Corinthian staters. However, there is a contrasting view that the use of local weight standards is more likely to be influenced by the desire of a city to be different or unique as the vast range of differing weight standards across the Greek coin-producing world are not likely to have been particularly helpful in “facilitating easy exchange over a distance”<sup>110</sup>.

Adopting a specific weight standard could be interpreted as a mechanism for affirming links, political or economical, with another city. The Corinthian colonies of Leucas and Ambracia in north west Greece used the Corinthian standard, as did the “pegasi” mints of the second half of the fourth century BC. Likewise, the Achaean cities in southern Italy used the weight standard of Achaea from where they were founded. This affirmed the political links of the colonies to the mother city as well as facilitating participation in her economic sphere. Similarly, the Aeginetan standard was widely adopted in central Greece, the Peloponnese, Crete and the Cyclades and this indicates an interest in trade relations as the Aeginetans were pre-eminent traders rather than colonists in these areas.

On the other hand, a unique weight standard could be viewed as a numismatic declaration of status and independence. Syracuse, one of Corinth’s oldest colonies, did not commence issuing coins until much later than Corinth, in the latter decades of the sixth century BC. Her coins were struck on the Attic standard, previously unknown in Sicily, which was a bold statement of political importance and independence. Syracuse did not adopt the Corinthian standard until it became a “pegasi” mint in the wake of Timoleon’s rescue of the city in the fourth century BC, which reflected the change in her status and reintegration into the Corinthian milieu.

Corcyra, another of Corinth’s oldest colonies in north west Greece, had a turbulent relationship with her mother city. She also chose her own weight standard and type for her coins.

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<sup>109</sup> Head, 1889, pxix-xx.

<sup>110</sup> Osborne, 1996, p.251-5.



The overstrike and hoard evidence shows that Corcyraean coins were recycled by Corinth and were not accepted currency in the Corinthian sphere as the pegasi of Leucas and Ambracia were. This stringent control by Corinth of who could, or could not, participate in her economic and political milieu is also demonstrated by the fifth century BC examples of Epidamnus and Potidaea who, when they required Corinthian support, issued, or were issued with, pegasi to affirm their loyalty to Corinth<sup>111</sup>. These examples are precursors to the “pegasi” mints of the fourth century BC, opened by the cities who wanted to join Corinth in their Sicilian venture.

### 3.5 Smaller denominations

A striking feature of the Corinthian coinage is the “overwhelming preponderance of staters”<sup>112</sup>. Corinth did strike some fractional coins to about 480BC, but they did not reappear in any numbers until after about 350BC. The fractions divided the stater by two (trihemidrachm), three (drachm), six (hemidrachm) and then into even smaller fractions such as obol, hemiobol and trihemiobol.

The three drachms from the Selinus hoard<sup>113</sup> are among the earliest fractions struck by Corinth. They have Pegasus on the obverse and a version of the early mill-sail punch reverse.

The fractional coins, as well as showing the full Pegasus on the obverse, sometimes just used either the forepart of Pegasus or the head of the horse. The reverse was sometimes the mill-sail or square punch reverse<sup>114</sup>. Other fractions bore a Corinthian helmet on the obverse and the letter T on the reverse<sup>115</sup> (these coins were initially attributed to Tegea until

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<sup>111</sup> See discussion in Part 6, absolute chronology section.

<sup>112</sup> Kraay, 1976, p.88.

<sup>113</sup> *CH* 8.35

<sup>114</sup> *BMC* Corinth 24-48

<sup>115</sup> Δ in an incuse square was sometimes used on the reverse of coins with the Pegasus obverse - cf. *BMC* Corinth 97-104.

it was noticed that there is a small  $\phi$  under the helmet<sup>116</sup>). Finally, some combined Pegasus with a gorgon head within an incuse square<sup>117</sup>.

When the staters acquired the head of Athena on the reverse, so too did the drachms. The early head of Athena types, within incuse square and linear border, on the staters is matched on some contemporary fractions<sup>118</sup>. An unhelmeted head is also used on some of the fractions, and this is most commonly interpreted as Aphrodite<sup>119</sup>, the “main goddess” of Corinth<sup>120</sup>.

At some time in the late fifth and early fourth century BC, Corinth struck a series of trihemidrachms<sup>121</sup> which bore Bellerophon riding Pegasus on the obverse and a chimaira on the reverse. This series was again issued from the second half of the fourth century BC.

Until the fourth century BC, the fractional issue of Corinth had always been struck in silver, but the situation changed at this point. A rare and unprecedented issue of gold coins was made by Corinth at some time in the fourth century BC<sup>122</sup>. (The dating of these pieces is problematic. On the basis of the style of the coins, Babelon dated them to the second half of the fourth century BC<sup>123</sup>. Ravel, however, agreed with Gardner who dated them to the late fifth century BC when Athens also struck her first gold coins<sup>124</sup>). Only six examples of this issue survive although the fact that they were all struck from different dies does suggest a sizeable output. A sudden scarcity of silver bullion (hence the crude style of the dies) has been seen as the most likely reason for this issue, as was the case with the Athenian gold coins. However, Salmon thinks it more likely that these coins are the result

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<sup>116</sup> Ravel, 1935, p.8-9.

<sup>117</sup> *BMC Corinth* 105-111.

<sup>118</sup> e.g. *BMC Corinth* 95-6

<sup>119</sup> Head, 1889, p.xx

<sup>120</sup> Blomberg, 1996, p.81.

<sup>121</sup> a half stater

<sup>122</sup> Schwabacher, 1941, p.65

<sup>123</sup> Ravel, 1935, p.2

<sup>124</sup> *Ibid*, p.5

of a Persian subsidy which may have been made to help finance the Corinthian fleet at the beginning of the Peloponnesian War<sup>125</sup>.

Also, from the early fourth century BC<sup>126</sup>, the smallest fractions were now struck in bronze. Kraay attributes this late date for the introduction of bronze for the smallest denominations to the “apparent ease” with which Corinth could obtain silver and sustain her silver supplies<sup>127</sup>. By the third century BC, the coinage mainly consisted of silver coins supplemented by a few bronze fractions<sup>128</sup>, latterly struck with the monogram of the Achaean League.

### 3.6 Conclusion

The numismatic evidence shows Corinth to have been a prolific mint until at least the third century BC, striking a range of denominations at various times in gold, silver and bronze.

The presence of fractions at an early point in the coinage is important as it belies the assumption that coinage was primarily used as a medium of international trade and, as such, did not feature largely in the domestic transactions of the city. The evidence of the Selinus hoard also shows that the fractional coinage of Corinth travelled further abroad than previously thought. Granted, although smaller archaic fractions are rarely found outside of Greece, the Selinus hoard<sup>129</sup> being an exception to this, hoards such as Isthmia<sup>130</sup> and Corinth 1928<sup>131</sup> in conjunction with the archaeological evidence show that they played an important part in everyday life in the city, at least until the fourth century BC.

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<sup>125</sup> Salmon, 1984, p.172

<sup>126</sup> This date has a secure archaeological context, as bronze fractions were recovered from excavations at the Sacred Spring in Corinth in a phase which has been dated to the early fourth century BC. cf. Salmon, 1984, p.173.

<sup>127</sup> Kraay, 1976, p.88

<sup>128</sup> Head, 1889, p.xxxii

<sup>129</sup> CH 8.35

<sup>130</sup> IGCH 11

<sup>131</sup> IGCH 17

Although new hoards and discoveries have added to the corpus of Corinthian coinage preceding the Peloponnesian War, the chronological development of the staters can be charted comparatively easily compared to the years during and following the war. The symbol coinage (Ravel's period four), which probably covered the period c430-350BC, shows a massive increase in output from what had been issued previously<sup>132</sup>. The latter part of the fourth century BC also shows a huge output from the mint of Corinth as attested by the Sicilian hoards<sup>133</sup>. The third century BC and the first half of the second century BC saw Corinth confederated into the Achaean League where her issues become homogenised in accordance with the requirements of the League. Finally, after her refoundation in 46BC, her "Greek imperial" issues conformed to the conditions imposed by the Romans.

Thus, the archaic and early classical silver staters of Corinth down to the Peloponnesian War are arguably the most interesting and potentially fruitful Corinthian coins to study as, despite the problems, the winged horse at that time was a famous and potent symbol of the wealth of Corinth.

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<sup>132</sup> Although one may argue that older coins remain unrecorded as they are very likely to have been melted down to strike superseding issues, or overstruck in places which did not have their own source of silver.

<sup>133</sup> Discussed more fully in the in absolute chronology section.

## 4. CORINTH IN THE GREEK WORLD TO 430BC.

### 4.1 Introduction

The coinage of Corinth cannot be studied in a vacuum. The lack of written documentation available for the city of Corinth means that any study must include a survey of other contemporaneous coinages and the movements of coins as elucidated by the hoard and overstrike evidence. This, in addition to archaeological findings and documented historical events, gives the coinage of Corinth context within the wider Greek world. All of these factors are also vital in the attempt to find key dates with which to anchor the sequence.

Figueira faced similar problems, in respect of lack of detail, in his study of Aegina and expressed the problem perfectly when he said “Thus, the study of any archaic polis tends to become a reinterpretation of the entire archaic world, in which that city must find its place”<sup>134</sup>.

In this chapter, the six main areas of the Greek world<sup>135</sup> are examined in an effort to show the depth and extent of Corinthian monetary dealings outwith the city itself. A new survey of coin hoards for the period spanning the sixth century BC to c430BC has been made which includes all those listed in the *Inventory of Greek Coin Hoards (IGCH)* and the *Coin Hoards* series of publications which brings in the discoveries current to 1994<sup>136</sup>. This is supported by overstrike evidence, archaeological findings and any other evidence germane to the areas under discussion.

The six areas of the Greek world comprise Greece, including Crete and the Cyclades, Thrace and Macedonia (taking in the Black Sea area), Asia Minor, the Levant, Egypt, Italy and Sicily (fig. 2).

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<sup>134</sup> Figueira, 1981, p.3-4

<sup>135</sup> In accordance with the geographical definitions given in *IGCH*.

<sup>136</sup> At the time of writing, *CH* 9, due at some point in 1999, has not been published but Henry Kim, of the Ashmolean Museum in Oxford, advises that no significant hoards containing Corinthian coins have been found in the last five years.

FIG 2. MAP OF THE GREEK WORLD



Of course, trade, gifts and tribute saw contact (either direct or indirect) extend beyond these areas as far back as the bronze age, but the phenomenon of coinage, with which this thesis is concerned, belongs in the context of the six areas described above. From the inception of silver coinage in the sixth century BC to the fourth century BC, coins were mostly confined to these areas, although there are a few exceptions, the important ones of which are discussed as appropriate.

Although this thesis is concerned with the silver stater coinage of Corinth to the Peloponnesian War in 431BC, this cannot be studied in isolation. It is necessary, therefore, to examine other key coinages of the Greek world which either provided the undertypes for Corinthian coins or which were struck over Corinthian coins, or coinages whose presence or absence in hoards helps to reveal the pattern of the movement of Greek coins before the Peloponnesian War.

For the sake of convenience, the chronology has been divided into groups. Archaic coins and hoards to c480BC form the first group as the Greek victory over the Persians seems an ideal point at which to divide the chronology. Subsequent groups are named by century. The fifth century refers to that period from c479-400BC and the fourth century covers c399-330BC. These divisions, although rather arbitrary, fit in with the main events of the Greek world. The Peloponnesian War ended in the closing years of the fifth century BC (404BC) and from c330BC, the Hellenistic period saw the coinages of Alexander and his successors become an international currency. Hence, in this overview, the terms used above prevail. Also, although the fourth century BC does not fall within the scope of this thesis, it is useful when analysing the hoard patterns to briefly discuss the emergent picture at this time to provide comparison with the earlier periods.

Each geographical section includes an analysis of the hoard pattern and, where appropriate, a discussion of the overstrike evidence. Other non-numismatic evidence is also evaluated where it helps to illuminate the depth and extent of Corinthian interest in the area.

## 4.2 Greece

Greece is defined as Acarnania, Aetolia and Epirus, Thessaly, Central Greece (Attica, Euboea, Boeotia, Phocis and Locris), the Peloponnese and Crete and the Cyclades (fig. 3).

The *Coin Hoards* series has added a significant number of hoards in Greece to those listed in *IGCH* which gives the picture there greater clarity.

There are twenty hoards found in Greece to c480BC. Generally these are local hoards comprising coins of the mints where the hoard is located<sup>137</sup>.

The largest mixed hoard in archaic mainland Greece comes from the Temple of Poseidon at Isthmia near Corinth<sup>138</sup>. This find was recovered during excavations and was discovered in the fill which lay beneath the floor debris of the temple which was destroyed by fire c480BC. The bulk of the coins were from Aegina and Corinth, together comprising almost 87% of the hoard, and a small amount came from Sicyon, Eretria, Argos and Tegea in mainland Greece and Naxos in the Cyclades. According to the preliminary report, some of these coins were plated or false, but this important and interesting hoard (virtually the only one to have a secure archaeological context and potentially critical for the Corinthian chronology) remains unpublished and inaccessible<sup>139</sup>. Nevertheless, this is the only hoard in archaic Greece where coins from more than two mints have been discovered. This is probably due to Isthmia's status and attraction as a major religious sanctuary where visitors made offerings and dedications in the coin of their own cities.

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<sup>137</sup> The Greece 1944 hoard (*CH* 1.8) does not have a definite findspot, but the Greek hoard pattern at this time suggests that this hoard was either found in Aegina or Elis, where Aeginetan coins travelled in some quantity in archaic times.

<sup>138</sup> *IGCH* 11. Dr Orestes Zervos, Corinth Excavations, American School of Classical Studies at Athens, advises that this should be correctly referred to as a "temple deposit" rather than a hoard.

<sup>139</sup> Despite the note in *Asyut* (note 17, p.129) which says that casts of the hoard are held at the American Numismatic Society in New York, a visit and the help of the curator there has proven that this is not the case. Dr Zervos advises that the publication rights to this hoard lie with an academic based in Virginia, USA, but she has chosen not to publish it and letters requesting details have remained unanswered.



KEY  
 + = C6th hoards  
 • = C5th hoards  
 ▲ = C6th and C5th hoards

NOTE There are 20 hoards in Greece which could not be plotted on the map due to insufficient information.

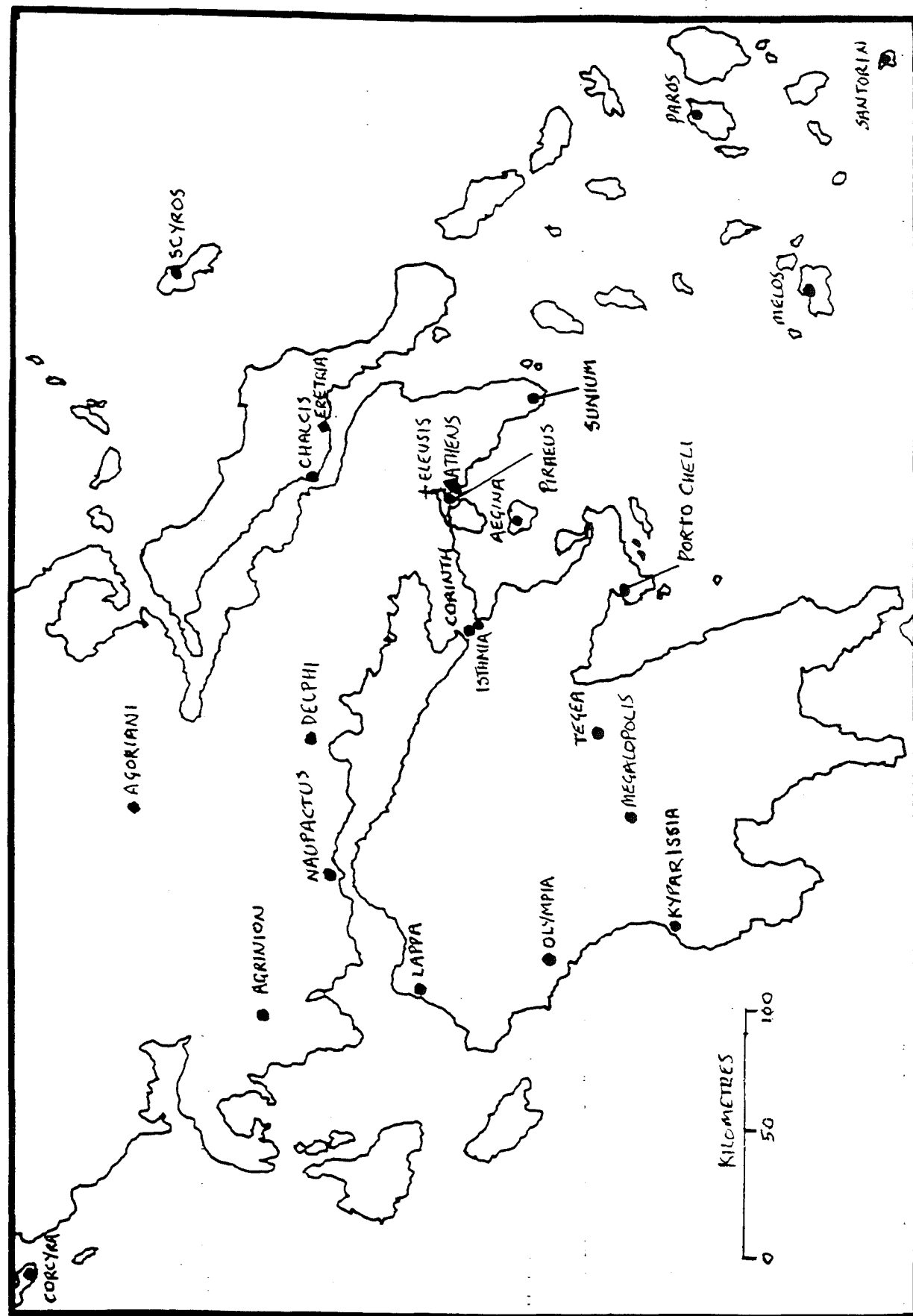


FIG 3. HOARDS IN GREECE IN THE SIXTH AND FIFTH CENTURIES BC.

In the Cyclades, there are three large mixed hoards all dated to c500-490BC. In all cases<sup>141</sup> Aeginetan coins were by far the largest component, with a small compliment of coins from mints in the Cyclades<sup>142</sup> and Asia Minor, notably Miletus.

The only coins to travel to other locations in Greece are those of Athens and Aegina. Athens obviously had a close relationship with the nearby cities of Chalcis and Eretria in Euboea. Athenian wappenmunzen are found in three hoards in Euboea which also contain coins of either Eretria or Chalcis. Likewise, coins from these mints are found in four hoards in Athens or Attica.

Aegina had a similarly close relationship with Elis and this relationship continued throughout the fifth century BC with the consistent appearance of coins from Aegina in hoards found in Elis. Two small hoards containing Aeginetan coins are located in the vicinity of the city of Elis<sup>a</sup>, while two more were reportedly found in the “Olympia environs”<sup>b</sup>. As the workshops in Elis serviced the major and important sanctuary at Olympia where there was an early and important temple to Hera, these latter hoards may either represent offerings or dedications, or may be bullion hoards destined to be melted down and used to produce artefacts for the temple<sup>c</sup>. Elis was famous as the home of the Olympian Games, “the greatest games in the world”<sup>143</sup>, and received dedications from all around the Greek world. Aeginetan traders also used Elis as a staging post for their trade into Arcadia<sup>144</sup>. Aeginetan coins<sup>145</sup> also comprised the earliest hoard outwith Asia Minor at Phaestus on Crete.

In the period c479-400BC, there are 47 hoards found in Greece. Coins from the Greek mints move more freely than in the archaic period, with coins from Aegina being found in

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<sup>141</sup> The entry for *IGCH* 8 infers that this hoard had the same profile as *IGCH* 7, so similar proportions of the various mints are assumed.

<sup>142</sup> Coins from these mints never left the islands.

<sup>a</sup> *IGCH* 28 and *IGCH* 35

<sup>b</sup> *IGCH* 15 and *IGCH* 44

<sup>c</sup> Particularly in the case of *IGCH* 44, a “pot” hoard.

<sup>143</sup> Strabo, *Geography*, 8.3.30.

<sup>144</sup> Figueira, 1981, p.88.

<sup>145</sup> With one possible issue of Thera, cf. *IGCH* 1.

thirteen hoards outwith Aegina and Elis and coins from Athens in six hoards outwith Athens and Attica. Coins from other mints across Greece also comprise six mixed hoards of Greek coins from more than one mint in various locations, a significant rise in coin movements compared to the archaic period. The only foreign coins in Greek hoards at this time are from Sicily, found in a hoard at Chalcis in Euboea<sup>146</sup>, Persia and Cyzicus<sup>147</sup>. One Persian coin is found in a hoard in Boeotia along with coins from Boeotian mints<sup>148</sup>, while the hoard of gold and electrum coins of Persia and Cyzicus at Elis<sup>149</sup> must represent an offering destined for one of the temples at the sanctuary, and most probably arrived via the Aeginetans. Finally, the “several hundred” gold Persian darics found in Athens<sup>150</sup> can only be roughly dated to the fifth century BC, but it is tempting to see this hoard as booty gained in the Persian Wars.

Corinthian coins appear in six hoards of this period. One can only be roughly dated to the fifth century BC as it was dispersed in trade and no details are available other than that it contained fifty Corinthian staters and four triobols of Argos<sup>151</sup>. It is assumed to have been found somewhere in the Peloponnese and, as the only foreign coins found at Corinth herself at this time come from her colonies, Argos is the most likely location. Three hoards come from Corinth, two containing only Corinthian issues<sup>152</sup> and one containing an unknown quantity of coins from Corinth, Leucas and Ambracia<sup>153</sup>. The only locations in Greece where Corinthian coin travelled are to her colonies at Corcyra<sup>154</sup> and Leucas<sup>155</sup>. These six hoards range in date from c479-c430BC<sup>156</sup>.

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<sup>146</sup> *IGCH* 26.

<sup>147</sup> The coin from Chios in a hoard in Thessaly is probably an intrusion, cf. *IGCH* 21.

<sup>148</sup> *CH* 5.10.

<sup>149</sup> *IGCH* 43.

<sup>150</sup> *IGCH* 32

<sup>151</sup> *IGCH* 41

<sup>152</sup> *IGCH* 17 and *IGCH* 18

<sup>153</sup> *IGCH* 25

<sup>154</sup> *CH* 8.53

<sup>155</sup> *CH* 5.7. Although the hoard is only recorded as having been found in north west Greece, the hoard pattern suggests that Leucas is the most likely location.

<sup>156</sup> See appendix for full details and discussion.

The hoard pattern from the sixth century BC to 330BC in Greece is, apart from some exceptions discussed above, generally unremarkable, but the overstrike evidence shows that the whole story of coin movements is not fully revealed by the hoards. Corinthian coins have been overstruck on flans from Athens (a *wappenmunzen* issue), Corcyra, Aegina and unknown mints probably in Thrace and Macedonia (see list of overstrikes in catalogue). This also suggests that, like Corinth, other cities in Greece probably saw a greater range of coinage arrive in the city than the hoard evidence would lead us to believe.

### 4.3 Thrace and Macedonia

This area comprises the ancient territory of Macedonia, the Chalcidice and Thrace, to the Bosphorus on the Black Sea (fig. 4).

There are twelve archaic hoards from the Thrace/Macedonia region. Of these, nine comprise only local issues or coins from neighbouring mints. The three remaining hoards consist of coins from mints in Cyzicus, Lydia and other places in Asia Minor. One of these is a hoard of electrum coins found somewhere in Macedonia which has been dated to c600-590BC<sup>162</sup>. The other two hoards contain coins from Lydia and Cyzicus.

Although foreign coins from mints in Greece may not have penetrated Thrace and Macedonia to any degree in the archaic period, the picture is very different in respect of the outward movement of coins from mints in the area. Coins from mints in Thrace and Macedonia were present in nine archaic Egyptian hoards, four hoards from Asia Minor, and other hoards in Greece, Italy, Sicily and the Levant (see table 1).

In the fifth century BC there are 37 hoards. 28 of these are local and nine contain foreign coins. Five of these hoards are from locations which would have been in the territory of ancient Macedonia (i.e. west of the Strymon river). The hoard from Olynthus<sup>163</sup> contained 18 coins from mints in the Chalcidice and one drachm of Athens. The hoard from Nea Cassandra<sup>164</sup> comprised mainly local issues but included fragments of a coin from Thebes and one from Boeotia. Likewise the hoard from Scione in the Chalcidice<sup>165</sup> contained twenty Athenian coins out of some 250 coins. The other two hoards in Macedonia are very large and unusual. The hoard from the environs of Mt. Athos<sup>166</sup> contained 300 gold Persian darics and 100 silver Athenian owls<sup>167</sup>. The other hoard, also dated to the end of the fifth

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<sup>162</sup> *IGCH* 354

<sup>163</sup> *IGCH* 359

<sup>164</sup> *IGCH* 360

<sup>165</sup> *CH* 8.63

<sup>166</sup> *IGCH* 362 "canal of Xerxes"

<sup>167</sup> The date of this hoard is uncertain as one of the Athenian coins is a fourth century BC issue, so the hoard may be later than c400BC. However, it is included here as it falls approximately at the lower end of the time-scale of the survey.

KEY + = C6th hoards  
 • = C5th hoards  
 ▲ = C6th and C5th hoards

NOTE There are 19 hoards in Thrace and Macedonia which could not be plotted on the map due to insufficient information.

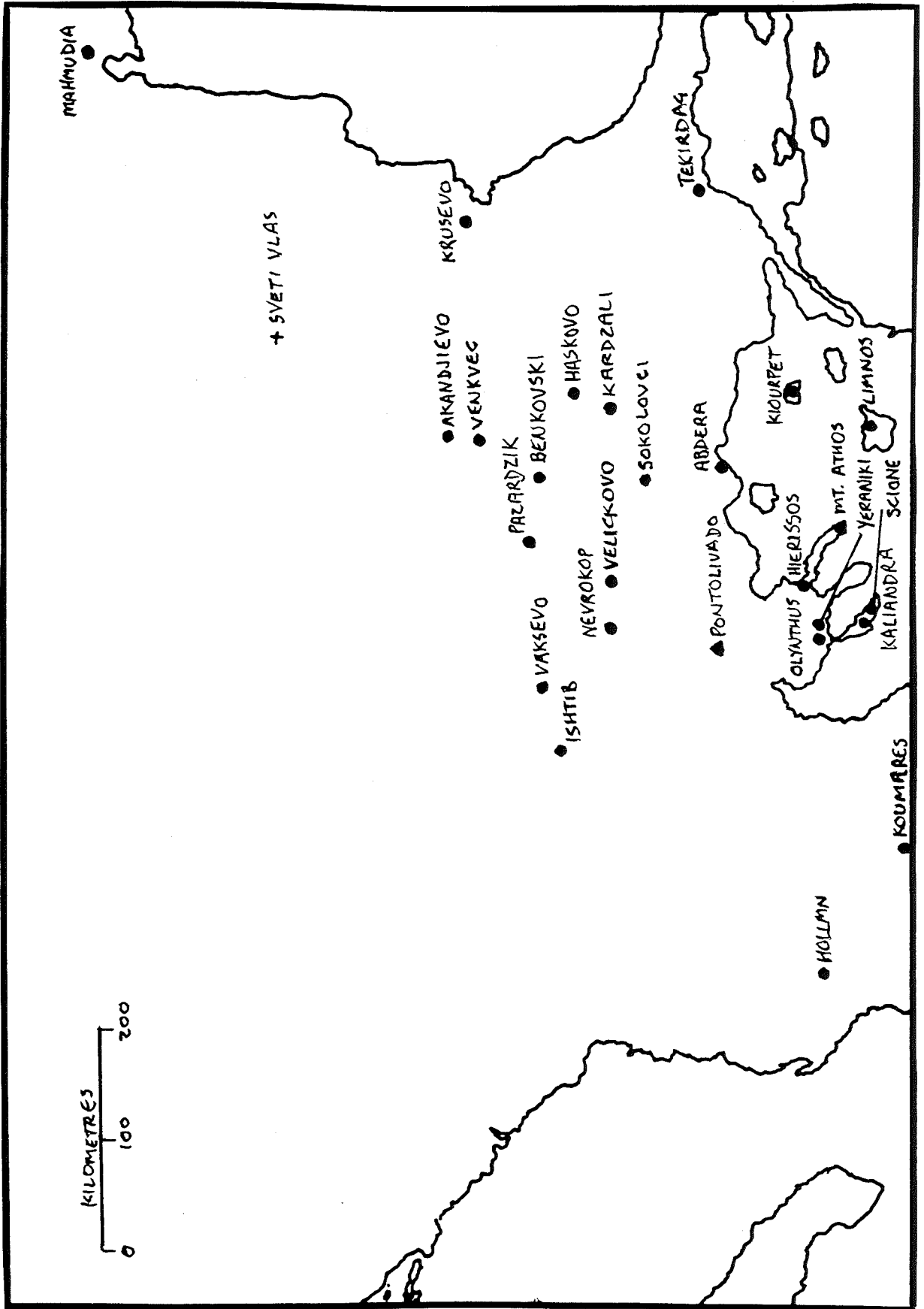


FIG 4. HOARDS IN THRACE AND MACEDONIA IN THE SIXTH AND FIFTH CENTURIES BC.

<b>Hoard location</b>	<b>Number of Archaic hoards to 480BC</b>	<b>Number of hoards dated c479- 400 BC</b>	<b>Number of hoards dated c399-330 BC</b>
Asia Minor	4	2	1
Egypt	9	3	1
Greece	-	-	3
Italy/Sicily	4	1	-
The Levant	5	5	1
Cyprus	-	1	-

**TABLE 1. HOARDS CONTAINING COINS FROM MINTS IN THRACE AND  
MACEDONIA.**

century BC, is from south-east Albania<sup>168</sup> and comprised some 400 silver coins of Aegina buried in a bronze pot.

Three hoards come from the area corresponding to the territory of ancient Thrace. The pot hoard from Krusevo<sup>169</sup> contained mainly coins from Parium on the north western coast of Mysia, as well as coins from Thasos, and one tetradrachm of Athens. The hoard from Bulgaria found in excavations in 1979<sup>170</sup> only contained ten silver Persian sigloi, and the hoard from Lemnos<sup>171</sup> comprised thirty Lycian issues.

Again, as in the archaic period however, coins from mints in Thrace and Macedonia travelled all over the ancient Greek world and appear in twenty hoards from a variety of areas (see table 1).

It is interesting to examine the reasons for this apparent shift in coin movements and, as with the other areas under discussion, the picture is illuminated by the hoard pattern of the fourth century BC. In Thrace and Macedonia out of 72 hoards dated from c399-330BC, only five hoards contain foreign coin. Coins from the nearby mint of Cyzicus comprise the two hoards in Thrace<sup>172</sup>, while two coins from Abydos and Chios on the coast of western Asia Minor appear in a hoard at Thasos<sup>173</sup> of indeterminate fourth century BC date. The presence of foreign coin in these hoards must be attributed to local trading as, relatively speaking, the three mints involved are in close proximity to Thrace. A hoard from Olympias in the Chalcidice<sup>174</sup> contains a small contingent of coins from the Greek mints of Boeotia, Thebes and Sicyon.

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<sup>168</sup> CH 8.67

<sup>169</sup> IGCH 695

<sup>170</sup> CH 8.33

<sup>171</sup> IGCH 699

<sup>172</sup> IGCH 714 and 726

<sup>173</sup> CH 8.83

<sup>174</sup> CH 1.37



Thus, the hoard evidence shows that only the coins from mints in Persia and Asia Minor had any kind of sustained presence in the Thrace/Macedonia region. It was not until the end of the fifth century BC that silver coins from mints in Greece travelled to the area in any quantity. When they do they consist mainly of Athens and Aegina and are restricted to the Macedonian area, specifically the Chalcidice. A sole Athenian tetradrachm is found in a hoard in Thrace dated to c475BC<sup>176</sup> but, apart from this, western Greek coins are not found in eastern Thrace or around the Black Sea coast before the Hellenistic period in any quantity.

The almost complete absence of Greek coins from Thrace and Macedonia is all the more notable when compared with the outpouring of coins from mints in this area to all parts of the Greek world in the sixth and fifth centuries BC. However, the flood of coins from the Thraco-Macedonian area to Asia Minor and Egypt (as evinced by the hoard evidence) waned dramatically after c480BC and this is most likely linked to the Persians and the removal of the need to pay tribute to them after the Greek victory at Salamis in 480BC forced them to relinquish their hold on the area. It may also be the case that increasing Athenian interference in the area, resulting in Thasos becoming a tributary subject of Athens in 465BC<sup>177</sup>, saw bullion from the area diverted to Athens. The small amount of Thraco-Macedonian issues found in hoards in Egypt and the Levant in the following years almost certainly arrived via Athenian traders.

The overstrike evidence is the only thing which demonstrates that Thraco-Macedonian coins were still arriving in Greece in the sixth and fifth centuries BC, as there are no hoards in Greece at that time containing these coins. However, as one of the sources of the silver for mints in Greece to issue their own coins, the coins were likely to have been melted down or re-struck immediately after arrival, leaving no record of their presence. The hoard and overstrike evidence shows that the silver coins which flowed out from Thraco-Macedonian mints until the fifth century BC provided much of the silver for mainland Greek cities coinages as well as the bullion for tribute, temple offerings and personal jewellery in Egypt and the east.

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<sup>176</sup> *IGCH* 695

<sup>177</sup> Demand, 1996, p.206

As has been shown by this analysis, the evidence for Corinthian presence in Thrace and Macedonia is scant and somewhat elusive. The Corinth overstrikes on probable Thraco-Macedonian issues and the adoption of the Pegasus as a type by one mint shows that there was contact but the degree of this cannot be ascertained. The archaeological evidence has shown that there is an appreciable amount of Corinthian pottery in this area suggesting that the Corinthians were involved in trade with the cities of Thrace and Macedonia to some extent<sup>178</sup>.

The Corinthian colony of Potidaea in the Chalcidice, was founded in the sixth century BC by Periander<sup>179</sup>. After the Persians left the area, Potidaea became a tributary ally of Athens, although it still received its magistrate from Corinth<sup>180</sup>. Potidaea is unique among Corinthian colonies in terms of its location as the other Greek Corinthian colonies were situated in the north west of Greece. Potidaea may have been a strategic colony meant to manage the affairs of Corinth in the area and ensure a flow of silver (and, possibly, timber) to the mother city. It would also have ensured that any Corinthian coin arriving in the area was recycled back to Corinth, hence the lack of numismatic evidence for Corinthian presence in the Chalcidice and north east. However, the large Macedonian hoards containing coins of Athens and Aegina indicate that they were the main traders, at least after the Persians left the area.

#### 4.4 Asia Minor

The area defined as Asia Minor comprises the western region (the west coast from Mysia in the north to Caria in the south, including the inland district of Lydia and the coastal islands including Lesbos, Chios and Rhodes), the northern region from Bithynia to Pontus, the central region from Phrygia to Cappadocia and the southern region (the south coast from Lycia to Cilicia and the mints round the coast as far as and including Issus). (Fig. 5)

The twenty earliest hoards in Asia Minor, ranging from the seventh century BC to c530BC, comprise mainly gold or electrum coins from mints in or around the location of the

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<sup>178</sup> Salmon, 1984, p.108

<sup>179</sup> Ibid, p.211-2

<sup>180</sup> Kraay, 1976, p.85

KEY    + = C6th hoards  
          • = C5th hoards  
          ▲ = C6th and C5th hoards

NOTE There are 41 hoards in Asia Minor which could not be plotted on the map due to insufficient information.

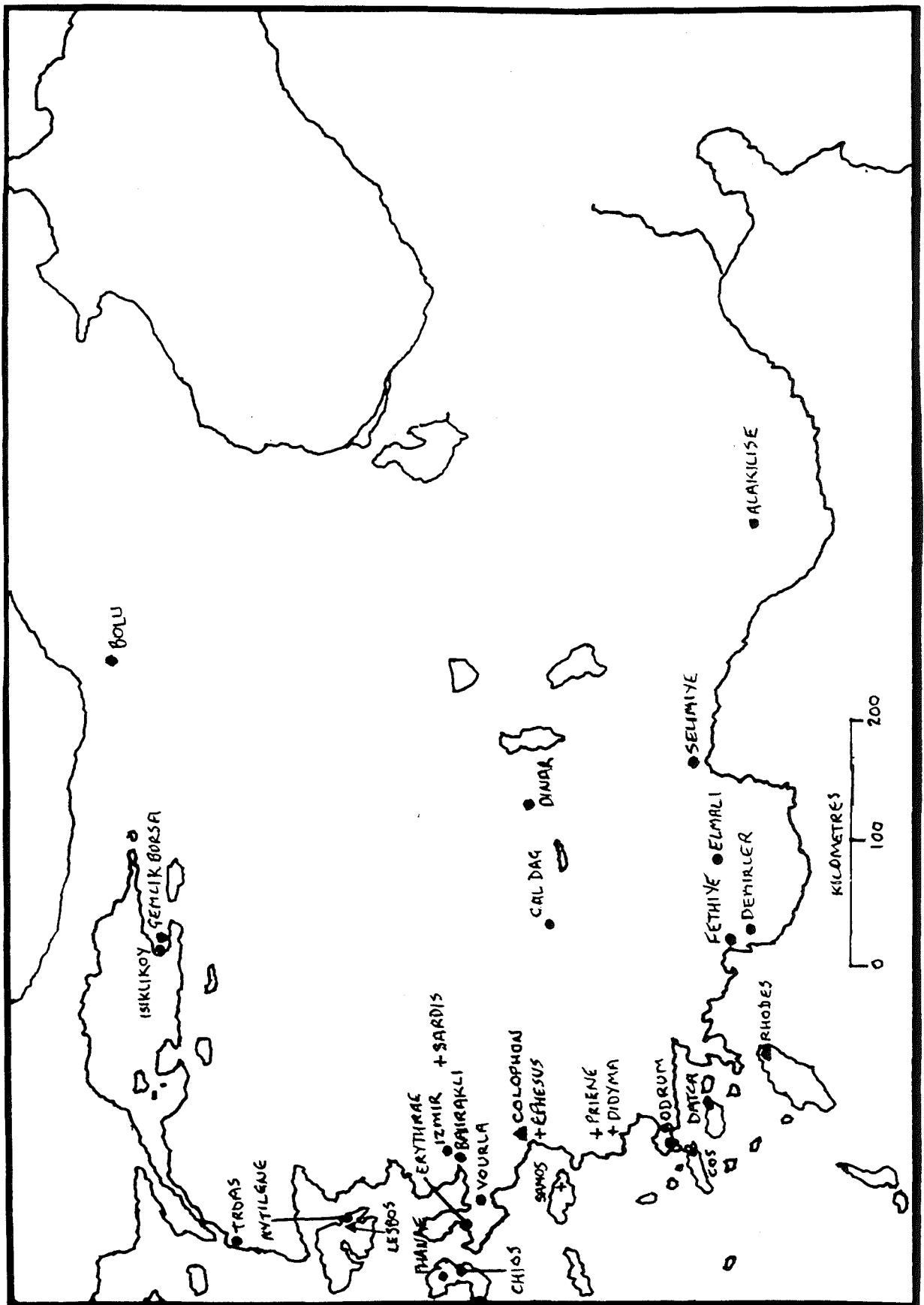


FIG 5. HOARDS IN ASIA MINOR IN THE SIXTH AND FIFTH CENTURIES BC.

hoard<sup>181</sup>. From c525BC to c480BC, the remaining 31 archaic hoards mainly consist of silver coins. The only notable exceptions are the hoard of gold coins of Sardes<sup>182</sup>, which is possibly part of a larger hoard, and the hoard of billon coins found at Lesbos<sup>183</sup>. Of the remaining 23 archaic hoards in Asia Minor, 19 are local, comprising coins from a mint or mints close to the location of the hoard. Three hoards contain coins from Persia, the most notable being the very large hoard from Cal Dag<sup>184</sup> which contained two thousand Persian and Lydian coins.

This leaves seven archaic hoards which contain coins from a variety of mints around the Greek world. The hoard found in western Asia Minor sometime before 1893<sup>185</sup>, and dated to c500BC, comprised one electrum coin and 75 silver coins of mainly small denominations. It contained four coins of Athens, but all other coins came from mints along the coast of western Asia Minor and the islands, from Lampsacus in the north to Cos in the south. The best represented mint in the hoard is Teos, whose coins comprise almost a quarter of the hoard, and it seems likely that the hoard was found in the environs of this mint.

The Rhodes 1880 hoard<sup>186</sup> of a similar date contained coins from mints in Thrace/Macedonia (which formed the bulk of the hoard), four coins from Aegina and the Greek islands, a few coins from mints in Asia Minor, Cyprus and North Africa. Some of these coins are intrusive and Kagan has redated this hoard to c500BC<sup>187</sup>.

The South Anatolia hoard of 1971<sup>188</sup>, again dated to c500BC, comprised a small parcel of coins from mints in Thrace/Macedonia, Asia Minor, Lycia and Cyprus. While the composition of this group of coins is consistent with archaic hoards in Asia Minor, it

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<sup>181</sup> Some of the hoard provenances are uncertain, but generally there is a pattern of coins being found near to their mints.

<sup>182</sup> CH 8.12

<sup>183</sup> CH 8.8

<sup>184</sup> IGCH 1178

<sup>185</sup> IGCH 1165

<sup>186</sup> IGCH 1185

<sup>187</sup> Kagan, 1992

<sup>188</sup> CH 1.4

probably only represents a selection from a much larger hoard<sup>189</sup> and is therefore not useful in an analysis.

The same applies to a small hoard of four coins from Asia Minor<sup>190</sup>, dated to c480BC, which contained two coins from Abdera and Thasos as well as a coin each from Phaselis in Lycia and ?Lindos in Cyprus. This group of coins was seen in trade and is probably not representative of the entire hoard. Two small hoards found on the islands of Chios and Cos<sup>191</sup>, both dated to c480BC, contained coins from Athens, Mende and Peparethus<sup>192</sup>. These two hoards are notable in that no local coins from mints near the location of the hoard are represented, otherwise they are too small to be of importance in an analysis. They are probably indicative of small-scale trading in the Aegean.

Finally, the hoard of 38 coins found on the Cilician-Pamphylian border<sup>193</sup>, also dated to c480BC, comprised one coin from Zankle and a small number from mints in Thrace, Asia Minor and Persia. The bulk of this hoard comprised coins from the Greek mints of Athens (50% of the hoard) and Aegina (almost 30% of the hoard) and included a single coin from Corinth. Some of the coins have been test-cut<sup>194</sup> to test for purity. The Corinthian period one coin is one of the earliest coins in the hoard. Like the two preceding hoards mentioned from Chios and Cos, this hoard is notable for consisting mainly of foreign coins.

In the classical period<sup>195</sup>, there are a total of 57 hoards in Asia Minor. 37 of these are local, eight comprise solely coins from Persia, and two are local issues mixed with Persian coins. This leaves ten mixed hoards.

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<sup>189</sup> CH 1.4 note

<sup>190</sup> CH 5.2

<sup>191</sup> IGCH 1172 and IGCH 1173

<sup>192</sup> IGCH 1172 contained two coins of Athens along with coins of Chios and IGCH 1173 contained one coin of Athens, three from Peparethus and one from Mende.

<sup>193</sup> IGCH 1177

<sup>194</sup> 42% (16 coins out of 38)

<sup>195</sup> To c400BC.

A hoard from western Asia Minor dated to c460BC<sup>196</sup> contained around fifty coins and some hacksilber<sup>197</sup>. A small number of coins came from mints in Thrace/Macedonia, Asia Minor and Cyprus and there were two coins of Aegina. However, the bulk of the hoard comprised tetradrachms from Athens<sup>198</sup>.

A very large hoard from Lycia<sup>199</sup>, found in 1984 and also dated to c460BC, contained some 1900 coins almost half of which were Lycian issues. The next largest group came from Camirus on Rhodes (over 15%). The other coins came from mints in Thrace/Macedonia, Greece and the Greek islands and Asia Minor. The interesting aspect to this hoard is that, apart from five coins of Aegina, the only mainland Greek mint represented is Athens whose 187 coins comprised about 10% of the hoard. The mints in Thrace and Macedonia contributed a total of 146 coins (just under 8%) and the hundred coins from mints in Asia Minor just over 5%.

The hoard from western Asia Minor c1930<sup>200</sup>, dated to c450BC, contained one coin of Athens and ten from mints in Asia Minor. Likewise, the hoard from Lycia, dated to c440-430BC<sup>201</sup>, contained three coins of Athens with around 96 Lycian coins.

The hoard from southern Asia Minor<sup>202</sup>, dated to c430BC, was dominated by coins from Cypriot mints and mints in Asia Minor, but it also contained coins from Athens, Aegina, Sidon, Tyre, Persia and Cyrene.

In the closing years of the fifth century BC, only two hoards contain coins from Greek mints other than Athens. The small hoard from Cilicia<sup>203</sup> contained, unusually, a single coin

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<sup>196</sup> *IGCH* 1182

<sup>197</sup> The *IGCH* entry does not record whether the coins bore test marks.

<sup>198</sup> "many" according to the *IGCH* entry

<sup>199</sup> *CH* 8.48

<sup>200</sup> *IGCH* 1189

<sup>201</sup> *IGCH* 1251

<sup>202</sup> There are doubts over the precise provenance of this hoard, but the Persian sigloi suggest Asia Minor rather than Egypt - cf. *IGCH* 1252 note

<sup>203</sup> *IGCH* 1256

from Syracuse<sup>204</sup>, as well as coins from Sidon and Tyre, but the bulk of the hoard comprised Athenian tetradrachms. The other hoard is the one from Selimiye (ancient Side)<sup>205</sup> which also contained a ring and a bracelet<sup>206</sup>. In this hoard a single coin from Corinth makes an appearance along with single examples from Athens, Citium (Cyprus), and two coins from Aspendus, close to Side whose coins formed the bulk of this hoard. As in the archaic hoard from southern Asia Minor (discussed above) the Corinthian coin is considerably older than the other coins in the hoard and was obviously in circulation for some time before arriving in Asia Minor.

Apart from these hoards, the remaining three classical hoards to c400BC in Asia Minor see Athens as the sole foreign coins present. In a large hoard from Cilicia, found in 1957<sup>207</sup>, the bulk of the coins were from Celenderis in Cilicia. It also contained a small number of coins from mints in Cyprus, and 200 Athenian coins. A hoard from Asia Minor found in 1990 and seen in trade<sup>208</sup> contained an unknown amount of coins from Athens and Sardes, all of which were cut, as well as two ingots. Finally, a hoard from Cilicia found in 1977<sup>209</sup> consisted solely of c300 Athenian coins.

Although the *Coin Hoards* series has added significantly to the number of hoards catalogued in the *IGCH* inventory, the majority of archaic hoards in Asia Minor still come from the western area where the very first coins were issued<sup>210</sup>. From c525-480BC, the mixed hoards which contain coins from mints outwith Asia Minor generally contain coins from mints in the Thrace/Macedonia area and sometimes coins from Aegina and the Greek islands as well as a relatively small contingent from Athens.

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<sup>204</sup> Another single coin from Syracuse is found in the fourth century BC hoard in Cilicia (*IGCH* 1259) which is again dominated by Athens and again Syracuse is the only other Greek mint apart from Athens to be represented. Apart from these hoards in Asia Minor, coins from Syracuse only appear outside of Italy and Sicily on two occasions in the classical period. They are found in a hoard of c422-415BC (*IGCH* 26) in Chalcis in Greece in association with coins from the Sicilian mints of Himera and Leontini and they appear in a hoard at Naucratis in Egypt (*IGCH* 1652) dated to c360BC with coins from the Greek mints of Athens and Aegina.

<sup>205</sup> *IGCH* 1254

<sup>206</sup> Seltman, 1924, p.7-8

<sup>207</sup> *IGCH* 1255

<sup>208</sup> *CH* 8.73

<sup>209</sup> *CH* 5.15

<sup>210</sup> Thompson et al, 1973, p.152

However, this picture begins to change from about c480BC when, to the middle of the fifth century BC, the hoards show more penetration into the inland areas of Bithynia and Phrygia, but are still mainly concentrated in western Asia Minor. From the mid fifth century BC onwards, the hoard pattern shows a shift to the south and the east. Of the fourteen hoards in Asia Minor dated from c440BC to c400BC whose location is known<sup>211</sup>, half now come from southern Asia Minor (2), Lycia (1), Pamphylia (1) and Cilicia (3).

Athenian domination, in terms of incoming foreign coin to Asia Minor, continues into the fourth century BC. However, unlike the situation in Egypt where Athenian domination of fourth century BC hoards is massive and absolute, Athenian coins only appear in seven hoards (out of a total of 93) in Asia Minor from c399-330BC<sup>212</sup>, and then not in numbers of any consequence. Five of these hoards are found in western Asia Minor<sup>213</sup>, one in Rhodes<sup>214</sup> and one in Cilicia<sup>215</sup>, and all date to the first half of the fourth century BC.

Although having a large number of local hoards Asia Minor has, like Thrace and Macedonia, relatively limited penetration of foreign coins. Coins from Thrace and Macedonia disappear from hoards in Asia Minor c460BC and Aegina makes her last appearance in a hoard dated c430BC. The two single coins from Corinth which appear in an archaic hoard dated to c480BC and a classical hoard dated to c400BC are both much earlier than the other coins in the hoards. Athenian coins appear in large numbers in Asia Minor hoards in the latter half of the fifth century BC, but the amount wanes in the fourth century BC until the area is virtually bereft of foreign Greek coins.

The hoard evidence suggests, therefore, that the import of foreign coin into Asia Minor was largely influenced by political events. In the fifth century BC, the Greek offensive against the Persians and the internal squabbling of the Greek states seems to have engendered a closer relationship between Greece and Asia Minor as, perhaps, tribute to potential allies was paid, mercenaries hired, and essential supplies secured.

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<sup>211</sup> *CH* 2.32, *CH* 8.71 and *CH* 8.73 come from unspecified locations in Asia Minor

<sup>212</sup> This figure does not include the two small hoards of Athenian imitations found in Turkey, respectively *CH* 2.40 and *CH* 8.127.

<sup>213</sup> *IGCH* 1210, 1227, 1239, 1243, 1244

<sup>214</sup> *IGCH* 1203

<sup>215</sup> *IGCH* 1259



As is the case with Thrace and Macedonia, Corinthian involvement in Asia Minor is numismatically elusive. History records that in the early sixth century BC the Corinthian tyrant Periander was friendly with Alyattes, the Lydian king, and exchanged gifts with him<sup>217</sup> and Corinthian pottery has a small but sustained presence in the area<sup>218</sup> at this time. From the second half of the sixth century BC, however, Asia Minor was under Persian rule which may have changed Corinth's relationship with the cities of Lydia. Also, from the early sixth century BC, Corinthian pottery wanes in popularity and is superseded by Attic wares. Salmon has argued that the Aeginetans were the most likely candidates for trading Corinthian pottery in the east and, when the desirability of Corinthian ware faded, switched to Attic pottery to satisfy the market<sup>219</sup>.

Lack of Corinthian coin in Asia Minor does not prove that it did not travel there. Herodotus records how Darius stored his tribute,

he melts it down, pours it into earthenware jars, and - as each vessel is filled - breaks off the surrounding clay. So when he needs money he coins [from these ingots] just as much as the occasion demands<sup>220</sup>.

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<sup>217</sup> Herodotus, *Histories*, 3.48.2

<sup>218</sup> Salmon, 1984, p.107

<sup>219</sup> *Ibid*, p.115-6

<sup>220</sup> Herodotus, *Histories*, 3.95-96

Thus it seems that Corinthian involvement in Asia Minor was indirect and most probably conducted through the eastern Greek traders until the onset of the Peloponnesian War, when the hoards indicate that Athenian traders or Athenian allies were pre-eminent.

#### 4.5 The Levant

The Levant covers the area which runs from Syria down the Phoenician coast and round to the eastern border of Egypt. Cyprus is also included in this section as the coins from Cypriot mints which left the island in any number went to the Levant, suggesting that Cyprus had a closer relationship with the Levant than the southern coast of Asia Minor (fig 6).

Five archaic hoards are found in the Levant, although all are comparatively small in size, the largest being the “1990 hoard”<sup>221</sup> (dated to c500 BC) seen in commerce which contained 66 silver coins, two silver fibulae and a silver ingot. Many of the coins bore test marks and the fibulae were without their pins. Thus it is similar in profile to the archaic bullion hoards of Egypt. Twenty one coins in the hoard come from mints in Thrace/Macedonia and Greece, while 22 come from Cypriot mints. There is also a small number of coins from mints in Lydia, Lycia and Rhodes.

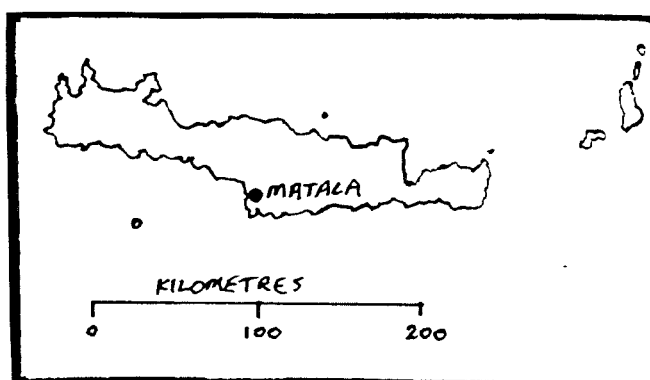
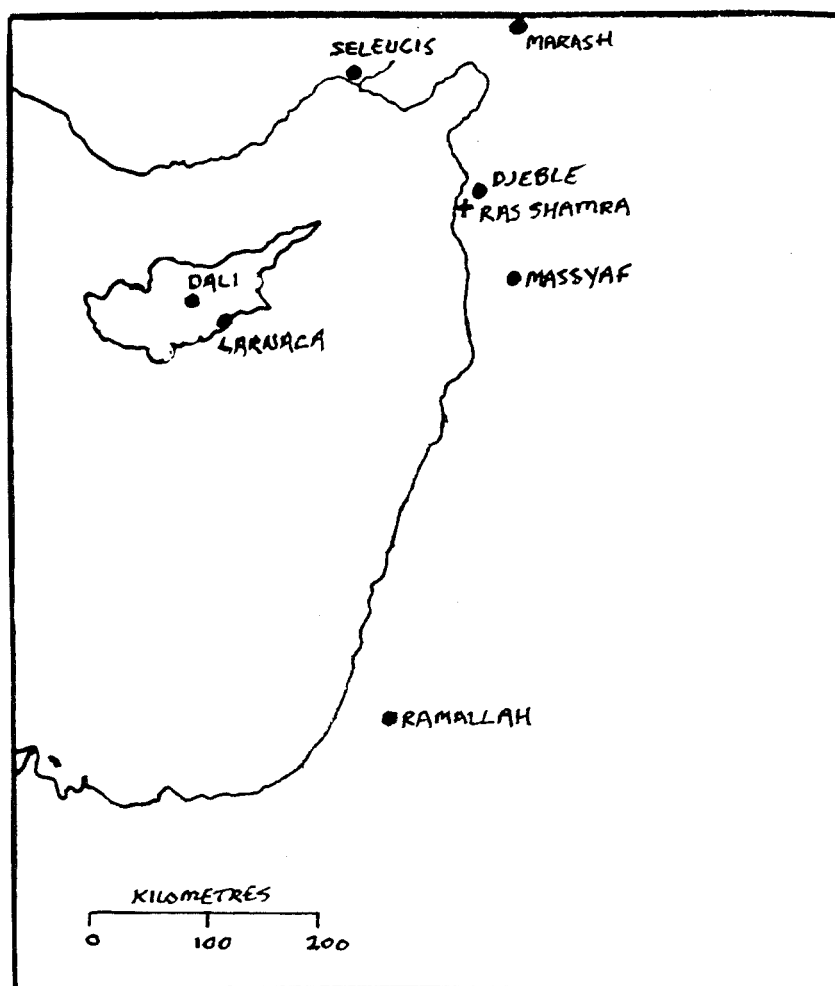
Although no details are known of the original location of the hoard, Kagan thinks that it was most probably found in either Cilicia or the Levant<sup>222</sup>. Given the high percentage of coins from Thrace/Macedonia (almost 20%) and Cyprus (34% - the highest number of Cypriot coins found outwith the island at this time) along with the test marks and presence of worked silver, this hoard seems more typical to a Levantine context than an Asia Minor one<sup>223</sup>. This theory is supported by the number of coins from Cypriot mints present. As noted above, these coins only travelled in any quantity to the Levant, so this hoard has been placed accordingly in this study.

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<sup>221</sup> Kagan, 1994, p.18 cf. *CH* 8.19

<sup>222</sup> *Ibid*, p.17

<sup>223</sup> Silver conferred social status in the Levant, as shown by a seventh century BC text from the area which records the comic tale of the man who “had no silver as befits people” (Kuhrt, 1995, p.641).



KEY    + = C6th hoards  
          • = C5th hoards  
          ▲ = C6th and C5th hoards

NOTE There are 6 hoards in the Levant, Cyprus and Crete which could not be plotted on the map due to insufficient information.

**FIG 6. HOARDS IN THE LEVANT, CYPRUS AND CRETE IN THE SIXTH AND FIFTH CENTURIES BC.**

The hoard from Ras Shamra (ancient Ugarit) contained 39 coins along with some melted-down coins and lumps of silver<sup>224</sup>. It is the earliest hoard in this area, dated to c525-520BC. Apart from six coins from Cyprus, it consisted solely of coins from mints in the Thrace/Macedonia area.

There are two smaller hoards, both dated to the period c500-c480BC. The Djebble hoard (ancient Gabala)<sup>225</sup> consisted of sixteen coins. Four of these were from Acanthus in the Chalcidice, and the other twelve were Athenian owls. The 1898 hoard found in the area<sup>226</sup> comprised an unknown number of coins ("some") from Acanthus, Mende and a tribal issue from Macedonia.

Finally, the Syria 1978/9 hoard<sup>227</sup>, dated c480BC, contained coins from mints in Thrace and Macedonia, Greece, Asia Minor and Cyprus as well as two silver bun ingots and around 20kg of smaller ingots and chopped coins.

The above hoards show that coins from mints in the Thrace/Macedonia area dominated in the Levant in the archaic period. Very few details are available for the two smaller hoards, but it may be possible to argue for the hoard containing the Athenian owls to be the latest in a relative chronology.

In the fifth century BC, there are nine hoards in the Levant. Two of these can only be roughly dated to the fifth century BC. The hoard from Marash<sup>228</sup> contained 100 Athenian owls, but lack of information precludes any attempt at dating or analysis of this hoard. The other hoard, found in north Syria in 1974<sup>229</sup> contained 16 coins. Two of these were from the Thrace/Macedonia area, one was from Aegina, and the remainder were from Aradus, Sidon and Persia. This hoard has been dated to the mid-fifth century BC, but again, details are

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<sup>224</sup> *IGCH* 1478.

<sup>225</sup> *IGCH* 1479.

<sup>226</sup> *IGCH* 1480.

<sup>227</sup> *CH* 6.4 and *CH* 6.5. Although it is unclear, it seems most likely that these are parts of the same hoard as the combined elements of each result in a characteristic archaic hoard.

<sup>228</sup> *IGCH* 1484.

<sup>229</sup> *CH* 1.14.

sketchy. Likewise, the hoard found near Gaza in 1983<sup>230</sup>, seen in trade, contained Egypto-Arabian or Philisto-Arabian coins plus two Athenian tetradrachms and cannot be dated with any accuracy.

The remaining six hoards cover the fifth century BC, ranging in date from 475BC to 425/420BC. Three of these fall in the first half of the fifth century BC. One, from northern Syria<sup>231</sup> contained only coins of Byblus and Persia. The Antilebanon hoard of 1978/9<sup>232</sup>, dated to c475BC, has a similar profile to the archaic 1990 hoard, and also contained 20kg of silver ingots. The hoard found in the near East in 1980<sup>233</sup> only comprised five coins from a variety of mints and is probably a parcel from a larger hoard.

The second half of the fifth century BC also has three hoards. One of these, from Ramallah in Israel<sup>234</sup> comprised only Athenian tetradrachms. Unfortunately, no details are available and the hoard was dispersed in trade.

The other two hoards have a more familiar profile, consisting of coins (both intact and chopped) along with worked and/or unworked silver. The Jordan hoard<sup>235</sup>, dated to c445BC, is notable in that it contains the second largest number of coins from Cypriot mints outwith the island in the fifth century BC. Also some of the coins appear to be considerably older than the most recent coins in the hoard<sup>236</sup>. Thus, it seems that this hoard comprised two “parcels” of coins accumulated at different times. This hoard contains the only coin from Corinth found in the Levant. It is a period two coin and is to be placed in the older portion of the hoard. The Massyaf hoard<sup>237</sup>, dated to 425-420BC, contained roughly the same amount of coins from Greek mints as the Antilebanon hoard, sharing the same high component from Athens and Aegina.

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<sup>230</sup> CH 8.29

<sup>231</sup> IGCH 1481.

<sup>232</sup> CH 8.45.

<sup>233</sup> CH 7.16.

<sup>234</sup> CH 8.59. The provenance is uncertain.

<sup>235</sup> IGCH 1482.

<sup>236</sup> The hoard has been dated on the basis of the latest Athenian owls which, unlike the earlier Athenian coins, are intact and unworn.

<sup>237</sup> IGCH 1483.

In Cyprus, the earliest hoards comprise coins from Cypriot mints, with no foreign coin found on the island before c425BC. However, between 425-400BC there are seven hoards from Cyprus. Four are local<sup>238</sup>, but three have a small component of coins from outwith the island. The Cyprus 1934/5 hoard<sup>239</sup> contained fragments of single coins from Thasos and Lycia, but the rest of the hoard comprised local issues. Likewise the Dali hoard (ancient Idalium)<sup>240</sup> contained over 120 coins, mostly from local mints, but also had seven coins from Athens present. Finally the Cyprus 1987 hoard<sup>241</sup> comprised local issues with a single coin from Side in Pamphylia.

Thus, unlike nearby Levant, Egypt and southern Asia Minor, Cyprus does not have large mixed “international” hoards in the fifth century BC. However, as in the other areas, the hoard evidence does not present the whole picture. In a hoard from Larnaca<sup>242</sup>, a coin of Citium was overstruck on a coin of Aegina, proving that Aeginetan coin was reaching the island. Also, the tiny presence in the Cypriot hoards of coins from Athens and mints in Thrace and Asia Minor is not likely to represent the volume of coins which must have arrived in the island from these mints. Cyprus does not have its own silver reserves, so must have obtained silver from an external source for striking at the various Cypriot mints. It is most likely that coins from other cities arriving in the island were immediately melted down or restruck by the native mints.

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<sup>238</sup> *IGCH* 1274, *IGCH* 1276, *CH* 2. 28 and *CH* 8.65

<sup>239</sup> *IGCH* 1277

<sup>240</sup> *IGCH* 1275

<sup>241</sup> *CH* 6.10

<sup>242</sup> *CH* 2.28

In the period c525-420 BC coins from Cypriot mints are present in half of all of the Levant hoards and are always found in association with coins from mints in Greece, Macedonia and Thrace.

Corinthian presence in the Levant was probably indirect as was the case with Asia Minor. Although a small amount of fine Corinthian pottery is found in the Levant, it is most likely that the Aeginetans transported this, as they had long-standing trading links with the area<sup>248</sup>. Votives from Syria, found in the temple of Hera at Perachora near Corinth, may have been brought back by the Aeginetans or by Levantine traders and visitors to Corinth. Although it has been noted elsewhere that the lack of coin in an area does not necessarily mean that it did not travel there, only two Corinthian coins in the area until 400BC also suggests that contact was at best conducted through a third party and, at worst, negligible.

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<sup>248</sup> Boardman, 1980, p.49

## 4.6 Egypt

This area comprises Egypt and Cyrenaica, to the west (fig. 7). Of the fifteen archaic hoards in this area, one was from Cyrenaica<sup>249</sup> and contained only coins of Cyrene. The other fourteen hoards were all found in Egypt.

Four of these are very small hoards which contained only coins from one particular mint or area, although they may be from larger finds originally. One, found in Alexandria, only contained four coins of Cyrene from further along the North African coast<sup>250</sup>, implying some kind of local trading arrangement. Another hoard of five coins, from an unknown location in Egypt, were gold Croesids from Lydia in Asia Minor<sup>251</sup>. The remaining two small hoards<sup>252</sup> are notable in that they only contain a few coins from the southern mints of the Thraco-Macedonian region to the north of Greece.

If we assume the coins in these hoards are representative of the entire hoard<sup>253</sup>, then they are interesting as they either contain coins of a single mint, or coins from a group of mints in a specific region. The gold Croesids from Asia Minor either suggest a payment for some kind of high-status goods or services sought after in Egypt, tribute, or a high-status gift of some kind. The two small silver hoards, one from an unspecified location and one from Fayum (inland Egypt, roughly between Cairo and Asyut), were composed of high denomination coins, octadrachms and tetradrachms from the Thrace/Macedonia area, and both of these hoards have been dated to 500BC<sup>254</sup>. That these small caches of coins travelled so far without being mixed in with the coins of other cities which the bearer would have been bound to pass through on his journey suggests either that they were a pre-arranged payment for a previously agreed transaction between the purchaser in the north and the vendor in Egypt, or that they were the product of internal trading in Egypt and had originally arrived from Greece in a larger hoard.

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<sup>249</sup> *IGCH* 1633

<sup>250</sup> *IGCH* 1641

<sup>251</sup> *IGCH* 1632

<sup>252</sup> *IGCH* 1634 and *IGCH* 1635

<sup>253</sup> Not a certainty by any means, as is argued below.

<sup>254</sup> *IGCH* 1634 and *IGCH* 1635



KEY    + = C6th hoards  
          • = C5th hoards  
          ▲ = C6th and C5th hoards

NOTE There are 6 hoards in Egypt  
 which could not be plotted on the  
 map due to insufficient information.

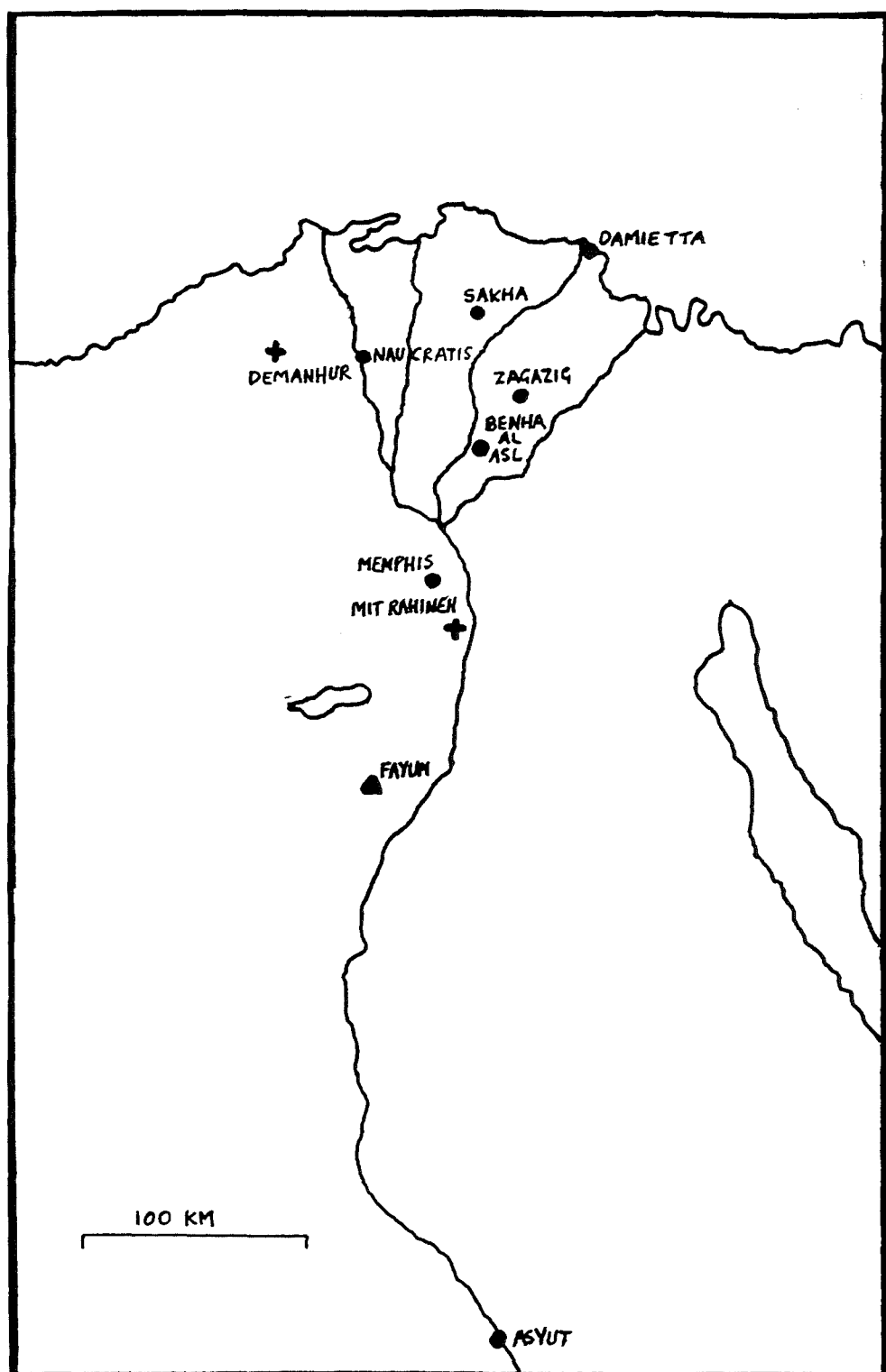


FIG 7. HOARDS IN EGYPT IN THE SIXTH AND FIFTH CENTURIES BC.

Three smaller hoards are mixed, containing coins from more than one mint. The Memphis hoard<sup>255</sup>, comprising only four coins, is unique in that the silver coins are all small denomination coins which were pierced and attached to a necklace<sup>256</sup>. The four coins come from a diverse range of mints covering Mantinea in Arcadia, Teos on the coast of Ionia, and mints on the island of Cyprus. The Egypt 1955 hoard contained one coin each from Corcyra, Eretria, Athens and Salamis in Cyprus, along with eighteen fragments of silver ingots<sup>257</sup>.

Likewise, the small hoard from Damietta<sup>258</sup> (modern Port Said on the Egyptian coast) only contained five small-denomination coins from the Thraco-Macedonian area and Cyrene. Both of these hoards have been dated to 480BC<sup>259</sup>. This leaves seven heterogeneous archaic hoards which are quite different both in character and composition.

The Mit Rahineh hoard<sup>260</sup> comprised 23 coins plus 73kg of silver. The identifiable coins in this hoard come mainly from Thrace and Macedonia, Greece and Asia Minor. The hoard was found in Egypt in the vicinity of the village of Kom-Abou-Khanzir (Mit Rahineh), near Memphis in 1860. Excavation workers were demolishing the wall of an ancient dwelling near the Temple of Ptah when they found an assemblage of coins and other silver objects which was assumed to be a jewellers hoard<sup>261</sup>. The silver objects included ingots, a vase, two vase lids, whole coins and coin fragments. There was also an earthenware pot and a copper-coloured chain found along with the silver<sup>262</sup>. There were possibly other coins in this hoard, according to the *IGCH* entry which noted "1 double-shekel and 2 shekels of Sidon, and 5 sigloi of Persia, which although not mentioned by de Longperier were included in a set of casts of this hoard furnished by Alexandria Museum"<sup>263</sup>. The blocks of casts held at the British Museum in London contain 30 coins, only 23 of which match the

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<sup>255</sup> *IGCH* 1643

<sup>256</sup> Found in excavations by Petrie, cf. *IGCH* 1643

<sup>257</sup> *CH* 1.7

<sup>258</sup> *IGCH* 1642

<sup>259</sup> *IGCH* 1642 and *IGCH* 1643

<sup>260</sup> *IGCH* 1636

<sup>261</sup> Mariette, 1882, p.8 (plate 32).

<sup>262</sup> De Longperier, 1861, p.414

<sup>263</sup> *IGCH* 1636

descriptions given by de Longperier<sup>264</sup>. Four Corinthian period one coins were in the hoard, the largest number of coins from one mint.

The Sakha hoard has been dated to early in the fifth century BC<sup>265</sup>. This hoard was found in Egypt in 1897 at Sakha near Kafr el Sheik, 100km east of Alexandria. Unfortunately, the hoard was split up shortly after its discovery. However 19 coins were bought in the Cairo bazaar by Dr Weber<sup>266</sup>, 23 coins were acquired by Dressel for the Berlin Coin Cabinet<sup>267</sup>, and Dressel also saw drawings and casts of the coins which had been dispersed in trade<sup>268</sup>. Dressel also later saw another seven coins which he assumed to be from the same find, making a total of 72 coins in all. Seven of the coins have subsequently been seen as intrusive, leaving 65 coins in total. The Sakha hoard contained eight Corinthian period one coins, the largest number found in an archaic hoard in Egypt.

The Demanhur hoard<sup>269</sup> comprised 165 coins plus two silver ingots. Over a third of the coins in this hoard came from mints in the Thrace/Macedonia area, with the bulk of the remainder coming from Asia Minor. It was found at the turn of the century (1900-1) at Demanhur near the coast of Egypt, just south of Alexandria and west of Sakha in the Nile delta region. It was published in great detail by Dressel and Regling<sup>270</sup> who also illustrated 70 of the coins in three plates. As with the Mit Rahineh hoard, the coins of Dicaea (May's numbers 5-7<sup>271</sup>) in this hoard fall into the period 540/535 to c510BC. He also sees these coins as contemporary with the first issues of Abdera, also present in this hoard. Barron dates the Samian coins present at 530/525BC<sup>272</sup>. Six Corinthian period one coins were in this hoard.

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<sup>264</sup> Price, 1977, p.7-8 (fig 1).

<sup>265</sup> *IGCH* 1639 but see appendix for proposed new date.

<sup>266</sup> Weber, 1899, p.269-287.

<sup>267</sup> Dressel, 1900, p.231-258.

<sup>268</sup> *Ibid*, p.232 for a list of numbers giving the disposition of the hoard.

<sup>269</sup> *IGCH* 1637

<sup>270</sup> Dressel.& Regling, 1927

<sup>271</sup> May, 1965

<sup>272</sup> Barron, 1966, p.30

The Delta hoard<sup>273</sup>, found somewhere in the Delta region of Egypt in 1887, comprised 22<sup>274</sup> archaic silver coins, although these may have been from a larger hoard. Indeed a certain confusion in the market saw intrusive additions being attributed to this hoard. Greenwell, who obtained the hoard from a dealer in Paris<sup>275</sup>, also attributed a further parcel of six coins received by Paris dealers Rollin and Feuarent as being from the same hoard<sup>276</sup>. However, these coins appear to have been later issues and it cannot be proved with any certainty that they were part of the Delta hoard, so they have not been included here. The only dateable coins thus far are the two coins of Salamis which have been attributed to the period c560-525<sup>277</sup>. There was only one Corinthian period one coin in this hoard.

However, in the face of detailed analysis, the Delta hoard really stands out as an anomaly among archaic Greek hoards in Egypt. It is the only hoard of this period which does not contain fragmentary coins or hacksilber of any kind, nor are any of the coins test-cut (see table 2).

It seems very strange that the Delta hoard, which is apparently broadly contemporary with the other archaic hoards in Egypt, does not share any of their similar characteristics. Also, the Delta hoard contains an unusually high percentage of coins from Asia Minor. In these hoards the coinage of Crete (an important port-of-call between Greece and Egypt) plays a more important role than in later hoards (see table 3).

In both cases, these figures make the Delta hoard stand out. The other archaic hoards contain roughly the same proportions particularly when the coins from Crete are added to those from Asia Minor, except for the Benha el-Asl hoard which clearly stands at the foot of a relative chronology. It seems that, over time, the percentage of coins from Asia Minor and Crete decreases as these coins are displaced by a greater number of coins from mints in Thrace, Macedonia and Greece. This phenomenon could be caused by the additional time

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<sup>273</sup> *IGCH* 1638

<sup>274</sup> Although the original report listed 24 coins, the two coins of Tyre date to c450-400BC and therefore must be intrusive. cf. Barron, 1966, p.31.

<sup>275</sup> Greenwell, 1890

<sup>276</sup> *Ibid*, p.9-12

<sup>277</sup> Barron, 1966, p.31.

NOTE. Hoards marked with \* are given the dates suggested by detailed hoard analysis. See appendix for full discussion.

<b>Hoard name</b>	<b>Date</b>	<b>Notes</b>
Sakha	c525-520BC*	whole and fragmentary silver ingots and coins, no test-cuts
Mit Rahineh	c520-515BC*	found with 73kg hacksilber, coins test-cut and broken
Demanhur	c520-510BC*	found with 2 silver ingots, some coins test-cut
Delta	c520-510BC*	no associated silver, no coins test-cut or broken
Egypt 1971/2	500BC	found with five silver ingots, at least one coin fragmentary
Benha el-Asl	490/485BC	found with 15 silver dumps, coins test-cut and broken
Fayum	490BC	some coins test-cut, two broken

**TABLE 2. THE CONDITION OF THE COINS AND ASSOCIATED MATERIAL IN THE ARCHAIC HOARDS OF EGYPT.**

NOTE. Hoards marked with \* are given the dates suggested by detailed hoard analysis. See appendix for full discussion.

<b>Hoard name</b>	<b>Date</b>	<b>Coins from mints in Asia Minor &amp; Crete (as % of total hoard)</b>	<b>Coins from mints in Thrace, Macedonia and Greece (as % of total hoard)</b>
Sakha	c525-520BC*	30.7	44.6
Mit Rahineh	c520-515BC*	30.4	43.4
Demanhur	c520-510BC*	29.7	50.9
Delta	c520-510BC*	50.0	22.7
Egypt 1971/2	500BC	33.3	55.5
Fayum	490BC	20.0	53.2
Benha el-Asl	490/485BC	12.9	71.0

**TABLE 3. THE COMPOSITION OF THE ARCHAIC HOARDS OF EGYPT.**

required for coins to travel from these areas to Egypt as opposed to the relative proximity of Asia Minor and Crete.

Again, these results confirm the trends revealed previously. The Delta hoard has a very low percentage of coins from Thrace, Macedonia and Greece, while the Benha hoard has an extremely high percentage of these coins present. Mit Rahineh, Sakha and Demanhur all contain in the region of 43-50%, with the Fayum hoard and the Egypt hoard of 1971/2 showing a slight increase on this.

The Benha el-Asl hoard was discovered in 1929 at a location on the Nile north of Cairo and west of Zagazig, in the eastern part of the Nile delta region<sup>278</sup>. It mainly contained coins from the Thrace/Macedonia area and Greece. It comprised some 65 coins<sup>279</sup>, 15 cast silver dumps and fragments of dumps.

Like the Sakha hoard, this hoard was divided up when discovered. Robinson reports that the hoard was split into three parts<sup>280</sup>. One part could not be traced and was presumably disposed of in trade. A parcel of eleven coins reached America, where it was seen and catalogued by Newell<sup>281</sup>. Of the third part, the majority was acquired by the British Museum in London (31 coins and 8 dumps) with the remaining fragments and dumps subsequently donated to the British Museum by a Mr Nahman of Cairo<sup>282</sup>.

The evidence suggests that, like the Sakha and Benha hoards, the Delta hoard was probably split up when it was found. What has survived in the record is most likely a “parcel” of the best complete coins, with the cut and broken coins and hacksilber forming another “parcel” or “parcels” which were probably disposed of in trade. Or it is possible that the original hoard found its way into the hands of a local gold and silversmith, who had probably already recycled some of the coins, as happened to a later hoard in Egypt, only part of

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<sup>278</sup> Robinson, 1930, p.93-106 (plates 8 & 9).

<sup>279</sup> *IGCH* 1640 lists 61 coins, so the figures in the original reports by Robinson, 1931, and Newell, 1931 have been used.

<sup>280</sup> Robinson, 1931, p. 68

<sup>281</sup> Newell, 1931, p. 66-68.

<sup>282</sup> Robinson, 1931, p. 68

which was recovered by the police<sup>283</sup>. However, given the relatively high proportion of coins from Miletus in association with the presence of coins from Salamis and Cyrene, it seems plausible that the Delta hoard originally had a profile very similar to the Demanhur hoard<sup>284</sup>. It seems likely, therefore, that these two hoards are contemporary and the Delta hoard should be placed along with the Demanhur hoard in a relative chronology.

Therefore, on the basis of the suspicions regarding the integrity of the Delta hoard, it is excluded from this analysis of archaic Greek coin hoards in Egypt. Similarly, the Egypt 1971/2 hoard has limited, if any, use in this analysis. This hoard comprised nine coins and five silver ingots<sup>285</sup>. The information on this hoard is very scant<sup>286</sup> with no details given regarding the circumstances of the location or recovery. It is also not possible to be absolutely sure that what is listed in *CH* is a true representation of the total contents of the hoard, or whether (as is more likely) this hoard is actually a “parcel” from a larger hoard.

The Egypt 1971/2 hoard has been dated to c500BC. According to the listing in *CH*, at least one of the coins was fragmentary, but whether any coins bore test-cuts is not recorded. There were also five silver ingots found with the hoard. This information, plus the relative proportions of the coins involved, give the hoard a profile which is similar to that of the Demanhur hoard<sup>287</sup> and the Benha el-Asl hoard<sup>288</sup>. However, as noted, from the small amount of information available and taking into account the relative proportions of coins in the hoard, the Egypt 1971/2 hoard seems to lie between Demanhur and Benha el-Asl in a relative chronology of archaic hoards in Egypt.

Also, the Fayum hoard<sup>289</sup> seems rather different in character to the other archaic Egyptian hoards. This hoard was discovered in 1957 at Fayum in Egypt, some 60km south east of Cairo<sup>290</sup>. It comprised 15 coins and had no associated silver or other artefacts with it.

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<sup>283</sup> Christiansen, 1985, p. 95 (A29)

<sup>284</sup> Like the Demanhur hoard, no coins of Athens were in the Delta hoard, contrary to the listing in *IGCH*.

<sup>285</sup> *CH* 2.10.

<sup>286</sup> The only details are those given in the *CH* listing.

<sup>287</sup> *IGCH* 1637.

<sup>288</sup> *IGCH* 1640.

<sup>289</sup> Seaby, 1960

<sup>290</sup> *Ibid.*



According to the report, “the coins had probably been deposited in a receptacle and they were stuck together in a solid mass...”<sup>291</sup>. Two were fragmentary (Acanthus and Lycia) and four bore test-cuts. From the plate<sup>292</sup>, all of the coins appear worn, suggesting that they had been in circulation for some time before being deposited. However, the inscribed coin of the Orrescii suggests a date after 490BC<sup>293</sup> and, given the profile of the hoard revealed by the comparative tables above, it would seem to be nearer to 490BC than 485BC<sup>294</sup>.

The Mit Rahineh and Sakha hoards each contain a very low percentage of coins with reverse type (see table 4). There is an appreciable increase in this figure in the Demanhur hoard (even allowing for its proportionately larger size) and a significantly higher figure in the Benha el-Asl hoard which coincides with the arrival of the first Athenian owls from Athens. Again, these figures support the suggested relative chronology.

There are five<sup>295</sup> classical hoards in Egypt. Of these, two fall into the first half of the fifth century BC. These hoards, Asyut and Zagazig, are dated to c475BC and c470BC respectively<sup>296</sup>.

The Asyut hoard<sup>297</sup> comprised 872 coins plus some five or so silver ingots<sup>298</sup>. Over 60% of the coins come from Thrace/Macedonia and Greece. It was found in Middle Egypt in 1969, probably at Asyut, a town which lies on the Nile between the Fayum area in the north and the Valley of the Kings in the south<sup>299</sup>. Like the archaic hoards of Sakha, Benha el-Asl and Delta, this hoard was divided up when discovered and came on to the market initially in three different “parcels”. As this was a large and important find, a remarkable effort saw 872 (out of a reported 900) coins recorded and published in 1975, so that scholars and

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<sup>290</sup> Seaby, 1960.

<sup>291</sup> Ibid, p.9

<sup>292</sup> Ibid, plate 3

<sup>293</sup> Price & Waggoner, 1975, p.20

<sup>294</sup> See appendix for proposed new dates of the Egyptian hoards containing Corinthian coins.

<sup>295</sup> To c400BC.

<sup>296</sup> See appendix for proposed new dates.

<sup>297</sup> *IGCH* 1644

<sup>298</sup> Including the five additional coins and two ingots subsequently found cf. Price & Waggoner, 1975, p.126-7.

<sup>299</sup> Price & Waggoner, 1975, p.9

NOTE. The Delta, Egypt 1971/2 and the Fayum hoards have been left out due to lack of information.

<b>Hoard name</b>	<b>Number of coins with reverse type</b>	<b>Percentage of hoard</b>
Sakha	2	3.1
Mit Rahineh	1	4.3
Demanhur	36	21.8
Benha el-Asl	15	23.1

**TABLE 4. REVERSE TYPES AS A PERCENTAGE OF THE ARCHAIC  
HOARDS OF EGYPT.**

numismatists have the opportunity to see for themselves the majority of the hoard, although its pieces are now dispersed over many collections<sup>300</sup>. It contained 39 coins of Corinth which range from the early period one issues to the pre 480BC head of Athena reverse types.

The Zagazig hoard comprised 84 coins plus 18 silver dumps and bars. The coins in this hoard came mainly from Greece (specifically Athens), Thrace and Macedonia. It was found at Zagazig (ancient Bubastis) in the central Delta area, north of Cairo in 1901<sup>301</sup>. There was only one Corinthian coin in this hoard which is one of the earliest coins in the hoard.

One hoard can be placed in the second half of the fifth century BC. The Naucratis hoard discovered by Petrie in 1885<sup>302</sup> was found on the east side of Naucratis which lies 20km south east of Demanhur. It comprised 15 coins and 42oz of “roughly cast and cut up lumps of silver”<sup>303</sup>. When Petrie discovered this cache, he assumed it represented a “silversmith’s hoard”. It was published by Head in 1886<sup>304</sup>, who illustrated six of the coins. None of the coins illustrated by Head bore test-cuts and he makes no mention of any of the other pieces being marked. The only fragmentary coin was the coin from Cyrene. The hoard has been dated to the period c450-c425BC.

The so-called “Mummy Hoard”<sup>305</sup> has been dated in *Coin Hoards* to a similar period, but this cannot be held as secure, as it seems most probable that this “hoard” was, in fact, an assemblage of material with a supposed exotic provenance designed to appeal to the market. Given its dubious origins, therefore, it can only be roughly dated to the fifth century BC if, in fact, it represents a hoard at all. It comprised 18 coins from a variety of mints stretching from Syracuse in the west to Babylon and Persia in the east. This hoard was reportedly found with “a mummy-case” somewhere in the Delta region of Egypt

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<sup>300</sup> Ibid.

<sup>301</sup> *IGCH* 1645

<sup>302</sup> Head, 1886, p.4-8

<sup>303</sup> Ibid, p.4

<sup>304</sup> Head, 1886

<sup>305</sup> *CH* 8.57

before 1879<sup>306</sup>. In addition to the coins, there were also supposedly a signet and a scaraboid. As Buttrey points out, the Tarsus coin is too late, and the association of the coins and other objects with a mummy burial “may well have been invented by the vendor to add a bit of colour”<sup>307</sup>. However, the coins were uniformly oxidised, so it seems that the majority of them originally formed a hoard, or part of a hoard. One of the Athenian hemidrachms, the Persian “half-daric” and a hemidrachm of Cyrene were pierced and had silver loops attached to make earrings<sup>308</sup>.

One other hoard falls in the second half of the fifth century BC. The Naucratis hoard discovered by Petrie in excavations<sup>309</sup> “consisted solely of Athenian coins ranging in date from 500-430BC<sup>310</sup> and can only be approximately dated to the fifth century BC<sup>311</sup>. These hoards, therefore, are not useful in overall hoard analysis.

As tables 5 and 6 show, the Naucratis hoard stands out as something of an anomaly, because Asyut and Zagazig confirm the trends already identified in the analysis of archaic hoards in Egypt discussed above. These are that the percentage of coins from Asia Minor and Crete decreases as these coins are replaced by coins from Thrace/Macedonia and Greece. The Naucratis hoard, if indeed it was a “silversmith’s” hoard may be anomalous due to the fact that some of the coins originally present may have been recycled by the recipient before the rest of his cache was abandoned.

The Naucratis hoard is important as the hoard pattern tends to suggest a break in the import of Greek coinage in the years between c470 and c450BC. However, it has a composition similar to that of Asyut and Zagazig, which both contained silver dump and broken coins. It is also apparent that the coins arriving in Egypt until this time had a purely bullion function and (excepting some instances where coins were mounted as jewellery) were probably melted down in the silver workshops fairly soon after arrival.

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<sup>306</sup> King, 1876-80

<sup>307</sup> Buttrey, 1994

<sup>308</sup> A characteristic shared with the small denomination Memphis hoard (*IGCH* 1643) dated to c480BC.

<sup>309</sup> *IGCH* 1684

<sup>310</sup> Head, 1886, p.9

<sup>311</sup> Probably the late fifth century BC, as Athenian domination in terms of Greek coin imports was not apparent in Egypt until the fourth century BC.

NOTE. Hoards marked with \* are given the dates suggested by detailed hoard analysis. See appendix for full discussion

Hoard name	Date	Notes
Asyut	c486/5BC and closed c460-454BC*	Found with 5 AR ingots, coins test-cut and broken
Zagazig	c470BC	Found with 18 AR dumps and ingots, coins test-cut, some broken
Naucratis	c450-425BC	Found with 42oz AR dumps, no test-cuts, only 1 coin broken

**TABLE 5. THE CONDITION OF THE COINS AND ASSOCIATED MATERIAL IN  
THE EARLY CLASSICAL HOARDS OF EGYPT.**

NOTE. Hoards marked with \* are given the dates suggested by detailed hoard analysis. See appendix for full discussion.

<b>Hoard name</b>	<b>Date</b>	<b>Coins from mints in Asia Minor &amp; Crete (as % of total hoard)</b>	<b>Coins from mints in Thrace, Macedonia and Greece (as % of total hoard)</b>
Asyut	c486/5BC and closed c460-454BC*	18.8	61.2
Zagazig	c470BC	15.5	81.0
Naucratis	c450-425BC	33.3	46.7

**TABLE 6. THE COMPOSITION OF THE EARLY CLASSICAL HOARDS OF  
EGYPT.**

The hoard pattern shows that the archaic hoards are mainly confined to the Delta area (although there were also two hoards in the Fayum area, south of the Delta). In the east, which received the incoming traffic from the Levant and Asia Minor, travellers and traders used the Bubastite arm of the Nile which took them to Memphis. In the west, Naucratis became the first port in the Western Delta. Founded at some time in the seventh century BC it allowed the Egyptians to monitor Greek traders. All other Egyptian ports were closed to Greek merchants, so they had to go to Naucratis where an import tax was levied<sup>312</sup>.

The hoard at Benha al Asl (ancient Arthribis) which is on the Bubastite arm of the Nile, shows that some of the traffic could have been due to traders entering from the east<sup>313</sup>. However, there does seem to be a western bias for the hoard distribution which suggests that the Greek traders who passed through Naucratis imported the bulk of the Greek coins into Egypt. In the west there are hoards at Naucratis as well as at Demanhur (ancient Dime-n-hor) north of Naucratis and Sakha (ancient Xoïs) which was one of the principal royal estates in the Delta<sup>314</sup>. Most non-Greek incoming traffic from the north made use of the Bubastite arm of the Nile and thus bypassed lower Egypt and arrived in Memphis<sup>315</sup>. Memphis was also the central granary of Egypt, so the silver may have been payment for grain. During the late period (c750-525BC) Memphis was also very cosmopolitan and had a number of foreign quarters which contained Syrians, Persians and Carians<sup>316</sup>.

After c480BC, the western bias in terms of hoard distribution remains, but from this time the hoards have more extensive penetration of Egypt. In the east there is the very large hoard at Tel el Athrib (in the environs of ancient Arthribis) which contained coins, melted coins and a die<sup>317</sup>. Much further to the east in Tel el Maskhouta (ancient Tjeku) which was a royal fortress on the western frontier of the kingdom<sup>318</sup>, there is also an extremely large

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<sup>312</sup> Kees, 1961, p.208

<sup>313</sup> However, as many have observed, traversing the Nile delta area was difficult and the easiest method was to use the river systems, so this hoard could have come in via Naucratis.

<sup>314</sup> Kees, 1961, p.185

<sup>315</sup> Ibid, p.183

<sup>316</sup> Ibid, p.179

<sup>317</sup> *IGCH* 1663

<sup>318</sup> Op. Cit., p.192

hoard of coins which was apparently part of a temple offering<sup>319</sup>. In the south, there is a hoard at Beni Hasan, where there was a famous shrine of the Egyptian lion-goddess, and finally the most southerly hoard of Asyut. Asyut occupied a key position in middle Egypt. It was responsible for collecting taxes and levies for the use of the stretch of the river under its authority<sup>320</sup>. In the west, there are again hoards at Naucratis and Demanhur, as well as at Memphis.

The latest hoards containing Corinthian coins are Asyut and Zagazig, both dated to the 470's BC<sup>321</sup>. The one period one coin of Corinth present in the Zagazig hoard is one of the oldest coins in the hoard. Asyut contained 39 coins of Corinth. Despite some controversy surrounding the date of this hoard and the suggestion that it may comprise more than one "parcel" of imported coins<sup>322</sup>, Corinthian coin seems to have ceased arriving in Egypt by about the 480's BC. Also, from this date Athenian coin predominates in Egyptian hoards and, after an apparent gap in the early fourth century BC, this domination is absolute.

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<sup>319</sup> *IGCH* 1649

<sup>320</sup> Kees, 1961, p.105

<sup>321</sup> See appendix for proposed alternative dates for the Asyut hoard.

<sup>322</sup> Kraay, 1977



The reason for the arrival of coin in Egypt, and the impact of Egypt's requirement for silver upon the coinage in the Greek world has been much debated. Silver was important to the Egyptians from the earliest times. Although Egypt had large gold reserves, the comparative rarity of silver made it an extremely valuable and sought after commodity. The governing class was able to display wealth to the populace most effectively through the religious sanctuaries and monuments, and the use of silver in these projects reinforced the perceived wealth and power of the Pharaoh and his court<sup>325</sup>.

In the Old Kingdom (the third millennium BC) silver was valued more highly than gold or electrum<sup>326</sup> and, although this position became reversed in later times, silver was still very desirable in Egypt. The Near East provided Egypt with, among other things, olive oil<sup>327</sup>, wine and timber (probably via Phoenician traders based at Byblos<sup>328</sup>). From the far East she imported precious stones such as lapis lazuli, carnelian and turquoise<sup>329</sup> and from the southern land of Punt came exotic woods, animals and incense<sup>330</sup>. Although Egypt probably obtained silver from the Near East throughout her history, and the Phoenician traders may have brought silver from Spain, the coin evidence shows that from archaic times silver coin was arriving in Egypt from Greece.

At some time in the late seventh century BC Naucratis was founded. Originally an East Greek foundation, the Aeginetans became prominent and important traders using Naucratis as a base and were so wealthy that they were able to build a temple to Zeus without having to seek "planning permission" from the Egyptian King as was the custom<sup>331</sup>. The Aeginetans, in their role as merchant carriers, supplied Egyptian grain to central Greece in exchange for unknown goods, but which were probably textiles, oil, wine and perhaps unusual luxury items and the ubiquitous "Aeginetan things"<sup>332</sup>.

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<sup>325</sup> Saggs, 1989, p.128

<sup>326</sup> Kuhrt, 1995, p.136-7

<sup>327</sup> Ibid, p.81

<sup>328</sup> Ibid, p.141

<sup>329</sup> Ibid, p.126

<sup>330</sup> Ibid, p.113

<sup>331</sup> Herodotus, *Histories*, 2.178-9

<sup>332</sup> Boardman, 1980, p.129

Corinthian coin in Egypt always appeared in association with Aeginetan coin in the large mixed heterogeneous coin hoards characteristic to Egypt before the mid fifth century BC. This evidence shows that Corinthian coin arrived in a large “mixed bag” of currency which traders took to Egypt. The payment for the commodity sought<sup>333</sup> may have been drawn from diolkos revenues or harbour dues collected by the Corinthians and sent out to Egypt. As the silver in Egypt was useful only as bullion, there would be little point in the Corinthians overstriking or melting down foreign coin to issue pegasi with which to pay for the goods.

As the sixth and fifth century BC hoards in Egypt show, the coins which arrived there were seen purely as bullion and were routinely broken and hacked to test purity. The Egyptians were more interested in the intrinsic value of the metal rather than the device of coinage itself, so striking coins specifically for trade with Egypt seems unnecessary and pointless. As Egypt employed Greek mercenaries in her armies prior to the Persian conquest in 525BC, and maintained a standing mercenary garrison in the south due to tensions between Egypt and Kush<sup>334</sup>, it has been suggested that silver coin was required to pay these forces.

It has also been suggested that silver arrived from Asia Minor and the Thraco-Macedonian areas as tribute to the Persians<sup>a</sup>. Similarly, the political situation in Egypt served to regulate trade there. Greek traders were rigorously controlled by the Egyptian government and had to enter the country via Naucratis where they could be both taxed and monitored. Although there is not much evidence as to the organisation of Egypt after 525BC when it fell to the Persians, there was no relaxing of this restriction.

Egypt had contact with the Greeks from the eighth century BC but the slight number of Egyptian artefacts from Greek sites implies casual trade, perhaps via the Levant<sup>335</sup>. However, the presence of both Greeks and Persians in Egypt in the latter half of the sixth century BC probably stimulated trade between Egypt and the Greek cities around the Mediterranean, shifting her attention away from her hinterland and the Near East, and

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<sup>333</sup> Possibly grain, but Corinth’s famous iris perfume was much in demand and Egyptian “carrier oil” had a long reputation as the best available (Theophrastus, *Concerning Odours*, 14-19). Corinthian textiles were also manufactured in huge quantities and special plants were required in the dye-manufacturing process.

<sup>334</sup> Kuhrt, 1995, p. 643

<sup>a</sup> Although I have not been able to find any evidence for tribute going to a province rather than to Susa.

<sup>335</sup> Boardman, 1980, p.112

exposing her to new markets. A survey of the archaic and fifth century BC hoards shows that it is most likely that the silver arrived as a result of Greek trade and went to the workshops which served the temples, or government treasuries. In the case of the Mit Rahineh hoard which contained 73kg of silver in addition to the coins, it seems most likely that it was a silversmith's hoard with the destination of the final artefacts being the temple of Ptah. At the temple of Ptah, which fell within the boundaries of Memphis, the Pharaoh traditionally received the double crown of the two kingdoms and huge festivals were held to celebrate this event<sup>336</sup>.

The dominance of Athenian coin from the 470's BC onwards suggests that Athens had direct trading links with Egypt, probably to buy grain. Although there may have been a market in Corinth (and elsewhere) for luxury goods from Egypt, her most desirable commodity was grain and the Corinthians obtained this from Italy and Sicily and, possibly, the Black Sea area. The close link between Athens and Egypt is reinforced by the historical accounts which record that Athens assisted Egypt at several points in the fifth and fourth centuries BC in rebellions against Persian rule. The Egyptians appear to have accepted the integrity of the Athenian coin as the former practise of cutting the coins to test for purity is now abandoned. Perhaps the traders who went to Egypt to buy grain and other commodities changed all other currencies into Athenian owls to facilitate trade in Egypt, or the Egyptians kept Athenian coin intact to trade back to Athens, while all other incoming silver coins were melted down.

The hoard evidence in Egypt also shows that there is an apparent gap in Greek coins arriving after c420BC to the 380's BC. This fits well with the political events elsewhere, confirming Athens' role as main trader with Egypt. The Peloponnesian War had taken a heavy toll on the wealth of the Athenians and, in the final phase of the war the Athenians were cut off from the silver mines at Laurion and had to resort to melting down gold offerings and dedications in the religious sanctuaries for an emergency coinage. Silver was not reinstated to the Athenian coinage until the late 390's BC<sup>337</sup>. Around this time, the

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<sup>336</sup> Kees, 1961, p.148

<sup>337</sup> Kraay, 1976, p74

Athenians were also allied with the Egyptian pharaoh and supported him against the Persians, who they managed to repulse<sup>338</sup>.

The fact that there are no hoards of Greek coins in Egypt between c420-380BC does not, of course, mean that coins were absent from the area altogether. The Athenians were desperately short of money so any “owls” in Egypt would have been a valuable resource to be traded back to Athens, probably at a handsome profit. Also, the lack of Athenian silver arriving in Egypt at this time would have not only raised the intrinsic value of silver, by cutting the supply and making it a proportionately rarer commodity, but probably also led to any stocks in Egypt, or any other silver coins arriving being used or traded to cash in on their higher value, rather than lying dormant in a hoard or temple deposit.

Corinthian contact with Egypt seems to have been more intensive than that with Thrace and Macedonia, Asia Minor and the Levant in the years before c480 BC. Periander, the Corinthian tyrant of the early sixth century BC pursued commercial contacts with Egypt, and gave the Egyptian name Psammetichus to his nephew<sup>339</sup>. The presence of Corinthian coins in the archaic Egyptian hoards may be a legacy of this friendship which saw contact between Corinth and Egypt maintained. However, the Corinthian market attracted inbound traders and it is most likely that, in the fifth century BC, Corinthian coin arrived in Egypt via the Aeginetans or East Greek traders.

#### 4.7 Italy and Sicily

There are 30 archaic hoards in Italy and Sicily (fig. 8). Seventeen hoards have been found in Italy (principally in the south) and thirteen in Sicily. Of these, 25 comprised of only local issues or coins from nearby mints. Only one hoard of the 25 contained coins from both Italy and Sicily, the hoard from Schiso in north east Sicily<sup>340</sup> (ancient Naxos) which contained coins from Rhegium in Italy, a short distance away on the “toe” of Italy.

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<sup>338</sup> Morkot, 1996, p.91

<sup>339</sup> Boardman, 1980, p.142

<sup>340</sup> *IGCH* 2064.

## KEY

- + = 6th hoards
- = 5th hoards
- ▲ = 6th and 5th hoards

NOTE There are 26 hoards in Italy and Sicily which could not be plotted on the map due to insufficient information.

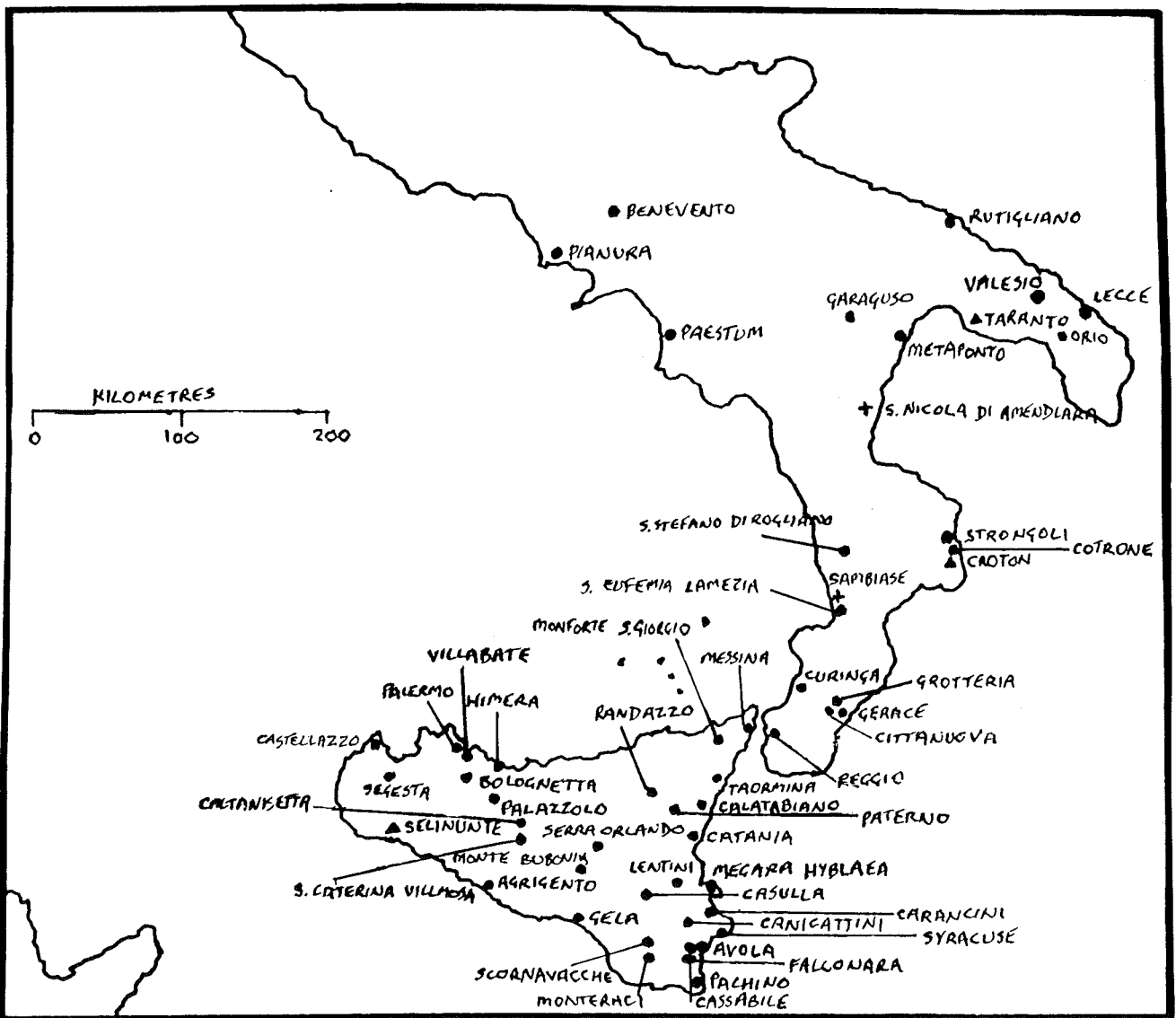


FIG. 8. HOARDS IN ITALY AND SICILY IN THE SIXTH AND FIFTH CENTURIES BC.

The remaining five hoards are mixed in that they contain coins from mints outwith Italy and Sicily. Three of these hoards are found in Sicily. The very large pot hoard from Gela<sup>341</sup>, which contained over a thousand coins, comprised coins from three mints in both Italy and Sicily, as well as coins from Acanthus in the Chalcidice, and archaic owls of Athens. The Messina hoard of 1875<sup>342</sup> only contained some 36 coins, but the mints represented were five from Italy and Sicily and, again, coins from Acanthus and Athens. Both of these hoards have been dated to the 480's BC<sup>343</sup> and it is interesting that the only foreign element in them are coins from Acanthus and Athens.

The only other Sicilian hoard is the hoard from Selinus<sup>344</sup> which contained coins from five mints in Italy and Sicily, and also contained coins from Abdera, Aegina and Corinth. Abdera was only represented by one coin, but the remarkable thing about this hoard is that nearly three quarters of the coins came from Aegina and Corinth, with only a quarter being local issues. This is a profile quite unlike the other archaic hoards in Italy and Sicily, which normally have a very high percentage of local coins.

The only mixed archaic hoards in Italy are the Taranto hoard<sup>345</sup> and the Sambiasi hoard<sup>346</sup> which lie across the Taranto gulf from one another. The Sambiasi hoard contained 43 incuse staters of Sybaris and two period one coins of Corinth, along with a silver bar weighing just under 60 grams. This hoard is dated, on the basis of the coins illustrated by Van Buren to 520BC and is the earliest hoard recorded in Italy<sup>347</sup>.

The Taranto hoard, now dated to c500-490BC<sup>348</sup> is unique in Italy and Sicily in archaic times and, indeed, through to 400BC. Although over 80% of the coins come from mints in Italy and Sicily, twenty other mints throughout the Greek world are represented.

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<sup>341</sup> *IGCH* 2066

<sup>342</sup> *IGCH* 2065

<sup>343</sup> Gela has been dated to c485BC (cf. Jenkins in *IGCH*) and Messina to the period 489-79BC by Barron, on the basis of the Zankle coins (Barron, 1966).

<sup>344</sup> *CH* 8.35

<sup>345</sup> *IGCH* 1874

<sup>346</sup> *IGCH* 1872

<sup>347</sup> Some of these were illustrated - cf. Van Buren, 1961 (plate 118)

<sup>348</sup> See appendix for analysis of the Taranto hoard.

This gives one part of the hoard a composition profile very similar to the large heterogeneous hoards of Egypt, such as Asyut. Also the presence of silver ingots, fragmentary coins and coins with cut-marks displays a similarity with the Egyptian hoards.

In the fifth century BC in Italy and Sicily there are 85 coin hoards. 72 of these are local hoards comprising only coins from mints in Italy and Sicily<sup>349</sup>. Out of these, ten hoards contained coins from Sicilian mints and coins from Rhegium, a reflection of Rhegium's close relationship with Messana. A further four hoards in this group contain coins from mints in both Italy and Sicily. Apart from these fourteen hoards, all of the other local hoards comprised either coins from Italian or Sicilian mints.

Out of the remaining thirteen classical hoards to c400BC, eight contain local issues along with Athenian owls. (Interestingly, six of these have coins from Sicilian mints along with coins from Rhegium). Unfortunately, one of the hoards found in Italy<sup>350</sup>, a pot hoard, does not record the numbers of coins representing the individual mints, and neither does the very large hoard of over 2000 coins discovered at Schiso in Sicily (ancient Naxos)<sup>351</sup>. However, the other six hoards show that the Athenian component was usually a very small percentage of the hoard - on average, five coins.

The five remaining mixed hoards are interesting. The hoard from Croton in Italy<sup>352</sup> may comprise coins from more than one hoard<sup>353</sup> and it contained coins from five mints in Italy and Sicily as well as coins from Athens, Corinth and Cyzicus. The presence of a coin from Cyzicus is a unique and strange phenomenon. In the archaic period these coins were quite widely travelled, appearing in hoards in Asia Minor (3), Egypt (2), the Cyclades (2) and Thrace/Macedonia (1). However, in the fifth century BC, coins of Cyzicus are predominantly restricted to Asia Minor, with only two instances of these coins being found outwith this area<sup>a</sup>. (Apart from the Croton hoard, the other example is four electrum

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<sup>349</sup> The contents of the Benevento hoard (CH 8.31) are unknown, so it has been assumed to be local for the purposes of this analysis.

<sup>350</sup> IGCH 1899

<sup>351</sup> IGCH 2096

<sup>352</sup> CH 8.24

<sup>353</sup> Ibid "Perhaps two or more hoards mixed?"

<sup>a</sup> Although, as in other areas, the hoard evidence does not give the full picture. Electrum staters from Cyzicus and Lampsacus are present in Athens during the building of the Parthenon and are recorded in the Parthenon accounts (Meiggs and Lewis, 1988, 59).

coins of Cyzicus found with 12 gold Persian darics at Elis in Greece<sup>354</sup> in a hoard dated to c400BC). Additionally, the combination of coins from both Athens and Corinth lends weight to the theory that this hoard is indeed a combination of coins from more than one hoard.

The hoard from Monte Bubbonia in Sicily, dated c475-470BC contained one coin of Acanthus, six of Athens and four coins from Rhegium as well as over three hundred other coins from mints in Sicily<sup>355</sup>. Another hoard, from Catania in Sicily<sup>356</sup>, contained only coins of Corinth and Leucas, although they may only represent part of a hoard, as they were seen in commerce and no other details were supplied. Finally, the Monforte hoard in Sicily, dated to c400BC<sup>357</sup> contained local issues along with pegasi from Corinth's western Greek colonies of Ambracia and Leucas<sup>358</sup>. Another hoard from Sicily also contained pegasi from Ambracia<sup>359</sup>, although they could have been intrusive.

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<sup>354</sup> *IGCH* 43

<sup>355</sup> *IGCH* 2071

<sup>356</sup> *CH* 5.6

<sup>357</sup> *IGCH* 2098

<sup>358</sup> The coins from Corinth and Thyrreum listed are intrusive and of a later date - cf. *IGCH* 2098 note.

<sup>359</sup> *CH* 3.13



Taken at face value, the hoard evidence would seem to suggest that, between c480-400BC, very little foreign coin was arriving in Italy and Sicily, but fortunately additional evidence in the form of the rich overstrike evidence from this area provides a more balanced picture.

The evidence for Corinthian coins being overstruck by other cities comes solely (as far as can be ascertained) from Italy and Sicily. Garraffo's exhaustive study of the overstrikes of Italy and Sicily provides some fascinating data<sup>365</sup> (see table 7). At most mints in Italy and Sicily there is evidence that the cities utilised the coinages of their neighbours for their own issues. In Italy, Metapontum, Croton and Caulonia provided the flans for a number of other Italian mints. In turn, Metapontine coins are struck over eight mints of Italy and Sicily, with the most undertypes originating from the Sicilian mints of Selinus, Acragas and Gela. With the exception of one coin from Metapontum, Croton uses exclusively Sicilian undertypes, with a very high proportion originating from Acragas, as well as some coins from Gela, Syracuse and Selinus. In the case of Caulonia, Sicilian undertypes dominate with Acragas again pre-eminent.

In respect of the overstrike evidence, the input from the cities in Greece is most revealing, even allowing for the inherent bias in the figures arising from the fact that in some cases the undertype was successfully obliterated by the overstrike (see table 8).

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<sup>365</sup> Garraffo, 1984

**Mint****struck over***ITALY*

Caulonia	Cumae (2) Sybaris (1) Acragas (8) Gela (2) Leontini (1) Selinus (1) Syracuse (2)
Croton	Metapontum (1) Acragas (20) Gela (6) Selinus (1) Syracuse (2)
Cumae	Poseidonia (1) Caulonia (1)
Metapontum	Caulonia (1) Croton (2) Laus (1) Poseidonia (2) Acragas (8) Gela (6) Selinus (10) Syracuse (2)
Neapolis	Caulonia (1) Croton (2) Poseidonia (3) Thurii (1)
Poseidonia	Cumae (1) Neapolis (3) Metapontum (2)
Rhegium	Rhegium (2) Catana (1) Messina (3)
Taras	Croton (1) Cumae (1) Metapontum (2) Terina (1) Thurii (1) Acragas (4)
Terina	Metapontum (1) Neapolis (3) Thurii (1) Acragas (2) Selinus (1)
Thurii	Velia (1)
Velia	Croton (1) Neapolis (1)

*SICILY*

Acragas	?Panormos (1)
Catana	Catana (1) Selinus (3)
Gela	Catana (1) Selinus (1)
Leontini	Catana (2)
Messana	Rhegium (1) Messina (2) Catana (1) Leontini (1) Selinus (2)
Segesta	Camarina (1) Syracuse (2)
Syracuse	Catana (2)

**TABLE 7. ITALIAN AND SICILIAN OVERSTRIKES (AFTER GARRAFFO).**

<b>Mint</b>	<b>Number</b>
“Pegasi”	88
Corinth	55
Anactorium	15
Corcyra	12
Leucas	11
Dyrrhacium	2
Ambracia	1
?Acanthus	?1
Mende	1 or 2
Thasos	5
Athens	16
?Aegina	1

**TABLE 8. NON ITALIAN AND SICILIAN UNDERTYPES AT ITALIAN AND SICILIAN MINTS (AFTER GARRAFFO).**

There is a modest input from mints in Thrace - Acanthus or Mende and Thasos as well as a sole (doubtful) example from Aegina in Greece. These surviving specimens represent an extremely small proportion of the identifiable undertypes found by Garraffo. These figures imply that only a small amount of coin from these mints ever arrived in Italy and Sicily but the hoard evidence shows that coins from Acanthus appeared in three archaic hoards in Sicily along with coins of Athens.

The overstrike evidence at Taras (and, to a lesser respect, Metapontum) shows a sustained and continuous presence of Corinthian coin coming into Italy (see table 9). Taras uses recognisable Corinthian undertypes which date from both period one and period two at Corinth.

That the mints of south Italy received continuous infusions of foreign coins which were then recycled for their own coinages is shown by the overstrike evidence from Caulonia and Metapontum.

At Caulonia, one stag and messenger issue (dated c470-450BC) demonstrates how the same Caulonian dies were used to overstrike Corinthian coins. The Corinthian undertypes were two period one coins and one period two coin<sup>366</sup>. The Corinthian undertypes may have been separated chronologically for as much as forty years, so their use over the life of one Caulonian die suggests that they represent the stocks of the mint being used as and when required.

Another interesting example comes from Metapontum<sup>367</sup> where a dumpy incuse issue (dated 475-440BC<sup>368</sup>) was struck over coins of Acragas (4) Gela (2) Corcyra (3) Syracuse (1) and Corinth (1)<sup>369</sup>. The same obverse die of this Metapontine issue is also used over a double relief coin of Corinth<sup>370</sup>, so again, as at Caulonia, we see Corinthian coins separated by many years used over the life of the same Metapontine die. This Metapontum issue is

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<sup>366</sup> Garraffo, 1984, *Caulonia* 4a,b,c

<sup>367</sup> Garraffo, 1984, *Metapontum* 18

<sup>368</sup> Noe, 1957, p.49

<sup>369</sup> Garraffo, 1984, *Metapontum* 18m with standing Pegasus and square punch reverse

<sup>370</sup> Garraffo, 1984, *Metapontum* 20a

<b>Mint</b>	<b>Undertype</b>
Acragas	Corinth (3) pegasi (1)
Caulonia	Corinth (8)
Croton	Corinth (2) pegasi (21)
Cumae	pegasi (1)
Erice	pegasi (1)
Locri	Corinth (1) pegasi (55)
Metapontum	Corinth (14) pegasi (33)
Poseidonia	Corinth (1) pegasi (1)
Selinus	Corinth (2)
Taras	Corinth (18) pegasi (60)
Terina	pegasi (1)
Thurii	Corinth (4) pegasi (9)
Velia	Corinth (2) pegasi (4)

**TABLE 9. PEGASI AS UNDERTYPES AT ITALIAN AND SICILIAN MINTS  
(AFTER GARRAFFO).**

also interesting in that the undertypes used have a similar profile to that of a contemporary hoard.

These examples suggest that the mints or treasuries stockpiled silver for future use. It is very hard to advance a cogent argument for this silver arriving together at the mint shortly before being used. In the case of the period two Corinthian issue, it could have arrived at the mint shortly after issue, but the period one coins would by then have been obsolete for anything between 35 to 50 years. As the evidence suggests regular infusions of coin were arriving at the mints of south Italy throughout the periods of their operation, this phenomenon could only be explained by a parcel containing obsolete coin arriving from elsewhere. It seems unlikely that the mint at Corinth would have stocks of old coin as it is more likely to have reused any obsolete issues for silver for new Corinthian coins.

Overstrike evidence from Selinus, on the other side of Sicily, however, shows that Corinthian and Aeginetan coins were reaching this city at an early date. Selinus overstruck on two period one coins of Corinth<sup>371</sup>, and the Selinus hoard<sup>372</sup>, dated to c510-500BC, shows early penetration of Corinthian coin into this city, which was founded by settlers from Megarian extraction - Corinth's close neighbour in the Peloponnese. Again, the hoard evidence also shows that Corinthian coinage was reaching Sicily in the sixth century BC, with Corinth appearing in the hoard at Selinus as well as the Italian hoards at Samiase and Taranto.

As Rutter has noted, the vast majority of Italian overstrikes prior to c510BC are on coins of other Italian cities<sup>373</sup>. However, in the medium incuse phase of Italian coinage (dated c510-470 BC), this situation changes completely with no Italian undertypes detectable. Instead, the flans are provided mainly by Corinth<sup>374</sup> or Sicilian mints, predominantly Selinus and Acragas<sup>375</sup>. In the phase (so-called "dumpy" incuse along with new-style issues starting

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<sup>371</sup> Garraffo, 1984, *Selinus* 1a and 2a

<sup>372</sup> CH 8.35

<sup>373</sup> Rutter, 1997, p.40-1

<sup>374</sup> Garraffo, 1984, *Taranto* 1a and *Metapontum* 4a, 7b, 9a, 11a, 12a, 14a

<sup>375</sup> Rutter, 1997, p.41

c470BC), this activity intensified with Corinth again a main supplier<sup>376</sup> along with Thasos and Corcyra who provided flans for the mint at Metapontum<sup>377</sup>. The Italian cities of Metapontum, Taras, Caulonia and Croton also struck over considerable quantities of Sicilian coin which mainly came from Gela, Acragas and Syracuse. This activity seems to have been at its peak around c465BC with another intensified period of overstriking occurring at Metapontum and Croton between 460-450BC<sup>378</sup>.

Ravel's period four group 14 which, as the hoard evidence has demonstrated, must predate 370BC<sup>379</sup> is found as an undertype at both Metapontum and Croton. It has been argued elsewhere that Ravel's period four is probably best dated to commencing in the 430's BC, and his period five phase commences c350BC. Many of the unidentifiable Corinthian coins and pegasi between them show a similar sustained presence at the large Italian mints on the Ionian Shore of southern Italy (see table 10).

The Italian situation, with quantities of foreign coin regularly arriving for restriking at the south Italian mints, as evinced by the overstrike and hoard evidence from archaic times onwards, is not repeated in Sicily. Apart from the two Corinthian period one overstrikes at Selinus<sup>380</sup> and three examples of Acragas on Corinth<sup>381</sup>, which can probably be dated to the first half of the fifth century BC, there are no other recorded Sicilian overstrikes on Corinthian pegasi or on any other coin from outwith Sicily<sup>382</sup>. The hoard evidence is similarly meagre. Apart from the early Selinus hoard (in which Corinth and Aegina predominate) only one other hoard prior to c400BC is found containing foreign coin. This hoard, found at Catania in 1978<sup>383</sup>, and dated to c460BC, contained coins of Corinth and Leucas.

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<sup>376</sup> Garraffo, 1984, *Metapontum* 18m and 25a; *Caulonia* 4a and 4b, *Taranto* 3a, 4a, 11a, 13a, 16a, and 21a *Croton* 1a

<sup>377</sup> Numbering 5 and 6 respectively

<sup>378</sup> Rutter, 1997, p.41

<sup>379</sup> Discussed fully in the absolute chronology section.

<sup>380</sup> Garraffo, 1984, *Selinus* 1a and 2a

<sup>381</sup> Garraffo, 1984, *Acragas* 1a, 2a, 3a

<sup>382</sup> Apart from Rhegium, but it clearly lay within the Sicilian sphere of influence.

<sup>383</sup> CH 5.6

<b>Mint</b>	<b>Ravel period</b>
Taras	5, series E and N
Metapontum	4 and 5
Thurii	4
Velia	4
Croton	4

**TABLE 10. LATER CORINTHIAN COINS AS UNDERTYPES AT ITALIAN AND SICILIAN MINTS (AFTER GARRAFFO).**



This also raises the interesting question of the perceived break in the Corinthian coinage in the period c430-400BC. If, as hypothesised, Corinthian coins and coins of her colonies formed the bulk of the imported silver into the Ionian coast cities of southern Italy, then such a severe disruption to the Corinthian coinage would also be reflected in this area. That there are no signs of a silver shortage apparent in the coinages of Italy at this time, surely puts additional pressure on this notion. It is inconceivable that the major silver supplier should cease providing bullion for almost thirty years without this having some repercussions in Magna Graecia.

#### 4.8 Conclusion

In Egypt and in the Levant, no hoards dating from c420-380BC are found, and in Asia Minor there is a similar situation. Although Athenian coins are found in hoards in Asia Minor during those years, it is only in very small quantities. Thus we see increasing regularisation of trade in the Mediterranean from the third quarter of the fifth century BC. The large mixed hoards of the archaic period in Egypt, Asia Minor and the Levant are supplanted by hoards which are either entirely composed of Athenian coin or hoards in which Athenian coin predominates. Although Athenian interests are maintained in Egypt and the Levant, Asia Minor falls outwith the sphere of Greek traders until interest in the area is revived by Alexander in the late fourth century BC.

The hoard evidence, showing that no Corinthian coins have been found in Thrace or Macedonia, only two in Asia Minor and one in the Levant suggests a lack of outbound trade between Corinth and these areas. Periander was very friendly with Thrasybulus of Miletus<sup>384</sup>, and also had relations with Egypt and Samos<sup>385</sup>. It has been suggested that these friendships flourished as Periander and the city of Corinth had no major interests in the eastern Aegean and Egypt. The hoard evidence from Corinth in the fifth and fourth centuries BC suggests that this arrangement continued after the tyranny was deposed.

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<sup>384</sup> Aristotle, *Politics*, 1284a, 1311a (Barns, 1984); Herodotus, *Histories*, 1.20.1, 1.23.1

<sup>385</sup> Salmon, 1984, p.226

Thus, Corinthian interaction with these areas was probably carried out via Milesians or Samians<sup>386</sup>.

It is also interesting to consider the archaic Thraco-Macedonian issues which used a Pegasus obverse type<sup>387</sup>. Corinthian influence could be the reason for this choice of type, or, an alternative explanation could be that the issuer was alluding to some relationship with Corinth and used the Pegasus type as a gesture of friendship or loyalty.

Corinth has a higher profile in the archaic Egyptian hoards, appearing in six large hoards dated from the late sixth century BC<sup>388</sup> to c470BC. The Egyptian hoards contain some of the earliest issues of the Corinthian mint, but Corinthian coin disappeared from Egypt when Athenian coin became dominant. Thus, Corinthian interest in Egypt, whether direct or indirect, seems to have waned early in the fifth century BC.

The situation in Greece and the west, however, is quite different. Although, again, the overstrike evidence shows that the hoards do not show the full picture in terms of coin movement, the hoards reveal some important evidence. Coins from Athens and Aegina are the most widely travelled of the coins in hoards in Greece, appearing at a variety of locations.

However, the seven hoards in Greece containing Corinthian coins reveal some interesting characteristics. Hoards in or around Corinth, with the exception of the Isthmia temple deposit, clearly a special case, only ever contain coins of Corinth or pegasi from her colonies in Greece. Hoards in Greece containing Corinthian coins outwith Corinth are nearly always found in or around her colonies<sup>389</sup>.

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<sup>386</sup> The Samians and Milesians, like the Aeginetans, were so important in Egypt that they did not need the usual permission from the Pharaoh for their temples (Herodotus, *Histories*, 2.178.3). The Punic amphora building at Corinth contained pottery from Chios, so they may also have traded with the Corinthians.

<sup>387</sup> For examples of these see Babelon, 1912, no. 19 (plate 2.1) and Dressel & Regling, 1927, no. 186 (plate 4.186)

<sup>388</sup> The four archaic hoards of Mit Rahineh, Sakha, Demanhur and Delta are all conventionally dated at c500BC, but alternative dates are proposed for these hoards - see appendix.

<sup>389</sup> The exception being *IGCH* 41. See footnote on p.228 regarding the north west Greece 1964 hoard.

This evidence may suggest that, while the pegasi of the Corinthian colonies was allowed to circulate freely in Corinth, all other incoming foreign coin from tourists, traders and taxes<sup>390</sup> was immediately taken to the mint where it was either melted down or restruck. Price suggests that because no Athenian coins are found in the Isthmia “hoard”, the Athenian coins arriving in Corinth (as evinced by the Laurion silver and the *wappenmunzen* overstrike) were immediately melted down or re-used for Corinthian issues upon arrival. However, the Isthmia group represents a temple deposit, where travellers made an offering in their local currency<sup>391</sup> so this deposit probably accumulated over a period of time, and it seems unlikely that the temple officials would sort through the offering for Athenian coin to send to the Corinthian mint, leaving the Aeginetan and other coins aside. A more likely explanation is that either Athenians did not visit the temple at Isthmia at this time, or they traded in their “owls” for pegasi before they arrived at the city of Corinth to have local spending money for their visit.

This supposition is enhanced by the Corinthian overstrike on Corcyra. Although a Corinthian colony, Corcyra adopted its own type, a cow and calf obverse and patterned incuse reverse. Thus, unlike the pegasi issues of the Corinthian colonies of north west Greece such as Leucas and Ambracia, Corcyraean coins arriving in Corinth were treated as foreign and not acceptable for use in the city.

The adoption of the pegasi type is an interesting phenomenon. Pegasi were either struck at, or for, the Corinthian colonies of Epidamnus and Potidaea in the late 430's BC to finance Corinthian aid<sup>392</sup>. Almost a century later this phenomenon was repeated as Timoleon's expedition to Sicily in 344BC saw a larger number of colonial mints in north west Greece issue pegasi in order to participate in the venture. As soon as Timoleon had captured Syracuse, he established a mint issuing pegasi, a type not used at Syracuse before, and pegasi became the operating currency for the island thereafter. At this same time pegasi

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<sup>390</sup> Such as revenue generated by the *diolkos*, and levies relating to the storage and transport of various commodities.

<sup>391</sup> The piety of some of these travellers is questionable as some of the coins were apparently false or plated cf. *IGCH* 11

<sup>392</sup> For discussion relating to these coins see absolute chronology section.

were also issued by Locri in southern Italy and, on a much smaller scale, by other mints in southern Italy and Sicily<sup>393</sup>.

Thus, in order to participate in trade in the Corinthian sphere of influence, or purchase Corinthian goods or services without changing one's native currency (which resulted in loss of money due to commission fees for this service, and a tidy profit for the Corinthian mint and/or moneychangers) one either had to acquire<sup>394</sup> or mint pegasi.

Five out of the seven Greek hoards with coins of Corinth are confined to the period c500-450BC, with only one in the latter half of the fifth century BC<sup>395</sup>, and one which cannot be accurately dated<sup>396</sup>.

The hoard evidence seems to suggest that Corinthian coins were largely absent from Italy and Sicily in the second half of the fifth century BC. However, the overstrike evidence offers an alternative view. Coins from Italy and Sicily circulated in the area, thus maintaining the silver reserves which were topped up by infusions of pegasi on a regular basis. It can be hypothesised, therefore, that the preferred Corinthian ports of Taras, Metapontum and Selinus<sup>397</sup> acted as ports of entry for the pegasi. The bullion hoard at Taranto and the vast numbers of Tarantine and Metapontine overstrikes of coins of Corinthian type suggest that the port of entry acted as a kind of "clearing house" for the incoming silver. Once the mint had extracted its required amount of silver coin, which was then either melted down or overstruck for the city's coinage, or placed in a reserve holding for future use, the remainder was perhaps divided into parcels and traded to another city, silver being a sought-after commodity.

However, the picture altered drastically in the fourth century BC.

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<sup>393</sup> Rutter, 1997, p.166

<sup>394</sup> This may also account for the lack of Corinthian coin and pegasi at other locations in Greece. Any such coin would probably be traded back to the city to avoid money-changing fees

<sup>395</sup> *IGCH* 25

<sup>396</sup> *IGCH* 41.

<sup>397</sup> Based on the hoard and overstrike evidence.

After c400BC Corinthian coin travels to Asia Minor<sup>398</sup>, Sicily<sup>399</sup> and Italy where it appears in four hoards of varying size<sup>400</sup>. From 350BC the change in this situation is dramatic. Apart from two hoards in Greece (one containing fractions, mostly bronze, and one containing a large amount of coins from other Greek mints as well as Corinth and colonies<sup>401</sup>) all Corinthian coin leaving the city goes to Italy and Sicily<sup>402</sup>. Out of a total of 54 hoards<sup>403</sup> in Sicily for the second half of the fourth century BC, 33 contain pegasi of Corinth and her colonies which normally make up the bulk of the hoard.

No similar hoards are found in Italy, but the overstrike evidence supports a picture of vast influxes of Corinthian coin and pegasi into Italy as well. A good example is Locri whose mint received large numbers of coins from Corinth and her colonies to use in her new coinage which began around the middle of the fourth century BC<sup>404</sup>. Locri even began to produce her own pegasi on the Corinthian standard - a phenomenon also adopted by fifteen different mints of dependencies of Corinth in Greece as well as some of the Italian mints<sup>405</sup>.

The overstrike evidence also shows that other Italian mints, predominantly Caulonia, Croton, Metapontum, Taras and Thurii all received large amounts of pegasi in the latter half of the fourth century BC<sup>406</sup>. This dramatic change to the hoard pattern in Sicily and the movement of Corinthian coin in the latter part of the fourth century has been attributed to the Timoleon expeditions in the 340's BC.

It is interesting to note that those Italian mints which overstruck Corinthian coin or pegasi in any quantity were mainly of Achaean origin. The primary colonies of Metapontum and Croton, founded by Achaeans from the northern Peloponnese, in turn founded the secondary

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<sup>398</sup> Only one coin in the Selimiye hoard - *IGCH* 1254

<sup>399</sup> Six coins in the Monforte hoard - *IGCH* 2098

<sup>400</sup> One coin in Croton hoard (*CH* 8.89); one coin in Calabria hoard (*IGCH* 1908); significant numbers in both Vito Superiore (*IGCH* 1910) and the Ionian shore hoard (*IGCH* 1916)

<sup>401</sup> *IGCH* 64 and *CH* 6.31 respectively

<sup>402</sup> *CH* 8.159 unknown findspot. Possibly Greece but probably Sicily.

<sup>403</sup> Collected from *IGCH* as well as *CH* series to Vol. 8

<sup>404</sup> Possibly also inspired by the Timoleon campaigns, but the date at which this mint began to issue coins is contentious - cf. Rutter, 1997, p.166

<sup>405</sup> Rutter, 1997, p.166

<sup>406</sup> Although, as noted above the pegasi may have been from Corinthian dependencies rather than Corinth herself.

colonies of Caulonia, Terina and Poseidonia<sup>407</sup>. The only other mint which used Corinthian coin on a regular basis was Taras which was originally a Spartan foundation. However, in north east Sicily, Corinthian coin is never found<sup>408</sup>. The main cities of Zankle-Messana (and Rhegium in Italy which had a very close relationship with Zankle-Messana), Naxos, Catana and Leontini generally used each other's coins as the undertype for their own issues, and hoards containing Corinthian coins are never found in this area before the mid fourth century BC. These cities were all originally founded by Chalcidians from Euboea.

The explanation for this phenomenon may be political, seeing old alliances and treaties creating clear zones where foreign involvement was rigorously policed and possibly indicative of "ties of blood, religion and ...trade"<sup>409</sup>. Support for this theory comes from the overstrike evidence from Zankle-Messana and Rhegium. Founded in close succession by Chalcidians in the latter part of the eighth century BC, these two cities on either side of the straits obviously exerted close control over shipping and traders wishing to pass through the straits on the important shipping route to the west.

Only sixteen known examples of coins in Italy and Sicily with Athens as the undertype have been identified, all overstruck by either Messana or Rhegium early in the second half of the fifth century BC. Also a sole example from either Acanthus or Mende<sup>410</sup>, which probably arrived with the Athenian coins, is found at Messana. It has been suggested that the arrival of these coins is due to Athenian involvement in the re-founding of Sybaris in 444BC<sup>411</sup>.

Corinthian coins are much more widespread in Italy and Sicily than Athenian coins, both as undertypes and in hoards, and their lack of appearance in north east Sicily before the

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<sup>407</sup> The latter of which was founded by Sybaris which was Achaean in origin.

<sup>408</sup> Before c350BC

<sup>409</sup> Boardman, 1980, p.163

<sup>410</sup> Garraffo, 1984, *Messana* 12a

<sup>411</sup> Rutter, 1997, p.135.

mid fourth century BC or, indeed, the fact that they are never found in association with Athenian coins<sup>412</sup>, suggests that the interests of the two cities (or the traders who carried their coins) were quite separate. It is also interesting to note that Messana and Rhegium are among the few mints who do not have pegasi undertypes.

The political situation may explain this. The Chalcidians had control of the straits of Messana and because of this could control shipping on this important western sea route. However, the Achaean foundations on the Ionian coast could bypass the straits of Messana by using the overland routes to the Tyrrhenian Sea ports<sup>413</sup>. Particularly important was the route between Metapontum and Poseidonia as this meant that the Ionian coast cities could challenge the western trade monopoly of the Chalcidians<sup>414</sup>.

The overstrike evidence, vital in filling in the gaps left by the hoards, is also important in the context of the questions relating to how cities with no silver reserves obtained the necessary silver for their coinage. Silver was an extremely sought-after commodity. Greek cities without their own silver resources required supplies of the metal for their own coinages, while Egypt (which did not issue its own coins until the late fourth century BC) prized silver bullion to adorn its temples and wealthy residents.

Osborne notes that coins “offered cities which had local silver resources a convenient way to realise the value of their bullion”<sup>415</sup> and it has been suggested that the unusually high denominations struck by the Thraco-Macedonian mints, with correspondingly high weight standards, implies that these coins were specifically issued to be used in foreign trade<sup>416</sup>. The earliest issues of this area were struck at around 8.7g but, over time, were issued at varying denominations, up to a staggering 68.9g coin, thought to have been issued at Acanthus<sup>417</sup>. An alternative view is that the Persians, who controlled the Black sea area and

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<sup>412</sup> Apart from the Taranto hoard, which is unique and another hoard of dubious integrity.

<sup>413</sup> Boardman, 1980, p.178

<sup>414</sup> Ibid, p.180

<sup>415</sup> Osborne, 1996, p.257

<sup>416</sup> Kraay, 1976, p.133

<sup>417</sup> Ibid, p.133

Thrace from 513BC, required gifts and tribute and this stimulated the production of coinage<sup>418</sup>.

Other sought-after commodities from the region included grain, fish and timber from the Black Sea area, and wine<sup>419</sup> and timber from Thrace and Macedonia. Xerxes observed Aeginetan grain ships en route from the Black Sea to the Peloponnese<sup>420</sup>, and the Punic Amphora Building in Corinth, which was active for almost 50 years until the onset of the Peloponnesian War, yielded large quantities of Corinthian transport amphorai along with Chiot and Punic vessels with some (perhaps all) having contained dried or salted fish<sup>421</sup> or fish sauce, a commodity ubiquitous throughout history and still used in some cuisines today.

Although Corinth probably traded with the Black Sea area via middlemen, her colony at Potidaea in the Chalcidice may have provided her with goods from the Macedonian sphere. It is also possible that the unknown Macedonian issues which adopted Pegasus as a type<sup>422</sup> may have done so to indicate friendship or trading links with Corinth<sup>423</sup>, or this may have been a device to mark bullion from the area destined for Corinth.

The results of the hoard analysis link well with the discussion about the possible source(s) of silver for the Corinthian coinage. Studies have been made of archaic Greek coinage using analysis to identify trace elements present in the silver and the gold/silver ratio to try and pinpoint mining areas<sup>424</sup>. These studies have shown that the coinages of mints in the Thrace-Macedonia region obtained silver from several places, probably mines in their hinterland<sup>425</sup> while the bulk<sup>426</sup> of the archaic Greek coinages used silver from Laurion,

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<sup>418</sup> Ibid, p.131

<sup>419</sup> Mende was famous for its wine and chose a bunch of grapes as its coin type.

<sup>420</sup> Herodotus, *Histories*, 7.147.2

<sup>421</sup> Salmon, 1984, p.128

<sup>422</sup> See examples as discussed in the Greece section

<sup>423</sup> Potidaea did not use the Corinthian type

<sup>424</sup> Gale, 1980 and Kraay, 1962

<sup>425</sup> Gale, 1980, p.49

<sup>426</sup> Insofar as examples from different mints have been available for testing.



Siphnos and a third, unknown, source.

Athenian issues are interesting as the early *wappenmunzen* issues derive their silver from an unknown source. The high gold content of the *wappenmunzen* didrachms has led to suggestions that the source was in the Thrace-Macedonia area<sup>427</sup>, but it may have been Laurion as later “owl” issues show that a high gold content was an occasional feature of Laurion silver<sup>428</sup>. However, with the introduction of the “owls” Athens exclusively used Laurion silver<sup>429</sup>.

Aegina is interesting in that, unlike Athens, she did not have her own source of silver. However, the Aeginetans were pre-eminent traders who traded for silver which was then used in the Aeginetan coinage. Gale et al’s studies show that, based on type progression, Aegina used Siphnian silver for her earliest issues, then Laurion silver, as well as silver from an unknown source<sup>430</sup>. This unknown source has been suggested as the Thrace-Macedonia area, Lydia or Euboea<sup>431</sup>. The hoard evidence suggests that Euboea was more orientated towards trading with Athens, so if there was a silver source on Euboea, it seems more likely that this provided silver for the Athenian *wappenmunzen* issues.

However, the hoard evidence discussed above has shown that Aegina and Miletus appeared to have a close relationship, and the Milesian colonies around the Black Sea traded in grain with the Aeginetans. Therefore, it may be the case that the unknown silver source for the Aeginetan coins is from mines in Lydia, or it may actually be from mines in Thrace and Macedonia who sent silver coin or bullion to the Persians in Lydia as tribute.

The Aeginetan coinage is particularly important in the case of Corinth as the Gale et al analysis shows that the silver coins of Corinth of the same period have the same composition as the Aeginetan coins. They suggest that either Corinth obtained silver bullion from the same places as Aegina, or used the Aeginetan coins themselves as a silver

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<sup>427</sup> Kraay, 1962

<sup>428</sup> Gale et al, 1980, p.29

<sup>429</sup> Ibid, p.30

<sup>430</sup> Ibid, p.41

<sup>431</sup> Ibid, p.43

source<sup>432</sup>. The overstrike evidence<sup>433</sup> shows that Corinth obtained silver coins from the Thrace-Macedonia region, Corcyra, Athens and Aegina. Other coins may have arrived at Corinth via traders, from the dues levied at the harbours and diolkos, or from the market.

The apparent absence of Corinthian coin in north east Sicily may be related to the silver required for a coinage. It has been noted that Italy and Sicily do not have known silver reserves<sup>434</sup> so, in order to issue a coinage, a city had to import silver in some form from elsewhere. It has been suggested that Phoenician traders imported silver from Spain to Sicily<sup>435</sup>. The Phoenicians had colonies at Carthage (a short distance away from Sicily), Motya, Panormous and Soloeis in north west Sicily and a "Phoenician quarter" in Syracuse, as well as probable small trading outposts in Sardinia<sup>436</sup>. Corinthian pottery dating to the eighth and seventh centuries BC has been found at both Carthage and Malta in association with Phoenician artefacts, suggesting that the Phoenicians were instrumental in providing the Corinthians with a western market<sup>437</sup>.

If the Phoenicians were supplying Spanish silver to the Chalcidians in Sicily from an early date, this may explain the absence of Greek coins as undertypes at Sicilian mints. The presence of the ingot in the Taranto hoard marked with the stamp of Selinus shows that Selinus had enough silver reserves to be able to ship out uncoined silver elsewhere<sup>438</sup>, so she may well have been receiving silver from the Phoenicians as well as from Greece. This resource became unavailable, however, after c540BC when the Carthaginians assumed control of the Spanish silver source areas.

It seems certain that, by the second half of the sixth century BC, the majority of silver in Italy and Sicily was coming in from Greek sources. Support for this theory can be found in the hoard evidence which appears to show reciprocal trade between Italy and Sicily and the west, probably carried out by the Phoenicians or the Phocaeans. A fifth century BC hoard

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<sup>432</sup> Gale et al, 1980, p.43-44

<sup>433</sup> See the list in the catalogue

<sup>434</sup> Rutter, 1997, p.19

<sup>435</sup> Ibid, p.14

<sup>436</sup> Rutter, 1997, p.14 and Boardman, 1980, p.210

<sup>437</sup> Boardman, 1980, p.211-2

<sup>438</sup> Noe, 1957, p.41

from Malta<sup>439</sup> comprised coins from Selinus. As mentioned above, finds from Corinth and Phoenicia along with Rhodian vases and Cypriot artefacts have been made at Malta<sup>440</sup>, and the city of Selinus is in close proximity to the Phoenician settlements in north west Sicily. In the early fifth century BC, the city of Selinus even sought aid from the Phoenicians in their struggle against the tyrant of Gela<sup>441</sup>.

A hoard dated to the latter half of the fifth century BC, found at El Arahah in Spain<sup>442</sup>, contained coins from Metapontum, Acragas, Gela, Leontini and Segesta, and again this suggests probable Phoenician trading movements. Italian and Sicilian mints requiring silver would not send out their precious coin to buy silver, so these hoards must represent trade in a different commodity, lending weight to the theory that the incoming silver to these mints was arriving from the Greek east.

In fact, it can be argued that Italy and Sicily were a “closed loop” as far as silver circulation was concerned, as coins from this area rarely left. Apart from those hoards discussed above, the only other notable exceptions are the Asyut hoard<sup>443</sup> to the south in Egypt, which contained coins from Metapontum, Caulonia, Croton, Rhegium, Himera and Samian Zankle, and the hoard from Tunisia<sup>444</sup> which contained unknown numbers of coins from Acragas, Gela, Messana, Syracuse and Athens as well as silver ingots and bracelets.

Thus the numismatic and archaeological evidence and the results of the analysis of archaic Greek silver coins complements each other very well. The silver for the archaic coinages of Greece came mainly from Siphnos or Laurion and a third, unknown, source. Once the Athenians had introduced their “owls” they exclusively used Laurion silver from the nearby mines. Mints in the Thrace-Macedonia region used silver from more than one mine in their surrounding district. Other Greek mints used silver from the three main sources mentioned above. It seems likely that silver, either in coin or bullion form, was traded around Greece and the Aegean primarily by the Aeginetans.

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<sup>439</sup> *IGCH* 2260

<sup>440</sup> Boardman, 1980, p.212

<sup>441</sup> *Ibid*, p.216

<sup>442</sup> *IGCH* 2310

<sup>443</sup> *IGCH* 1644.

<sup>444</sup> *IGCH* 2259

The hoard evidence shows that Thraco-Macedonian silver may have been indirectly obtained by them from Lydia. The overstrike evidence shows that the Aeginetan coinage provided flans for Corinth, Samos, Samian Zankle (brought to Sicily by the Samian refugees) and mints in Asia Minor<sup>445</sup>. Other “mixed bags” of currency carried by traders probably account for single (or unlikely) undertypes at Greek mints, and in hoards.

Thus, the evidence from this survey shows that the coinage of Corinth had most value within its own economic milieu and that its coinage only rarely travelled outwith Greece. It was only when, in the mid-fourth century BC, Italy and Sicily became part of the Corinthian sphere of interest that *pegasi* flowed out of Greece and travelled there in huge numbers.

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<sup>445</sup> Gale et al., 1980, p.45ff

## 5. THE DIE STUDY

### Plate 1

The first coins from the Corinthian mint (perhaps following the Aeginetan model) are small, globular coins quite unlike the rest of the coins in this first phase of coinage. Also, these early coins have the mill-sail reverse design. This usually comprises four raised triangular segments alternating with four sunken triangular segments, but it is sometimes “erratic” with sunken segments together, separated by a line.

The first three coins (Cat. 1-3) depict a very archaic style Pegasus flying right with a large crude  $\phi$  beneath, falling off the edge of the flan. Cat. 4, with an “erratic” mill-sail reverse must be among the final coins of this issue as the legs of the horse are more realistic and the  $\phi$  is smaller and neater.

As the Pegasus on the coins with the punch reverse was almost always facing left it may be the case that the early die-makers, working with the new and unfamiliar concept of coinage, failed to realise that Pegasus facing left on the die would face right on the actual coin.

The final coins in this initial sequence, linked by the obverse (Cat. 5 and 6), show Pegasus walking left with a large well-defined  $\phi$  beneath. Pegasus is much more realistically rendered than on the preceding dies. Further support for placing Cat. 5 and 6 at the end of this first series of issues comes from the weights. The first four die combinations are represented by six coins. The weight of the coin from the Sakha hoard, which was disposed of in trade, is not recorded but the other five coins have weights which range from an extremely heavy 8.90g to 8.31g. The coins which come closest in weight to the Corinthian standard of 8.60g are Cat. 5 & 6 (8.54g and 8.60g respectively). These coins may reflect the now perfected technique of preparing blanks at the right weight. The paucity of examples of this early sequence also supports an early issue date.

Although the first six coins are distinctive by their fabric and flan, the following issues are not so easy to order. The coins become thinner and flatter with the flan increased in size.

It is not clear what brought about this change, as the mill-sail reverse punch is still used and Pegasus is still archaic in style. It may be that the change was forced on aesthetic grounds as, on the smaller, globular coins, some part of Pegasus (usually the legs) fell off the edge of the flan as did the  $\phi$ . It is also possible that the perfecting of the technique of preparing blanks at the correct weight standard necessitated a change in the flan. Whatever the reason, the broad, flat flan of the Corinthian coins endured until the introduction of the head of Athena reverse type saw a return to a dumpier fabric.

The order of the next group of coins is difficult to establish. The evidence shows that various styles of the reverse punch were used contemporaneously so grouping the coins by the style of the reverse die, on the assumption that the mill-sail reverses predate the square punch reverse with square inserts, gives a misleading picture. This evidence also disrupts Ravel's theory that the style of the reverse punch was linked to the ruling power in the city and reflected changes in the government of Corinth<sup>446</sup>. It was hard to give this notion credibility anyway as Ravel conveniently overlooked the coins with the unique style reverse (Cat. 8-11), clearly set apart in terms of both obverse and reverse style, when relating the styles of the reverse punch to the reigns of Cypselus, Periander and the Oligarchy.

Cat. 7 is placed next in the sequence. The obverse die shows Pegasus with thin legs, the forelegs being in an unrealistic position. The wing is composed of long, fat feathers and it curves in close to the mane. Although this coin has a mill-sail reverse, it is closely related in style to the following obverse dies. The next coin with obverse o7 (Cat. 8) bears some similarities to obverse o6, particularly in the positioning of the forelegs, although the feathers in the wing are broader and Pegasus has a larger body, filling more of the field.

The Cat. 8-11 coins are interesting as they show four obverses in use with three reverses which are both very distinctive in terms of style. These dies are not muled with any other style of die, suggesting a special "contained" issue. Using Kraay's hypothesis that a minimum of one obverse die per year was used in a coinage, this issue could span three years. However, evidence from the Athenian *wappenmunzen* series shows that this time

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<sup>446</sup> Ravel 1936, p.100

span can be compressed and may only represent a year, or the intensive striking of a coinage over a few months. The lack of coins with these dies (only eight known examples) does tend to suggest that they were early, but the size of the issue cannot now be estimated.

The next coins in the sequence, Cat. 12 & 13, show how the mill-sail reverse and the square punch reverse with square inserts are both used over the life of one obverse die. On these coins, Pegasus is a large-bodied animal with a fan-shaped wing. Obverse o12 is stylistically very similar to obverse o11. Used with a square punch reverse, obverse o12 shows the horse with a slimmer body and wing, but the forelegs are in an almost identical position.

The next group of dies again begins with an issue which has a mill-sail reverse. Pegasus has a dappled breast and a wide fan-shaped wing composed of long, thin feathers. A dotted groundline is also visible and  $\phi$  is large and well-shaped. Obverse o13 has Pegasus in a posture which suggests that the horse is rearing up. Obverse o14, stylistically very similar to obverse o13, has Pegasus standing, but the position of the rear legs with one hoof raised off the groundline is identical to the obverse o13 die. These obverses are clearly contemporary and again show how the mill-sail reverse is used in tandem with the square punch reverse.

## Plate 2

The chronology is revealed by ordering it according to the stylistic variations in the rendering of Pegasus. This approach is more satisfactory as, after this initial experimental stage of depicting Pegasus, the horse assumed a standard form. In spite of differences in the positioning of the legs, or size and shape of the wing, the proportions of the horse and the artistic conventions used by the die-makers generally remained uniform. Thus the experimental pegasi are clearly at the head of a relative chronology in terms of style and their greater antiquity is confirmed by the paucity of examples and the evidence from the Egyptian hoards.

The first linked string (Cat. 20-23) shows how, after the various early styles of Pegasus were used, attempts were made to render the horse in a more realistic way with a more

standard form. This die string, linked through the reverse, shows how Pegasus progresses from an unnatural rearing posture (suggested by the straight rear leg on obverse o15) to an unconvincing walking pose (o16) to, finally, a more convincing flying pose with both rear legs drawn up on obverse o17. The progression of these various styles is confirmed by the condition of the reverse die which begins to fill in as it becomes older. Cat. 22b with obverse o17 shows the reverse die r18 at the end of its life. Cat. 23 comes next in the sequence used with a square punch reverse which is notable for its crudeness. The obverse o17 has now lost some definition in the detail of the mane and the wing and has picked up a die flaw at the apex of the wing and the mane.

There are a surprisingly high number of surviving examples with the o17 obverse, which suggests a period of heavy minting. This may account for the crudeness of the r19 reverse. It has similar dimensions to reverse r18, and may even be this die hastily recut so as not to interrupt production. The strange V shape in one corner (which does not underlie the punch reverse but which seems to be integral to it) could also suggest that this die was recycled and not prepared from a blank.

Cat. 24 is not linked to the preceding coins, but is placed at this point in the chronology on stylistic grounds. The Pegasus is very similar to obverse o17 with only  $\phi$  being different. The reverse, r20, is a smaller and neater square punch.

The next string is placed here on stylistic grounds. Obverse o19 shows a large, ungainly Pegasus in an unrealistic walking pose similar to that of obverse o16. Obverse o20 is linked to obverse o19 by the reverse die r22. This obverse shows Pegasus in the rearing pose with rear legs straight. The next two coins are not linked, but are again placed here on stylistic grounds. Obverse o21 has a large Pegasus in a similar rearing pose with a square punch reverse which is degraded in the third quarter. Obverse o22 is similar, but Pegasus is smaller. On this die there is also a die flaw between the  $\phi$  and the belly of the horse.

The next group begins with a realistically portrayed flying Pegasus obverse, o23, teamed with a mill-sail reverse, r25. Cat. 30 appears to have been doublestruck, as underlying lines are visible in the sunken areas of the punch. The punch reverse also appears to be broken in the third quarter lending weight to the theory that this is a much older die brought back into use with a newer obverse.



The following coins (Cat. 31-33) show a mill-sail reverse in combination with Pegasus standing left. Pegasus is very well rendered in a realistic standing pose with a visible groundline. Ravel placed these dies much earlier in his sequence due to the mill-sail reverse, but they are obviously much more sophisticated in style than the preceding experimental or unrealistic pose dies. This shows that either, until this point in the sequence, mill-sail and square punch reverses were used contemporaneously, or older mill-sail reverse dies were brought back into use at the mint when required.

The final group in this section begins with Cat. 34, obverse o26, which has Pegasus standing left. However, in their report on the Sakha hoard, Dressel and Regling reported that a combination of this obverse die with a mill-sail reverse was present. It may be possible that they were actually describing one of the coins in the last sequence, but the  $\phi$  is markedly different and one would expect them to have commented on this as their reports are generally meticulous, with any discrepancies or unusual features noted. Although no examples of this combination have been traced, it has been included as a viable combination in the catalogue. The same obverse die, o26, is also used with a square punch reverse.

Finally, unlinked, but with a similar standing Pegasus, the next two coins, Cat. 36 and 37, share the same obverse, o27. The wing is closer to the mane of the horse than on the previous die, and a flaw develops which links the tip of the wing to the mane. Both of these coins have a small square reverse punch which has begun to deteriorate between the first and fourth quarters.

### Plate 3

The die string starting with Cat. 38 again begins with a large-bodied Pegasus, obverse o28, in an unrealistic pose similar to the previous obverses, o20-o22. This string again shows how the unrealistically portrayed Pegasus is superseded by Pegasus standing and, ultimately, in flight. On stylistic grounds, one may be tempted to place the flying Pegasus (Cat. 41) at the end of this string seeing the flying Pegasus as the final type. However, new evidence from the Selinus hoard shows that the linking reverse die, r32, is still in a good condition when used with both obverse dies o29 and o30, so the flying Pegasus seems to be contemporary with the standing Pegasus.

The final reverse die in this string has a distinctive cut in the base of the insert in the second quarter. It provides a link to the next die string which begins with obverses o32 and o33 of standing Pegasus followed by a flying Pegasus type, obverse o34. By the time the flying Pegasus type is used (Cat. 46), reverse r33 has begun to deteriorate and is now flawed in the second quarter, thus confirming the position of the flying Pegasus type at the end of the sequence.

The next die string, which begins with obverse o32, linking it to the previous one, shows how the standing and flying Pegasus types are interspersed. The features on reverse r34 are still clear when it is used with obverse o35 (although this coin is worn) but, by obverse o36 (Cat. 49), it has started to deteriorate in the second quarter and at the left hand edge of the third quarter.

Finally, the string beginning with Cat. 52 links to the previous one with the reverse r34. In this string, one obverse die, o38, is used with four different reverses. An unlinked coin, Cat. 56, is placed at this point in the sequence and it has a very tall standing Pegasus in combination with a small square reverse punch. This has been listed as a new die (r39) but is obviously old as the square inserts have become broader and flatter through use, filling up the surrounding sunken areas. It is possible that this die is one which has already been listed, but given the condition of this coin, this cannot be proved. Regardless, the placing of Cat. 56 at this point is vindicated by the fact that, after this period of minting, Pegasus in standing pose went out of vogue and was not used again as a type until it was resurrected (in its archaic form) in the fourth century BC.

To recap, this first phase of the coinage shows the following developments. The initial issue of small, globular coins (perhaps on the Aeginetan model) is superseded by larger, flatter coins. Following this change, Pegasus is depicted in a variety of experimental styles which are used in tandem with both the mill-sail reverse and the square punch reverse. Then, Pegasus assumes his standard form, but is initially depicted in a range of unrealistic poses.

Following this phase, a standing Pegasus type is brought in which sees the mill-sail reverse brought back into use on occasions. Finally, as the standing Pegasus type was phased out, a new style flying Pegasus is simultaneously introduced.

The lack of die links, paucity of examples, and varying stylistic portrayals of Pegasus for the first 37 die combinations supports an early date for these issues, as does the Egyptian hoard evidence. Sakha, Mit Rahineh, Delta and Demanhur are all confined to this first phase of coinage.

#### **Plate 4**

This string begins with the run of flying Pegasus types with the r34 reverse die, which links to the preceding standing horse group (Cat. 47-50). The early flying Pegasus is a large-bodied animal with a deep chest.

The next linked string (Cat. 57-61) is followed by three unlinked coins (Cat. 62-4) which retain the large body of the horse. This group is followed by a string which has Pegasus with a large body but with the inside foreleg cocked back at a right angle. Although the styles of the obverses vary, the reverse linkage proves that these issues are contemporaneous.

Finally, an unlinked coin (Cat. 70) is placed at this point in the chronology. The horse has a smaller, more compact body. The north west Greece 1964 hoard has four coins in this grouping, all uniformly worn, so this die combination of obverse o50 and reverse r47, has been placed here based on the evidence of this hoard.

## Plate 5

These next two die strings are very interesting for several reasons. Firstly for the depiction of Pegasus, the style of which links the two strings.

The first string, starting with Cat. 71 and obverse o51, shows Pegasus as a small, neat horse with short angular legs placed close together. The wing comprises three long upright feathers while, on the body, the feathers are long and thin. This feature is best seen on plate 3.74. In the second string, commencing with obverse o52, Pegasus' forelegs are parallel at a right angle to the body, and the feathers of the wing on the body are shorter and thicker.

These two strings are also unified by the use of blundered reverse dies, with the possible exception of reverse r50 which, although very worn, looks like a conventional square punch reverse. That this coin is so worn is frustrating as this reverse die may have provided a link to another string. As it is, the positioning of these strings at this point in the sequence is rather arbitrary and is again largely based on the evidence of the north west Greece 1964 hoard. Although this hoard included some early coins, and six coins from the last phase of the period one coinage, where rounded inserts came into fashion, the other ten coins with the square punch reverse are all from this earlier part of the coinage. These coins have a similar degree of wear which suggests that they are contemporaneous, although by the time this hoard was concealed these coins have been in circulation for a long time.

The other interesting feature with these two strings is that three of the coins (Cat. 75a, 75b and 75c) are overstruck on Aeginetan coins, with the flipper of the turtle clearly visible. This discovery led to closer analysis of this group of coins with the obverses o51 and o52. These two obverses are used in combination with seven reverses. The weights of the surviving examples are very interesting. The weight of Cat. 74a is not recorded, but the other weights range from 8.82g (Cat. 71a) to 7.71g (Cat. 76g). Seven of the fifteen coins of known weight fall below 8.0g and only two (Cat. 71a and Cat. 77a) come close to the Corinthian standard of 8.60g.

It seems that this group of coins reflects a special issue occasioned by a large quantity of coins arriving from Aegina. The unique style of Pegasus and the blundered reverse suggest a new, or specially commissioned, die-cutter being recruited by the Corinthian mint. It is even possible to posit that the main mint of Corinth was supported by an auxiliary mint in special circumstances. It is hard to see how the manufacture of such crude reverses would have been sanctioned by the main mint and these dies suggest a “brief” being misinterpreted by the die-cutter. The fact that none of these obverses or reverses is muled with any other Corinthian die could also support this theory. Also, the erratic weights of the surviving examples suggests that the whole consignment of Aeginetan coins was modified for overstriking rather than being melted down.

The next die string commences with Cat. 78, obverse o53. This die is clearly old on this surviving example, as the wing is broken at the right hand side. At the end of this string (Cat. 81), linked through the reverse r55, comes a Pegasus in very distinctive style. Pegasus is a small, neat horse with a well-defined mane, clear bridle and a curved, well-shaped wing which has a distinctive border of dots along the body. This die, obverse o56, is also characterised by a flaw in the field before the knees of the Pegasus, which grows larger over time. This obverse is used with four reverses until finally the flaw is large enough to reach the head of the horse.

## **Plate 6**

The first string, beginning with Cat. 85, has two unlinked coins (Cat. 85 and 86) followed by three coins linked through the reverse r61. These are all the flying Pegasus type and have been placed at this point in the chronology on the evidence from the Selinus hoard. The nucleus of the period one coins from the Selinus hoard comprises the flying Pegasus type with square punch reverse with square inserts. The Selinus hoard contained no coins from the early experimental or standing Pegasus phases, and only one from the latest period one issue where the square punch reverse has rounded inserts.

## Plate 7

The placing of this group of coins at this point in the chronology is largely based on the fact that the square punch reverse has acquired rounded corners, which is a clear stylistic refinement. Also, one of the two unusual obverse dies with Pegasus facing right, obverse o83, uses a reverse die of square punch with rounded inserts, r77, which places this period of minting just prior to the final issues of the period one coinage.

The first coin in the sequence, Cat. 103, has a reverse r73 very similar to the reverse r74, but the corners of the square have not yet been rounded, hence its position at the head of the group.

Three reverse dies with the rounded corners are used (r74-r76) in combination with seven obverses, one of which has Pegasus facing right, obverse o81. The reason for the change in direction of Pegasus remains unclear. It may be the case that the right-facing Pegasus distinguished those dies which were destined to be sent to the auxiliary mint.

The final coin in this issue, Cat. 113, pairs a right-facing Pegasus, obverse o83, with the new style square punch reverse with rounded inserts, reverse r77, linking it into the next string on plate 8.

There are not many surviving examples from this period of coinage at Corinth, only five coins with Pegasus right and thirteen with Pegasus left survive. This suggests that this period of minting was relatively short.

## Plates 8 & 9

The final issues from the Corinthian mint, before the change in type to the period two coins, are characterised by the rounded form of the inserts in the square punch reverse. Stylistically, this is a refinement which places these coins at the end of a relative chronology of the period one coins.

This last period of minting, using the square punch reverse with rounded inserts, issued prior to the adoption of the head of Athena to the reverses, was prolific, with four obverses (o84-o87) used with eighteen reverse dies (r77-r94). The reverses link all four obverses showing that these dies were all in use contemporaneously. The latest reverses of this type acquire additional refinements such as a dot or a circle in the centre of the cross (e.g. reverses r82 and r94).

The relatively large amount of surviving examples of coins from this issue also suggests that this was a large and concentrated output from the mint. The coin from the Selinus hoard in this phase, Cat. 135a, belies the theory that these last period one coins may have been issued simultaneously with the new style issues bearing the head of Athena on the reverse. It is slightly worn, while the period two coins in the Selinus hoard are completely unworn. This evidence from the Selinus hoard also strongly suggests that the introduction

of the head of Athena to the reverse of the Corinthian coins was an innovation which was preceded by the demise of the square punch reverse coins as a type. However, if there was any break in striking coins at the Corinthian mint it is likely to have been very short.

### Plate 10

This period sees the introduction of the new style Corinthian coins with the head of Athena reverse. On the coin placed first in the sequence, Cat. 142, Athena is very small and archaic and has been badly fitted into the incuse square, which does not have a linear border. On all four surviving examples of this coin, Athena's necklace and the end of the queue are distorted as they merge with the bottom left corner and left hand side of the incuse square. The Pegasus used in combination with this reverse, obverse o89, sees Pegasus as a large-bodied animal, with a large wing and small head. The extended forelegs fall off the edge of the flan.

On the next coin in the sequence, Cat. 143, the Pegasus which has obverse o90, is virtually identical to the previous obverse, o98, but  $\phi$  is slightly larger and there are two small dots in the field between the  $\phi$  and the belly of the horse. The reverse of this coin, r96, shows a small archaic Athena, surrounded by a linear border, in a small incuse square. The unworn coin illustrated, from the Selinus hoard (plate 10.143), shows the distinguishing characteristics of this reverse die. There is a crack in the die which runs across the bowl of the helmet and down across the brow of Athena, then across the field to the linear border. Also, there is a small bump in the linear border just under where the queue and the necklace diverge.

The next group has been placed at this point in the chronology on both stylistic grounds and the evidence of the Selinus hoard. The first of these, Cat. 144, is clearly an early issue as the head, reverse r97, is small and very archaic in style, with characteristic big nose. This is teamed with an obverse die, o91, which is distinguished by Pegasus' very narrow neck and distinctive thick mane.

The next, unlinked coin, Cat. 145, has an obverse, o92, which shows Pegasus with forelegs curved round and no sign of  $\phi$  beneath the horse. This is teamed with a reverse, r98, which has an archaic head of Athena facing left. This die is distinguished by a flaw



which runs from the back of the helmet to the linear border, and a pronounced flourish at the end of the queue.

The reason for the change in the direction of the head of Athena is not clear, as the next coin, Cat. 146, uses the same obverse, o92, in combination with head of Athena facing right, which is the norm for this series of issues.

Finally, the obverse die, o92, is also used with reverse r99 which has a large archaic head of Athena in a slightly less well defined linear border than previously. This reverse die is characterised by a flaw which sees the bottom of the incuse square form a bump beneath Athena's necklace, and a flaw on Athena's mouth which obscures the detail of the lips.

The  $\phi$  cannot be seen on any of the surviving coins with the obverse o92, but this obverse appears worn in comparison with the reverses r98 and r99, suggesting that by the time these reverses were brought into use the obverse die o92 had already been in use for some time, in die combinations now lost.

The next unlinked string follows again both on stylistic grounds and on the evidence of the Selinus hoard. Cat. 147 has obverse o93 in an unworn condition. The reverse, r100, has a small archaic head very similar in size to the preceding reverse, r96. On the next coin, Cat. 148, obverse o93 has lost some detail through use, so the reverse, r101, must post-date reverse r100. On reverse r101, the head is positioned differently within the incuse square. On the final reverse paired with obverse o93, Athena wears a distinctive necklace of four large beads.

The following string has a similar Pegasus to o93, but on this obverse die, o94,  $\phi$  is positioned differently. The first two coins, Cat. 150-1, link to the previous sequence by the reverse dies r101 and r102. Reverse r103 is similar to r102, but the head is positioned differently within the incuse square. The next coin, Cat. 153, has a reverse r104, which shows the characteristic archaic head of Athena with large nose, but again, this is set at a different angle within the incuse square.

On the next linked string, Cat. 152-154, the obverse die o94, shows clear detail, but signs of wear are apparent from Cat. 153 onwards (although the only coin available for

illustration is extremely worn). Thus, the chronological progression of this string is confirmed. Additional confirmation comes with the final coin in this string, Cat. 154, using the reverse r105, which is clearly more sophisticated in style than the previous reverse dies. On this reverse the head of Athena is large, and the eye is more realistically rendered as is the nose which, on the more archaic dies is large and protruding and comes straight down from the brow.

The final linked string, starting with Cat. 155, uses the obverse o95 throughout. This string is linked to the two previous ones through all of the reverses, with the exception of reverse r106, which comes from the north west Greece 1964 hoard (Cat. 158a). This reverse die is very similar to r104, but the head is placed differently within the incuse square.

The reason for the change in direction of Pegasus in this string is not clear. The evidence from the Selinus hoard, whose period two coins are all confined to these issues, and the die linkage throughout, shows that dies having Pegasus facing right and Pegasus facing left are in use contemporaneously. Also, although some of the period two coins in the Selinus hoard are corroded, on those which are not, the detail is extremely clear, further proving that these coins (Cat. 142-159) were all struck at around the same time, or within a short space of time.

In terms of the stylistic development of this group of coins, the rather pinched face of Athena on reverse, r95, without linear border, has been placed at the head of a relative chronology. Judging by the paucity of surviving coins struck with these dies, this rather poorly executed reverse die was quickly abandoned. It is possible to theorise that the linear border was introduced to the reverse dies to provide a clearly marked field for the die-cutters to ensure that, when the head was placed in the field, it would not then be corrupted through use as the sides of the incuse square began to deteriorate. At the other end of the relative chronology of this initial group of dies, reverse r105 secures its place on stylistic grounds.

## Plate 11

This next group is unlinked to the previous one. Now the style of the Pegasus is a smaller and more cramped figure with rear legs drawn up and forelegs curved. The reduction in

the size of Pegasus and the change in the arrangement of the legs is perhaps adopted to better meet the requirements of the smaller and more dumpy flan which is used by the new style period two coins. On the earlier coins, where Pegasus was a large-bodied horse with outstretched legs, much of the head and the legs, often fell off the edge of the flan on a regular basis.

On the reverses the linear border is retained, although on later dies it is very thin and indistinct. The styles of head of Athena vary from the rather charming archaic reverse r107, to large and small heads of archaic style, some of which are more sophisticated than others. Compare, for example, the large, rather clumsy looking head of reverse r117, with the more subtle rendition on reverse r111.

The placing of this group of coins at this point in the chronology is based on the continued use of the linear border and the evidence provided by the reverse die r116. This appears in later use (Cat. 178) in a very deteriorated state. Obviously this die has been heavily used in the interim as, at this time (Cat. 170), it is still in good condition as the detail remains clear and the incuse square retains its shape. By Cat. 178, the incuse square has filled in to a great degree and become misshapen. Unfortunately, this evidence also confirms a gap in the sequence as the use of this die through its life is only recorded close to the beginning and at the end. There were obviously more coins struck by the Corinthian mint using this die, but they do not survive today.

There are six obverse dies used with twelve reverse dies at this time, which compares closely to the earlier period (plate 10, with seven obverses and eleven reverses), although now there are fewer surviving coins and less linkage. This may suggest that, unlike earlier, where there seemed to have been an intensive and prolific output from the mint, this was a more leisurely period of production. However, the evidence provided by reverse r116 strongly suggests that there are die combinations in use at this time which have not survived in the record, and this is very unfortunate. In all probability there were more obverse and reverse dies in use, and this must be borne in mind when using die figures to try and estimate mint output.

## Plate 12

The first string with Pegasus right (Cat. 173-178), is linked to the previous group on stylistic grounds as some of the reverse dies retain the linear border. A link is also provided by the re-use of the older reverse r116. The deterioration of the obverse o102, which can be charted by the loss of definition on the die and also the increasing die flaw along the edge of the wing and the rump of the horse, shows the chronological progression of the reverse dies. Thus reverse r116 is found at the end of this string in a very deteriorated form, but still recognisable by the characteristic “pursed” lips.

The deterioration of obverse o102 also shows that the linear border style is contemporary with dies which have no linear border, r120 and r123, and that the size of the head of Athena varies according taste or skill of the die-cutter.

The next string, beginning with Cat. 179, is unlinked to the previous one but has Pegasus left with no visible  $\phi$  beneath. On all surviving examples of coins with this obverse die, o103, the die appears worn which may suggest that it has been used for some time before striking these coins. It is possible, therefore, that the  $\phi$  has worn away through use. On reverses r124 and r125, head of Athena retains the linear border.

The string starting with Cat. 181 is similar to the first string as, again, reverse dies with linear border in the incuse square are used in tandem with those which have no linear border. As before, the head of Athena varies in size.

Finally, the string starting with Cat. 186 has an obverse, o105, of a small Pegasus, facing left, with a small wing and small  $\phi$  beneath. The reverse r131, unusually at this time, has head of Athena facing left. The other three reverses, r132-4, all have head of Athena facing right and placed at an angle within the incuse square.

## Plate 13

This string, beginning with Cat. 190, is linked to the previous one by the reverse die r131. This die shows head of Athena facing left. Also, like the preceding obverse, o105, Pegasus is flying left with a small  $\phi$  beneath. The linear border has disappeared as a feature after

reverse die r131. The head of Athena in this first string, linked by the obverse die o106, is of varying sizes, but is placed at a slight angle within the incuse square.

The next string has obverse dies, o107-8, very similar to o106, as both the Pegasus and the  $\phi$  are very small. They are linked to the previous group by reverse die r138. By now this reverse die, which had a small flaw in the field before the brow of Athena, has aged as the flaw has developed into a pronounced lump. This helps to secure the relative chronology of the dies in these two strings.

The final string is again linked by the flawed reverse r138. The obverse dies in use, o109 and o110 also have the small Pegasus and small  $\phi$ . Obverse o110 is not linked into the sequence but has been placed here because of the style as described above. After the issue of these coins, the  $\phi$  on the obverse dies becomes larger and more prominent.

The chronological development of the reverse dies shows that, as the linear border went out of use, the head began to be placed at a slight angle within the incuse square. The angle is slight at the beginning of the sequence, but from reverse r139 onwards, the angle is noticeable.

## Plate 14

The first string uses obverse die o111, which is very similar to the preceding obverse, o110. Pegasus is still small with legs drawn up near the body. This obverse is used with eight reverse dies, all of which have the head of Athena set at an angle within the incuse square. The first coin in the sequence, Cat. 204, has an unworn obverse die, o111. This die later picks up a flaw at the tip of the third feather in the wing, but this does not appear on Cat. 204 and Cat. 205 hence their place at the head of this string. From Cat. 206 the flaw on the obverse is visible. Cat. 206-8 all have as a reverse a small head of Athena set at an angle within the incuse square. The notable exception is Cat. 209 which has the head set upright in the square. This is unusual at this stage in the coinage.

By Cat. 210, the obverse die, o111 has become very worn and has had to be re-cut. The  $\phi$  has disappeared and the head and mane of Pegasus has been redefined by the die-cutter. In its worn state obverse o111 is used with two reverse dies which again have the head set at

an angle within the incuse square. Reverse die r150 is very like the preceding reverse r148 except the ear of Athena is slightly different and reverse r150 is free of the flaw which mars the necklace of reverse r148. Finally, obverse o111 is used with a reverse, r151, which has a larger head and Athena wears a necklace of five large beads.

The next coin, Cat. 212, is linked by the reverse r151. It is used with an obverse, o112, which has Pegasus at a similar size, but the wing is thicker and the forelegs are more angular.

Finally, the next group of coins has been placed at this point on the basis of the evidence provided by the Asyut hoard. Although the Corinthian coins in this hoard included six period one coins, and two from early in period two (Cat. 162a and Cat. 167d), the nucleus of the Corinthian coins present in this hoard have the small head of Athena set at an angle within the incuse square. Coins from the Asyut hoard appear in the previous string with the obverse o111. Although many of the Asyut coins are disfigured by test cuts, where the detail can be seen it would appear that the coins are not very worn. The lack of die-linkage between them does tend to support the fact that the period two coins in the Asyut hoard had been in general circulation for a short time before being sent to Egypt. This supposition is enhanced by the weights which are generally high showing that the coins had not been in circulation long enough to start losing weight through use.

Also, the north west Greece 1964 hoard, which contains later coins than the Asyut hoard, had period one coins and a small number of early period two coins. It has one period two coin, with linear border in the incuse square, and a small number of coins where the head of Athena is small and set at an angle in the incuse square. Thus Cat. 213a, from the north west Greece 1964 hoard, starts this small group of unlinked coins. The Pegasus has similar proportions to obverse o111, but has a thicker wing and a different  $\phi$ . The reverse, r152, has a small head with a pronounced archaic smile. The following three coins, Cat. 214-6, are all new dies from the Asyut hoard. Again, the proportions of the Pegasus are similar to the preceding obverse dies and, on the reverses, the small head of Athena is set at an angle in the incuse square. Finally, two coins, Cat. 217 and 218 are placed at this point in the chronology on stylistic grounds, as they have the same characteristics described above.

## Plate 15

This next group is placed here both on stylistic grounds and the evidence of the Asyut and north west Greece 1964 hoards. As in the last section, on the reverses of these coins the head of Athena is generally small and set at an angle within the incuse square. Also, Pegasus is small with legs drawn up. Here, five obverse dies are used in combination with eleven reverse dies. These issues are very similar to those on plate 14. The die linkage at this time, which sees reverse dies r158, r159, r161 and r167 link all but two of the coins together (Cat. 223 & 234), suggests that these dies were in use contemporaneously. The hoard evidence supports this. These coins are well represented in both the Asyut and north west Greece 1964 hoards. Unfortunately, the Asyut hoard coins were marked by test cuts and the coins from the north west Greece 1964 hoard were spoiled by extensive cleaning<sup>449</sup>, so comparative degrees of wear are very difficult to ascertain. This information might have given clues as to the relative chronology of the dies laid out on plates 14 and 15, but, in the absence of die-linkage, this must be inferred from the style of the dies themselves.

## Plate 16

The group of coins illustrated on plate 15 had, near its end, a very distinctive reverse die with head of Athena left (r167). The evidence from the Asyut hoard which contained only two of these coins (Cat. 232a and Cat. 232c, both from the same dies) suggests that r167 was brought into use near the end of the use of the left-facing Pegasus dies. This die, reverse r167, provides a link to this first string. Also used is the reverse r168, from the previous string on plate 15, on which the flaw is now much larger, securing the direction of the relative chronology. Finally, the reverse r159 is used again. By this time the bottom of the incuse square is losing some definition and encroaching on Athena's necklace and the top of the incuse square is now touching her helmet<sup>450</sup>.

The initial small string of coins linked by the obverse die o124 still retains Pegasus flying left in a style very similar to preceding obverse dies. This obverse is used with the reverses

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<sup>449</sup> Kraay, 1979, p.19

<sup>450</sup> As this is a unique coin and it has not been possible to get a photograph, a photocopy of Ravel's plate had to be used for illustrative purposes. This is unfortunate, but the salient details can still be seen.

r167 and r168, mentioned above, and also with reverse r170 which has a very small head of Athena.

The next string sees a notable change. Pegasus is now facing right on the coins. The pose of the horse has also changed, moving away from the rather cramped figure of the previous left-facing Pegasus, to a more vivacious galloping style. This change occurs within the life of reverse die r167, which is still in quite good condition, and is used with a very similar example, reverse r172, which is almost identical apart from small differences in the ear and the eye, indicating that the same die-cutter is responsible. The right-facing Pegasus style is employed on four obverse dies, o125-o128, which are used with twelve reverse dies. Apart from the left facing Athena heads mentioned above, the obverses all use the right-facing small head of Athena set at an angle in the incuse square.

The change to the right-facing Pegasus marks the latest coins present in the Asyut hoard, with two coins having the obverse o127 (Cat. 244e and Cat. 244f). The reason for the change in the direction of Pegasus and the change in style is not clear, but the evidence provided by reverse r167 shows that this is not a clear break in the coinage, but that the right-facing Pegasus is introduced while the left-facing version is still being used.

The final group of unlinked coins has been placed at this point in the chronology on stylistic grounds and on the evidence of the north west Greece 1964 hoard. These coins use an obverse die, o128, which has Pegasus right, but with forelegs outstretched. The four reverse dies used with this obverse (r177-180) have the small head of Athena set at an angle in the incuse square. Although this group is not linked to the previous string, the relative proportions and style of Athena suggest that these dies are probably contemporary with the “galloping” style right-facing obverses. The north west Greece 1964 hoard, which draws a small number of coins from the mint at this time, contains three coins of this style.

## Plate 17

This string, internally linked by the obverse o129, has a large Pegasus in a galloping pose facing right. It commences with Cat. 250 which has a reverse, r181, of a very small archaic head set at an angle in the incuse square. This reverse die is flawed and worn and this, along with the style of the head, shows that this die has been in use for some time before



being paired with the obverse o129. A similar sized head is used on the following reverse die, r182, although this die is in a better condition than the preceding one. Again, however, the head is set at an angle in the incuse square. Following these two dies, the obverse o129 is used with a further five reverses. The first two of these, r183 and r184, have a slightly larger head than the two preceding reverse dies, while the following three (r185-7) have a larger head set upright in the incuse square. The obverse die, o129, remains in a good condition throughout suggesting that this pool of reverse dies were in use contemporaneously.

The final three reverses, r185, r186 and r187, have been placed at the end of this linked sequence on stylistic grounds as the head is set upright in the incuse square. This, and the relative proportions of the head, suggests that these reverse dies are the latest in the relative chronology of this string. The reverse die r187 is important to the die study as it has been seen as overstruck by Acragas<sup>451</sup>. In view of the importance of this coin, therefore, it has been illustrated three times in the plates. Plate 17.256a shows the obverse and the reverse, plate 17.256b has better detail on the reverse, but the obverse is off flan. Finally, plate 17.256c shows how the die flaw on the bowl of the helmet becomes larger through use.

## Plate 18

The first string begins with Cat. 257 which has as its reverse the flawed die r187, in use in the previous string. The relative chronology of the progression of the dies is assured by the degree of wear of this reverse die. In addition to the flaw on the bowl of the helmet, the die is now cracked across the top of the helmet.

The obverse die used with the reverse r187 is obverse o130. On this die Pegasus has changed direction from the preceding series and is facing left. The horse is a very small and cramped figure, with legs drawn up under the body, and a very small  $\phi$  between the rear hooves and the hoof of the inside foreleg. The other two obverse dies in this group

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<sup>451</sup> Garraffo, 1984, *Acragas* 1. See p.192 ff. for further discussion and illustration of this coin.

(o131-2) are very similar to this, the only differences being the position of the legs of Pegasus and the size and position of the  $\phi$ . The obverse die o130 is the latest in the Isthmia hoard.

This group is characterised by large heads of Athena which have a prominent archaic smile, and which usually have extra detail at the end of the queue. The only exceptions to this are reverses r188, which has a slim, plain queue, and r195 which is very similar to r188, but which has a cross behind the head. The other reverses have heads which are set at an angle within the incuse square at the beginning of the sequence, while at the end they are set upright in the incuse square.

The reason for the change in the direction of Pegasus is not clear. These dies represent a radical change in style from those which both precede and follow them. The right-facing Pegasus in use on plates 17 and 19 is a large-bodied animal which is represented in a galloping posture, with forelegs extended rather than curled under the body. As the reverse die r198 is used in combination with both the right-facing and the left-facing Pegasus, the issues using obverses o130-2 must be broadly contemporary with the normal right-facing issues. It is possible to see this series as an issue of the auxiliary mint. At some times certain issues bearing the Corinthian  $\phi$  really stand out as very different from the usual issues (see earlier discussion in respect of the period one coins). In the sixth century BC the "quality control" of the auxiliary mint was substandard, as large margins of error in the weights of the coins as well as blundered dies were used, possibly produced by die-cutters at the auxiliary mint misinterpreting instructions.

It is tempting, at this point in the coinage, to see more close control by the main mint who now supply the auxiliary mint with dies when it is called into operation. Reverse r187 is an old and cracked die, used in combination with the new obverse o130 until new reverse dies for this issue have been produced for the auxiliary mint. When the auxiliary mint has ceased striking coins, the used dies are returned to the main mint, where those still in good condition are used again (for example, reverse r198).

In the absence of firm evidence supporting the existence of an auxiliary mint at Corinth, this assertion must remain hypothetical, but as the evidence from the coins themselves shows that the issues with obverses o130-o132 supplement the normal Corinthian issues rather than link them or carry forward the sequence chronologically.

## Plate 19

As noted in the previous discussion, this group follows the standards used by those dies on plate 17. Pegasus is right-facing and depicted in a galloping pose. The reverse die r198 is used again, and the other reverse dies in this string continue to be large heads, set upright within the incuse square. Apart from reverse r201, which has a large head and small plain queue, the other reverses used with obverse o133 have either large queues with a pronounced end (r198 and r205) or have queues which end in two sections.

Two unlinked coins, Cat. 282 and Cat. 283, have been placed at this point in the chronology on stylistic grounds. Cat. 282a, from the Corfu 1985 hoard, has a similar Pegasus, o133, to the preceding obverse with the horse in a galloping pose and a large  $\phi$  beneath. The reverse, r207, has a large head of Athena set upright in the incuse square. Cat. 283 also has Pegasus galloping right, o134, but the  $\phi$  (just in front of the rear hooves) is very small. The reverse, r208, has a large head of Athena, who is wearing a slight smile which is very similar to reverse r204.

## Plate 20

This group is linked to the previous one by the reverse die r198, which is used in combination with obverses o136, o140 and o141. The six obverse dies in use at this time are all very similar, showing Pegasus right with forelegs extended and a large  $\phi$  beneath. The reverses are also similar to those in the previous group, having large heads. One of these, reverse r209, is set at an angle in the incuse square. This die is very similar to some used earlier on plate 18. Reverse r209 is similar in size and position of the head to dies r188-r191. Other reverse dies in this sequence, such as r210, r211, r214 and r215, have the queue ending in two sections which is feature also seen on some of the reverse dies on plate 19.

Most of the die strings in this sequence are linked through the reverses. Reverse r209 links obverses o136 and o137. Obverses o138 and o139 are not linked to the previous dies, but on both the Pegasus is similar with forelegs extended and a large  $\phi$  beneath. The two reverses which accompany these obverses, r214 and r215, are set at a slight angle in the incuse square and both have a queue ending in two sections very like the reverse r211.

Finally, obverses o140 and o141 are linked to o136 by the reverse r198 which, in turn, links this sequence of dies to obverse o132 on plate 18 and obverse o133 on plate 19. This reverse, r198, remains in a good condition throughout, with no die flaws developing and no loss of detail. However, unlike the small, cramped Pegasus on plate 18 and the “galloping” pose Pegasus on plate 19, the Pegasus now used has forelegs extended and this style (with a few exceptions) endures from then on at the Corinthian mint. Therefore, although broadly contemporary with the previous sequences, this phase of minting moves further on, chronologically.

## Plate 21

This group sees four obverse dies in use, three of which are linked through the reverses. However, there is no link to the preceding group on plate 20. Only the style of Pegasus on obverse die o142, very like the preceding obverse die o139, places these coins at this point in the chronology.

The first string uses the obverse o142 in combination with five reverses. The order of this string is not easy to ascertain. Obverse o142 develops a flaw at the apex of the wing and mane over time. Thus Cat. 297, which shows this flaw in an advanced state would logically be placed at the end of the string. However, the reverse of this coin, r218, shows an Athena of a more archaic appearance than some of the other reverses. On reverse r218, the large archaic eye is retained along with a rather big ear and large chin. This die is also notable in that Athena’s hair, which normally comes down from the helmet in straight lines over the brow and in front of the ear (fig 9.1), is composed of diagonal lines which sweep across the forehead and around the ear (fig. 9.2).

NOTE Coins illustrated at larger than actual size to show detail.



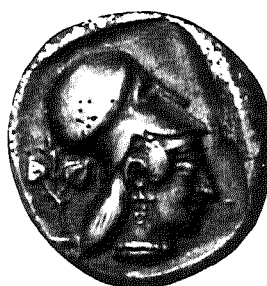
1. Standard straight hair



2. Hair swept across the brow.



3. Short hair with separate fringe.



4. Long hair with separate fringe.



5. Later hair in more realistic style.



6. Later short hair.



7. Later style queue

**FIG 9. ILLUSTRATION OF THE DIFFERENCES IN THE HAIRSTYLE OF ATHENA.**

Cat. 296, with reverse r217, also has a very archaic depiction of Athena. This die shows head of Athena set at an angle in the incuse square and has Athena with unrealistically “pursed” lips. However, the die flaw on the obverse is not advanced on this coin.

Cat. 298, showing the beginning of the flaw on the obverse has a reverse, r219, which must post-date the previous two reverse dies on stylistic grounds. On this die, Athena’s features are smaller and more delicately rendered.

Finally, Cat. 299 and 300 have reverses notable for depicting Athena with short hair. Cat. 299 has an unflawed obverse in combination with a reverse, r220, which shows Athena with short hair. The hair around the face is different from the normal style, described above, as it is clearly comprised of two sections. One very small square section covers the brow, while a separate larger section forms a triangle of hair which lies between the ear and the outside of the eye. Cat. 300 shows the flawed obverse in combination with reverse r221. This again has Athena with short hair and is very similar to the preceding reverse die, except the hair around the nape of the neck is shorter (fig. 9.3).

Thus, this small string has been laid out in accordance with the stylistic development of the reverse dies. The development of the flaw on the obverse, o142, shows that earlier reverse dies (r217 and r218) were brought back into use during the life of this obverse.

The next obverse die, o143, is not linked to o142, but the Pegasus is very similar although the  $\phi$  is smaller. Obverse o143 is also used with five reverses. Although some of the coins illustrated in this string are worn, the obverse remains in good condition throughout, so again, the order of this string is somewhat arbitrary. On the first three reverses (r222-r224) the remains of the incuse square are still visible, while on the two later reverses (r225 and r226) the incuse square appears to have become large enough to have fallen off the flan. However, the style of the head of Athena is very similar on all these reverses, so they were probably all in use at around the same time. The reverse r226 links Cat. 306. On this coin, only represented by one surviving example, Pegasus’ forelegs are curved inwards rather than outstretched.

Finally, the direction of the last string in this sequence, linked to the obverse o143 by reverse r224, is confirmed by the development of a flaw on the obverse die o145. This

flaw appears beneath the Pegasus and begins to obscure the  $\phi$ . The  $\phi$  is visible on Cat. 307, has been obscured by the flaw on Cat. 308 and, by Cat. 309, the obverse die has developed an additional flaw in the form of a line which runs across the remains of the  $\phi$  and which finishes at the tip of the rear hoof. Obverse o145 has, like o144, Pegasus with forelegs curved in, a style last seen on plate 19. This evidence shows that both styles of Pegasus were in use contemporaneously until the type with forelegs extended became the norm.

## Plate 22

The first four obverses in this group (o146-o149) are inter-linked through the reverses, but are not linked to the previous dies on plate 21. The first obverse, o146, has a flaw at the top of the wing, which is evident on all examples of coins bearing this obverse. It is used with six reverse dies, r229-r234, all of which have the tall head with slight smile which is similar to the reverses of plate 21. Reverse r232 links obverse o146 to o147, and o147 is also used with a reverse r235 which links obverse o148. Obverse o149 is linked to o146 by the reverses r232, r233 and r234. Thus the four obverses o146-o149 are contemporary and are used with a pool of nine reverse dies, all of which are very similar in style.

The final three obverses are unlinked to the preceding dies. Cat. 324 uses obverse o150, which is clearly a very old and degraded die, in conjunction with a reverse r238, which is very similar to r233 in the preceding string. Cat. 325 uses obverse o151 which, although slightly off the flan, is clearly an old die as the head of the Pegasus is broken with the lower jaw is missing. This obverse is used with reverse r239 which links it to obverse o152, a newer style die similar to obverse o149. Finally Cat. 327 uses the same obverse, o152, with a reverse r240 which is very like r 239 only slightly larger.

Thus the evidence of these dies suggests that this was an intensive period of minting which necessitated much older obverse dies being brought back into use. The surviving number of examples of these die combinations supports the theory of an extensive issue.

## Plate 23

This group is unlinked to the previous one. It is characterised by a change in both the direction and form of Pegasus. In this sequence Pegasus now faces left and is a small horse with bent forelegs and rear legs drawn up close to the body. The form of  $\phi$  used on the obverse dies o154-o157 is notable in that the loop of the  $\phi$  is bisected by a line<sup>a</sup>. In contrast, the reverses used are mainly in the style of the preceding reverse dies, namely Athena with a tall head and slight archaic smile.

The first coin, Cat. 328, is unlinked but must be placed at this point in the chronology due to the change in the direction of Pegasus and the similarity of the reverse, r241, with the rest of the reverses used in this phase. On the obverse o153, Pegasus has the bent forelegs, and rear legs close to the body, but the  $\phi$  is small and of conventional form. From obverse o154 to o157, the new-style  $\phi$  is used, and these four obverses are used with a pool of nine reverses, six of which, r242-r247, also provide links between all the obverses. The only notable feature of these six reverses is that reverse r247 has the end of the queue in two parts which echoes earlier dies (see r211, r214 and r215 on plate 20).

Cat. 344, linked to the sequence by the obverse o157, represents a clear departure from the Corinthian norm. Now, Athena has a larger head, is wearing an earring and has a spring of ivy behind her head. The three reverses in this style have small variations. Reverse r248 shows the queue ending in two parts, and the sprig of ivy comprises two leaves with three berries above. This reverse die is also used by Ambracia<sup>453</sup>. On reverse r249, the end of the queue is off the flan, but on this die the ivy leaf nearest the head is smaller and is inclined in towards the helmet. The outside leaf is off the flan, but the ivy does not have the three berries above as before. This coin is also linked by the obverse o157. The final coin in this style, Cat. 346, has the reverse r250. This is unlinked, but must be contemporary with the other two dies. As on reverse r248, the end of the queue is in two parts and again, there are small differences in the ivy sprig. This coin is notable as it is uses a much older style obverse, o158, which is similar to obverse o110, last seen on plate 14.

<sup>a</sup> See p.197ff. for a discussion on the use and forms of the Corinthian *koppa*

<sup>453</sup> Ravel, 1928, *Ambracia* 8a. The importance and implications of this are discussed more fully in the absolute chronology section.



The position of these ivy sprig issues at the end of this string is assured on stylistic grounds, as on the following reverse dies, the earring remains a feature, although the ivy sprig motif is confined to these three dies.

As in the last sequence, the inter-linkage suggests a period of intensive minting with the special issue ivy sprig dies coming into use at the end. The direction and style of Pegasus suggests a special issue from the auxiliary mint, running parallel to plates 22 and 24.

## **Plate 24**

Here, Pegasus returns to a right-facing position with forelegs extended. On the reverses, Athena generally wears an earring. This group is unlinked to the previous one. It uses five obverse dies, o159-o163, in conjunction with fifteen reverse dies.

The first obverse, o159, has a large Pegasus with forelegs extended and  $\phi$  beneath, very similar in style to the obverses o146-o149 used on plate 22. The progression of this string is confirmed by the condition of the obverse die. The  $\phi$  (which appears to have a dot in the middle) progressively wears away through use until only the tail is clear. The chronological progression of this string is supported by the style of the reverses. The smaller heads on reverses r251-r253, are superseded by the larger heads of reverses r254-r255, both of which have extra detail at the end of the queue. Reverse r255 is particularly notable as there is a bar on the earring and the hair on Athena's forehead sweeps across her brow and around the ear in a comma shape.

Still linked by obverse o159, Cat. 352 also has a large head of Athena, but the hair is characteristically straight, coming down from the helmet in straight lines over the brow and in front of the ear. The final coin in this string, Cat. 353, has the hair again curving round the ear in a comma shape, similar to reverse r255.

Obverse o160 uses reverses r253 and r256, both of which were used by obverse o159, but obverse o161 is not linked to the preceding dies. The direction of this string is confirmed by the presence of a flaw on the obverse die, o161, under the belly of the horse, which increases in size through use of the die. The first coin in this string, Cat. 356, is notable as Athena is depicted in the older style (compare r244 on plate 23) and does not wear an

earring. The next coin, Cat. 357, has a reverse r259 which has a large head and straight hair, similar to reverse r256 (plate 25.357a best shows a slight dent on the chin which distinguishes these two dies). On the next coin, Cat. 358, the flaw on the obverse o161 is larger<sup>454</sup>. The reverse r260 has the fringe of Athena in two parts (fig. 9.4), as on the ivy sprig issues (Cat. 344-346). The final two coins in this string, Cat. 359 and 360, are similar in style, while the flaw on the obverse die is very advanced thus securing their place at the end of this string.

The final string, linked to obverse o159 through the reverse r254, uses two obverses, o162 and o163. Both of these obverse dies are similar in style to the preceding obverses o159-o160, while the reverses have Athena's fringe in two parts. These reverses are very similar in style and dimension to the ivy sprig issues (compare r265 and r266 with r248-r250 on plate 23)

Thus the evidence strongly suggests that the issues on plate 23, where the direction of Pegasus changed, were issues which ran parallel to those of plate 22 and 24. These issues, probably by the auxiliary mint, were distinguished from those of the main mint by the direction of Pegasus. The bulk of the issues on plate 23 were linked and the style of the reverses suggests that the mint was in operation for a relatively short, but intensive, period of striking. At the very end of this period, the special ivy sprig dies were brought into use. The main mint had already been issuing coins with the earring reverses for some time before this happened.

This is suggested by the experimentation with the hair detail on the reverse. Up until the earring issue, Athena always wore straight hair comprising straight lines coming from the helmet down over the brow and in front of the ear (fig. 9.1). (The only notable exception was r218, but even in this case the hair still comprises straight lines, albeit running in a slightly different direction). The earring issue coins saw, for the first time, Athena's hair rendered in two parts, presumably to make it more realistic looking (fig. 9.2).

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<sup>454</sup> Although the coin illustrated is double struck.

Thus there is strong evidence, therefore, that the ivy sprig issue marked a very special occasion necessitating coins struck at the auxiliary mint, which still had the latest die of its previous output, obverse o157, but which hastily had to bring in another, older die, to help with production. A coin from Ambracia bears the same reverse as one of the Corinthian issues (Cat. 344) so the auxiliary mint was used to strike coins for Ambracia and may have later issued coins for other colonies as well<sup>455</sup>.

## Plate 25

This group begins with Cat. 367, using the obverse o164. On this die, the  $\phi$  is faint in earlier use and then disappears altogether over time, confirming the direction of the sequence. The first string is linked to the previous sequence by the reverse die r264, still in good condition. Again, like the final string of the last sequence, Athena's fringe is in two parts (the detail of this is best seen on plate 25. 367b) and there is extra detail at the end of the queue. The next coin, Cat. 370, is unlinked, but Athena wears an earring. The obverse die, o165 is old and has been re-cut, and the  $\phi$  is very faint. The reverse, r269 has hair very similar to the earlier reverse r218, unusually sweeping across the brow diagonally. The final four coins are also unlinked, but still retain the earring. Cat. 371 and 372 both have reverses with the fringe in two parts. Cat. 373 and 374 are unique examples and it has not been possible to get photographs of them. Cat. 373 has a reverse r272, which seems to have a large head with straight hair, similar to reverse r259. Cat. 374 has a head with a distinctive long, curved queue. In the cases of both coins the finer detail cannot be seen on Ravel's plates. The positioning of these last five coins (Cat. 370-374) at this point in the chronology is somewhat arbitrary, and does not suggest that they were the last of the earring issues. However lack of die links makes them stand alone, and they have thus been placed at the end of this group.

## Plate 26

This new period of minting is not linked to the previous one in which Athena wears an earring. Now, the reverse has a  $\phi$  in the field behind the head. Pegasus remains facing

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<sup>455</sup> See absolute chronology section.

right with forelegs outstretched. The first string commences with obverse die o170 which is used with five reverses. As the condition of the obverse remains good with no die flaws or loss of detail, this string has been ordered according to the style of the reverses. The first coin in the sequence is Cat. 375, which uses reverse r274. This has a very small head of Athena within a small incuse square which is notable, as in the preceding sequences the head of Athena and the incuse square has been increasing in size. This coin is followed by three others, Cat. 376-378, which have larger heads and the fringe in two parts, but rather pinched looking faces with pointed noses. The final coin, Cat. 379, has a larger head still.

The next string, using obverse o171, which differs only from obverse o170 in the position of the rear legs, is used with three reverse dies. On these again the head becomes progressively larger. The final coin, Cat. 383, is linked through the reverse r281. The detail of the reverse of this coin is best seen on plate 26.383b.

As with the final group of coins on plate 25, the placing of these coins at this point is expedient rather than proven through die linkage. The next plate, plate 27, comprises reverses all linked by a single obverse, and the following one, plate 28, links into later issues.

## **Plate 27**

These coins are linked to the previous ones through the reverses r276, r279, r280 and r281. It is an unprecedented issue in the Corinthian coinage at this point as a single obverse die, o173, is used with a stock of nineteen reverses. The direction of the string can be charted by the condition of the obverse die. Over time it deteriorates, firstly becoming flawed above the wing and head of the Pegasus, and ultimately there are die flaws in all of the field immediately surrounding the horse. At the end of its life, the head of Pegasus becomes broken and misshapen, and all but the utmost tip of the  $\phi$  is obscured.

This remarkable series shows the range of different styles of reverse die available to the Corinthian mint at this time. On six reverse dies, r282, r283, r284, r285, r291 and r292, Athena faces left, while on the remaining dies she faces right. The hair is straight in the conventional style on some dies (notably r280, best seen on plate 390a) and the fringe is in.

several sections on others, such as r284 and r279. On later dies, reverses r291, r293-r296, the archaic eye disappears.

## Plate 28

Now, five obverse dies are used with seven reverse dies. Athena still retains the  $\phi$  behind the head. Obverse o175 is linked to obverse o176 through the reverse, r300, and obverse o178 is linked to the previous obverse o173 on plate 27 through the reverse die r292. Given the relative dimensions and style of the reverses, both in respect of Athena and the incuse square, the group of coins Cat. 403 to 410 are probably contemporary with the previous sequence.

However, the last two coins, Cat. 411 and 412, which are linked to the previous phase through the o178/r292 combination of Cat. 410, clearly stand at the foot of a relative chronology of these issues. On both of these coins the  $\phi$  behind the head is now accompanied by a crescent shape, and Cat. 412 has lost the archaic eye. The  $\phi$  and crescent motif provides a stylistic link to the next sequence.

## Plate 29

This group sees three obverse dies used in combination with eight reverse dies of varying styles. The dies with  $\phi$  and crescent behind the head of Athena provide a stylistic link with the previous coins, but there is no die linkage with the previous string. However, now all the obverses are linked through the reverses. Reverses r304-6 link obverses o179 and o180, while reverses r309 and r310 link obverses o180 and o181.

Athena is shown with both long and short hair and faces both left and right on the reverses, although Pegasus continues to face right. On all reverse dies showing Athena with short hair<sup>456</sup>, she also wears an earring and the archaic eye is not used, although it still appears on some of the  $\phi$  and crescent reverse dies.

The progression of the state of wear on obverse die o180 confirms that the short hair issues are at the end of a relative chronology of the reverse dies used with this obverse. On

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<sup>456</sup> The so-called "Myron" issue.

obverse o180, the inside feather of the wing breaks off through use, leaving a larger space between the mane and the wing. A further flaw develops at the tip of the wing. In tandem with this, a flaw develops across the field of the die, and this eventually bisects Pegasus' front hooves.

Obverse die o181 has a Pegasus with rather oddly cut forelegs, which point back into the field in an unrealistic manner. On the reverses which are used with this obverse, the incuse square is large but still retained. This feature is best seen on plate 29.424b. Finally, on Cat. 425 a trident symbol has been placed behind head of Athena.

### Plate 30

At this time, features which had started to appear at the end of the last group, such as the varying hairstyle of Athena and symbols behind the head, now become the norm. In addition to these changes on the reverses, Pegasus is also depicted with both curved and straight wing<sup>457</sup>. These innovations have led to this period of coinage being dubbed "transitional" as these coins represent a clear break from the earlier archaic issues, but have not yet reached a fully classical form. This is a very important plate as it shows the range of styles of both the obverse and reverse dies developing.

Cat. 425, with short hair, earring and trident symbol behind, features from the previous string, is clearly related to this final transitional group which is characterised by the diversity of the reverse dies as well as the simultaneous use of Pegasus with both curved and straight wing. The remains of an incuse square can be seen on Cat. 426, Cat. 433, Cat. 437 and Cat. 440, but on the other coins it is impossible to say whether the incuse square is now so large that it has fallen off the flan, or whether it has been abandoned altogether.

The first string, commencing with Cat. 426, shows the remarkable diversity of styles of reverse dies available over the life of one obverse die, o182. This obverse is very similar to obverse o179 in the preceding section, as Pegasus is still facing right with forelegs extended and has a small  $\phi$  beneath. Cat. 426, with reverse r312, has head of Athena right with hair in a queue, wearing an earring and with a trident symbol in the field behind the

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<sup>457</sup> The possible reasons for these changes are fully discussed in the absolute chronology section.

head. The earring and the trident symbol provide a stylistic link to Cat. 425 in the last group, although here Athena's hair remains in the standard queue. The remains of the surrounding incuse square are also visible on this coin.

The next linked coin, Cat. 427, has a reverse, r313, which is similar to r312 except that the head is slightly larger and the trident is placed in a different position behind the head. However, the next coin, Cat. 428, with reverse r 314 has head of Athena left. Her queue is composed of thick, wavy hair, loosely tied at the bottom, and she does not wear an earring or have a symbol behind the head. Cat. 429, reverse r315, is similar except that the queue is now woven into a plait, and Cat. 430 with reverse r316 has Athena in a helmet which has now gained a neckflap, and her hair flows loosely down from under the helmet.

The obverse, o182, remains in a good condition throughout this string, which can only mean that the five different styles of reverse were available for use within a fairly short period of time.

Next is Cat. 431, linked by the reverse r312. This obverse, o183, is very similar to o182 except for small differences in the detail of the tail and the wing. However, the proportions of the Pegasus, the "frisky" tail, and the very small  $\phi$  suggest that the same die cutter was responsible for both obverse dies.

The next string commences with Cat. 432 which is linked to obverse o182 through the reverse r315, Athena with plaited queue. However, the obverse of this coin, o184, has the new-style Pegasus with straight wing. On this die, Pegasus faces left and has a much more realistically portrayed straight wing which sweeps upwards and backwards over the rump of the horse. There is also a small  $\phi$  beneath Pegasus (very faint on the illustrated example).

The continued good condition of reverse r315 strongly suggests that the obverses o182, o183 and o184 were in use contemporaneously.

Cat. 433, is not linked to the previous dies, but on stylistic grounds it is placed at this point in the chronology. The obverse, o185, has Pegasus right with small  $\phi$  beneath. Pegasus has the new straight wing, although on this die it is taller and slimmer than o184 which,

with the bulge in the leading edge, is almost bird-like in appearance. This obverse is teamed with a reverse, r317, which has head of Athena right, wearing an earring and which also has the trident symbol behind the head. This reverse is very similar in style to reverse r313, except that the head is slightly larger and the trident more elaborate in execution. The obverse, o185, links the next coin, Cat. 434, which has reverse r318. On this reverse, Athena still retains the earring and trident motif, but now her hair hangs loosely down in ringlets from under the helmet.

The next string commences with Cat. 435 which has obverse o186 showing Pegasus left with a curved wing and small  $\phi$  beneath. The first reverse used, r319, has head of Athena right. The style is similar to the previous reverse, r318, but Athena no longer wears an earring and the head is slightly smaller. Linked to this through the obverse o186, is reverse r320, similar to r319 but the head is slightly larger<sup>458</sup>. This same reverse r320 now links Cat. 437 which has the obverse o187. This is similar in style to o186, but the Pegasus is slightly smaller. Finally, Cat. 438, again linked through reverse r320, has an obverse, o188, of Pegasus right with the straight wing. Again, the reverse, r320, of all three coins remains in a good condition, so the obverses o186, o187 and o188 must have been in use contemporaneously.

Finally, the last string in this transitional phase begins with Cat. 439. This has an obverse, o189, of Pegasus left with curved wing. Pegasus has a murex shell beneath and the  $\phi$  is now placed in front of the horse<sup>459</sup>. This obverse is teamed with reverse r321 which has head of Athena left, with loose hair in ringlets flowing down from under the helmet. On this die there is a cockle shell behind the head of Athena. Cat. 440, is not linked, but the murex shell motif on the obverse provides a link on stylistic grounds. Cat. 440 uses obverse o190, which is very similar to o189, again having the murex shell beneath Pegasus and  $\phi$  in front, except that the horse is slightly larger and the wing is fuller. On this coin, the reverse, r322, has head of Athena right. Athena's helmet has now gained a neckflap and short ringlets of hair hang down from beneath this. There is also a  $\phi$  in the field behind the head. Obverse o190 links the next coin, Cat. 441, which has reverse r 323, very similar to r322, except that the  $\phi$  behind the head is smaller and set further away from the helmet.

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<sup>458</sup> The majority of the trident is off the flan.

<sup>459</sup> The coin illustrated is very worn, but the  $\phi$  is just discernible before the chest of the horse.



Finally, the last coin in this string uses reverse r323 to link obverse o191. This die shows Pegasus right with straight wing and  $\phi$  beneath. This obverse is very similar to obverse o185.

This string sees the end of the curved wing Pegasus as a type<sup>460</sup>, and the various renditions of Athena with hair in a queue. Although a small number of reverse dies used with straight wing Pegasus obverses (which do not link to any other dies) have the hair loose in ringlets and no neckflap to helmet<sup>461</sup>, from now on Athena's hair is in the form of small ringlets appearing from under the neckflap of the helmet, the Pegasus has the straight wing and symbols are generally used in the field behind the head of Athena<sup>462</sup>.

It is clear from the varying styles of Athena on the reverse of the coins in this transitional phase, and the die linkage, that both the curved wing and straight wing Pegasus types were in use contemporaneously during this phase of the coinage.

These dies are of critical importance to the chronology of the Corinthian coinage particularly in respect of the widely held belief that Corinth ceased issuing coinage at some point during the Peloponnesian War. They are discussed in greater detail in the absolute chronology section of the thesis which draws together the findings of the die study as well as all the other available evidence in an attempt to arrive at an absolute chronology.

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<sup>460</sup> A standing Pegasus with curved wing was used in the fourth century BC.

<sup>461</sup> Ravel, 1936, Cat. 322-4.

<sup>462</sup> This period lies outwith the scope of this thesis but is discussed in the chronology section.

## 5.2 Overview of the die study

The evidence from the die study shows that the development of the Corinthian dies is as follows. The early experimental Pegasus types are superseded by the Pegasus in unrealistic pose, then the standing Pegasus and, finally, the flying Pegasus type. Then, come the flying Pegasus types with square punch reverse with square inserts which, apart from the obverse o51 and o52 groups, are generally unremarkable. Later, the square punch reverse acquires rounded corners. This apparently small and short lived issue seems to have slightly overlapped with the introduction of the final group one issues. Here, the square punch reverse with rounded inserts is adopted, which sees a large and concentrated issue of coins from the mint. The evidence from the Selinus hoard strongly suggests that the group one coins were then abandoned as a type, with the new head of Athena reverse type being solely used by the mint.

Special occasions or unexpected arrivals of large amounts of silver at the mint apparently occasioned a departure from the usual mint standards, or the use of an auxiliary mint.

The die study of the group one coins also confirms the use of coins from Aegina, Athens, Corcyra and other cities (which had an incuse square type) by the Corinthian mint. The overstriking of these other coins by the Corinthian mint(s) had varying degrees of success. The preparation of coins to provide flans for Corinthian coins resulted in Corinthian coins with weights often substantially above or below the normal Corinthian standard of 8.60g.

However, these coins which show traces of the undertype confirm scientific analysis of Corinthian coins which showed that the silver used in their manufacture came from Laurion, a source in common with that used by Aegina (Siphnos being pre-eminent) and a third, unknown, source. The wappenmunzen overstrike confirms the use of Athenian coin by the Corinthian mint, the Aeginetan overstrikes show that the silver from a source common to that of Aegina is most likely from the Aeginetan coins themselves, and the third, unknown, silver source is Corcyra perhaps supplemented by coins from Thrace and Macedonia which used the incuse square device.

Despite the overstrike evidence confirming the sources of the silver used for the Corinthian coins, this evidence from the group one coins is not helpful in terms of dating, as often it cannot be determined if the underlying type was currently in use or had been obsolete for some time. The same applies to those coins of other mints which have used Corinthian coins as flans (see Corinth in Italy and Sicily for detailed discussion). The only fixed date available is from an overstrike at Taras<sup>463</sup>. Obverse o81 or o83 which has a right-facing Pegasus, and which comes just before the final issues using the square punch reverse, is overstruck by a Tarantine dolphin rider incuse issue c500BC. Thus, the Corinthian issue cannot have been issued later than 500BC, but again there is no way to tell how old the Corinthian coin was when it was used at Taras. The absence of useful overstrike evidence in respect of dating this phase of coinage means that the group one coins cannot be considered in isolation.

The hoard evidence has played a critical role in the ordering of the sequence. It has provided new dies, die linkages and other evidence such as wear, which secures the sequence and illuminates the relative chronology of the group one coins from the Corinthian mint. Likewise, the die study has also had repercussions on the hoards themselves, but this is fully discussed elsewhere<sup>464</sup>.

The die study also shows that group one of the Corinthian coinage saw 88 known obverse dies and 94 known reverse dies used. These figures are substantially higher than those uncovered by Ravel in his 1936 study (table 11)<sup>465</sup>. Numismatists who have tried to estimate the output and duration of the early Corinthian coinage have all used Ravel's figures. However, the evidence from the die study shows that the dies cannot be seen in the context of simple linear development.

The earliest experimental pegasi are characterised by the archaic and widely differing renditions of Pegasus, a lack of die links, and a paucity of examples. This evidence confirms the place of the earliest pegasi at the head of a relative chronology, and the arrangement of the sequence as laid out on plates 1 and 2 is confirmed by the hoard evidence. The Sakha

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<sup>463</sup> Garraffo, 1984, *Taranto 1a*

<sup>464</sup> See appendix.

<sup>465</sup> His totals being 65 obverse and 67 reverse dies.

Plate no.	No. of obverse dies	No. of reverse dies	Comments
1	14	17	
2	13	13	
3	12	9	includes 3 "new style" flying pegasi
4	11	8	
5a	2	7	Parallel issue
5b	4	4	
6	8	6	
7	9	5	
8 & 9	5	17	
Total	78	86	
	76	79	Parallel issues removed

TABLE 11. TOTAL NUMBER OF DIES FOR THE GROUP ONE COINAGE.

hoard, which contained eight Corinthian coins, comprised one early globular issue, four experimental Pegasus types, two standing Pegasus types and an early flying Pegasus type.

Although corrosion makes it difficult to assess the degree of wear on these coins, they do seem as if they spent some time in general circulation before being deposited in the hoard. Therefore, it seems likely that all these types represent the Corinthian coins in general circulation and use at a particular point. This evidence supports the hypothesis of a relatively short time for the Corinthian mint moving from the earliest globular issues to the flying Pegasus type.

The next coins to be struck were the unrealistic pose Pegasus types and this is confirmed by the Mit Rahineh hoard which has an early globular issue and one, possibly two, unrealistic pose Pegasus types. However, three out of the four coins in this hoard had the square punch reverse, so in a relative chronology, the Mit Rahineh hoard must be later than the Sakha hoard.

Therefore, the globular, experimental, and unrealistic pose Pegasus types are at the head of a relative chronology. Although there is no linkage between the dies represented on plates 1 and 2, the large, crude square punch reverse die used by the latest experimental Pegasus (Cat. 18 and 19) is very similar to the reverse dies of the unrealistic pose Pegasus types on plate 2 (Cat. 20-22). Also, plate 2 sees the re-use of the older mill-sail reverse on the standing Pegasus (Cat. 31-34) and on an early flying Pegasus type (Cat. 30). So, allied with the Egyptian hoard evidence, this sees the dies on plates 1 and 2 fairly close in chronological terms, although those on plate 2 clearly advance the sequence. Plate 3, not linked to plate 2, sees a mixture of dies in use, encompassing the unrealistic pose types, standing Pegasus and flying Pegasus types.

The majority of dies at this time are the standing Pegasus type, which seem to have come into fashion at a point after the unrealistic pose Pegasus types. The evidence from the die study suggests that as the unrealistic pose issues were succeeded by the standing Pegasus type, these in turn were phased out as the flying Pegasus became the norm. The flying Pegasus introduced at this point in the coinage is rendered in a much more realistic manner than the large-bodied, rather clumsy looking flying Pegasus dies used in the plate 2 issues, so while plate 3 has a slight overlap at the beginning with plate 2, it advances the

chronology quite a bit further. Although the standing Pegasus type and early flying Pegasus type appeared in both the Sakha and Demanhur hoards, the new style flying Pegasus does not. This suggests that the standing Pegasus type effectively ends the earliest phase of coinage issued by the Corinthian mint. By this time, 36 obverse<sup>466</sup> and 39 reverse dies have been used by the Corinthian mint.

By the end of plate 3 the new style flying Pegasus was appearing, so again there is a slight overlap between plates 3 and 4. Plate 4 comprises the flying Pegasus type in combination with the square punch reverse. On these dies, Pegasus is a large-bodied animal with a deep chest and thick legs. This style precedes the dies on plate five (o53-o56), where Pegasus has a better proportioned body and thinner legs. However, there is strong evidence for the coins using the obverses o51 and o52 emanating from an auxiliary mint at Corinth. That is, rather than elongating the chronology by adding dies to the sequence, it seems more likely that the coins struck with these dies (obverses o51-2) were issued at the same time as the flying Pegasus types which span plates 4, 5 and 6 (see fig 10).

The dies on plate 7 are mainly characterised by reverses which have rounded corners to the incuse square, and these end with the square punch reverse with rounded inserts type coming into use. There are also the two dies with right facing Pegasus, an inexplicable change in direction for the horse. It seems likely that this phase of minting was not very prolific<sup>467</sup> and relatively short lived. These dies, therefore, seem to come into use at the end of the standard flying Pegasus issues of plate 6 and slightly overlap with plates 8 and 9 which see the square punch reverse with rounded inserts brought into use.

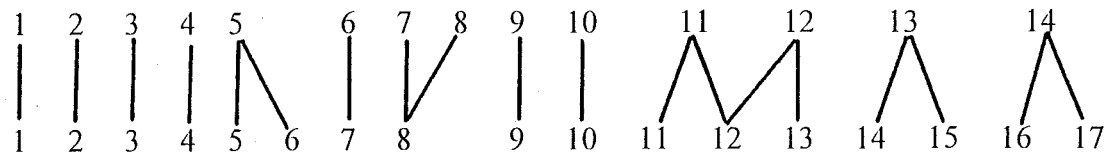
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<sup>466</sup> Removing the three "new style" flying pegasi dies (o34-36)

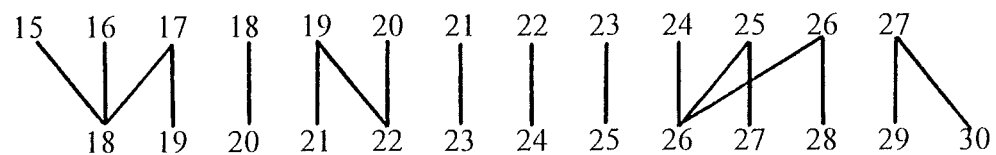
<sup>467</sup> Only 18 coins from this phase survive.

FIG 10a: THE DIE LINKAGE OF THE GROUP ONE COINAGE (PART 1)

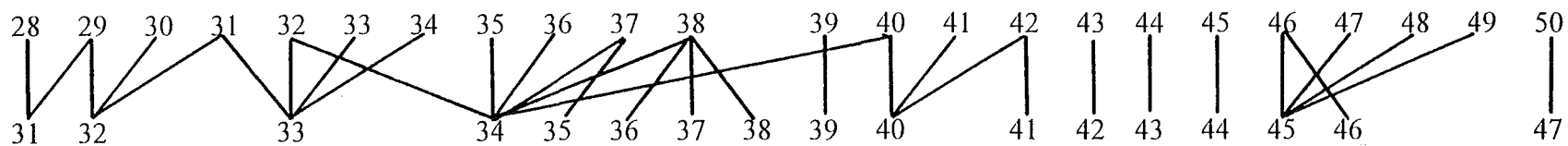
### Plate 1



### Plate 2



### Plates 3 & 4



### Plate 5

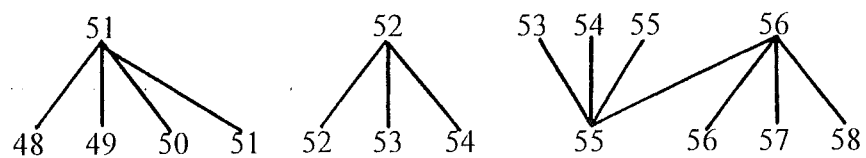


FIG 10b: THE DIE LINKAGE OF THE GROUP ONE COINAGE (PART 2)

Plate 6

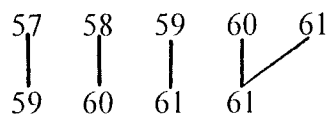
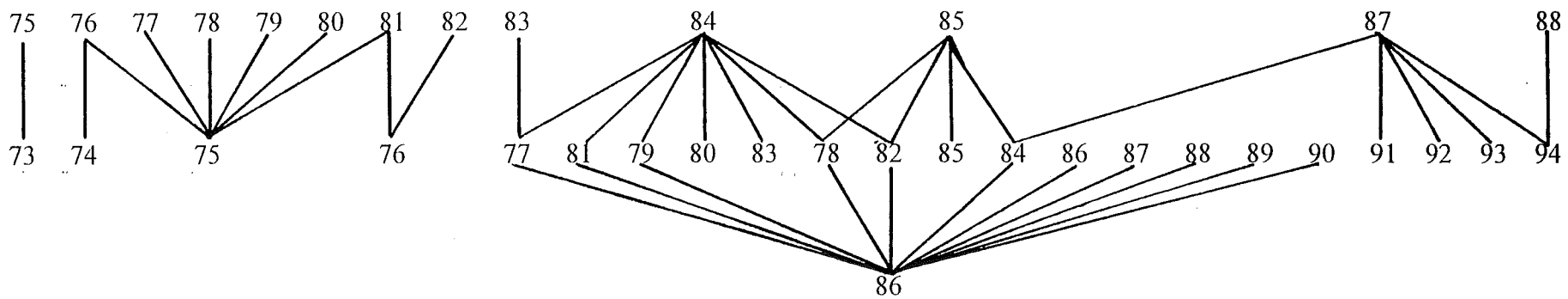


Plate 7-9





Finally, plates 8 and 9 see five obverse dies used with a pool of 17 reverse dies, all of which have the square punch reverse with rounded inserts. This suggests that the dies on these plates are in use contemporaneously and that plate 9, which has dies with some refinements like a dot or a circle in the middle of the square punch reverse, carries the sequence on slightly further than plate 8, to the end of the group one coinage.

Thus, the evidence from the die study shows that the Corinthian mint issued coins on a regular basis throughout the group one coinage, and the output seems to have been steady without any noticeable breaks as the die chart shows (see fig.10).

The evidence also strongly suggests that there were times when special issues were struck or an auxiliary mint used. Therefore, although the dies for the phase one coinage number 78 obverses and 86 reverses, two obverses and seven reverses are more likely to have supplemented the sequence rather than added to it, and this point is of critical importance when trying to estimate the duration of a coinage based on the available number of known dies.

Although one cannot ignore the inherent bias in the weights in terms of accidents of survival, discovery, corrosion and weight loss through cleaning, it seems to be the case that more often than not, the Corinthian mint did not achieve its standard of 8.60g in the group one coinage (table 12). The surviving number of overstrikes at this time<sup>468</sup> shows that the Corinthian mint used a variety of other coinages as flans for its own issues and the difficulties in modifying these to the Corinthian standard may account for the varied range of weights. The majority of coins whose weights are recorded fall below 8.49g, and a small minority exceed 8.70g. Never more than a quarter of the coins from a specific issue fall into the optimum range of 8.50g to 8.70g.

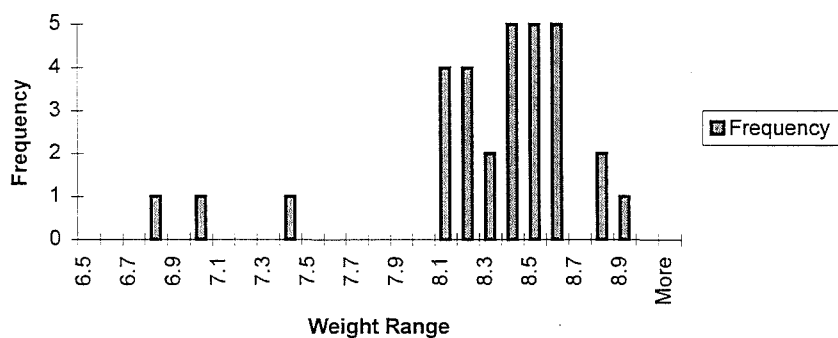
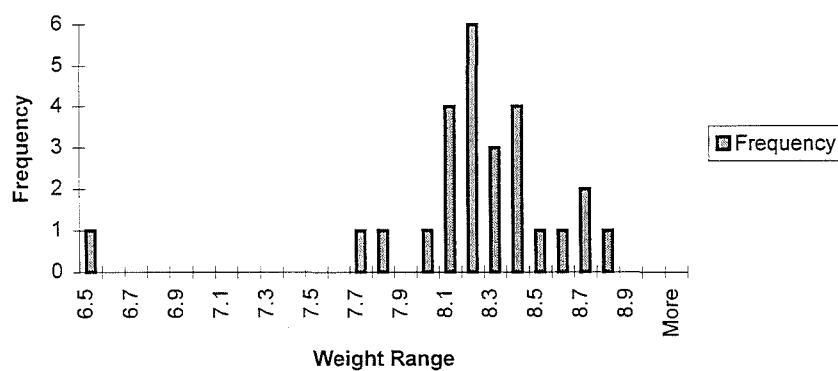
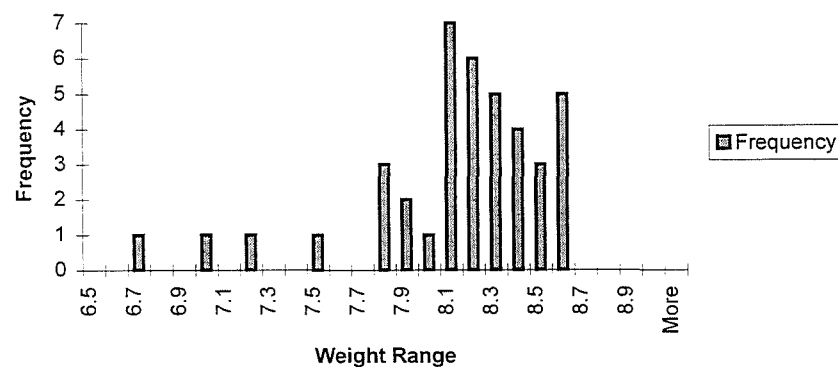
The die study shows that the group two coins with head of Athena reverse falls into five broad categories. Firstly, there is the small, archaic head of Athena set in a small incuse square which has an internal linear border. Next comes head of Athena, still within the incuse square, but lacking the linear border. The head of Athena varies in size according to the die cutter so, although it usually increases in size over time, it is not possible to divide dies into “large

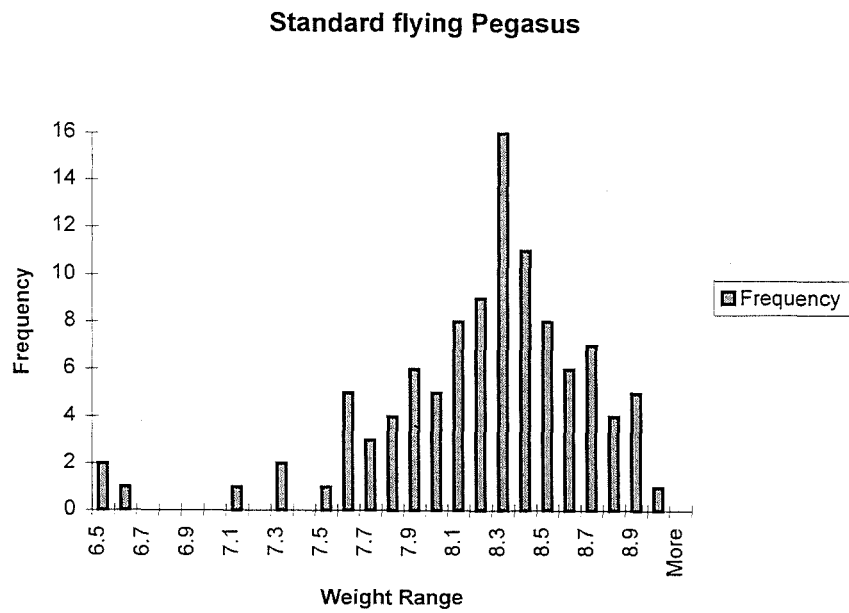
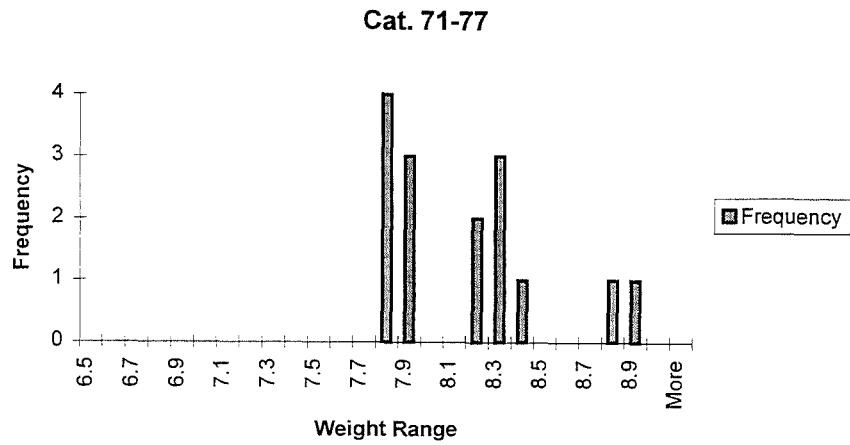
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<sup>468</sup> Listed in the catalogue

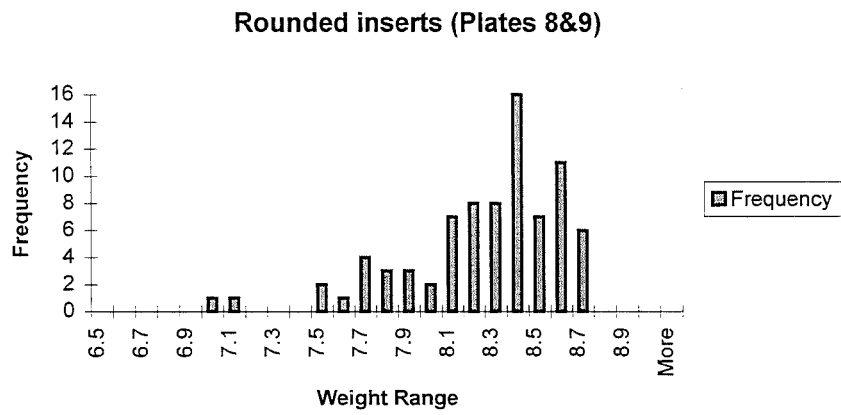
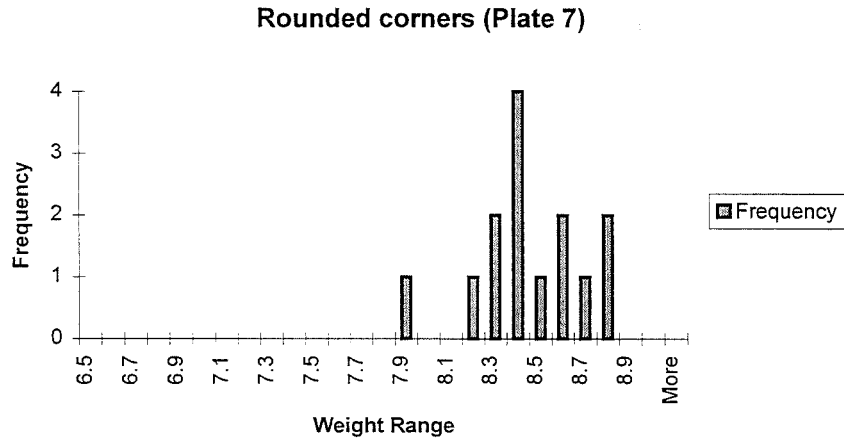
Type	No. of weights available	Average weight (in grams)	Range (in grams)	Up to & including 8.49g	8.50-8.70g	8.71g or over
Experimental	31	8.24	6.74-8.90	21 (67.7%)	7 (22.5%)	3 (9.7%)
Unrealistic pose	26	8.15	6.50-8.80	22 (84.6%)	3 (11.5%)	1 (3.8%)
Standing Pegasus	40	8.09	6.61-8.58	34 (85%)	6 (15%)	-
Unusual flying Pegasus (Cat. 71-77)	15	8.11	7.71-8.82	13 (86.7%)	-	2 (13.3%)
Standard flying Pegasus	105	8.16	6.18-8.90	81 (77.1%)	14 (13.3%)	10 (9.5%)
Plate 7 rounded corners	14	8.40	7.86-8.77	9 (64.3%)	3 (21.4%)	2 (14.3%)
Plates 8 & 9 rounded inserts	80	8.22	7.05-8.65	63 (78.8%)	17 (21.2%)	-

**TABLE 12. THE WEIGHTS OF THE GROUP ONE COINS.**

**Experimental (Plate 1)****Unrealistic Pose****Standing Pegasus****TABLE 12a: THE WEIGHTS OF THE GROUP ONE COINS**



**TABLE 12b: THE WEIGHTS OF THE GROUP ONE COINS**



**TABLE 12c: THE WEIGHTS OF THE GROUP ONE COINS**

head” or “small head” issues. An excellent example illustrating this point can be seen in the catalogue on plate 26, where the size of the head on reverse r274 really stands out in comparison to the size of the head on other reverse dies in use at this time. Also, what is perceived as “large head” or “small head” is a judgement made by the person viewing the coins, and their perception may not be shared by others. For these reasons, this part of the coinage is considered as a whole and its chronological progression and development is best seen through the linkage and style of the obverse dies.

Next, coins are issued where Athena wears earrings and, for the first time, begins to develop small differences in her hairstyle. Until now, the hair on the brow is shown as coming down across the brow and in front of the ear in straight lines. With the introduction of the earring, the hair on the brow is sometimes shown differently, in an attempt at greater realism. It can be swept across the brow and round the ear (reverse r269) or represented in two parts, with a separate fringe and the hair looping round in front of the ear (reverse r267) a more realistic portrayal of what a woman’s hair would actually look like if she tied it back and then wore some kind of headgear (see fig. 9).

After this, the earring is abandoned, but a  $\phi$  is placed on the reverse dies in the field behind the head. The end of this phase also coincides with the phasing out of the archaic eye and smile. This addition of a symbol to the reverse die inaugurates the final transitional phase of the group two coinage, as other symbols are then employed such as a crescent (reverse r302-5) a trident (reverse r311-313) and even a shell (reverse r321). Athena’s hairstyle now ranges from short hair (reverse r309-311) to variations on the “standard” queue (reverse r314-5), to hair hanging loosely down (reverse r319-321). This transitional phase also sees Pegasus facing both right and left with both curved and straight wing. Following this phase, the Corinthian coinage then used the fully classical head of Athena reverse with a symbol behind and the flying Pegasus always had the straight wing.

Mention must also be made of the fact that, unlike the group one coinage, the overstrike evidence for Corinth using other coinages as flans for the group two issues is very scant. Sometimes a coin appears to have been overstruck, but it is very difficult to tell whether the underlying bumps are the result of a poorly prepared flan or an actual overstrike. At no time is it ever possible to discern an underlying type. Therefore, this has two consequences. Firstly, potential overstrikes in the group two coinage have not been noted

in the catalogue due to the dubious nature of the evidence. Secondly, the lack of any identifiable undertype on coins which are suspected of being overstruck strongly suggests that the change to a double relief type either saw the overstrike technique largely abandoned by the Corinthian mint, or that the double relief type was much more successful in obliterating the underlying type than the group one coins had been.

The analysis of the group two coinage shows that, like the group one coinage, the issues from the Corinthian mint seem to have been largely uninterrupted. Plate 10 shows the earliest dies of the group one coinage where the incuse square has an internal linear border and the head of Athena is very archaic in style. This is followed by the dies on plates 11 and 12 which also retain the linear border, although, by plate 12 this is often either in trace form, or has been phased out altogether. Plate 10 stands at the head of a relative chronology of these early head of Athena reverse types on the evidence provided by the Selinus hoard which only contains dies from this period of minting. Plates 11 and 12 are not linked, but take the sequence on slightly further, as the linear border is phased out. Plate 13, still in the same style, is linked to plate 12 by reverse r131, and the prevailing style of Athena is now a small head set at an angle in the incuse square. Although not linked, plate 14 must be roughly contemporary with plate 13 as the style of Pegasus and the relative proportions of the head of Athena, again set at an angle in the incuse square, are similar to the preceding group.

Plate 15 is again very similar although the use of the larger head on reverse r167 suggests that it carries the sequence on a bit further. This is confirmed by the evidence of the Asyut hoard as it drew its core group from dies on plate 14 and 15. Although most of the Corinthian coins in the Asyut hoard were defaced by test-cuts, it seems that the head of Athena reverse coins were in a similar state of wear, and the weights recorded are high, suggesting only a short time in circulation before being removed and sent to Egypt.

The first three plates of the group two coinage (plates 10-12) are characterised by the Pegasus changing directions on an apparently arbitrary basis. Die linkage through the reverses connects both left-facing and right-facing pegasi so it is very difficult to interpret the reasons for these changes. By plate 16, however, Pegasus seems to have reached a standard right-facing pose. The small, rather cramped Pegasus used on previous obverse dies is now abandoned for a Pegasus which has a larger body and more realistically

depicted legs either shown in a galloping pose, or outstretched, showing a more realistic portrayal of Pegasus in flight. Reverse die r167 provides the linkage showing the transition to the new style Pegasus, and the sequence is advanced by virtue of the fact that some of the reverse dies show the head larger in size than before. The dies present in the Asyut hoard cease at this point.

Plate 17 shows one obverse die, o129, Pegasus in a galloping pose, teamed with reverses which have a small head and Athena facing both right and left. No examples of these dies were in the Asyut hoard which must predate these issues. The linked string on plate 17 ends with reverse r187 which is important to the chronology<sup>469</sup>.

Plate 18 is linked to plate 17 by reverse r187, but in all other respects represents a dramatic departure from the standard style in use at this time. Pegasus has changed direction and, unlike the larger and more realistic depiction of Pegasus in flight seen on the previous reverse dies, Pegasus is now again a small, rather cramped figure with legs drawn up near the body. Apart from the linking die, reverse r187, the reverses now have a significantly larger head of Athena, often with pronounced archaic smile (reverses r193 and r197 being particularly good examples). Comparing plates 17 (Pegasus right, galloping) plate 18 (Pegasus left, small horse) and plate 19 (Pegasus right, galloping) it seems very likely that the plate 18 represents a parallel issue. As in the group one coinage, the differences in the style of the obverse die, compared to the standard issues, are so great as to surely be indicative of a departure from normal mint procedure in the form of a special issue of some sort or the deployment of an auxiliary mint.

Plate 19 with the galloping Pegasus type with large  $\phi$  beneath uses reverse types with large heads, similar to the styles used on plate 18, as does plate 20 with reverse r198 providing the link. This suggests that plates 19 and 20 are more or less contemporary. The issues on plate 20 also appear to have been small<sup>470</sup> and relatively short lived. However, this phase of coinage was not represented in the north west Greece 1964 hoard, although coins from plates 15-19 are found in the hoard. It has been argued that the north west Greece 1964 hoard was accumulated over some time rather than being withdrawn from circulation in

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<sup>469</sup> See p.192ff for discussion of this die, previously thought to have been overstruck by Acragás.

<sup>470</sup> Only 22 known examples



one transaction<sup>471</sup> as that would surely have meant the inclusion of coins from plates 20 and 21. Therefore, the coins on plate 20 and 21 do not seem to overlap chronologically and extend the die sequence. Plate 21 is not linked but uses a similar style Pegasus with large  $\phi$  beneath. The reverses include two (reverses r220-1) which show Athena with short hair. Thus plate 21 carries the sequence forward again. Plate 22 uses similar style reverses, although in this phase the reverse have heads of more uniform proportions.

Plate 23 is not linked although the reverses are again of very similar styles and proportions to those used in the preceding phase. However, again Pegasus has changed direction and assumed a smaller and more archaic form. Also, on the majority of these dies, the  $\phi$  has a stroke through the loop, a device not used before on the Corinthian coins. This series is interesting as it ends with reverse dies which have Athena wearing an earring and a sprig of ivy in the field behind the head. One of these dies is seen on Cat. 344, whose reverse, r248, is also used on an Ambracia issue. Thus, this issue must be broadly contemporary with plate 22 and just overlap the beginning of the earring dies using Pegasus right in his standard form. This theory is supported by the evidence from the north west Greece 1964 hoard whose core group of coins with head of Athena reverse came from this phase of minting. Again, as with plate 18, this seems to be a parallel issue, perhaps from the auxiliary mint.

Plate 24 brings in the earring issue proper and it is not linked with any previous issues except on stylistic grounds of the introduction of the earring. Thus it seems to have commenced just prior to the end of the preceding phase (again supported by the evidence of the north west Greece 1964 hoard). Plates 24 and 25 which both use reverse types of Athena wearing the earring are probably broadly contemporary as there is a linking reverse r264, but they advance the sequence further chronologically.

Plates 26, 27 and 28 introduce the  $\phi$  into the field on the reverses behind the head of Athena. The positioning of these at this point in the chronology is largely due to the last two reverse dies, r302-3 which provide a stylistic link to the final transitional issues (plate 30). None of these plates are linked to any previous phase, but plate 24 sees the latest coins from the north west Greece 1964 hoard, and this provides evidence that the earring issues preceded the  $\phi$  behind the head issues. These are not likely to have overlapped as

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<sup>471</sup> Fully discussed in the appendix

the north west Greece 1964 hoard contained earring issues where Athena's hair on the brow is represented in two parts. It has already been hypothesised that this change to the standard hairstyle occurred later rather than earlier in this issue, so if the coins having reverses with  $\phi$  behind were being phased in at the same time as the earring coins were being issued, then they surely would have occurred in the north west Greece 1964 hoard. However, the evidence from the Corinth 1952/3 hoard shows that there was probably not too great a time lapse between these issues.

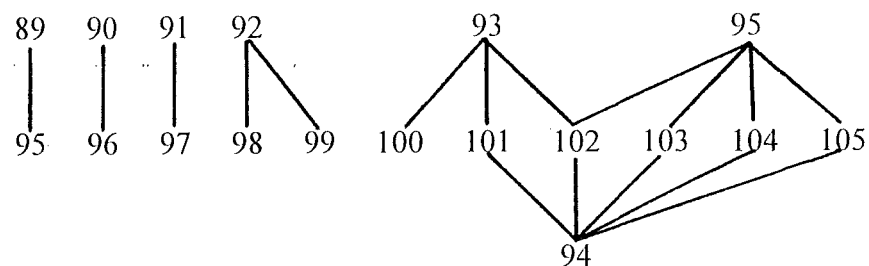
As noted, the final transitional phase begins with those reverses which have  $\phi$  and a crescent behind the head (reverses r304, r305, r307) linking it to the end of the previous phase. However, the reverse dies soon develop a variety of styles, most notably experimentation with the style of Athena's hair and the new use of the trident symbol behind the head. The trident symbol and continued variations to Athena's hairstyle make it likely that plate 30 began just after the beginning of plate 29, although it continues the sequence further chronologically.

Thus, as in the group one coinage, there does not appear to have been any gaps in the activity of the Corinthian mint (fig. 11) and, as in the group one coinage, there do seem to be occasions where a special issue was made or an auxiliary mint deployed. The change in the direction and style of Pegasus in the later phases of the group two coinage is dramatic and obviously significant.

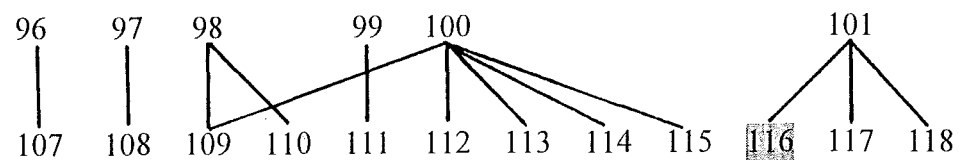
The number of dies found in the die study of the group two coinage is a total of 102 obverse and 229 reverse dies (table 13). This is a slight increase on Ravel's figures of 101 obverse and 186 reverse dies covering the same period. The first issues which have a small Pegasus, always left after the linear border issues, is represented by 36 obverse and 76 reverse dies. The new style Pegasus galloping right, and standard head of Athena reverse has 25 obverse and 58 reverse dies. The special issues, with a small Pegasus left (plates 18 and 23) use 9 obverse and 23 reverse dies. The earring issues use 11 obverse and 23 reverse dies, the  $\phi$  behind head of Athena issues use 9 obverse and 28 reverse dies, and the transitional phase with various styles of head of Athena uses 13 obverse and 22 reverse dies.

FIG 11a: THE DIE LINKAGE OF THE GROUP TWO COINAGE (PART 1)

### Plate 10

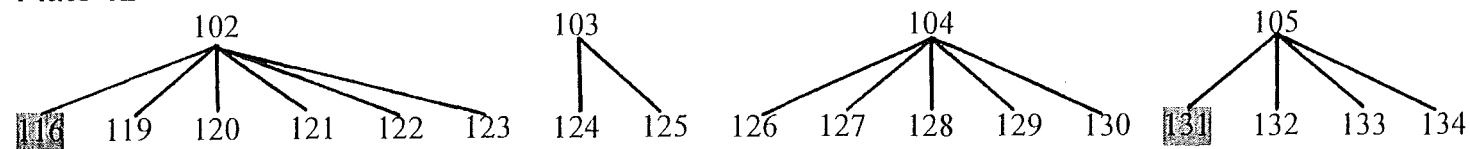


### Plate 11



\*Reverse die R116 links to plate 12

### Plate 12



\*Reverse die R131 links to plate 13

### Plate 13

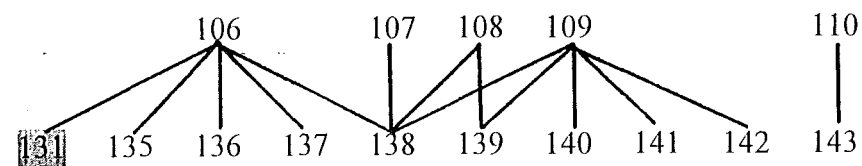
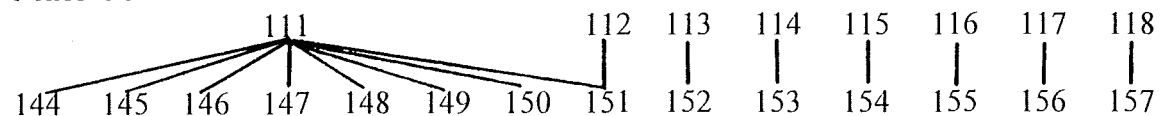
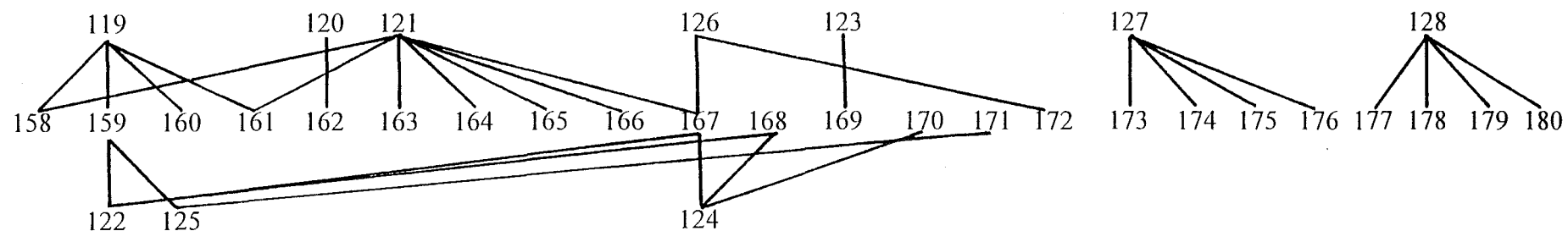


FIG 11b: THE DIE LINKAGE OF THE GROUP TWO COINAGE (PART 2)

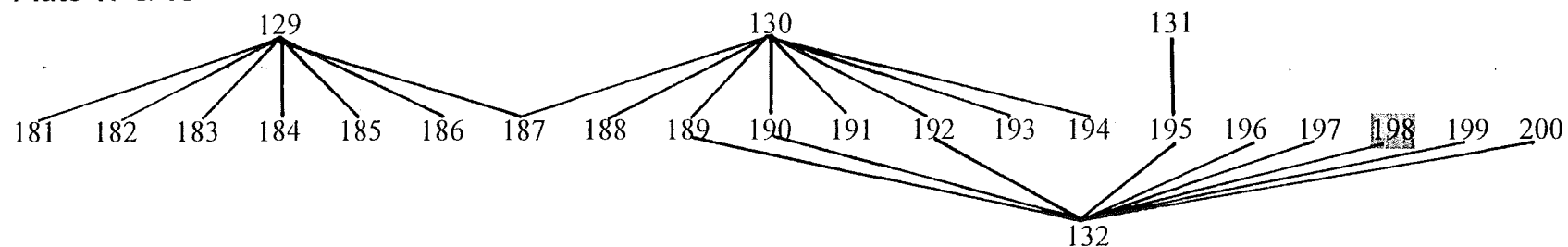
**Plate 14**



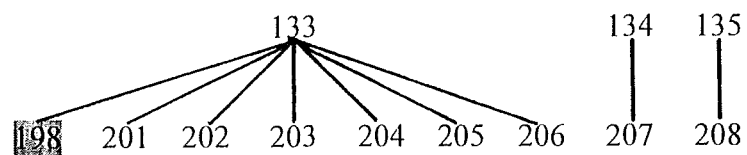
**Plate 15 & 16**



**Plate 17 & 18**



**Plate 19**



\*Reverse die R198 links to plates 19 & 20

FIG 11c: THE DIE LINKAGE OF THE GROUP TWO COINAGE (PART 3)

Plate 20

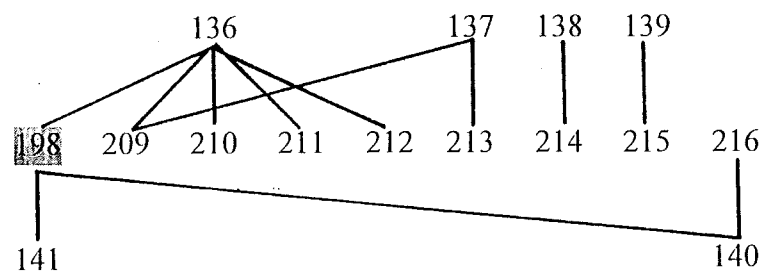


Plate 21

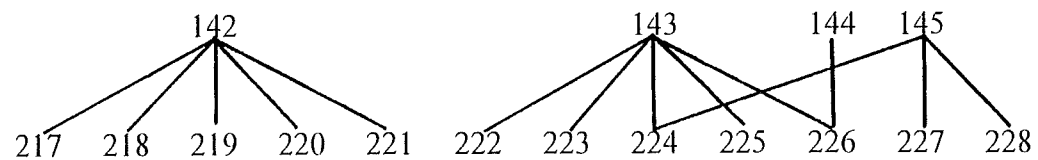


Plate 22

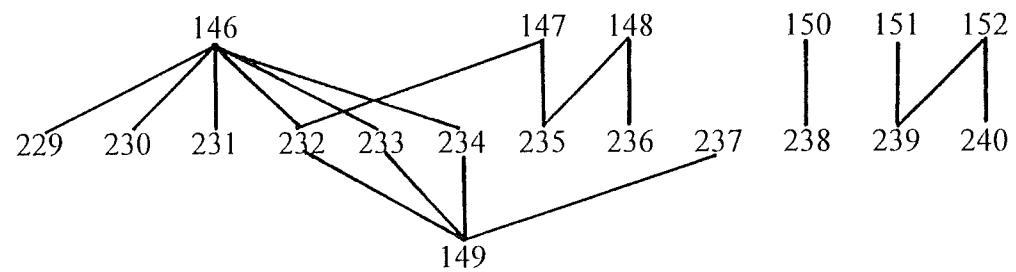


FIG 11d: THE DIE LINKAGE OF THE GROUP TWO COINAGE (PART 4)

Plate 23

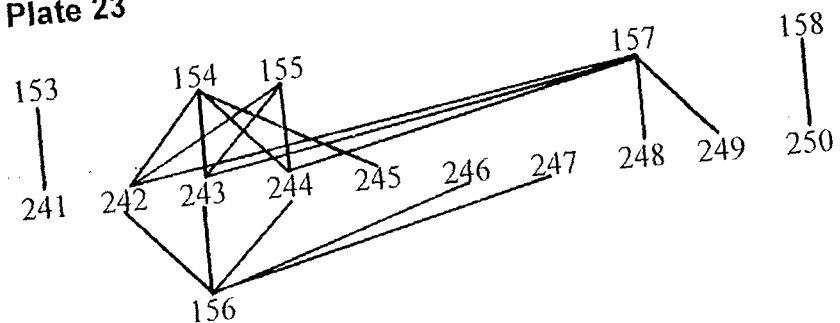
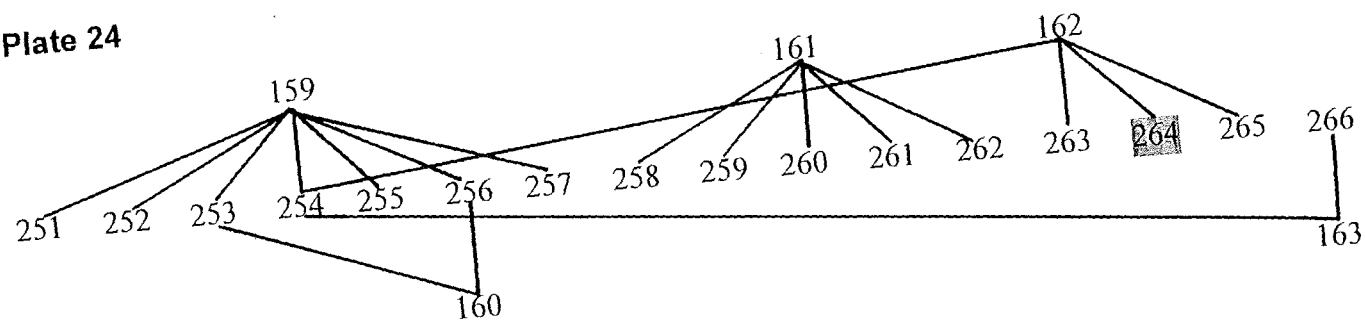


Plate 24



\*Reverse R264 links plate 25

Plate 25

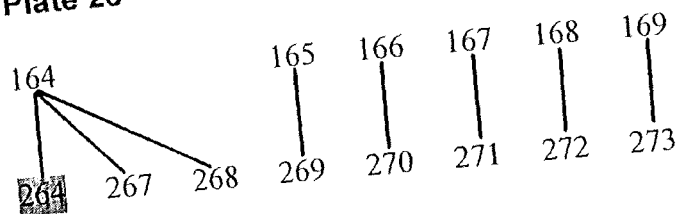
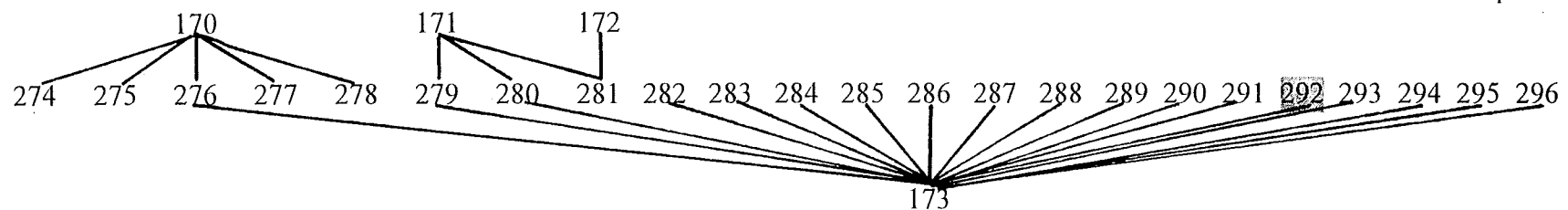


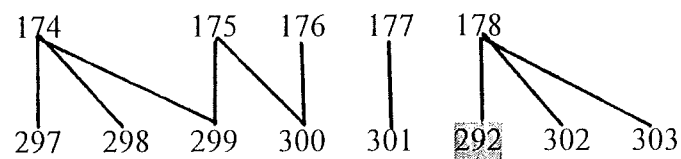
FIG 11e: THE DIE LINKAGE OF THE GROUP TWO COINAGE (PART 5)

### Plate 26 & 27

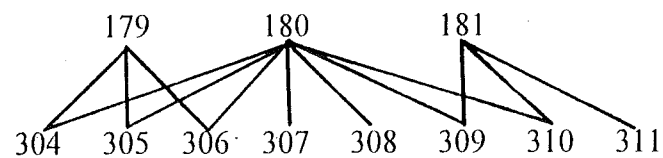


\*Reverse R292 links with plate 28

### Plate 28



### Plate 29



### Plate 30

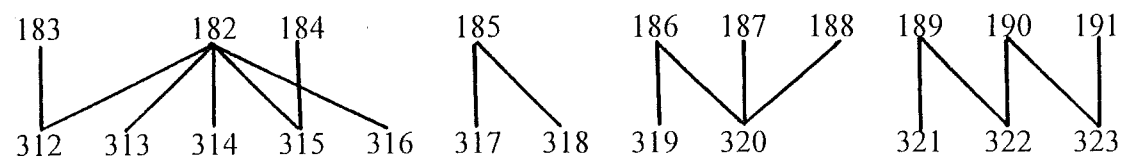


Plate no.	No. of obverse dies	No. of reverse dies	Comments
10	7	12	all linear border
11	6	12	all linear border
12	4	16	linear border phases out
13	5	9	
14	8	14	
15	5	12	
16	5	11	from Cat. 238 onwards, Pegasus galloping right
17	1	7	
18	3	13	Parallel issue
19	3	8	
20	6	8	
21	4	12	
22	7	12	
23	6	10	Parallel issue
24	5	16	earrings
25	6	7	earrings
26	3	8	φ behind
27	1	15	φ behind
28	5	7	φ behind
29	3	8	transitional
30	10	12	transitional
Total	102	229	
	93	206	Parallel issues removed

TABLE 13. TOTAL NUMBER OF DIES FOR THE GROUP TWO COINAGE.



The first notable point regarding the weights of the group two coins is that they achieve a much higher average weight than the group one coins<sup>472</sup>, and a much higher percentage of the coins fall into the optimal range of 8.5-8.7 grams (table 14).

The percentage of coins 8.49 grams or less also falls significantly, and there is a decrease in the percentage of coins which exceeded 8.70 grams. Therefore, in both groups one and two, there is a chance that any Corinthian coin passed in payment would be lighter than the 8.60g standard. However, this odds for this lessen in group two, when the coin is more likely to fall into the optimum range (table 15). In group two, unlike group one, there is a much smaller chance of receiving a coin significantly higher in weight than the 8.60g standard. Thus, the Corinthian mint did not seem particularly concerned if the coins were on the light side of the standard, but they were very careful not to err on the high side too often<sup>473</sup>.

The die study has shown, therefore, that the Corinthian mint issued coins on a regular basis before the Peloponnesian War<sup>474</sup>. There is some evidence for the use of an auxiliary mint at certain times, to supplement the issues from the main mint.

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<sup>472</sup> Even given the fact that the sample size for the group two coins is more than double the size of that of the group one coins.

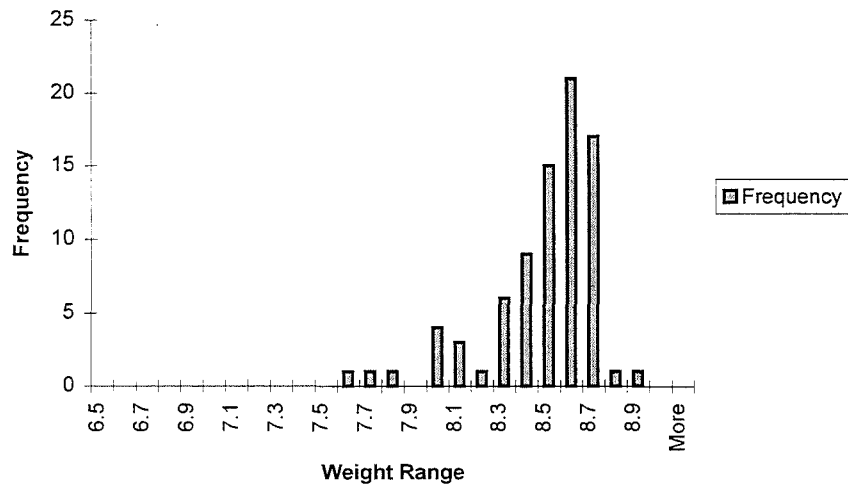
<sup>473</sup> This feature is mirrored by the smaller denominations of the Corinthian coins, cf. Warren, 1968, p.133-4

<sup>474</sup> There is no conclusive evidence to suggest that Corinth stopped issuing coins during the Peloponnesian War - this is fully discussed in the absolute chronology section.

Type	No. of weights available	Average weight (in grams)	Range (in grams)	Up to & including 8.49g	8.50-8.70g	8.71g or over
1. Linear Border (plates 10 & 11)	81	8.42	7.58 - 8.81	38 (46.9%)	41 (50.6%)	2 (2.5%)
2. Small head of Athena and small cramped Pegasus, usually left (plates 12-15 + Cat. 235-237 on plate 16)	146	8.42	6.50 - 8.80	75 (51.4%)	62 (42.5%)	9 (6.1%)
3. Standard Athena with Pegasus right, galloping or legs extended (plates 16 [from Cat. 238] and plates 17, 19-22)	207	8.43	7.01-8.74	101 (48.8%)	103 (49.8%)	3 (1.4%)
4. Pegasus left with large head of Athena (plate 18)	37	8.54	8.24-8.69	7 (18.9%)	30 (81.1%)	-
5. Pegasus left, large head of Athena ending in earring issue (plate 23)	63	8.34	7.55-8.76	40 (63.5%)	21 (33.3%)	2 (3.2%)
6. Earring issues (plates 24 & 25)	73	8.52	7.60-8.52	47 (64.4%)	24 (32.9%)	2 (2.7%)
7. φ behind head (plates 26, 27 and 28 to Cat. 410)	109	8.46	7.66-8.70	47 (43.1%)	62 (56.9%)	-
8. Transitional issues (plate 28 [Cat. 411-412] plate 29 & 30)	83	8.42	8.01-8.70	50 (60.2%)	33 (39.8%)	-

TABLE 14. THE WEIGHTS OF THE GROUP TWO COINS.

### 1. Linear Border (Plate 10&11)



### 2. Small Athena and Pegasus usually left

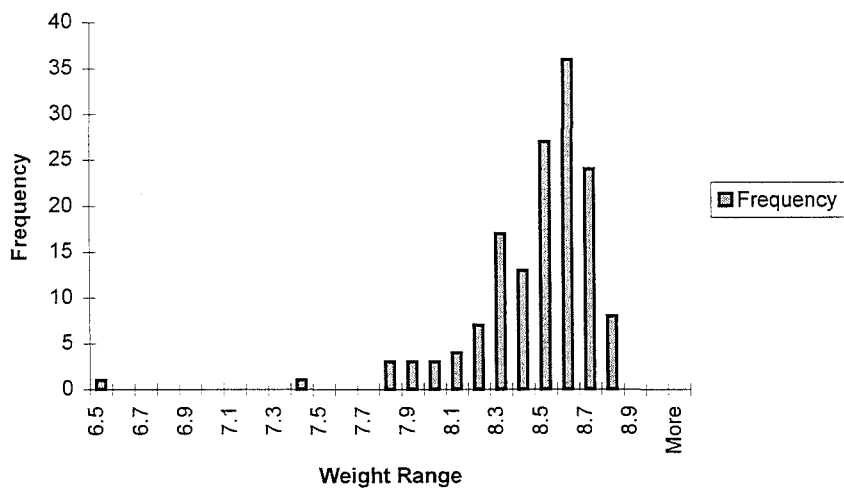
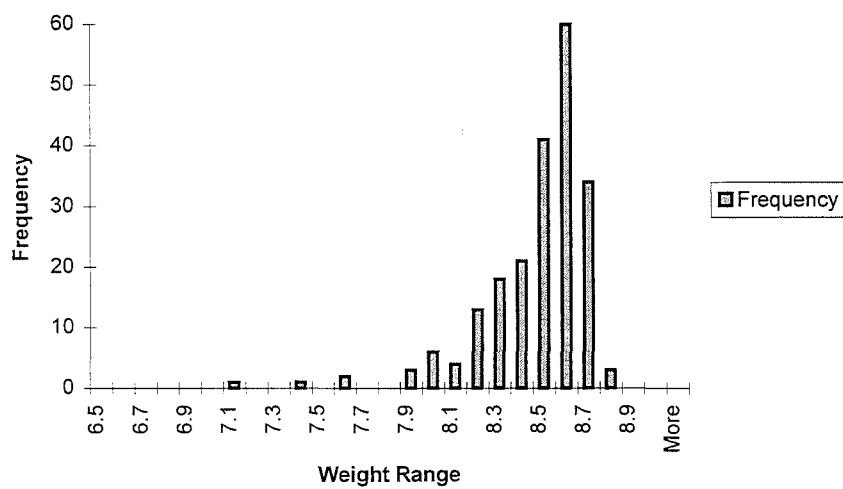


TABLE 14a: THE WEIGHTS OF THE GROUP TWO COINS

### 3. Standard Athena with Pegasus right



### 4. Pegasus left (Plate 18)

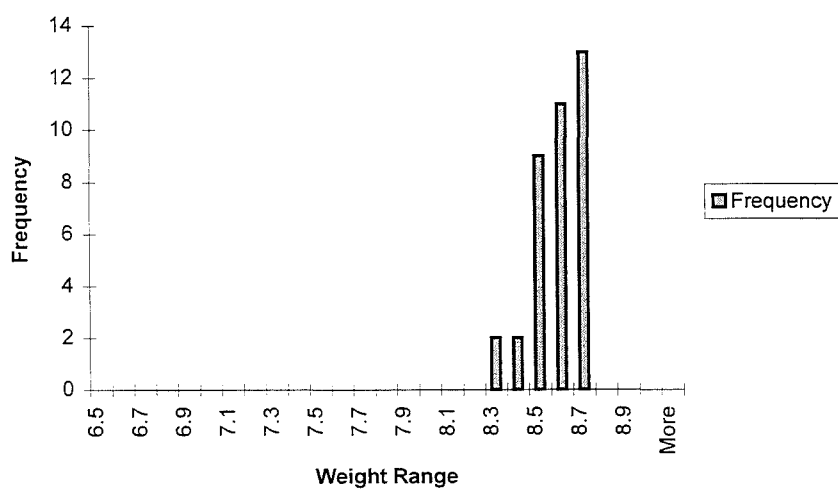
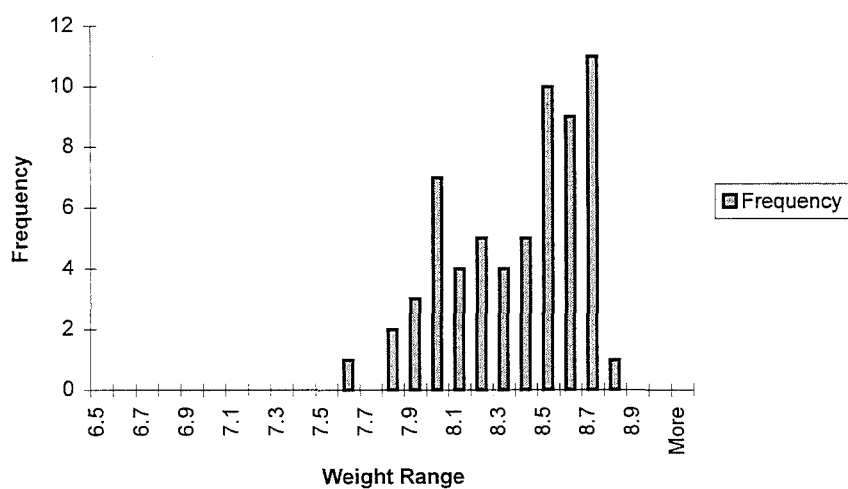


TABLE 14b: THE WEIGHTS OF THE GROUP TWO COINS

### 5. Pegasus left (Plate 23)



### 6. Earring issues (Plates 24&25)

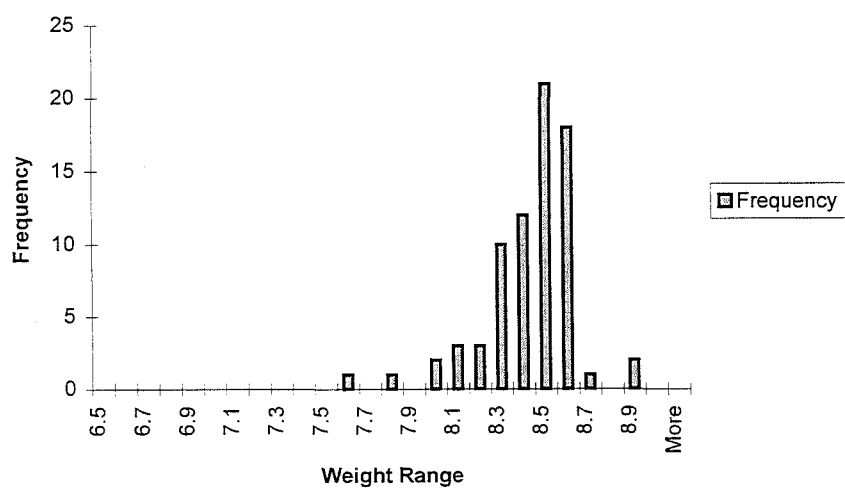
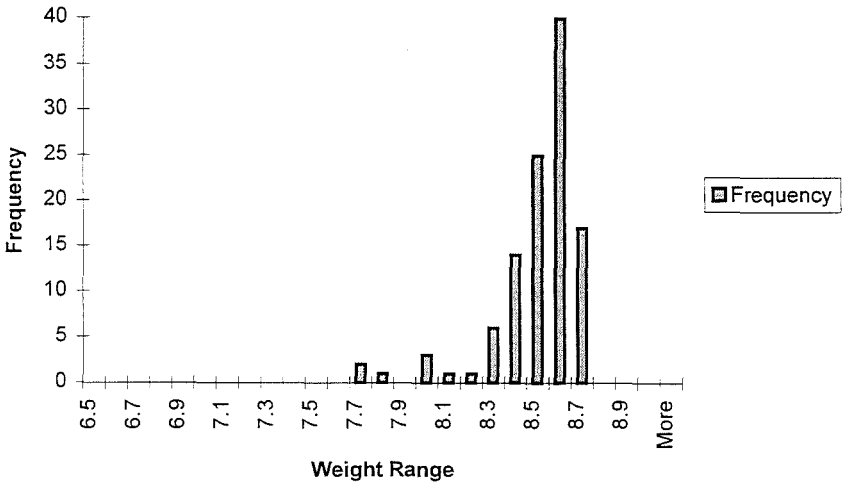


TABLE 14c: THE WEIGHTS OF THE GROUP TWO COINS

7. Koppa behind head issues



8. Transitional Issues

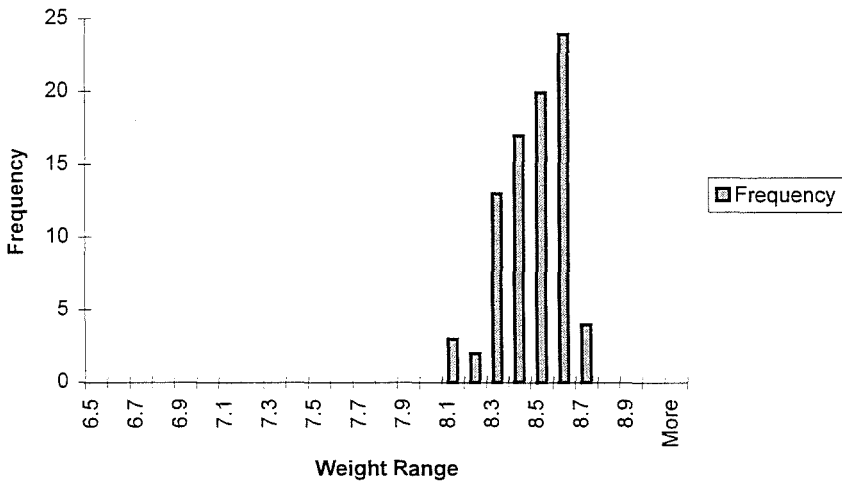
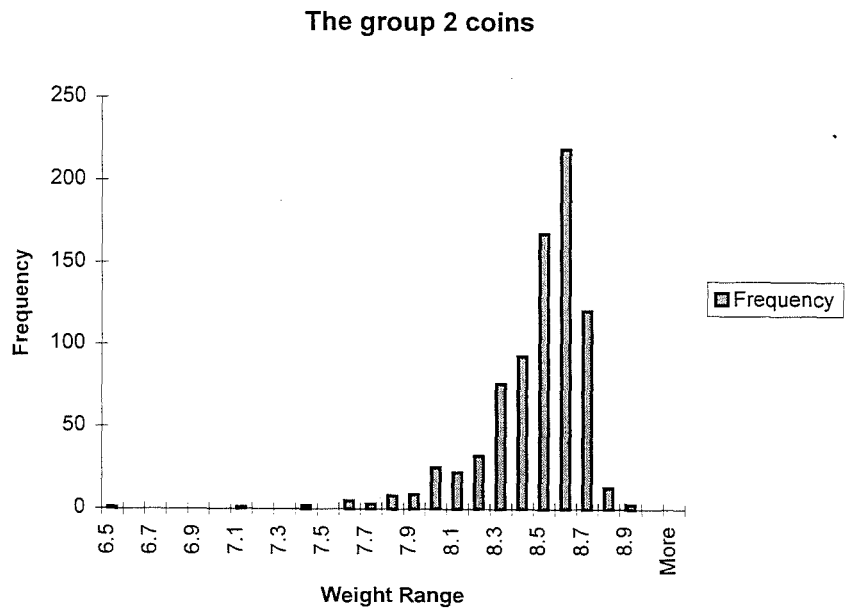
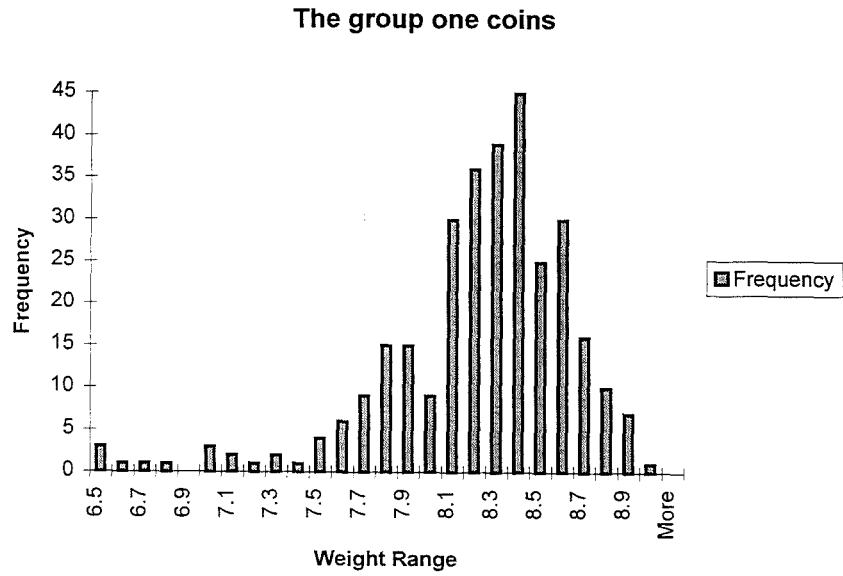


TABLE 14d: THE WEIGHTS OF THE GROUP TWO COINS

Type	No. of weights available	Average weight (in grams)	Range (in grams)	Up to & including 8.49g	8.50-8.70g	8.71g or over
Group 1	311	8.20	6.18-8.90	243 (78.1%)	50 (16.1%)	18 (5.8%)
Group 2	799	8.44	6.50-8.81	405 (50.7%)	376 (47.1%)	18 (2.2%)

**TABLE 15. THE WEIGHTS OF THE GROUP ONE COINS AND THE WEIGHTS OF THE GROUP TWO COINS COMPARED.**



**TABLE 15a: THE WEIGHTS OF THE GROUP ONE COINS AND THE WEIGHTS OF THE GROUP TWO COINS COMPARED**



## 6. ABSOLUTE CHRONOLOGY

### 6.1 Summary of Ravel Volume One

In attempting to arrive at a relative chronology for the coinage of Corinth, it is useful to summarise Ravel's work, commencing with his first volume<sup>475</sup>. Ravel divided his chronology into three large groups which he then subdivided into smaller groups to facilitate interpretation (see table 16).

Ravel's first period of coinage, period one - the "primitive archaic", lasts for one hundred years from 650 - 550 BC. These coins have Pegasus on the obverse with  $\phi$  beneath and the square punch reverse in its various forms. Ravel realised that the reverse punch developed from the so-called mill-sail design, which is very like the earliest issues of Aegina, to a quadripartite incuse square design, which later saw additional refinements. Thus, his depiction of the development of the period one coins accords with the sequence as revealed by the die study in this work<sup>476</sup>. Ravel's figures give a total of 65 obverse and 65 reverse dies for his first period of the Corinthian coinage.

In his period one Ravel used the reverses to group the coins, but in his periods two and three he used the obverses as the reverses were very complex and also represented a large number of varieties. He noted that, although he could group the coins together by the style of head of Athena, there are few die links and so the groups are mainly composed of disparate pieces.

Ravel's period one ends in 550BC. He used this date as the end of his "primitive archaic" period when the punch reverse is replaced by the head of Athena on the reverse. Ravel agreed with earlier numismatists (e.g. Gardner and von Fritze) who noticed a "remarkable resemblance" between the first heads of Athena on the tetradrachms of Athens and the first heads of Athena on the "colts". Accepting a starting date of c550BC for the Athenian owls (using the assumption that they were issued under Pisistratus), Ravel concluded that the

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<sup>475</sup> Ravel, 1936.

<sup>476</sup> Apart from some minor points, which are discussed in the text and the catalogue as they arise.

<b>Period</b>	<b>Date (BC)</b>	<b>obverse</b>	<b>reverse</b>
1.1	650-625	17	13
1.2	624-585	42	40
1.3	584-550	6	12
2.1	549-510	37	63
2.2	509-480	16	28
2.3	479-458	15	19
3.1	457-450	11	19
3.2	449-431	10	30
3.3	430-415	17	22

**TABLE 16. RAVEL'S DIE NUMBERS TO 415BC (AFTER RAVEL).**

two are contemporary and he was confident in attributing this date for the change in the Corinthian coins to double relief on this basis.

Ravel cited the Taranto hoard as providing a “precise indication for the chronology of Corinth” as it contained nine Corinthian coins with the punch reverse and four with the head of Athena reverse<sup>477</sup>. He noted that these latter pieces depicted the head of Athena within an incuse square which had a linear border and had no doubts that these coins were the first of the Athena head issue.

In the Taranto hoard there were, apart from the coins (some 600 pieces) “6 kilos of silver ingots, hammered or cast plaques, and worn pieces, broken and unrecognisable in sticks or rods, and also the debris of silver utensils and silver vases”<sup>478</sup>. Among the coins were 90 didrachms of Sybaris, almost all of them in mint condition, whilst the Corinthian staters with the head of Athena were slightly worn. Ravel took this as proof that the coins of Sybaris were later issues than the Corinthian staters. As Sybaris was destroyed in 510BC, Babelon dated the Taranto hoard to between 510BC and 508BC<sup>479</sup>. This meant that the introduction of the Athena head on the obverse of the Corinthian staters could not have been later than c510BC. Ravel also thought that it was possible that the last Corinthian coins with the square punch reverse could have been struck around the same time as the first coins with the Athena head.

Ravel used 457BC for the date of the introduction of his period three coinage (his transitional phase) on the basis that in this year Corinth was defeated by the Athenians at Cerkryphaleia. This is in-keeping with his theory that major political changes and events are bound to have an impact on the coinage. He noted the dissimilarity between the new fully classical heads of Athena and the archaic form of Pegasus on the obverses. He attributed this to either the continued use of the archaic Pegasus so as not to compromise the integrity of the coins outwith the city, or the fact that these coins represented the first in a new, massive issue and demand was so great that old obverse dies were brought back into service.

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<sup>477</sup> Ravel, 1936, p.16

<sup>478</sup> Babelon, 1912, p.3

<sup>479</sup> Babelon, 1912

Ravel's die figures suggest a lessening in output in the years from 460-430BC (see table 16), but as he pointed out, that amount of dies for a coinage serving such a vibrant commercial economy like Corinth, is very implausible. He saw the only possible explanation for this anomaly as being that Corinth (like Athens) continued to use an "immobile type" and issue coins in the archaic style, making these apparently archaic coins much later than they look.

Ravel then saw a seamless transition from the early classical heads with symbols (palmette and trident) into the vast (and unlinked) sequences which he catalogued in his second volume which extended into the fourth century BC.

## 6.2 Ravel - comments and analysis

The first problem is that Ravel is very keen to link the phases of period one of the coinage to the reigns of Cypselus, Periander and the return of the oligarchy (although he does admit that this is highly conjectural and based on the belief that changes in the government would be reflected in some way in the coinage<sup>480</sup>).

Periander is said to have had cordial relations with King Alyattes of Lydia<sup>481</sup> (c610-560BC) and this contact may have introduced the Corinthians to the idea of coinage. There has been a desire among earlier scholars (such as Head and Ravel) to link the inception of coinage with the reigns of the tyrants, who were instrumental in raising the city to one of international importance and instigating an impressive public buildings programme. However, the dates of their reigns cannot be absolutely fixed due to shortcomings in the calculations of the ancient sources<sup>482</sup>. Whether the "traditional" date of c655BC or a lower date is accepted, it seems likely that the coinage of Corinth commenced at some point after the Tyranny had fallen<sup>a</sup>.

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<sup>480</sup> In doing so, however, he conveniently overlooks the coins (Cat. 8-11) which have markedly different obverse and reverse styles from any other of the coins issued at this time.

<sup>481</sup> He sent Alyattes 300 Corcyraean boys to be castrated in retaliation for the death of his son in Corcyra (Herodotus, *Histories*, 3.48)

<sup>482</sup> Salmon, 1984, p.186

<sup>a</sup> See p. 184ff for the proposed date of the beginning of the Corinthian coinage.

Until fairly recently, most numismatists believed that the earliest coins - the electrum issues of Western Asia Minor - were struck in the first few decades of the seventh century BC.

Scholars such as Head<sup>483</sup> and Gardner<sup>484</sup>, who accepted this dating, thought that the earliest Greek coins commenced around the middle of the seventh century BC. This chronological framework was accepted by all the leading numismatists of the early twentieth century and led to the traditional “high” dating for the earliest coinages of mainland Greece.

Since the 1950's, however, this theory has been challenged by Kraay<sup>485</sup> and Brown<sup>486</sup>, among others, who have advanced cogent arguments for disengaging the earliest coins of Aegina, Athens and Corinth from the respective times of Pheidon, Solon and the Cypselids. Instead they favour a new “low” chronology for the electrum issues and the earliest Greek coins.

This approach is not universally accepted, however. Kagan<sup>487</sup> argues that this “new orthodoxy” in Greek numismatics is tantamount to “a rewriting of Greek history in the archaic period” and he constructs a detailed argument (grounded in the literary-historical evidence) for a return to the “high” chronology. Vickers, on the other hand, favours the “low” chronology, arguing that if “a reconciliation can be achieved between sculpture, pot-painting and coins...it will be necessary further to downdate early Greek coinage”. He argues that the so-called “fixed points” which have supported the “high” chronology are open to reinterpretation and “all appear to be set too early”<sup>488</sup>. He also cites the Asyut hoard as providing further evidence in support of his claims.

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<sup>483</sup> Head, 1911, p.643

<sup>484</sup> Gardner, 1918, p.67

<sup>485</sup> Kraay, 1976

<sup>486</sup> Brown, 1950

<sup>487</sup> Kagan, 1982, p.345

<sup>488</sup> Vickers, 1985, p.3

However, the dating of the Asyut hoard and its implications for the chronology of Greek coinage as a whole is a very contentious issue. Only one coin in the hoard, a coin of Alexander I of Macedon, can be dated to his reign c494-454BC. Price and Waggoner gave a deposit date of c475BC for the hoard and argue that “the overall chronology of the Asyut hoard is so strong that...it must be this which dates the coin of Alexander”<sup>489</sup>. Others, however, notably Cahn<sup>490</sup> and Kraay<sup>491</sup> have discussed this issue at length and favour an issue date for this coin of c465-60BC. This means that either the Asyut hoard comprises an earlier archaic hoard with later additions (cf. Kraay) or the entire hoard must be re-dated to c460BC (cf. Cahn).

The debate over the dates of the earliest Greek coins, therefore, is fierce and wide-ranging, as historians and numismatists try to interpret various types of evidence, including new finds from coin hoards, in an attempt to clarify the issue and reach a consensus. No-one, however, doubts that the electrum pieces from Western Asia Minor (be they coins or precursors to coins) preceded the earliest Greek coins, so they assume a pivotal role in the struggle for a firm chronology.

The excavations of the Temple of Artemis at Ephesus in the early years of the twentieth century uncovered the famous “foundation deposit”. This comprised valuable precious metal objects of gold and silver, with amber, ivory and a variety of other precious materials present<sup>492</sup>. It also included the electrum pre-coins and coins which were generally accepted as being the earliest known examples of coinage. Working on the theory that the temple was destroyed around 660BC, the excavator deduced that it was first constructed c700BC placing the invention of coinage some time in the eighth century BC or early seventh century BC<sup>493</sup>.

The earliest electrum pieces from the Ephesus deposit play a critical role in the whole argument. They are extremely important in the study of ancient numismatics as some of the pieces were small “dumps” which lacked a type, some were stamped with either a plain

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<sup>489</sup> Price & Waggoner, 1975, p.39

<sup>490</sup> Cahn, 1977, p.284

<sup>491</sup> Kraay, 1977, p.190

<sup>492</sup> Kagan, 1982, p.343

<sup>493</sup> Ibid, p.344

or striated incuse square, and some had recognisable designs stamped on them, such as lion's paw and lion's head. This body of material is interpreted as showing the evolution of the electrum pieces from pre-coins to coins proper.

Price has advanced a plausible interpretation of the main function of the electrum issues of Western Asia Minor. Firstly he points out that the alloy content in electrum is variable and the intrinsic value of electrum may not reflect its true value. He argues that these pieces can, perhaps, best be seen as precious metal gifts, stamped with the seal of the benefactor, which could bestow both wealth and status on the recipient<sup>494</sup>. As these electrum pieces changed hands and circulated, they gained familiarity and acceptance, either in the context of an exchange of gifts, or as a payment. Thus, they engendered a situation where "the economy was ripe for the reform which brought gold and silver coinage into existence for the first time"<sup>495</sup>.

If the electrum pieces from the Ephesian deposit are vital to the development of coinage, then their date is of critical importance as they stand at the head of a relative chronology of coinage in the Greek world.

The early chronological framework of the eighth and early seventh centuries BC was acceptable to the numismatists of the early twentieth century who identified the coinages of Aegina, Athens and Corinth as among the earliest Greek coins and linked them with the rulers of the seventh century BC. However, modern numismatists increasingly reject this high chronology and this issue is much discussed.

Firstly, the dates of the Ephesus foundation deposit have been subject to scrutiny. Modern research has drawn attention to the confused archaeological picture of the temple's many phases of construction and has revealed the marshy and inherently unstable conditions on which it was built<sup>496</sup>. The lack of an absolute chronology for the building has allowed the structure to be interpreted in several ways. Price has suggested that the early phases of the temple are "test" attempts to establish solid foundations and overcome the difficulties

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<sup>494</sup> Price, 1983, p.7

<sup>495</sup> Ibid, p.7

<sup>496</sup> Price, 1983, p.3-4

presented by the terrain before the temple proper was finally constructed<sup>497</sup>. He argues that there may never have been any preceding temples to the one finally completed on the site.

The actual deposit itself has also been subjected to modern reinterpretation. Jacobsthal<sup>498</sup> argued that stylistically, some of the objects in the deposit could date to the sixth century BC. Robinson concurred, dating the deposit to around 600BC<sup>499</sup>.

Seizing on this new “low” chronology for the beginning of coinage, numismatists began to challenge some of the assumptions which had arisen from the “high” chronology.

The earliest coinages in Greece are traditionally ascribed to Aegina, Athens and Corinth. In the case of Aegina, Brown<sup>500</sup> rejected the tradition which linked the earliest coinage of Aegina to Pheidon of Argos. Pheidon’s actual position and status in respect of Aegina is unclear and “provides no convincing foundation for the chronology of early Aeginetan coinage”<sup>501</sup>. The Aegina period two coinage (Kroll and Waggoner’s classification<sup>502</sup>) was a huge issue to which the bulk of the archaic Aeginetan coins belong. This issue has been dated as commencing c550BC and the few preceding dies from period one, it is calculated, would suggest a date for the beginning of the Aeginetan coinage of around c580BC. This date also disassociates Pheidon from the Aeginetan coinage as it is “the least probable”<sup>503</sup> for Pheidon’s life.

However, a date of 580BC for the beginning of the Aeginetan coinage seems too early and, like Athens and Corinth, the problem is one of trying to estimate how long the first issues of a mint endured. Kraay says of the Aeginetan coinage that “...there is little justification for dating it earlier than the second quarter of the sixth century”<sup>a</sup>. The authors of *Asyut*

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<sup>497</sup> Price, 1983, p.4

<sup>498</sup> Jacobsthal, 1951

<sup>499</sup> Robinson, 1951

<sup>500</sup> Brown, 1950

<sup>501</sup> Kroll and Waggoner, 1984, p.336

<sup>502</sup> Ibid, p.336-7

<sup>503</sup> Kraay, 1976, p.313

<sup>a</sup> Ibid p.43



firmly believe that the earliest Greek coinages followed Croesus' adoption of silver coinage c560/550BC and they argue that no Greek coinage can be earlier than c560BC<sup>b</sup>.

The coinage of Aegina has traditionally been seen as one of the earliest, if not the earliest, Greek silver coinages. If the bulk of the early Aeginetan coins began to be issued c550BC, then the few known earlier dies must fall into the period 560-550BC on Kroll and Waggoner's estimate. If the Aeginetans adopted Croesus' innovation, then the start of the Aeginetan coinage may fall into the period c555-550BC.

The earliest owls of Athens appear in the Taranto hoard<sup>504</sup> and most numismatists who have studied the coinage of Athens are agreed that a date of between c525-c510/6BC is the most likely for their issue<sup>505</sup>. Thus the chronology of the preceding wappenmunzen issues is obtained by working back from this point. The wappenmunzen coinage was quite small and comprised

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<sup>b</sup> Price and Waggoner, 1975, p.122

<sup>504</sup> *IGCH* 1874

<sup>505</sup> Kroll and Waggoner, 1984, p.329 ff. See also following discussion on p.186 ff

14 types. Kraay estimated the duration of the wappenmunzen coinage to be some fifty years, although he admitted this to be “quite generous”<sup>506</sup>. If, on the other hand, the fourteen types represent annual changes then the period of this coinage could be as short as 14 years so a potential span of c575BC to c524BC is possible. As has already been discussed in respect of Aegina, a date before c560BC is unlikely and, if Aegina did produce the earliest Greek silver coinage<sup>a</sup>, then a date for the beginning of the Athenian coinage some time in the 550’sBC or later seems more likely<sup>b</sup>.

Thus, the evidence allows a convincing case to be made for the earliest Greek coinages commencing in, or just before, the second half of the sixth century BC. This fits in with the new “lower” chronology of the electrum issues. It does not seem likely that a seventh or even eighth century BC date for the electrum issues is possible as by then they would have been extant for a century before the Greek coinages commence. That this new innovation took so long to reach the Greek world is unlikely, particularly given the trading voyages and connection of the Aeginetans who would surely have encountered it on their travels.

On the other hand, the “lower” chronology of the early sixth century BC for the electrum issues affords a much more plausible context for the spread of the idea of coinage, with the Greek coinages commencing within twenty or thirty years of the electrum prototype coinage. This time-span seems all the more attractive when compared with the situation in the Greek world where, following the examples of Aegina and Athens, most of the city states had commenced striking their first silver coins in the years following the middle of the century.

Thus, the chronology of Ravel’s period one begins much too early. This is also supported by Ravel’s own die figures. He lists 65 obverse dies for his period one coinage covering 100 years. However, in his study of the archaic owls of Athens, Kraay estimated that, in terms of obverse dies, “the rate of use can hardly have been lower than one obverse die a year”<sup>507</sup>. Subsequent surveys of Greek coinages marked with magistrates names or issue letters which changed annually show that “the average consumption of new obverse dies

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<sup>506</sup> Kraay, 1956, p.65

<sup>a</sup> Kraay, 1976, p.313

<sup>b</sup> Price and Waggoner find Wallace’s date of c545BC attractive (Price and Waggoner, 1975, p.66)

<sup>507</sup> Kraay, 1956, p.65

ranges from between 0.8 - 2.2 dies per annum at the low end of the scale and up to as many as 9-10 dies per annum<sup>508</sup>.

A sixth century BC date, therefore, is more realistic than Ravel's mid seventh century BC date for the beginning of the coinage of Corinth. Most scholars now agree that his date is unrealistically high. Kraay<sup>509</sup> favours a date of c570-560BC, and Price and Waggoner<sup>510</sup> go even lower with an estimated date around c550BC.

### 6.3 Dating the beginning of the Corinthian coinage

The date of the beginning of the Corinthian coinage can be posited from the evidence of the die study as well as the overstrike and hoard evidence. In the group one coinage, the overstrike evidence is important in providing dates which help to clarify the sequence.

In terms of the Corinthian mint using other the coins from other cities as flans for its coinage, the group one coinage is the most fruitful as, by group two, undertypes are impossible to identify on coins which have been overstruck. Some group one Corinthian coins are struck over unknown types, where only the remains of an incuse square are visible (see list of overstrikes in catalogue). Five Corinthian coins from group one have been overstruck on Aegina, but not enough detail remains to allow dating of the Aeginetan coins. The same problem applies to the overstrike on Corcyra.

In Italy and Sicily, Garraffo has identified fifteen group one coins of Corinth used as undertypes, the majority of which were overstruck by Metapontum where seven examples survive. Six of these are in the so-called medium incuse phase of Metapontine coinage dating from c510-470BC<sup>511</sup>.

Despite the efforts of both Garraffo and Noe to use Ravel's catalogue to identify the undertypes with his known dies, this is a fruitless and generally erroneous exercise as, in most cases, not enough detail remains to do this with confidence. This is borne out by one

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<sup>508</sup> Kroll & Waggoner, 1984, p.334

<sup>509</sup> Kraay, 1976, p.80

<sup>510</sup> Price & Waggoner, 1975

<sup>511</sup> Rutter, 1997, p.47-8

example which has been placed quite early in the sequence by Garraffo<sup>512</sup> and almost at the end of the sequence by Noe<sup>513</sup>.

These coins can only be described as Pegasus obverse with square punch reverse. One bears the traces of an incuse square making Corinth the most likely candidate as the undertype, but no other details are visible<sup>514</sup>. Of the remaining five coins, three have the square punch reverse and two have the square punch reverse with rounded inserts<sup>515</sup>.

However, a group one Corinthian coin<sup>516</sup> provides the undertype for a later issue of Metapontum on a dumpy incuse issue which is dated to c470-430BC<sup>517</sup>. The Corinthian die is obverse o26, with a standing Pegasus type. Identification is confirmed as, on the obverse of the Corinthian dies, Pegasus has a small die flaw in the field before his chest. This flaw is clearly visible beneath the Metapontine overstrike.

Group one Corinthian coins are also found as an undertype at Taras on three occasions<sup>518</sup>. Obverse o81 or obverse o83 with Pegasus unusually facing right is the undertype of the Tarantine dolphin rider incuse issue dated at c500BC<sup>519</sup>. A Corinthian issue with square punch reverse with rounded inserts provides the undertype for the Tarentine double relief issue of dolphin rider and hippocamp (with rayed border on reverse hence an early issue) dated to the early fifth century BC. Finally, a similar Corinthian die provides the flan for the dolphin rider with seated male figure type dated to c450-425BC<sup>520</sup>. Caulonia uses group one Corinthian coins on two occasions under its stag and messenger type, dated to c470-450BC<sup>521</sup>. One of the Corinthian coins has the square punch reverse

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<sup>512</sup> Garraffo, 1984, *Metapontum* 12a

<sup>513</sup> Noe, 1957, p.22 (d)

<sup>514</sup> Garraffo, 1984, *Metapontum* 11a

<sup>515</sup> Square punch reverses with square inserts are Garraffo's *Metapontum* 4a, 12a & 14a and square punch reverses with rounded inserts are Garraffo *Metapontum* 7b and 9a

<sup>516</sup> Garraffo, 1984, *Metapontum* 18m

<sup>517</sup> Rutter, 1997, p.48

<sup>518</sup> Garraffo, 1984, *Taranto* 1a, 4a and 21a

<sup>519</sup> Rutter, 1997, p.52

<sup>520</sup> Ibid, p.56

<sup>521</sup> Garraffo, 1984, *Caulonia* 4a and 4b

with rounded inserts<sup>522</sup>, but the form of the reverse cannot be discerned on the other. Croton also uses an early Corinthian coin as a flan for an early tripod incuse issue<sup>523</sup>, but again the form of the reverse of the Corinthian coin cannot be seen. Finally, only one Sicilian mint, Selinus, uses a group one Corinthian coin as an undertype on two occasions for its incuse issue dated late sixth to early fifth century BC<sup>524</sup>. One of the Corinthian coins used has the square punch reverse with rounded inserts<sup>525</sup>, but the detail of the undertype on the other coin cannot be seen.

The one Corinthian overstrike in this period which is of some use is the coin struck on a gorgoneion issue of Athens (Cat. 46e). The dates of the wappenmunzen issues of Athens have been debated and discussed in detail. However, there is consensus that the gorgoneion issue is one of the latest issues in the wappenmunzen series. Kraay has argued that the Athenian gorgoneion issue “cannot have been minted much before 530BC”<sup>526</sup>.

The varying opinions of the dates of commencement of the Greek coinages have led to problems. If the Athenian gorgoneion issue was the latest issue in the wappenmunzen series and the owls are introduced c525-510/6BC, then this presents a problem for the chronologies of both Athens and Corinth. A late sixth century BC date for the introduction of the Athenian owls is supported by the hoard evidence as, to date, they have not been found in any sixth century hoards. Wappenmunzen make their earliest appearance in hoards in Athens c515BC (*IGCH* 2) and Attica c510BC (*IGCH* 5) while owls do not appear in any hoards before c500BC. Although the date of the Taranto hoard is disputed it seems to be the earliest hoard containing owls (dated to c500-490BC) and by the first decade of the fifth century BC owls had travelled to Egypt (*IGCH* 1639) and the Levant (*IGCH* 1479).

Thus, the date of the Athenian gorgoneion issue is dependant on the date of the earliest owls. If the owls were introduced c525BC, then the gorgoneion cannot be much earlier

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<sup>522</sup> Garraffo, 1984, *Caulonia* 4a

<sup>523</sup> Ibid, *Croton* 1a

<sup>524</sup> Ibid, *Selinus* 1a and 2a

<sup>525</sup> Ibid, *Selinus* 1a

<sup>526</sup> Kraay, 1976, p.81

than this unless there was a break in minting at the Athenian mint. This, in turn, has repercussions on the Corinthian chronology.

In terms of the Corinthian group one coins, therefore, firm dates are not easy to come by. If the date of c530BC for the *wappenmunzen* gorgoneion overstrike is accepted, then the Corinthian mint had, by that point used 34 obverse and 33 reverse dies. The die study has shown that the Corinthian coin (Cat. 46) struck over the *wappenmunzen* issue is linked to the standing Pegasus phase which occurred near the start of the coinage. The Corinthian coin (Cat. 46) with obverse die o34 is one of the earliest flying Pegasus types.

If, on the other hand, the gorgoneion issue is nearer to c510BC in date<sup>a</sup> (the latest date at which the owls are thought to have been introduced), then this means that the beginning of the Corinthian coinage must be later than previously thought.

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<sup>a</sup> "an attractive probability" according to Kroll and Waggoner, 1975, p.65

The wappenmunzen overstrike gives a terminus post quem for Cat. 46 of either c530BC or c510/6BC. The amount of Corinthian obverse dies used before this die is 34. It is generally accepted that at least one obverse die per year would be used by a mint. It is possible that the most archaic coins (see plate 1) were issued in a trickle over many years and the mill-sail reverse die may have been very old when it came back into use after the square punch reverse had been introduced (a mint in Asia Minor used the same die for about eighty years<sup>532</sup>). However, the earliest Egyptian hoards contained the archaic types in combination with the new standard types and this argues for not too much chronological separation between the Corinthian issues (see plate A).

Likewise, it is equally possible to argue that the most archaic Corinthian issues were issued within a relatively short space of time, hence the varying portrayals of Pegasus (possibly due to more than die maker being employed), and the use of the mil-sail reverse with the early flying and standing Pegasus types might suggest that this type of reverse was still in use when these obverse types were introduced.

Working on the theory that consumption of dies at the mint was not less than one obverse die per year, the wappenmunzen overstrike gives a date for the beginning of the Corinthian

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<sup>532</sup> Burnett, 1991, p.18

coinage of either c564BC (based on a date of c530BC for the wappenmunzen issue) or c544BC (based on a date of c510BC for the wappenmunzen issue). However, given that standing pegasi (slightly earlier than the flying Pegasus type overstruck on the wappenmunzen) were still being overstruck in the mid fifth century BC, it doesn't seem likely that they would have been issued before the mid sixth century BC. Also, as it has previously been argued that Greek silver coinage did not commence earlier than c560BC (see p.182) and that the Athenian coinage most likely commenced at some point after c550BC, the lower date for the beginning of the Corinthian coinage seems most attractive.

The earliest dates for hoards with group one coins of Corinth cannot be before c525/520BC. Even allowing for the time for these coins to travel to Egypt and Italy, they cannot have been struck much earlier or one would expect to find them in earlier hoards.

The die study has shown that dies cannot be seen as strung out in a simple linear style. In most phases of the coinage issued by the Corinthian mint, older dies were still in use as new ones came into use providing a certain amount of overlapping. Also, there is strong evidence for special issues or the use of an auxiliary mint at Corinth, both of which add dies to the overall number used but supplement the sequence rather than extend it chronologically.

The lack of die links and paucity of examples for the earliest phase of Corinthian coinage seems to suggest that it was more extensive than it appears to us today. In the globular phase (Cat. 1-6) five obverses were used with six reverses. One obverse die, o5, is found on two surviving coins (Cat. 5 & 6) but there is no die linkage in this earliest group apart from this. It seems that, at least in the initial phases of the globular issues, one obverse die was used in combination with one reverse die and both were discarded when they became broken or worn.

When the flans change to the broader and thinner type, there is more linkage among the obverse dies than the reverse dies (see die charts on p.162ff). Obverses o11-o14 each have two surviving coins, using a pool of seven reverse dies. This suggests that a combination of one obverse die with two or more reverse dies is probable. By Cat. 46 (the wappenmunzen overstrike) 29 obverse and 27 reverse dies have been used (not including the globular issues). This suggests that, working on the principle that at least two reverse dies were used with each obverse die, many reverse dies do not survive to us today. It must also be noted that a single surviving example of a die combination does not necessarily mean a small or limited issue. In group one, the square punch reverse types



with rounded inserts see five obverse dies used with a pool of 17 reverse dies (plates 8 & 9), and in group two, one obverse die, o173, was used with 15 reverse dies. In both cases, some of these combinations are represented by a single surviving coin, others by up to ten or more coins (eg, Cat. 119, Cat. 390).

Thus, using the number of dies to attempt to arrive at a date for the introduction of coinage at Corinth is problematic. In fact, attempts to wring evidence of scale of coin production from the surviving number of dies of a coinage are contentious. Figueira, for example, expands the known number of dies for Acanthus in the period 530-455/50BC from 89 known obverses to 242 estimated obverses  $\pm 30$ <sup>533</sup>. Buttrely has argued that, regardless of approach, attempts to estimate the size of a coinage in this way are not valid<sup>534</sup>.

However, the hoard evidence proves that the earliest globular issues were still in circulation when the standing and early flying Pegasus types were introduced. This could either mean that a large amount were struck and remained in circulation for a long time, or that they were not separated too far chronologically from each other. Likewise, standing Pegasus types were still being used as flans at the mint of Metapontum in c475-440BC (see p.185), suggesting either that that these coins were issued in huge numbers and were still in circulation after the head of Athena reverse types were brought in by the Corinthian mint, or that they were not obsolete for too long before their restriking.

Therefore, in the absence of hard evidence for a date of commencement of coinage at Corinth, one must rely to an extent on a "best guess" approach<sup>535</sup>. By c530-c510BC, 34 obverse dies had been used. At the rate of one obverse die per year, the start of Corinthian coinage can be set at c564-544BC, although we know that not all dies survive in the record, and we cannot accurately predict the rate at which they were used. Thus, all things considered, it seems most probable that the Corinthian mint started to issue coins at some point in the period 550/545BC after the Aeginetan and Athenian coinages had got underway<sup>a</sup>.

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<sup>533</sup> Figueira, 1998, p.191

<sup>534</sup> See Buttrely, 1994, particularly p.350-2 for a summary of the arguments

<sup>535</sup> A method much maligned by Kagan, 1982, p. 358ff

<sup>a</sup> The Aeginetan and other undertypes used by Corinth for flans as early as Cat. 14 (in the early "experimental" phase of the Corinthian mint, linked to the early mill-sail reverse) suggest that Corinth was a later starter than Aegina, Athens and some of the northern Greek mints. See p.190ff for further discussion.

The rate of consumption of dies at the Corinthian mint and the duration of the group one coinage can only be hypothesised. As Kagan has noted “it comes down to personal judgement as to whether one believes that the introduction of silver coinage was a gradual evolving process or one that was grasped vigorously”<sup>536</sup>.

#### **6.4 The date of the introduction of the new head of Athena reverse type.**

Ravel’s date of commencement of his period two coins with head of Athena reverses must be too early. As has been already mentioned above, most numismatists now reject the date of c550BC for the introduction of the head of Athena to the reverse of the coins. The wappenmunzen overstrike provides evidence that the group one coins were still being issued after 530BC (the upper limit for the Athenian wappenmunzen). Also, the three coins (out of a total of four) which have been seen from the Taranto hoard which have head of Athena in linear border are of good, relatively unworn condition. It is extremely unlikely that these coins remained in such a fresh state if they had been struck some 40 years earlier (using Ravel’s dating and Babelon’s date of deposit for the Taranto hoard). The Taranto hoard itself has been lowered in date to c500-490BC due to the discovery of medium-incuse pieces of Metapontum in the British Museum in London<sup>537</sup>.

This evidence proves that a date of c550BC for the introduction of head of Athena to the reverse of the Corinthian coins is now untenable<sup>538</sup>. Some numismatists have seen the change in the Corinthian type as contemporary with the Athenian introduction of the owls in c525-510/6BC<sup>a</sup>. Kraay, basing his theory on the wappenmunzen overstrike (which he dates at c530BC<sup>b</sup>), sees the change occurring at Corinth c515BC<sup>539</sup>. The authors of *Asyut* give a date of c500BC based on the evidence of that hoard<sup>540</sup>.

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<sup>536</sup> Kagan, 1994, p.50

<sup>537</sup> See *IGCH* 1874 entry

<sup>538</sup> Ravel himself fails to justify how the head of Athena reverse Corinthian coins in the Taranto hoard could still be only “slightly worn” after 40 or so years, working on his chronology.

<sup>a</sup> See previous discussion re the Athenian chronology.

<sup>b</sup> Kraay, 1976, p.81

<sup>539</sup> *Ibid*, p.82

<sup>540</sup> Price & Waggoner, 1975, p.78

The wappenmunzen overstrike suggests that the change in type at Corinth must have occurred after c525BC (the optimum date for the change in type at Athens). Also, as o34, overstruck on the wappenmunzen, is then followed by 40 group one obverse dies this has repercussions on the date of the change to the head of Athena reverse type. As the die study has shown, some of the Corinthian group one dies are likely to have been contemporary with one another, notably the four obverses o84-o87, and some supplement the sequence rather than extend it (obverses o51 and o52).

Using the formula of one obverse die per year, this would date the introduction of the head of Athena type at Corinth to a period between c490-470BC (using the upper limit of 530BC and the lower limit of c510BC for the wappenmunzen). However, the evidence of the Selinus, Taranto and Asyut hoards proves that this is much too late. The Selinus hoard contained two Aeginetan coins dated to c510-490BC and the Taranto hoard has been redated to c500-490BC on the basis of some of the Metapontine issues (see appendix). Both of these hoards contained Corinthian group two coins of the earliest type with linear border. The Asyut hoard contained later Corinthian group two issues and is likely to have been accumulated over the period 490-475BC<sup>c</sup>.

Thus, Taranto and Selinus give a terminus ante quem of c490BC for the introduction of the head of Athena to the reverse of the Corinthian coins. This means that the 40 group one obverse dies following o34 can be assigned to the period c530-510 to some time before c490BC. As it is likely that the Corinthian mint used more than one obverse die per year and some dies supplement rather than extend the sequence (see above) this lifts the lower limit. At the hypothetical rate of two obverses per year, the group one dies following o34 could be in use until c510 (assuming a date of c530BC for o34) or c490BC (assuming a date of c510BC for o34). This is analogous of the 33 obverse dies preceding o34 which are likely to have been used over a similar period of time between c550/545-530BC.

As Taranto and Selinus show that the group two coinage is introduced before c490BC, it seems likely that the group one coinage ceased at around c500BC.

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<sup>c</sup> Price & Waggoner, 1975, p.121

Arriving at a date for the head of Athena reverse type being introduced by the Corinthian mint largely depends on a combination of the evidence from the wappenmunzen overstrike, the date of the change in type of the Athenian coinage and the hoards. Selinus and Taranto give a *terminus ante quem* of 490BC for the introduction of the head of Athena reverse at Corinth. It also seems likely that the group one coinage ceased around c500BC (see p.190a).

The Sambiasi hoard in Italy contained two group one coins. It is dated to c520BC and this suggests that group two coins had not yet reached Italy by this date. Also, none of the sixth century archaic Egyptian hoards containing Corinthian coins have group two coins present. Thus, this evidence strongly suggests a date for the introduction of the head of Athena reverse type to some point in the period c500-490BC, possibly a few years earlier. In the Selinus hoard, the group two coins of Corinth are in very good condition with no signs of wear. The latest coins in this hoard are two from Aegina dated to the period c510-490BC, and it seems very likely that the Corinthian group two coins are contemporary with these.

The group one Corinthian coins, however, which were issued in large quantities, remained in circulation. This is proven by both the hoard evidence (e.g. Selinus, Taranto, Asyut) and by the overstrikes. The latest Corinthian coins with the square punch reverse with rounded inserts are found as undertypes at Taras, on a coin issued c500BC and Selinus for an issue dated late in the sixth century BC. Thus, if the Corinthian group one coins were overstruck at Italian mints within a few years of issue<sup>541</sup> and the change in fabric at the Italian and Sicilian mints c500BC was related to the change in fabric at Corinth<sup>542</sup> then this indicates that the group two coinage at Corinth was initiated c500BC or in the years just preceding that date.

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<sup>541</sup> The journey between Corinth and Italy/Sicily was not a long one. Speedy travel between Corinth and Sicily with a favourable wind is attested by Diodorus, *Historical Library*, 15.74.1

<sup>542</sup> Jenkins, 1970, p.126

The group one coinage ended when the head of Athena reverse type was introduced and any break in activity at the Corinthian mint is likely to have been very brief if, indeed, a break even occurred.

## 6.5 The overstrike evidence of Acragas on Corinth

Acragas provides two coins with Corinthian undertypes which are important to the Corinthian chronology.

The first archaic Acragas coin<sup>546</sup> struck over the Corinthian head of Athena issue is interesting (see fig 12.1 and fig.12a.1 for an enlarged photograph). Above the standing eagle, the remains of an incuse square can be seen. Westermarck<sup>547</sup> noted that there appeared to be a “knob” on the helmet of Athena, and identified this as a die flaw such as is seen on coin 256, reverse die r187<sup>548</sup>. As Athena facing right is generally the norm at this time, there are only a small amount of left-facing

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<sup>546</sup> Garraffo, 1984, *Acragas* 1

<sup>547</sup> Westermarck, 1979, p.293

<sup>548</sup> Garraffo erroneously identifies the undertype as Ravel 133.

NOTE Coins illustrated at larger than actual size to show detail.



FIG 12. ACRAGAS OVERSTRIKES ON CORINTH AND KEY CORINTHIAN DIES.

NOTE: Coins illustrated at larger than actual size to show detail.



Pegasus left



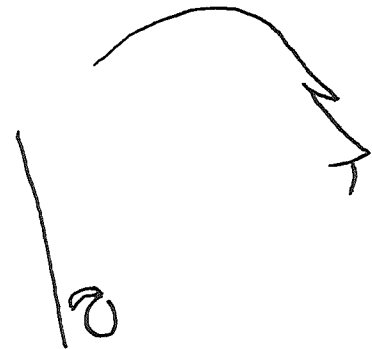
Remaining detail of Corinthian obverse



1. Acragas 1

← Detail at front of helmet

↖ Detail at end of queue



Remaining detail of Corinthian reverse

Most likely Corinthian undertypes (rev.)



2. R99



3. R119

FIG 12a. ACRAGAS 1 REINTERPRETED.

possibilities which could fit the undertype. However, closer inspection of this coin reveals that Westermarck's identification of the undertype is not secure. When the coin is viewed from a different perspective, the remains of a right-facing head of Athena can be seen on the body of the eagle (Fig. 12a.1). From the remnants of the incuse square, visible on the left edge of the coin, the underlying type appears to have been an early group two Corinthian issue with a small right-facing head of Athena set at an angle in an incuse square. The nose guard of the helmet appears to jut out slightly. This can be likened to reverse die r99, an early group two issue (see Fig. 12a.2) but this is by no means a definite match as the underlying type was probably distorted by the overstriking process. A more convincing detail is the end of the queue which is visible on the Acragas coin. It ends in a knot with a small spur sticking out (possibly to suggest a ribbon used to secure the queue). This feature was notable in the early phases of the Corinthian group two coinage, and endured until the linear border began to be phased out as a feature, as on plate 3 (reverse r119 shows the trace linear border and the distinctive end to the queue - see Fig 12a.3). Extra detail at the end of the queue did not subsequently appear until later in the Corinthian series when the head of Athena had become much larger (see plate 19ff).

The reverse of the Acragas coin clearly shows that Pegasus is left-facing. Pegasus faced both left and right in the initial phases of the group two coinage and the reasons for this are unclear. The two suggested Corinthian reverses for the undertype of the Acragas coin (r99 and r119) are teamed with right-facing Pegasi, so either the surviving examples with head of Athena right and Pegasus left do not have the detail of the end of the queue preserved to allow definite identification, or the Acragas coin was overstruck on a Corinthian die combination which does not survive today. Regardless, the small head set at an angle within the incuse square and the detail at the end of the queue strongly suggest an early Corinthian group two issue occurring at some point within the linear border phase of minting (see plates 10 and 11).

This coin is from Group 1 of Acragas where the city's name is rendered AKRAGANTOS. However, a full study of the mint at Acragas has not been undertaken yet, so the



chronology is not secure. Rutter points out that the earliest coins have sophisticated, fully developed types<sup>549</sup> when the coinage commences, quite unlike the clumsy, often crude, archaic renditions of animals and symbols found on the earliest coins of most sixth century BC mints.

The second coin<sup>550</sup> is quite challenging in respect of identification of the undertype and there are several points to note. Firstly, there would appear to be the traces of a linear border in the underlying incuse of the Corinthian type (see fig. 12.2). However, this does not signify the earliest head of Athena issue as the incuse square on this coin is clearly larger than those early dies and slightly irregular in shape. The linear border, which was pronounced on the early issues of the head of Athena type, was sometimes in evidence on later issues in trace form.

Secondly, the detail which remains on the undertype of the Acragas issue shows that the bowl of the helmet touches the top of the incuse square about 5mm in from the left hand corner of the die. Even allowing for the effects of the overstriking distorting the underlying type, most dies show the bowl of the helmet extending into the right hand corner of the underlying die, where the head is set upright within the incuse surround, as is the case here.

Finally, the reverse Corinthian die is relatively unusual as Athena generally faces right. There are not many examples of Athena facing left at this time, which narrows the search for the underlying die significantly. It is therefore certain that reverse die r131 is the underlying Corinthian issue. The traces of a linear border remain and the bowl of the helmet touches the top of the incuse square at the right place. Also, the position of the peak of the helmet corresponds to the beak of the eagle, and the remaining space on the underlying incuse which falls beneath the eagle's beak corresponds with the distance

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<sup>549</sup> Rutter, 1997, p.113

<sup>550</sup> Garraffo, 1984, *Acragas* 3

between Athena's brow and nose and the linear border. Finally, the "blob" beneath the eagle's tail feathers corresponds to the knot at the end of Athena's queue.

Only the merest detail of the obverse remains visible under the Acragas crab - the rump and tail of Pegasus. However, the angle of the tail and the proportions of the rump fit the obverse die used in combination with r131, obverse o105, so it seems likely that this die pairing is the probable undertype (Cat. 186).

This Corinthian issue falls after the earliest Athena head issues which have distinct linear border and very archaic appearance, and before the issues which have both Pegasus and head of Athena facing right and Pegasus with forelegs extended. It is placed at a point in the sequence which commences with a few linear border reverses, so appears just as the linear border is phased out. However, the small, neat, left-facing Pegasus, the favoured orientation of the latest linear border issues, is retained. This coin comes from Acragas group 2, where the name of the city is shortened to AKRA.

Acragas struck on the Attic standard and her earliest coins were didrachms. However, the Attic didrachm corresponds to the Corinthian stater, so the Corinthian coin provided a convenient flan for Acragas as no adjustment in the weight was needed. The weight of this coin is interesting. The Corinthian coins at this time had an average weight of 8.42 grams. However, 42.5% of the coins issued in this phase fell into the optimum range of 8.50g-8.70g, so this Acragas coin at 8.65g is in the upper ranges of that limit.

Dating these Acragas coins is not easy. The evidence from the Gela hoard proves that group 1 and 2 were both struck before c485BC when the hoard is thought to have been deposited<sup>551</sup>, although how long before is not clear. The state of wear of the group 1 coins in the Gela hoard, in tandem with the fact that Acragas seems to have been "a late starter among early Sicilian mints" leads Rutter to propose a late sixth century BC context for the

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<sup>551</sup> Kraay (1962, p.419) says that this hoard "can hardly have been buried before 490" and thinks a date of c485BC most likely. Jenkins suggests c485BC - cf. *IGCH* 2066, while Rutter favours c480BC (Rutter, 1997, p.114) so 485BC has been taken as the date of deposit.

earliest coins<sup>552</sup>. This is confirmed by additional overstrike evidence which shows Acragas group 1 overstruck by a Poseidonia issue which is currently dated to c510-500BC.

## 6.6 Other numismatic evidence

Thus far it has been argued that the most likely date for the change in type at Corinth occurred c505/500BC, or possibly in the early 490's BC. Also, the Acragas overstrike gives a terminus ante quem of c485BC for the end of the linear border issues, although the travelling time from Corinth makes it likely that a date of nearer to c490BC is more plausible.

The linear border phase of coinage used 17 obverse and 40 reverse dies. At the rate of one die per year, the duration of this phase of coinage could be set at c505/500BC to 488/3BC. However, the die linkage in this phase of minting makes it very likely that more than one obverse die per year was used. Therefore, taking into account the evidence of the Taranto, Selinus and Gela hoards, it seems likely that the duration of the linear border type was around ten years or so and ended c490BC.

The following issues which span the period c490BC to the introduction of the earring type are extremely difficult to date. The latest Corinthian stater in the Isthmia temple deposit is Cat. 261 (o129) and, as the temple was thought to have been destroyed by fire c480BC, this date and die have assumed enormous significance in studies of the Corinthian mint. New evidence, however, has shown that the temple was destroyed at some point between c470-450BC<sup>a</sup> and this has important and complicated repercussions on the Corinthian chronology.

The latest Corinthian coin in the Asyut hoard (c475BC) is Cat. 244 and it is early in the issue which sees Pegasus change direction to the right and become a larger, less cramped figure. This change in direction is linked through reverse dies to the previous left-facing Pegasi so a break in minting does not seem to have occurred.

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<sup>552</sup> Rutter, 1997, p.113

<sup>a</sup> Gebhard & Hemans, 1998, p.1

Thus, the date of the Asyut hoard means that Cat. 244 cannot be later than c475BC and, given travelling time to Egypt, is more likely to be closer to c480BC. The victory of the Greeks over the Persians may have provided the occasion for the change in the direction of the Pegasus, but this cannot only be hypothesised due to the lack of any supporting evidence<sup>b</sup>.

The stage of advancement of the Aeginetan coins in the Isthmia, Asyut and South Anatolian hoards is similar ("large skew" turtles dating to some time after c480BC) and the Corinthian coins in Isthmia and Asyut are broadly contemporary. As Asyut and the South Anatolia hoards are dated to the mid 470's BC, the evidence would seem to suggest that the Isthmia deposit is of a similar date. The new evidence, however, which lowers the date of closure of the Isthmia deposit to c470-450BC presents difficulties in dating of the coins of the Corinthian mint. In an attempt to resolve this problem, it is necessary to look at the later Corinthian issues.

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<sup>b</sup> Pegasus generally remained right-facing until the 430's BC, when the "transitional" coins were issued, but changed direction on two occasions before that (plate 18 and plate 23). This was obviously significant but, although it may indicate the activation of an auxiliary mint at key times, the reasons for this remain unknown.

The change in direction of the Pegasus cannot be confidently related to historical events so, in terms of the design of the Corinthian dies, the next significant feature after the linear border is the introduction of an earring to the reverses.

The earring issues are also important as one reverse die with Athena wearing an earring and a spring of ivy in the field behind the head, r248, is combined with Corinthian obverse o156 as well as Ambraciot obverses.

Kraay dates the Ambraciot issue to 480/479BC, possibly struck to pay for forces which marched against the Persians left at Plataea in 479BC or possibly struck c479/8BC from the spoils of Plataea as the addition of the earring to the head of Athena is symbolic of this great wealth<sup>a</sup>. Kraay does not see the Corinthian earring issues as contemporary, dating them instead to c450-440BC<sup>b</sup>.

This view presents some problems. Firstly, the dies for the Ambraciot coins were prepared by Corinth and it seems likely that the Corinthian mint struck the coins on Ambracia's behalf. It seems unlikely that the Corinthian mint would strike such attractive coins for her colony while adhering to a standard unadorned design for the Corinthian reverses. Also, if the special issue of Ambracia was related to the wealth gained at Plataea and the earring refers to the Persian spoils<sup>c</sup>, why would Corinth not have commemorated this on her own coinage?

Kraay sees the parallel issues of Corinth (plate 18 and plate 23) as contemporary on stylistic grounds<sup>d</sup>, but the die study has shown that this is not the case, and the left-facing issue (plate 23) ending in the earring/Ambracia reverse is later than the left-facing issue on plate 18. It has also been shown by the die study that the hairstyle on the Corinthian/Ambraciot reverse is of a more advanced design than the customary straight hair, and that this change in the representation of the hairstyle occurred after the Corinthian earring issue had commenced.

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<sup>a</sup> Kraay, 1977, p. 43

<sup>b</sup> Ibid, p.43, f/n 25

<sup>c</sup> Ibid p.44

<sup>d</sup> Ibid, p.41-2

Thus, it seems that the Corinthian and Ambraciot earring issues are contemporary<sup>e</sup>. As no Corinthian earring issues were present in the Asyut hoard they must be later than c475BC, but no firm date can be attached to the commencement of the issue or the event which occasioned it.

There is no link between the earring issues and the ϕ behind head issues which could be indicative of a break in minting as, in all other phases of the group two coinage, there is some overlapping.

The ϕ behind the head issues<sup>f</sup> were struck after the earring issues probably following a break in the activity of the mint, as discussed above, in a trickle over some years (note the prolonged use of obverse die o173) to then be followed by the new massive output of transitional issues.

The Corinth 1952/3 hoard contained earring, ϕ behind head and transitional issues, all of good weight and similar degree of wear suggesting that they are fairly close to one another chronologically.

Thus we are left with the following picture. It is fairly certain that the early linear border issues ceased around c490BC, and the transitional issues commenced c440/435BC<sup>g</sup>. The “standard” Athena, earring and ϕ behind the head reverses are therefore used between c490-440/435BC. The Asyut hoard shows that the earring and ϕ behind the head issues post-date c475BC. The Isthmia hoard suggests these issues post-date 470BC, and possibly even c450BC (the lowest limit for the destruction of the temple).

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<sup>e</sup> There is much potential for the coinages of Leucas and Ambracia to enhance our understanding of the Corinthian issues, but this would be a massive undertaking, and it was not possible to address this issue within the scope of this thesis.

<sup>f</sup> The significance of the form of the *koppa* on the coins is hard to interpret. The Corinthian mint generally used a plain version on the coins although this sometimes appeared with a line through the loop as ϕ (see plate 23). This could mean that the die-cutter came from the eastern Aegean and used the form of *koppa* from his native alphabet, or perhaps that other die-cutters used the simple form for ease given the size of the coins (Jeffrey, 1990, p.65 and 114ff)

<sup>g</sup> See p.204 ff.

It is hard to arrive at firm dates for the internal sequence. However, a Taras overstrike<sup>556</sup> places the Corinthian issue with  $\phi$  and crescent behind the head of Athena (Cat. 417, reverse r307) in the period 450-425BC<sup>557</sup>. Kraay thinks a date in the upper 430's BC is possible for the Corinthian coin, although a date in the 440's BC is more attractive if the transitional issues begin c440/435BC. The so-called "Myron" issue, which shows Athena in classical style with short hair, reverse r309, is linked by obverse o180 to reverse r307 and is dated to the mid fifth century BC on style<sup>558</sup>.

The  $\phi$  behind the head of Athena reverse types were issued in a regular but relatively low volume output (8 obverse and 30 reverse dies) until they were superseded by the massive transitional issues.

The transitional issues were dated by Ravel as commencing in 430BC. However, in light of stylistic evidence from other art mediums, the archaic form (including the eye and the smile) disappeared from sculpture and painting around the mid fifth century BC. Ravel thought it was unrealistic that new advances and increasing realism in art would have been ignored by the die-makers at Corinth, and that around twenty years would pass before these innovations were present on the coins.

As far as Ravel was concerned, the only possible explanation for this anomaly was that Corinth retained an immobile type (like Athens) even after the style itself was obsolete<sup>a</sup>. Oman had earlier remarked on the problem of the number of dies in the transitional style<sup>559</sup> and had come to conclusions similar to Ravel's. Namely that some of the apparently archaic head of Athena reverses were later than they looked and that the type had become immobile. He also makes the point that from c460-446/5BC (until the 30 Years Peace Agreement saw Athens relinquish its hold on the Megarid) Corinth is more likely to have had a deficiency in wealth and silver in the wake of her defeat in 460/459 BC at the naval battle

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<sup>556</sup> Garraffo, 1984, *Taranto*, 23a

<sup>557</sup> Rutter, 1997, p.56

<sup>558</sup> "soon after c450", Kraay, 1976, p.83

<sup>a</sup> As it also retained *koppa* which had gone out of general use by the first half of the fifth century BC (Jeffrey, 1990, p.114)

<sup>559</sup> Oman, 1909

of Cecryphaleia when she aided Aegina<sup>561</sup>. Afterwards, Corinth was strong enough to challenge Athens in the Peloponnesian War and sustain herself in a series of disputes and battles which punctuated the war.

The retention of the archaic style on the Corinthian dies has been the subject of much comment. The curved wing Pegasus remains similar in style in all phases of the group two coinage. Also, the head of Athena on the Corinthian coins remains archaic, with the archaic eye and smile retained long after such devices had been abandoned in painting and sculpture. The reason for the adoption of an “immobile type” by cities such as Corinth and Athens is usually seen as an unwillingness on the part of the authorities to tamper with the design of a coinage whose types were guarantees of quality and fineness. Changes to the types may arouse suspicion about the quality of the coins, particularly if they are in circulation along with the older, more familiar types. This view is given support by the “Potidaean” issue<sup>562</sup> which was sufficiently different to have been recalled to the Corinthian mint for modifications<sup>563</sup>.

The use of many varying types represented by the transitional issues of the Corinthian mint can perhaps be explained in this context. Curved and straight wing Pegasi are issued contemporaneously and, on the earliest transitional reverses, Athena retains her queue, even although it is more realistic and usually looser (see fig. 9). Thus, a curved wing Pegasus bestows legitimacy on a transitional reverse, and Athena’s familiar queue performs the same function with a new straight winged Pegasus.

The dates of the transitional issues are confirmed by the issue of coins which have an *epsilon* beneath Pegasus (fig. 12.3)<sup>a</sup>. These coins were thought to be struck to cover costs relating to the colonists who went to settle in Epidamnus in 435BC<sup>564</sup>. These coins were

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<sup>561</sup> Oman, 1909.

<sup>562</sup> Discussed in the absolute chronology section.

<sup>563</sup> An analogy can be made with the Panathenaic amphorae given as a prize to the winner of the Panathenaic race. This retained an archaic style until the early fourth century BC. This is thought to be due to the fact that if the vase was markedly different from that of previous winners, the recipient might have felt that his victory had been compromised or devalued in some way, cf. Havelock, 1965, p.332.

<sup>a</sup> This is quite difficult to see on the plate, but the top horizontal bar and the back of the *epsilon* are just visible above the top of the loop of the *koppa*.

<sup>564</sup> Thucydides, *Histories*, 1.27



almost certainly issued in Corinth rather than Epidamnus<sup>565</sup>. On one surviving example, the *epsilon* is altered to ϕ<sup>566</sup>, but another unaltered example exists<sup>567</sup>. The reason for the alteration may be that when these coins re-entered the environs of Corinth, the unfamiliar ethnic gave rise to suspicion and so they were taken to the Corinthian mint where ϕ was superimposed over the *epsilon*. The obverse die of this issue has a curved wing Pegasus type, and the reverse shows head of Athena with a neckflap to the helmet, a device that appeared in the transitional phase at Corinth.

Another unusual issue shows a straight winged Pegasus ridden by Bellerophon with *pi* beneath, while the reverse has a transitional style head of Athena type with hair still in a queue and the letter *pi* behind (fig. 12.4)<sup>568</sup>. This issue has been attributed to Potidaea. Kraay thought it was possible that these coins were struck by Potidaea to pay for the Corinthians to support her in the revolt against Athens<sup>569</sup>. Figueira has offered an alternative explanation and has suggested that these coins were again struck by Corinth and sent out with Aristeus' expedition to cover his costs<sup>570</sup>. However, Figueira does acknowledge that the style of these coins "complicate this supposition"<sup>571</sup>.

Kraay's explanation, that Bellerophon was added to the obverse to suit the Macedonian preference for a horseman type<sup>572</sup>, is interesting, but in the fourth century BC, no similar concessions were made to the local tastes of the "pegasi" mints. However, if this coin was struck at Potidaea it would presumably be based on current Corinthian types which strongly suggests that the straight winged Pegasus type was in use prior to 433BC.

However, as the figure of Bellerophon on the die is rather badly executed and his head falls off the flan, there could be an alternative explanation for this issue. It is possible that Corinth sent out dies to Potidaea to ensure that the city would be able to strike pegasi of the

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<sup>565</sup> A summary of current opinions on this subject can be found in Figueira, 1998, p.490-1. The style of these dies suggests the work of the auxiliary mint at Corinth.

<sup>566</sup> British Museum, London (Inv: 1949-4.11.597) ex Mavrogordato bequest, ex Pozzi Collection 3694 (See "Epidamnus" issue on Fig. 12)

<sup>567</sup> Christie, 10.02.1970, Lot 232

<sup>568</sup> A coin of this type was in the Corinth 1952 hoard, along with coins of Corinth, Ambracia and Leucas,

<sup>569</sup> Kraay, 1976, p. 85

<sup>570</sup> Figueira, 1998, p.491

<sup>571</sup> Ibid

<sup>572</sup> Kraay, 1976, p.85

required style, size and fineness. Such procedure was routine in Spain in the seventeenth century as the Spanish sent out dies to colonial South America to ensure that the coins struck there met the requirements of the mint back in Spain<sup>573</sup>. It is possible in the case of this coin that, when the dies arrived in Potidaea, the horseman was then added to satisfy local taste and to perhaps show that, while Corinthian help was welcome, the Potidaean identity was not to be compromised.

Further support for moving these transitional dies upwards chronologically (in terms of Ravel's dating) comes from a study of the later coinage of Corinth. Although this falls outwith the scope of this thesis, a brief survey of the later Corinthian coinage is useful in placing the suppositions made above into context. Ravel's second corpus on the coinage of Corinth<sup>574</sup> follows the Corinthian silver stater issues from 415BC to 300BC. His periods are as follows; period four runs from 415 - 387 BC, period five from 387 - 306 BC, and period six from 306 - 300BC.

Ravel's period four coinage is subdivided into 17 groups according to the symbol behind the head of Athena on the reverse dies. This period sees 227 obverse dies used with 291 reverse dies. However, as with Ravel's groups in period five, the sequential relationships between these groups is largely unknown<sup>575</sup>. None of the seventeen groups in Ravel's period four is linked with any of the period three coins, and the actual chronological sequence of the period four issues is unclear. Ravel lacks a cogent argument for the positioning of these groups in his sequence, and the die-linked strings are rarely longer than six or so dies, which does not allow the internal development of these groups to be charted with any certainty. Thus, Ravel's study of the late fifth and fourth century BC coinage of Corinth only establishes a relative chronology of the broadest nature to c300BC.

The end of Ravel's period five in 307BC seems secure as evinced by the Chiliomodi hoard<sup>576</sup>, so the upper limit for his period six is set, although this is well outwith the scope

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<sup>573</sup> MacTeir, 1978, p.32

<sup>574</sup> Ravel, 1948

<sup>575</sup> The Leonforte hoard (*IGCH* 2133) contained coins with the mint letters E and N - Ravel's first and eighth groups in period five.

<sup>576</sup> *IGCH* 85 cf. Jenkins, 1958, p.372

of this thesis. This leaves the years between the transitional fifth century BC issues and 307BC to be accounted for.

The best evidence for attempting to assign dates to these periods comes from the hoards. The Corinth 1952 hoard contained Corinthian coins with earring types, ϕ behind the head of Athena types and transitional issues. Some of these issues have been attributed to events in the Peloponnesian War by virtue of their iconography. There is a coin with a cockle shell behind the head of Athena, and murex shell beneath Pegasus (Cat. 439). Oman suggested that could have been issued to commemorate the Corinthian victory over Corcyra at Sybota in 432BC<sup>577</sup>. Although the Corinthians claimed a victory and raised a trophy on Sybota, the Corcyraeans did likewise<sup>578</sup> so this issue may have been the Corinthians using the iconography of their coinage to reinforce “their” victory. However, a good argument could also be put forward linking this issue with the Spartan vote for war in 432BC. The waters around Sparta were one of the few sources of the “purple” which was extracted from the murex shell<sup>579</sup> (and probably extensively used by Corinth in its textile factories), so this symbol could be acknowledging Spartan participation in the war.

Other examples show head of Athena with no symbol, but a wreath around the helmet (Ravel t257) a device suggestive of a victory by the Corinthians. Coins of this type were found in the Corinth 1952 hoard which also contained coins with the palmette symbol behind head of Athena on the reverse. These dies are connected to the “victory wreath” issues through obverse die-linkage.

The Athena with palmette symbol behind the head series is worthy of further comment. Ravel divided this group into two parts on the basis that the earlier palmette issues still bore the traces of a surrounding incuse square. These he placed at the end of his period three coinage dated 430-415BC. The coins which have palmette reverses without traces of the incuse were listed in his period four series (group 1) which he dated from 415-387BC. This arrangement seems rather arbitrary, as on coins with smaller flans it is not possible to say with any certainty whether a round die was used or whether the square incuse was used

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<sup>577</sup> Oman, 1909, p.342-3

<sup>578</sup> Thucydides, *Histories*, 1.55.1

<sup>579</sup> “purple, costly as silver”, Aeschylus, *Agamemnon*, 955

and has fallen off the flan altogether. The known example of this type in the Corinth 1952 hoard falls into this category as it has quite a small flan. Some larger flan coins such as Ravel's t255, t259, and t264, listed in his period three, show no signs of a surrounding incuse square. It is more feasible, therefore, to group these coins together rather than to accept them as two separate groups.

The (reconstructed) Ionian Shore hoard<sup>580</sup> is now dated to c375/70BC<sup>581</sup>. It contained Corinthian coins from the transitional phase (Cat. 417, Cat. 429 and Cat. 431)<sup>582</sup> as well as coins from Ravel's period four, group 1 (palmette) 2 and 5. The hoard from Vito Superiore<sup>583</sup> dated to c387BC contained Ravel's group 14 from period four, so this group is earlier in the sequence than Ravel placed it.

Thus, the hoard evidence proves that the palmette group is contemporary with, or follows very closely, the transitional coins and that Ravel's period four, groups 1, 2, 5 and 14 all predate 370BC.

Therefore Ravel's period four dates of 415-387BC cannot realistically be maintained. As shown above, the upper limit is not early enough and the lower limit is probably too early as the available hoards only provide evidence for four of Ravel's seventeen groups to predate 370BC. Also, 227 obverse dies for 27 years seems unrealistic, as this would represent a massive output over a relatively short time. A huge issue from a mint is better seen in the context of military expenditure and preparations for war than a sudden occurrence during a war. It is also possible that the trident symbol on some of the transitional Corinthian issues may allude to finance geared towards the construction and crewing of a fleet.

Dating the end of the period four coinage is facilitated by the hoard evidence. The Sicilian hoards from Licata, Sicily 1960, Centuripe and Leonforte<sup>584</sup>, all dated to c350-340BC, all contained Corinthian coins, the bulk of which were period four issues. The coins in the

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<sup>580</sup> *IGCH* 1916

<sup>581</sup> Kraay, 1970, p.29

<sup>582</sup> Incorrectly attributed to the Carosino hoard by Newell, cf. Kraay, 1970

<sup>583</sup> *IGCH* 1910

<sup>584</sup> *IGCH* 2130, 2127, 2131 and 2133 respectively

Sicily 1960 hoard (which represented period 4, groups 3, 7, 9, 10, 11 and 13-16) were all in good condition, suggesting that the hoard was concealed not too long after these coins were issued. The hoards from Licata, Centuripe and Leonforte also contain coins of Ravel's period five. This evidence, along with the historical context of Timoleon's expedition gives a date of c350BC for the beginning of Ravel's period five coins. This new, massive issue was undertaken to finance Timoleon in Sicily. Johnston, in his analysis of south Italian chronology 350-280 BC, concluded "that the association ... was unshakeable"<sup>585</sup>.

This brief survey shows that Ravel's periods can be restructured more convincingly as follows. The transitional issues (halfway through Ravel's period three) are linked by the hoard evidence to the palmette issues. The transitional issues begin to be struck c440/435BC with Ravel's period four coins following shortly after, probably around 431/30BC<sup>586</sup>. They cease to be issued c350BC when Corinth strikes a new and massive issue to finance the Sicilian expedition. These period five issues then fill the gap from 350-307BC.

Thus, from c431/430BC to 350BC, there are 235 obverse dies used<sup>587</sup>. The use of this amount of dies over a period of around ninety years seems much more probable than Ravel's original time span. Also, this proves absolutely that the symbols behind the head of Athena are not annual mint marks, although they may relate to the tenure of the official in charge of the mint<sup>588</sup>.

This evidence for the chronology of the coins from the Corinthian mint helps disprove the theory, now accepted as fact, that Corinth ceased issuing coins for the duration of the Peloponnesian War. Ravel did not see a break in the coinage of Corinth. The assertion, which has passed into ancient Greek numismatics and is rarely challenged<sup>589</sup>, that Corinth ceased issuing coinage during the Peloponnesian war emanates from Colin Kraay (based on Ravel's figures with "re-jigging" of the sequence). He saw reverse dies r309/10 (the

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<sup>585</sup> Johnston, 1985, p.51

<sup>586</sup> A view previously put forward by Schwabacher, 1941 and Jenkins, 1958.

<sup>587</sup> Ravel's 227 dies of period four, plus eight obverse dies artificially separated into his period three.

<sup>588</sup> The caduceus symbol lasts at Leucas for nearly 20 years.

<sup>589</sup> Despite Jenkins' warning that "any theory which is in danger of being a dogma should be questioned" Jenkins, 1993, p.26

“Myron” issue) as dated to the mid fifth century BC, leaving 18 obverse dies for the rest of the century<sup>590</sup>. However, the following contradictions need to be examined.

Kraay saw the introduction of the transitional head phase, which introduces symbols to the reverse, varying styles of head of Athena, the introduction of the neckflap, and the introduction of the pointed wing of Pegasus as clearly being “a sudden sweeping away of earlier conventions”<sup>591</sup>. He dates this period to 450-430BC and notes that the same process is repeated at Leucas.

Moving the sequence of later Corinthian coins upwards in terms of chronology, would mean that the transitional issues were the forerunners of a massive issue geared at producing coinage for preparations for the impending war. This massive issue saw symbols introduced to the reverse, probably marks of authority to regulate the coinage, or possibly marks to denote dies destined for the auxiliary mint. A “sudden sweeping away of earlier conventions” would fit the context of an extensive coinage needed to pay for the war effort and many die-makers being drafted in. The presence of the trident motif may be an allusion to funds required for the building and crewing of the large fleet that Corinth would need if she were to go to war.

The requirements of a particularly elaborate war fleet were outlined by Thucydides.

Such was the strength of the first armament that sailed over for war. The supplies for this force were carried by thirty ships of burden laden with corn, which conveyed the bakers, stone masons and carpenters, and the tools for raising fortifications, accompanied by one hundred boats, like the former pressed into the service, besides many other boats and ships of burden which followed the armament voluntarily for purposes of trade<sup>592</sup>

Kraay’s desire to see most of Ravel’s period four coins allocated to the fourth century BC would compress the sequence again. This approach is hard to reconcile. Kraay is

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<sup>590</sup> He does not explain how he arrived at this figure, but he was presumably working with Ravel’s figures. Compare also Jenkins’ review of Kraay, where he accepts the assertion that the coinage of Corinth is “comparatively limited” in the sixth and fifth centuries BC (Jenkins, 1979, p.249). By 1986 (at a conference whose proceedings were published in 1993), however, Jenkins seems sceptical, seeing the perceived lack of Corinthian coinage during the Peloponnesian War as “surprising” (Jenkins, 1993, p.23).

<sup>591</sup> Kraay, 1976, p.83

<sup>592</sup> Thucydides, *Histories*, 6.44.1

suggesting that perhaps Corinth was cut off from her silver supplies because of the war, the destruction of the Aeginetan fleet in 431BC and the Athenian blockade of Corinth's western harbour<sup>593</sup> depriving her of a silver supply. However, the earlier overstrike evidence points to a silver source in northern Greece for Corinth, and she may also have received coins or bullion from her colonies in the west, and probably had huge reserves available in the city itself. That there are no hoards containing Corinthian coins between the Corinth 1952 hoard (c430BC) and the Vito Superiore hoard (c387BC) is not indicative of a shortage of coinage, as the hoard analysis has shown.

Also, the effectiveness of the blockade is doubtful as the Athenians did not put booms in the water<sup>594</sup>. Thucydides recorded that on another occasion Corinthian ships were able to evade an Athenian blockade at night<sup>595</sup>, so presumably a determined captain would be able to gain entry to the Corinthian ports using the same measures. However, the volume of trade was obviously reduced by this measure and this is attested by the archaeological evidence. The Punic amphora building went out of use very suddenly c430BC<sup>596</sup> (the date is secured by the Attic pottery found by the excavators) which does show that the blockade had an impact to some extent, although the urge to link the blockade with a shortage of silver ergo cessation of minting in Corinth must be resisted.

The archaeological evidence of the later fifth century BC also suggests that Corinth was not only wealthy enough to engage in war but to embark on a building programme. The long walls from Lechaem to Corinth are dated to some time after the middle of the fifth century BC, and the third quarter of the fifth century BC saw the North Stoa second phase, the so-called "painted building" near to it and the Centaur Bath constructed<sup>597</sup>. Also, Apollonia, a Corinthian colony, dedicated spoils of war at Corinth in the third quarter of

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<sup>593</sup> Thucydides, *Histories*, 2.69

<sup>594</sup> Salmon, 1984, p.308. The logistics of sustaining a blockade day and night in all weather conditions would have been extremely complex and one can question whether an effective blockade was systematically attempted.

<sup>595</sup> Thucydides, *Histories*, 3.74, talking about the campaign at Corcyra.

<sup>596</sup> Mattingly, 1981, p.78

<sup>597</sup> Salmon, 1984, p.180

the fifth century BC<sup>598</sup>. This evidence suggests that the economic effects of the Peloponnesian War did not have a serious detrimental effect on the coinage of Corinth.

In terms of the chronology of the Corinthian coinage, therefore, the following arrangement is proposed (see table 17).

The group one issues commence c550/545BC with the very archaic globular issues being the first coins struck by the Corinthian mint. These are then followed by the experimental Pegasus types which are still being struck as the standing Pegasus type is phased in. The standing Pegasus is then superseded by the standard flying Pegasus type which, in its latest form, has a reverse with rounded inserts. The hoard and overstrike evidence suggest that the group one coinage ceased around or just before c500BC so an optimum date of c505/500BC is taken.

Within this phase of coinage, lasting between forty and fifty years, dates for the various types cannot be given with any confidence. However, the hoard, overstrike and stylistic evidence suggest that there was no break in activity in the Corinthian mint during the group one coinage.

The group two issues commence c505/500BC or possibly in the early 490's BC after a break of unknown, but probably short, duration at the mint. The first coins of the new type having the head of Athena within a linear border seems to last for some ten years or so until the linear border is phased out. These coins are followed by the "standard" Athena issues which are punctuated by two separate parallel issues, possibly from the auxiliary mint. The change in direction of the Pegasus to the right may have occurred just after c480BC following the Greek victory over the Persians.

The earring issues follow the "standard" Athena issues, and are then superseded by the φ behind the head issues which are linked to the transitional issues. The transitional issues probably begin c440/435BC, leaving the other dies to be allocated to the years c490BC – c440/435BC. The earring issues cannot have been issued before c475BC (Asyut) and might be as late as post 450BC (Isthmia) and they are not linked to the φ behind the head

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<sup>598</sup> Pausanias, *History of Greece*, 22.2-4



issues, but the evidence from the Greece 1952/3 hoard suggests that they are not separated too far chronologically from them.

The change in style of Pegasus from plate 22 where the body is slightly longer and slimmer and the forelegs are extended might mark a resumption of minting after a break and it is at this time that the parallel issue of plate 23 is issued along with the Corinthian earring series.

As Corinth possibly had economic problems from c460BC (see p.198) it seems likely that during the group two coinage there was a break in minting. It is hypothesised, therefore, that the “standard” Athena issues up to, and including, plate 21 occupy the years c490BC to some point around or before c460BC. This represents 40 obverse and 94 reverse dies.

If the change in direction of Pegasus occurs c480/475BC, as suggested by the Asyut hoard, the number of dies used c490-480/475BC is 19 obverses and 36 reverses. These figures are analogous of the linear border issues which used 17 obverses and 40 reverses over some ten years or so.

After c480/475BC 21 obverses and 58 reverses are used. The die linkage shows that the output from the mint remained constant before a break in minting activity. This period of minting could last to c460BC just before the defeat at Cecryphaleia.

The length of the break in minting activity can only be estimated. In 446/5BC the 30 Years Peace Agreement was signed and this might have been the occasion for a new issue from the Corinthian mint. When minting resumes, Pegasus is depicted differently and shortly after this, the earring issue is brought in. The occasion for the introduction of the earring to the reverse Corinthian dies is not known<sup>a</sup>, but it is unlikely to be related to the spoils of Plataea on this dating. Also, the special issue of the first coins of Ambracia occurs at this time.

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<sup>598</sup> Pausanias, *History of Greece*, 22.2-4

<sup>a</sup> Corinthian history between the 30 Years Peace and c440BC is unknown (cf. Salmon, 1984, p.281)

The introduction of the earring, symbolic of wealth, and the parallel issue of left-facing Pegasus types, possibly suggesting the reactivation of the auxiliary mint, as well as the special Ambraciot issue all suggest that Corinthian wealth and prosperity improved after 446/5BC when the agreement was signed. The hoard evidence suggests that, even though they are not linked, the earring issues and the  $\phi$  behind the head issues were fairly close chronologically and possibly overlapped to a degree.

All things considered, therefore, it seems most likely that the “standard” Athena issues with right facing Pegasus lasted from c480/475BC to c460BC. There then followed a break in minting from c460BC to c446/5BC when, just after the resumption of minting, the mint appears to have received a considerable amount of silver (possibly c445BC). The occasion which brought this wealth to the city necessitated the issue of new types, the activation of the auxiliary mint and the first issue of Ambracia.

The earring and  $\phi$  behind the head issues are therefore assigned to the period c445BC to c440/435BC when the transitional coinage was introduced. The die study shows that the latest  $\phi$  behind the head issues have lost the “archaic eye” (r302 and r303) and link to the transitional issues, so the earring issues are slightly earlier and possibly occupy a few years following c445BC.

## 6.7 The external evidence

In the absence of detailed information on Corinthian policy after 479BC<sup>599</sup> and lack of hoard evidence at this time, the external evidence must be considered to see if any clues can be gleaned in respect of the Corinthian economy.

In 480BC Corinth was wealthy enough to make significant contributions to the war effort against the Persians. At Mycale, the Corinthians were only second to the Athenians and “besides other plunder” they found “many caskets of money”<sup>600</sup>.

In the late 470's and early 460's BC, Sparta was under pressure as her hegemony in the Peloponnese was challenged and, to add to her troubles, an earthquake in 464BC devastated Laconia. As any Spartan collapse would have repercussions on the security and status of Corinth it is likely that Corinth aided Sparta at this time, although Corinthian aid is not specifically mentioned in the sources<sup>601</sup>. Salmon also points out that the new temple of Poseidon, rebuilt at some time in the second half of the fifth century BC, could afford to have marble tiles for the roof while, in the fourth century when this temple had to be repaired after the Corinthian War, only cheap terracotta tiles were used<sup>602</sup>.

In the first Peloponnesian War the Athenians sent a fleet which landed at Halieis in the Peloponnese in 460/59BC but the Athenians were met by a force of Corinthians and Epidaurians who defeated them<sup>603</sup> so Corinth was wealthy enough to amass a force at this time. However, later in the same year the sea battle at Cecryphaleia saw 70 Peloponnesian ships (the majority of these were probably Corinthian) taken by the Athenians and Corinth was

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<sup>599</sup> Salmon, 1984, p.259

<sup>600</sup> Herodotus, *Histories*, 9.105.1

<sup>601</sup> Salmon, 1984

<sup>602</sup> Ibid, p.184

<sup>603</sup> Thucydides, *Histories*, 1.105.1

defeated<sup>604</sup>. The subsequent military disaster of the aborted attempt to invade the Megarid saw many Corinthian troops needlessly killed and was “a severe blow to the Corinthians”<sup>a</sup> It is very possible, therefore, that Corinth was under pressure in the 450’s BC after this loss.

Thereafter, until the events preceding the outbreak of the Peloponnesian War, Corinth was involved in some minor skirmishing, but was otherwise quiet. Corinth seemed to be more preoccupied with her own affairs than Athenian intrigues as, in an address to the Athenians in 433BC, Thucydides reports them as saying “We are not your enemies who are going to attack you and we are not on such friendly terms... [either]”<sup>605</sup>

In 440BC when Samos revolted against Athens the members of the Peloponnesian League who wanted to help this rebellion were outvoted by the Corinthians who had no desire to fight<sup>606</sup>. However by the time of the Epidamnus affair in 435BC the Corinthians were willing to fight. This provides the context for a new massive coinage to pay for a war and the Corinthian mint probably began to strike these coins in the period c440/435BC. We know that the Corinthians were wealthy by this time as they were able to crew their large fleet with rowers from all over Greece who were attracted by “large bounties”<sup>607</sup>. Corinth also had a large contingent of mercenaries resident<sup>608</sup> who were supported when need be by others who were attracted by large payments. Also, “great numbers” of people wishing to participate in the colonial venture to Epidamnus were able to pay the fifty Corinthian drachmae required as a deposit<sup>609</sup>.

## 6.8 Summary

Following a careful assessment of all the evidence, the chronology of the coinage of Corinth to the Peloponnesian War can be presented (table 17). This evidence has also allowed the following conclusions to be drawn.

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<sup>604</sup> Thucydides, *Histories*, 1.105.2

<sup>a</sup> Thucydides, *Histories*, 1.105-106

<sup>605</sup> Thucydides, *Histories*, 1.41

<sup>606</sup> Thucydides, *Histories*, 1.40

<sup>607</sup> Thucydides, *Histories*, 1.31.1

<sup>608</sup> Thucydides, *Histories*, 1.60.1; Aristophanes, *Plutus*, 170

<sup>609</sup> Thucydides, *Histories*, 1.27.1

*GROUP ONE*

Very archaic globular issues	Begins c550/545BC
Experimental/standing Pegasus types	
Standard flying Pegasus	
Rounded inserts type	ends c505/500BC

*GROUP TWO*

Athena with linear border	c505/500BC or possibly early 490's BC to c490BC
Standard Athena	c490BC-c460BC
Earring issues	c450/445BC-c440BC
φ issues	c445BC-c440/435BC
Transitional issues	c440/435-430BC
Ravel Period 4	c430-350BC

**TABLE 17. REVISED CHRONOLOGY OF THE COINAGE OF CORINTH.**

The Corinthian mint struck a substantial amount of coins, as evinced by the group one coins which remained in circulation for a very long time, shown by the Italy and Sicily overstrike evidence. Demonetisation of the group one coins does not seem to have occurred as they remained in circulation along with the group two coinage, shown by the hoard evidence. There is also strong evidence for the presence of a second mint at Corinth which supplemented the output from the main mint on at least three occasions<sup>610</sup>. The auxiliary mint also issued coins for Ambracia<sup>611</sup> and possibly struck the “Epidamnus” and “Potidaea” issues. It is also possible that the Corinthian mint(s) either issued, or sent out dies for, coinage at some of her other colonies.

The coinage of Corinth seems to have been substantial although there is evidence for breaks in minting at various points. A break in mint activity during the Peloponnesian War, however, cannot be proved as the die study has shown that the figures used to calculate this are no longer valid and the hoard evidence shows that Ravel’s period 4 begins earlier than previously thought.

A continued large amount of Corinthian coins in circulation at any one time is proved by the fact that, although the overstrike evidence has shown that a substantial amount of Corinthian coin travelled to Italy and Sicily, Corinth did not run out of coins or silver as the Athenians did at the end of the fifth century BC when their owls left Athens and travelled to Egypt and the Near East.

The Corinthian coins were so familiar that an immobile archaic type was retained long after archaic traits had disappeared from art and sculpture. Changes to the Corinthian types had to be “phased in” to ensure acceptability, as shown by the transitional issues.

The Corinthian economic milieu was rigorously policed by the authorities who ensured that political and economic affiliation was reinforced by the sole use of pegasi. Adoption of the pegasi type signified loyalty to the mother city and allowed colonial participation in the Corinthian economy. However, as Zograph points out with reference to the use of the pegasi type, reverence for the mother city is likely to have been superseded by a desire to

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<sup>610</sup> Cat. 71-77; Cat. 257-274; Cat. 328-346.

<sup>611</sup> Using Corinthian reverse r248

“promote one’s own coin on the interurban market”<sup>612</sup>. This numismatic hegemony was beneficial to Corinth both politically and economically and saw her remain both wealthy and politically stable under Oligarchic rule.

## 6.9 Conclusion

This study of the coinage of Corinth has provided insights into the economy of a city whose history is not well represented in the sources. One of the most interesting aspects of the study is the strong evidence for a second mint in Corinth. The temple of Apollo could be a possible venue, as large amounts of money were spent there by tourists and those visiting the resident courtesans<sup>613</sup>. A temple setting for the second mint is attractive as it would be given security by being in a substantial building and could be policed by the guardians of the temple. All foreign coin, bullion, booty and dedications arriving at the temple could be struck into Corinthian coins “on site” removing the necessity of moving large amounts of money and bullion to the main mint in the city.

A harbour setting for the auxiliary mint is also attractive for the same reasons. The harbours and diolkos brought in large amounts of revenue, and the security problem of moving this revenue to the city may have helped the decision to set up a mint at one of the harbours. The employment of distinctive dies<sup>614</sup> and the use of Aeginetan flans over the life of these dies suggests an arriving shipment of Aeginetan coin, immediately converted to Corinthian coin. As neither historical or archaeological evidence has been found to support this theory it must remain conjectural, but it seems a very real possibility.

Lechaeum (in the west on the Corinthian Gulf) had an artificial harbour built by Periander and it seems to have been intended mainly for cargo vessels<sup>a</sup>. As Salmon points out, Periander would not have wasted time and resources constructing a harbour unless the

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<sup>612</sup> Zograph, 1977, p.151

<sup>613</sup> The impact of tourists and visitors upon an economy cannot be under-emphasised. A courtesan exiled from Corinth to Megara could not make a living as “...there were but few foreigners there”. Demosthenes, *Against Neaera*, 36

<sup>614</sup> Cat. 71-77

<sup>a</sup> Salmon, 1984, p.133ff

existing volume of trade merited this investment, so the volume of trade was probably much greater than the meagre evidence suggests<sup>b</sup>. By c450BC, Lechaëum harbour was connected to the city of Corinth by long walls<sup>c</sup>.

Cenchreæ (on the Saronic Gulf) is more sheltered and, at some time, the harbour was extended at either side by the construction of moles and was also fortified by walls<sup>d</sup>. The evidence for the volume of traffic from the east using the harbour at Cenchreæ is more elusive and it is not possible to say with any certainty which was the busiest harbour<sup>e</sup>. However, Cenchreæ is much further away from the city of Corinth than Lechaëum.

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<sup>b</sup> Salmon, 1984, p.135

<sup>c</sup> Ibid, p. 180

<sup>d</sup> Ibid, p.31

<sup>e</sup> Ibid, p.144



Cenchreae is the port most likely to receive foreign coin, as it is more likely that Lechaeum saw pegasi circulating back to the mother city from the colonies in the north of Greece and from Italy and Sicily. Cenchreae could have acted as a bureau de change for those arriving from the east and wishing to proceed to Italy and Sicily to trade.

The other satisfying aspect of the study is the production of evidence which strongly suggests that Corinth did not stop issuing coins for the duration of the Peloponnesian War. The dubious practise of using the numbers of surviving dies to estimate the volume and duration of a coinage has resulted in this assertion being treated as fact by almost everyone commenting on the coinage of Corinth. All the numismatic, historical and archaeological evidence points to Corinth having a wealthy and vibrant economy both during and after the war, and her wealth was such that, even if the Peloponnesian War cut her off from her normal silver suppliers, she is likely to have held reserves of coin, bullion and booty which could be pressed into service at the mint(s) if required.

## APPENDIX: HOARDS WITH CORINTHIAN COINS<sup>616</sup>

### EGYPT

**Sakha, 1897 (*IGCH* 1639) early C5th BC (c525-520BC)  
(Plate A)**

This hoard was found in Egypt in 1897 at Sakha near Kafr el Sheik, 100km east of Alexandria. Unfortunately, the hoard was split up shortly after its discovery. However 19 coins were bought in the Cairo bazaar by Dr Weber<sup>617</sup>, 23 coins were acquired by Dressel for the Berlin Coin Cabinet<sup>618</sup>, and Dressel also saw drawings and casts of the coins which had been dispersed in trade<sup>619</sup>. Dressel later saw another seven coins which he assumed to be from the same find, making a total of 72 coins in all. Seven of the coins have subsequently been seen as intrusive, leaving 65 coins for this analysis. The hoard also contained fragments of silver bars and coins.

The Sakha hoard contained eight Corinthian staters, the largest number of Corinthian coins found in an archaic Egyptian hoard. Unfortunately, two of the earliest coins of Corinth in the hoard were disposed of in trade. Dressel compared one to Cat. 2, a smaller globular coin (Cat. 2d) and the other to Pegasus standing with mill-sail reverse<sup>620</sup> (Cat. 34a). The other six coins comprise four coins from the first experimental Pegasus phase (Cat. 7a, 8a, 11c and 17a) which all have versions of the mill-sail reverse, another standing Pegasus with mill-sail reverse (Cat. 32a) and an early flying Pegasus (Cat. 22 l).

The composition of this group of coins is very interesting as, apart from the two standing Pegasus types, the other six coins are from obverse dies of a quite different style. These run from the earliest globular issue to the early flying Pegasus type, the only coin of this group to have the square punch reverse, as opposed to the mill-sail reverse. The die study has shown that although the Corinthian coinage began with a mill-sail reverse punch the square punch reverse was sometimes in use at the same time. The mill-sail reverse punch was also brought back into use at a time when the square punch reverse had become the norm at the

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<sup>616</sup> Alternative dates, where suggested, are placed in brackets at the end of each entry.

<sup>617</sup> Weber, 1899, p.269-287.

<sup>618</sup> Dressel, 1900, p.231-258.

<sup>619</sup> Ibid p.232 for list of numbers giving the disposition of the hoard.

<sup>620</sup> Dressel, 1900, p.235

mint (see plate 2). However, the presence of only one square punch reverse coin in this hoard places it at the head of a relative chronology of the early Egyptian hoards.

The Sakha hoard included intrusive coins of a much later date (post 480BC), but the core of the hoard comprises sixth century BC issues<sup>621</sup>. These issues included two “very fresh wappenmunzen”<sup>622</sup> and coins of Lete which were at a similar stage of development to those in the Ras Shamra hoard<sup>623</sup>, dated to between c525-520BC<sup>624</sup>. Although the intrusive coins have given rise to some anomalies in the analysis, the Sakha hoard still emerges as one of the earliest Egyptian hoards, with a low percentage of coins with reverse types and none of the coins in the hoard test-cut.

It seems probable that a date earlier than that proposed by *IGCH* is likely. Even if the hoard was adulterated by intrusive coins, the core group is likely to have been deposited around, or even before 520BC, and the arrival of the Persians in Egypt provides a context for the deposit.

**Mit Rahineh, 1860 (*IGCH* 1636) c500BC (c520-515BC)**  
(Plate A)

This hoard contained four coins of Corinth, the largest number of coins from any mint represented in the hoard. Of the four Corinthian coins in the Mit Rahineh hoard, only two were complete, the others being fragments. One complete specimen is the early, globular style coin with the mill-sail reverse (Cat. 2a). This coin is also notable as it has a very high weight. The other coin is one of the unrealistic pose Pegasus types (Cat. 25a) with the square punch reverse. Two fragments have the square punch reverse and thinner flan, and depict Pegasus left. The remains of these fragments do not show enough of the detail to attempt a positive identification, but one of the fragments<sup>625</sup> has the tail arcing upwards

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<sup>621</sup> Price & Waggoner, 1975, f/n 10. Price and Waggoner suggest that the sixth century BC part of the Sakha hoard is actually a parcel from the Demanhur hoard, but this cannot be substantiated.

<sup>622</sup> Price and Waggoner, 1975, p.18

<sup>623</sup> Ibid.

<sup>624</sup> *IGCH* 1478

<sup>625</sup> Price, 1977, p.2, no. 6 (fig 1.6)

before hanging down, an attitude very like that used on the unrealistic pose Pegasus types (see Cat. 20 and 21).

Only the merest detail of the wing and rump can be seen on the other fragment<sup>626</sup>, whose die combination remains a mystery. However, it is likely that it was one of the earlier issues of the Corinthian mint. Similarities between this hoard and the Demanhur hoard have been already been noted as they both contain coins of Salamis which have been attributed to the period c560-525 and coins of Dicaea dated from 540/535 to c510BC<sup>627</sup>.

However, even given the smaller number of Corinthian coins in this hoard than in the Sakha hoard, the reverse type is predominantly the square punch style, with only one coin having the mill-sail reverse. Unlike the Sakha hoard, some of the coins in this hoard were test-cut, although the hoard still has a relative low proportion of coins with reverse type. Thus, in terms of the Corinthian coins at least, this hoard would follow Sakha in a relative chronology, even if only by a few years.

**Demanhur, 1900-1 (*IGCH* 1637) c500BC (c520-510BC)**  
(Plate A)

This hoard contained six Corinthian staters. Dressel and Regling illustrated one example<sup>628</sup> which had Pegasus standing on the obverse and the square punch reverse (Cat. 37a). The other five coins were disposed in trade and it was noted that no photographs or casts of these coins existed<sup>629</sup>. However, Dressel and Regling record that one of the coins was similar to the one of the examples in the Sakha hoard, an early coin with the mill-sail reverse<sup>630</sup> (Cat. 11b). The other four examples were compared to *BMC* 16 which have Pegasus flying left with a square punch reverse (Cat. 22a, e, o, p). Dressel and Regling also noted that the four coins with square punch reverse which were dispersed in trade bore

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<sup>626</sup> Price, 1977, p.2, no. 7 (fig 1.7)

<sup>627</sup> May, 1965, p.9

<sup>628</sup> Dressel & Regling, 1927, no. 72 (plate 2.72)

<sup>629</sup> *Ibid*, p.56

<sup>630</sup> Dressel, 1900., p.235-6, no.17 (plate 8.3)

test-cuts<sup>631</sup>. This is notable as, out of 165 coins in the hoard, only 19 were test-cut, and only one was clipped (a coin of Paros in the Cyclades Islands)<sup>632</sup>. This represents only 11.5% of the hoard.

Some coins in the hoard also stood out from the others by virtue of the fact that they were discoloured (described as “oxidised” by Dressel and Regling). There is a concurrence between the mints whose coins were test-cut and those whose coins were oxidised.

Unfortunately, Dressel and Regling did not record the state of wear of the Corinthian coins which disappeared in trade but, given the good condition of the surviving coins and the high weights of the others, it would seem that these coins were not used for any great length of time before coming out of circulation. Thus it could reasonably be argued that the Demanhur hoard comprised two “parcels” of coins, acquired at different times and finally deposited together.

In terms of the Corinthian coins, apart from one experimental Pegasus type with a variation of the mill-sail reverse, the other coins all have the square punch reverse. Also, there is only one standing Pegasus type, with the other four coins being the early flying Pegasus. Hoard analysis has shown that the Demanhur hoard has a lower percentage of coins from Asia Minor and Crete and a higher number of coins from Thrace and Macedonia than Sakha or Mit Rahineh, and that it has a relatively higher percentage of coins with reverse type.

Thus given the evidence, the Corinthian coins, although still confined to the early stages of the Corinthian mint, are later issues than those present in Sakha or Mit Rahineh.

The Dicaean coins in this hoard have been dated to c540/535-c510BC, and the Samian coins to 530/525BC. A date as late as 500BC for closure of the hoard seems unlikely as one would expect the Corinthian period two coins to have been present in Egypt by then. A deposit date of around c520-510BC for this hoard is more attractive.

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<sup>631</sup> Dressel & Regling, 1927, p.56

<sup>632</sup> Ibid, p.61, no.84

**Delta, 1887 (*IGCH* 1638) c500BC (c520-510BC)**  
(Plate A)

This hoard only contained one coin of Corinth, an early issue with Pegasus flying left and a variation of the mill-sail reverse (Cat. 9a). This coin is worn and of a lighter than normal weight, like some of the coins in the Sakha hoard. Hoard analysis has shown that it is very likely that the Delta hoard is a “parcel” from a larger hoard and, as such, it is not useful for dating purposes. However, it is very probable that the full Delta hoard would have had a similar profile to that of the Demanhur hoard, and that these two hoards are roughly contemporary.

**Asyut, 1968-9 (*IGCH* 1644) c475BC (c475 BC and closed c460-454BC)**

This hoard contained 39 coins of Corinth. The earliest coin in this group is the standing Pegasus type with large  $\phi$  beneath and square punch reverse which is among the first issues of the city (Cat. 18c - only half of the coin is in the hoard<sup>633</sup>). Only six out of the 39 Corinthian coins are group one issues (Cat. 18c, 22n, 65e, 84d, 103a, 114a) a little over 15% of the total Corinthian coins. The group one coins are a diverse group, drawing examples from the spectrum of incuse reverse issues. They appear worn, but not excessively so, and the weights of those coins which remained whole are reasonably high (ranging from 8.30-8.65g) suggesting that these group one coins were not in circulation for a great length of time.

The remaining 33 group two coins range from head of Athena surrounded by linear border (Cat. 162a) through to Pegasus right in galloping pose (Cat. 244e and f). Although three unlinked coins from the earliest phases of the head of Athena reverse coins are found in this hoard, the core group is drawn from those phases represented on plates 14 and 15. These dies have Pegasus left depicted as a small horse with legs drawn up on the obverse, while the reverses have a small head of Athena set at an angle in the incuse square. Reverse r167, found on the two latest coins in the hoard, links these older obverses to the new style right-facing Pegasus types. This examination of the coins from the Asyut hoard has seen rather

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<sup>633</sup> Price & Waggoner, 1975, no.557

more die linkage and specimens from the same dies than the authors of *Asyut* did<sup>634</sup>, which could be due to either the test-cuts obliterating or distorting the coins, or the difficulty of achieving a match with Ravel's plates. The fact remains, however, that the bulk of the head of Athena reverse coins come from early issues fairly close in chronological terms.

The Asyut hoard has been dated to c475BC by the authors, Price and Waggoner. However, there are some controversial points in this dating, the most notable being the octadrachm of Alexander I<sup>635</sup>. Traditionally dated to c465-60BC the authors of *Asyut* have re-dated this coin to 475BC. This step has been criticised by Kraay<sup>636</sup>, as it seems a rather radical way to "force" the coin into the date of deposition suggested by the authors. As Kraay also noted<sup>637</sup>, some of the Persian sigloi and a few other coins may also be of a later date than 475BC. Kraay does suggest that these coins, which seem to be later than the bulk of the hoard, could be additions made to it later in the fifth century BC<sup>638</sup>.

An Egyptian revolt to Persian rule c475BC may provide the context for the initial deposit, with the other coins being added during another revolt in the period 460-454BC<sup>639</sup>. This approach falls in line with Kraay's solution to the problem of post 475BC additions to the hoard and accommodates the octadrachm of Alexander I on its traditional dating.

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<sup>634</sup> Price & Waggoner, 1975, p.76-78

<sup>635</sup> Ibid, no. 152.

<sup>636</sup> Kraay, 1977.

<sup>637</sup> Ibid, p.194.

<sup>638</sup> Ibid, p.194.

<sup>639</sup> Ibid.

**Zagazig, 1901 (*IGCH* 1645) c470BC**

This hoard was found at Zagazig (ancient Bubastis) in the central Delta area, north of Cairo in 1901<sup>642</sup>. Comprising 84 coins plus 18 silver dumps and bars, it was fully published by Dressel and Regling<sup>643</sup> who acquired some of the coins for the Berlin Coin Cabinet, while the rest were dispersed in trade<sup>644</sup>.

The dating of this hoard rests largely on the Athenian coins present. They comprised 16 archaic unwreathed owls and 18 owls with wreathed helmet and waning moon, motifs added to the coins c479BC<sup>645</sup>. However, this group of coins does not represent the earliest issue with these features, which has four leaves on Athena's wreath<sup>646</sup>. Thus, they cannot have been minted earlier than c479BC and may be considerably later. Kraay notes that, according to Seltman's chronology<sup>647</sup>, this puts a gap of some 50 years between the two groups of owls in the hoard. Although possible, this seems unlikely, and Kraay has re-dated the archaic Athenian issues represented in the Zagazig hoard to after c500BC<sup>648</sup>. The later group of Athenian coins date this hoard after c479BC. Barron thinks a date of c470BC most likely<sup>649</sup>. Starr places one of the Athenian owls from the later group in his class II.B which he dates at c470-467BC<sup>650</sup>. He also states that "the others cannot now be identified, but seem to have been later still" and places the date of deposition of this hoard "about the mid-century mark"<sup>651</sup>.

The coins of Aegina present in the hoard numbered nine, which included at least one example with the "skew" reverse<sup>652</sup>. Brown has dated this phase of the Aeginetan coinage

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<sup>642</sup> *IGCH* 1645

<sup>643</sup> Dressel & Regling, 1927, p.104-137 (plates 4 & 5).

<sup>644</sup> Jacob Hirsch, Munich, Catalogue no.7, 2 June 1902.

<sup>645</sup> Kraay, 1956, p. 58.

<sup>646</sup> *Ibid*, p.51.

<sup>647</sup> Seltman, 1924.

<sup>648</sup> *Op cit.* p.52.

<sup>649</sup> Barron, 1966, p.44.

<sup>650</sup> Starr, 1970, p.29.

<sup>651</sup> *Ibid*, p.90.

<sup>652</sup> Dressel & Regling, 1927, p.123-4.



from 490BC - 458BC<sup>653</sup>. One of the examples in the hoard (no. 225) is compared with the “small skew reverse” (Brown, class 4), which has been more recently attributed to span the years from the early 480’s to the early 470’s BC<sup>654</sup>. If Brown Class 5 was present, this would bring down the dates of the Aeginetan coins to the middle of the century.

There was one, possibly two, coins issued by the Samians at Zankle, of the type without the sequence letter from which Baron has postulated dates of issue<sup>655</sup>. There was also a later coin of Samos present, suggesting that when the Samians were expelled from Zankle (490/489BC) they returned to Samos. This supposition is supported by the evidence of the Asyut hoard<sup>656</sup> and confirms that the date of deposition of this hoard must be later than 489BC. The coin of Samos, Baron’s Class 2, number 10<sup>657</sup> has been dated to early in the period c480-439BC.

The one stater of Corinth present in this hoard is a group one coin with square punch reverse (Cat. 84a). This is a sixth century BC coin and is clearly one of the oldest in the hoard.

## THE LEVANT

### **Jordan hoard, 1967 (*IGCH* 1482) c445BC**

Found in early 1967 near Jordan’s northern border with Syria, this hoard contained 113 coins plus ingots and silver. There are 89 identifiable coins (the coin of Judaea is thought to be intrusive as it is quite unlike the others in the hoard in appearance<sup>658</sup>, and the rest are fragmentary). Again, as with the Zagazig hoard, the dating of this hoard rests mainly on the Athenian coins.

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<sup>653</sup> Brown, 1950, p.185.

<sup>654</sup> Price & Waggoner, 1975, p.74.

<sup>655</sup> Barron, 1966

<sup>656</sup> Op cit. p.27

<sup>657</sup> Barron, 1966, p.181

<sup>658</sup> Kraay & Moorey, 1968, p.191-2

The Athenian coins in this hoard are interesting in several respects and merit further comment. The issues include a wappenmunzen obol and then run from archaic owl issues to the wreathed helmet series thought to have been issued around the middle of the fifth century BC. The 23 earliest owls run to Seltman Group E, sixteen of these being fragmented. Kraay has re-ordered Seltman's classification and, according to his findings, this group is the last of the owls to be issued with unwreathed helmet<sup>659</sup>. The remaining seven owls in the hoard are post-Persian War issues with wreath on helmet and crescent in field. These features are generally accepted to mark the end of the archaic owl series and the beginning of a series of issues spanning the period c479-450 BC.

Of the seven Athenian coins in this hoard, the last four stand out as they are very similar to one another, as unlike the earlier issues they are intact and they have suffered very little wear. Kraay and Moorey see certain features such as the floral scroll on the helmet and the slight inclination of the owl's head as indicative of a phase of issue which they date to the middle of the fifth century BC<sup>660</sup>. This dating is accepted as Starr dates his Group 5 - which covers these issues - to the last half of the 450's BC and closes it, on the evidence of this hoard, in 449BC<sup>661</sup>. Thus, there is consensus that the most probable date of burial of this hoard is c445BC.

Forming the second largest group in the hoard, the Cypriot coins represent as many as seven different mints on the island but none, however, can be closely dated. Five of the coins were issued at Citium by Baalmelek I, but, as the dates of his reign (479-449BC) are controversial<sup>662</sup> these coins are not useful for the dating of the hoard. Also notable is the fact that the Cypriot coins comprise almost 20% of the coins in the hoard, making this one of the largest representations of Cypriot coins outwith the island. However, as already noted, the majority of these coins are represented in the Larnaca hoard dated at c480BC, with only three exceptions which may have been minted later than this date<sup>663</sup>.

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<sup>659</sup> Kraay, 1956, p.55

<sup>660</sup> Kraay & Moorey, 1968, p.185

<sup>661</sup> Starr, 1970, p.63

<sup>662</sup> The absence of his coins from the Larnaca hoard (found on the site of Citium itself) dated to 480BC implies that his reign begins later than this, but the archaeological evidence throws the exact dates of his reign into question (cf. Kraay & Moorey, 1968, p.188-9).

<sup>663</sup> Kraay & Moorey, 1968, p.209

The rest of the coins in the hoard come from a variety of mints in Thrace and Macedonia, Greece, the Peloponnese and Asia Minor, with one example from Sicily. The one stater of Corinth in this hoard is a group two coin (Cat. 240g) BC most likely dated to the second quarter of the fifth century BC. The closely related obverse die, o127, is the latest to appear in the Asyut hoard. This Corinthian coin is, along with the core group of coins in this hoard, considerably earlier than the Athenian coins which date it.

## ASIA MINOR

### Southern Asia Minor, “Anatolia hoard” before 1961 (*IGCH* 1177) c480BC

This hoard was found sometime in the 1950's<sup>664</sup> on the southern coast of Anatolia in Turkey. It comprised 38 coins, half of which came from Athens and ten of which came from Aegina. There was one Corinthian stater present, along with a small component from Sicily<sup>665</sup>, Thrace and Macedonia, Asia Minor and Persia. Robinson notes that an interesting feature of this hoard is that only two of the Athenian coins (which form 50% of the hoard) are test-cut. As Athenian vases have been found at Al-Mina in Syria he posits the notion that trade between Athens and Syria means that the Athenian coins could have been kept intact to be traded back to Athens<sup>666</sup>.

Robinson dates this hoard on the basis of the Samian Zankle coin which, he says, gives an upper limit of c490BC, and the Athenian coins which give a lower limit of c487BC. Using these parameters he dates the hoard to c480BC and places it in the context of the conflict between the Greeks and the Persians at that time<sup>667</sup>.

The Corinthian coin in this hoard is a group one issue (Cat. 46c) with a flying Pegasus, which came into use as the standing Pegasus type was being phased out. This coin is clearly one of the older, if not oldest, pieces in the hoard as it is a sixth century BC issue.

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<sup>664</sup> “some years ago” wrote Robinson, 1961, p.117

<sup>665</sup> One coin from Samian Zankle in Sicily

<sup>666</sup> Op cit. p.116

<sup>667</sup> Robinson, 1961, p.117

**Selimiye, Southern Asia Minor, 1922 (*IGCH* 1254) late C5th BC**

This small hoard from ancient Side comprised eighteen coins, a silver finger ring and a gold bracelet. The coins were mainly from Side (12) but there was also a small number of coins from neighbouring Aspendus, Athens, Corinth and Cyprus. This hoard has been dated to c400BC on the basis of the Aeginetan tortoise issue which was traditionally seen as a late fifth/early fourth century BC issue. However, recent evidence has shown that the tortoises began to circulate before 431BC<sup>668</sup> and it seems likely that some of the Sidetan coins (which Kraay would date to c445-425BC<sup>669</sup>) are later than the Aeginetan coin.

With this in mind the hoard can only be roughly dated to the last quarter of the fifth century BC, but the Corinthian coin is a group two coin (Cat. 313q) which comes from the latest group two coins before the earring issues, and it is clearly the earliest coin in the hoard.

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<sup>668</sup> Kraay, 1969, p.20 and Robinson, 1961, p.111ff

<sup>669</sup> Kraay, 1969, p.18

## GREECE

### Isthmia, near Corinth, 1954 (*IGCH* 11) c470-450BC

This “hoard” is, in fact, more correctly described as a temple deposit<sup>670</sup> as it was recovered in excavation from the fill which comprised the remains of the ruined temple of Poseidon destroyed by fire at some point between 470-450BC<sup>671</sup>. It was then rebuilt at some time after this. The Corinthian coins comprised 14 staters and 12 fractions. As this deposit remains unpublished<sup>672</sup> it is of limited use in this analysis.

Broneer only illustrated three of the Corinthian coins. Two were group one coins with the square punch reverse (Cat. 41d, a flying Pegasus introduced as the standing Pegasus type was being phased out, and Cat. 116f, square punch reverse with rounded inserts, late in the group one coinage). The only other coin illustrated was an early group two issue with head of Athena in incuse square with linear border (Cat. 159e).

Unfortunately, it has been impossible to find details of this hoard and it is only possible to try to reconstruct the finer detail from other accounts. According to the authors of *Asyut*, there were “large skew” coins of Aegina present in the deposit<sup>673</sup>, which are dated to after c480BC. They also record that the latest Corinthian coins were Ravel 190 (Cat. 261). This issue has Pegasus left, and is likely to be an issue from the auxiliary mint at Corinth.

The latest Corinthian coins in the Isthmia hoard are prior to the earring issues. The evidence of the Isthmia hoard is very hard to interpret (see p.196a ff) and if excavation evidence subsequently allows the date of the destruction of the archaic temple to be placed in a narrower time span, then this will be of great help to the Corinthian chronology.

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<sup>670</sup> Personal Communication. Dr Orestes Zervos, Numismatist of Corinth excavations, American School at Athens

<sup>671</sup> Gebhard & Hemans, 1998, p.1

<sup>672</sup> Contrary to the note in *Asyut* (f/n 17) casts of this hoard are not held in the ANS, and details cannot be obtained from the person who holds the publication rights.

<sup>673</sup> Price & Waggoner, 1975, p.22

**Unknown findspot (probably Corcyra) before 1985 (CH 8.52) and Corcyra, Corfu, 1985 (CH 8.53) c450BC (before c450BC)**

These two hoards are very probably parcels from the same original hoard. In the first, larger, hoard, Corinth is represented by 73 coins, 12 of them being group one coins and 61 being group two coins. Corcyra accounts for 79 coins, 57 staters and 22 fractions. No details or pictures of this hoard are available and it was dispersed in trade. The second small parcel contains eleven coins, five each of Corinth and Corcyra and one of Leucas. The Corinthian coins illustrated from this hoard comprise two group one coins which are die linked through the obverse (Cat. 130a & 134k) and group two coins which are pre-earring (Cat. 248c, 282a & 293d). None of the coins of Corcyra are linked.

This hoard, in its entirety, would have been very important to this study, as if the small parcel is representative of the spectrum of issues present, there would probably have been many more new dies present, and the die-linkage of the hoard as a whole could have shed important light on the die study. However, as the details of the bulk of the hoard are lost, the impact on this thesis is limited.

On a more positive note, the association of issues of Corinth with issues of Corcyra is interesting as the only foreign coins found at Corcyra at this time are the pegasi from Corinth and Leucas represented in this hoard. Coins from Corcyra were present in the Taranto hoard in Italy, the Asyut hoard in Egypt, the small Egypt 1955 hoard<sup>674</sup> and the Jordan hoard<sup>675</sup>, usually in association with Corinthian coins<sup>676</sup>. From the Jordan hoard dated c445 BC to the middle of the fourth century BC, no coins of Corcyra are found in hoards at all. From the middle of the fourth century BC they are found in two hoards in Italy and Sicily in association with coins of Corinth and other pegasi. There is also a Corinthian overstrike known on a coin of Corcyra<sup>677</sup> from the north west Greece 1964 hoard.

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<sup>674</sup> CH 1.7

<sup>675</sup> IGCH 1482

<sup>676</sup> Except for the Egypt 1955 hoard

<sup>677</sup> Cat. 89f

As none of the earring issues were present in this hoard a date of before c450BC is likely, and it is possible that the first Peloponnesian War provided a context for its concealment.

**North west Greece 1964 (CH 5.7) c460-455BC (early 440's BC)**

This hoard was found in north west Greece in 1964, and appeared in trade in two lots<sup>678</sup>. Unfortunately, the coins "had suffered somewhat from extensive cleaning"<sup>679</sup> and this has resulted in the loss of some important information. Firstly, the weights of the coins in this hoard are uniformly low, a result of the cleaning process. Also, the degree of wear is not possible to ascertain with confidence, again due to the cleaning process.

However, this hoard of 100 Corinthian coins and 32 coins from Leucas (plus one unidentifiable pegasi) is very important to the chronology as the bulk of the head of Athena issues come from a point just before the earring issues started. The Corinthian coins comprised 21 group one coins and 79 group two coins.

The group one coins in this hoard range from the early unrealistic pose Pegasus types (Cat. 25e & 27b), the early standing Pegasus type (Cat. 54a & 56b) and Pegasus flying left, the latest issues of which have the square punch reverse with rounded inserts (Cat. 136c, 138b and Cat. 139a). The group one coins are, therefore, of varied types and seem to have been in circulation contemporaneously.

The group two coins begin with the small archaic head in incuse square with linear border (Cat. 156c, 157a & 158a). These are not the earliest examples of the new head of Athena reverse type as they have Pegasus left, and the series commenced with Pegasus right (see plate 10). Also, there are only three coins of this type present in this hoard. Next comes a small number of coins from the early phases of group two which have the small Pegasus left (Cat. 174a, 192b, 211c, 213a, 224a, 226c, 227c & 228a). The next group comprises coins from the Pegasus galloping right phase, along with the parallel issue of small Pegasus left (plates 16-19).

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<sup>678</sup> Kraay, 1979, p.19

<sup>679</sup> Ibid

It is interesting that there are no coins from the phases represented by plate 20, and only two coins from those on plate 21 (Cat. 297c & 303f) although the preceding plates 15-19 are all represented by at least three coins from each plate. This evidence suggests that this hoard was accumulated over time, with coins added at certain points, rather than the coins being withdrawn from circulation all at once. This can be the only explanation for the absence of coins from the phases represented by plate 20 and the appearance of only two coins from plate 21. The die study has shown that these plates extend the sequence, and do not overlap so there would seem to be a break in the composition of this hoard for a few years.

The core group of the group two coins comes from plates 22-24, with the emphasis on plates 22-23. This coincides with a change in the depiction of Pegasus whose forelegs are now more outstretched and the  $\phi$  beneath is smaller and neater. The head of Athena on the reverse of these issues is generally tall and elongated, set at an angle in the incuse square. The latest coins in the hoard are the issues where Athena wears an earring (Cat. 352c, 356c-e, 357b, 359g-h and 360c & e). The amount of examples from the same dies, the die linkage and the style of head of Athena all point to the issues on plates 22-23 being contemporary and those with the earring being phased in while the previous issues were still being struck.

Thus, this hoard comprises two, or possibly, three parcels of coins which have been removed from circulation over time. The group one coins may form a separate parcel, while there is strong evidence to see a break in the collection of the group two coins, which comprise the rest of the Corinthian coins in this hoard.

The thirty coins from Leucas in the hoard include four with a small Pegasus left, very similar to the Corinthian obverses on plate 23. The rest of the coins from Leucas are Pegasus right with forelegs outstretched, as at Corinth, and the head of Athena on the reverses is again very similar to the Corinthian reverse dies used on plate 22 and 23. The absence of earlier issues from Leucas again supports the theory that the coins in this hoard were collected in separate instalments.

The precise location of this hoard is not known but the hoard evidence suggests that coins of Corinth and her colonies are not found in Greece outwith the territory of Corinth and her



colonies<sup>680</sup>. Therefore, it would seem that Leucas, or possibly Ambracia, would be the most likely location of this hoard. No coins of Ambracia were found in this hoard, which is interesting. The first issue of Ambracia is head of Athena reverse where Athena wears the earring and has ivy sprig behind the head, one die of which is shared with Corinth (r248). This reverse die came into use at Corinth at the end of the “parallel” issue on plate 23, and seems to have been used after the earring issues (plates 24 & 25) had been inaugurated at Corinth.

The die study has revealed that small changes were made in Athena’s hairstyle to suggest greater realism. The first Corinthian earring issues had the hair traditionally represented by straight lines (as is the case with the Corinthian earring issues present in this hoard). However, later the hair was rendered in two parts. If this hypothesis is good then the Ambraciot earring issues were not struck for some time after the Corinthian earring issues had commenced. If the Ambraciot earring issues were struck at the same time as the Corinthian earring issues were being produced, commencing c450/445BC, then one would expect to find them in this hoard given its location. The evidence suggests, therefore, that the first Ambraciot coins were perhaps issued in the latter part of the 440’s BC, rather than c480BC as has traditionally been thought. With this in mind, a date in the early 440’s BC is attractive for the closure of this hoard.

### **Corinth, 1928 (*IGCH* 17) and c470-c460BC (c450-445BC)**

This hoard was apparently discovered near Corinth “just after the earthquake of 1928”<sup>681</sup>. The coins were purchased by Ravel in Paris from “several dealers all of whom had received them from the same source”<sup>682</sup>. Ravel published this hoard which comprised three staters and 33 fractions, all of Corinth, and he remarks on the probability that these coins may not represent the entire hoard.

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<sup>680</sup> With the exception of the Greece 1965 hoard, which most probably represents booty gained in an Argive attack on Corinth at some point in the 460’s BC. Although Corinthian coins are generally only found in Corinthian or colonial territory, this does not prove that they did not travel outwith Corinthian territory. The findspot of this hoard is unknown but detailed hoard analysis (p107-118) strongly suggests that it would have been found in Corinthian territory.

<sup>681</sup> Ravel, 1932, p.2

<sup>682</sup> Ibid.

Corinth did not issue fractions in any great quantity during the later fifth century BC, so the fractional issues were probably issued before 480BC<sup>683</sup>.

The three staters are head of Athena right, with earring, and Pegasus right with legs extended (Cat. 349c, 369d & 374a). The duration of the earring issues is not clear, but as the  $\phi$  behind the head issues are not present, a date of c450-445BC for the hoard is possible, as the  $\phi$  behind the head issues seem to have commenced a short time after the earring issues.

**Corinth, c1935 (*IGCH* 18) c470-450BC (after c450BC)**

The 1935 Corinth hoard, which comprised 14 staters of Corinth may be part of the 1928 hoard but, as there are no details available, it is of limited use. The only details known of the coins are that they are “early types” and one has K on the obverse. As this hoard has been dated to c470-450BC<sup>684</sup> this presumably means that Ravel’s chronology has been used, and the earring issues fall into this period, so one assumes that they were present in this hoard. As with the Corinth 1928 hoard, the span of the earring issues is not known, so dating is difficult.

**Corinth environs, 1952/3 (*IGCH* 25) c430-415BC (c431/430BC)  
(Plate E)**

This large hoard of over 250 coins of Corinth and her colonies was discovered in the vicinity of Corinth between 1952-3. Unfortunately it was dispersed in trade, but the British Museum in London was able to acquire 20<sup>685</sup> coins, sixteen of Corinth, two of Leucas and one of Ambracia and one of an unknown mint. The Corinthian coins range from a coin (Cat. 274a) which preceded the earring issue, to later issues which have earrings (Cat. 352b & 360a), and  $\phi$  behind the head of Athena (Cat. 376g, 385a & c, 399a, 414a & 418a) Two of these coins are linked and two come from the same dies (see plate E).

The other seven coins come from the transitional phase of Corinthian coinage which has Pegasus both with curved wing and straight wing and the head of Athena in a variety of

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<sup>683</sup> Kraay, 1976, p.88

<sup>684</sup> *IGCH* 18

<sup>685</sup> Not 21 as stated in *IGCH*

styles with accompanying symbols (see plate 30). Again, two of these coins are linked through the obverse (see plate G). One coin, with a straight-wing Pegasus, shows Athena with a wreath around her helmet. Another example of this type from this hoard (but with a different obverse die) is in the Calouste Gulbenkian Collection<sup>686</sup>.

The four coins of Leucas and Ambracia, seen in the British Museum, are straight wing Pegasus issues with the fully classical head of Athena. Finally, there is a coin which has a straight wing Pegasus being ridden by Bellerophon, with the letter *pi* beneath<sup>687</sup>.

This hoard is interesting as, although it only represents a fraction of the coins found, presumably the dealer extracted a representative sample for the British Museum in London. Of the sixteen Corinthian coins, two come from the same dies, and four more are linked through either the obverse or the reverse. This is a notable feature, if indeed the coins in the British Museum represent a random selection from over 250 coins. Also, although the earliest coin in this parcel is worn<sup>688</sup>, the earring,  $\phi$  behind head and transitional issues are all fairly unworn and have good weights, ranging from 8.47g-8.78g. This suggests that these issues are not separated by too long chronologically and that they are representative of the coinage in circulation at the time the hoard was concealed.

The die study has shown that the palmette issues of Ravel's period four are most likely to have commenced c430BC. Nicias invaded the Corinthia in 425BC<sup>689</sup>, but one would expect to see the period four palmette issues in circulation by then. As these issues are not present in this hoard<sup>690</sup>, a date of concealment in the opening years of the Peloponnesian War is very attractive.

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<sup>686</sup> Cat. Gulbenkian 527

<sup>687</sup> This coin is fully discussed in the absolute chronology section.

<sup>688</sup> It also has the lowest weight of 8.45g

<sup>689</sup> Plutarch, *Nicias*, 6.4

<sup>690</sup> Assuming that the coins in the British Museum are a representative sample.

### **Greece, ?Peloponnese<sup>691</sup> 1965 (*IGCH* 41) late C5th BC**

This hoard, dated to the late fifth century BC<sup>692</sup> contained fifty staters of Corinth and four helmet triobols of Argos. No details are available, so this hoard is not useful in an analysis. Argos had a victory over the Corinthians at some point in the early 460's BC<sup>693</sup> so this hoard could represent the spoils of that victory, in which case the date of closure of the hoard may be mid fifth century BC rather than late fifth century BC. However as no details are available, it may equally have been a hoard concealed at some time during the Peloponnesian War.

This hoard is also unique as Corinthian coins at this time are never found outwith Corinth or her colonies<sup>a</sup>. This lends credibility to the earlier date of concealment suggested as this unique hoard can be seen as booty from a victory over Corinth. Fifty is a nice round number suggesting a share of the spoils of war from Corinth. The four small denomination coins of Argos probably represented the total of the owners wealth before he returned triumphant from the Corinthian expedition.

## **ITALY AND SICILY**

### **Sambiase hoard, Italy 1960 (*IGCH* 1872) c520BC**

Dated to c520BC this hoard, currently the oldest in Italy and Sicily, comprised 56 staters of Sybaris and two Corinthian staters. Nothing is known of the Corinthian staters other than that they were group one coins.

### **Selinunte (ancient Selinus) Sicily, 1985 (*CH* 8.35) c510-500BC (c500-490BC) (Plate C & D)**

This hoard comprised 165 coins plus ingots and silver. It was discovered in 1985 on the south-west coast of Sicily, supposedly in the vicinity of ancient Selinus<sup>694</sup>. It comprised

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<sup>691</sup> Probably Argos

<sup>692</sup> *IGCH* does not make clear how it arrived at this date.

<sup>693</sup> An Argive dedication of spoils at Olympia records this - see Salmon, 1984, p.259

<sup>a</sup> See p.228, f/n 680

<sup>694</sup> Arnold-Biucchi et al., 1988

coins from five mints in Italy and Sicily, and coins from the mints of Abdera, Corinth and Aegina. None of the coins were test-cut or fragmentary.

This hoard has been dated to c510-500BC by the authors<sup>695</sup>. The coins from the mints in Italy and Sicily cannot be accurately dated. It is thought that the mints of Metapontum, Sybaris, Himera and Selinus started to issue coins from around the middle of the sixth century BC, with Poseidonia commencing her coinage around 525BC<sup>696</sup>.

The coin of Abdera falls at the end of May's group 1, which he has dated to 540/535-520/515BC<sup>697</sup> and, as the authors note, it is in a very good state of preservation<sup>698</sup>. The Aeginetan coins run through from c535/530BC to c510-490BC, with only two coins coming from the very latest group<sup>699</sup>.

The hoard contained 36 staters and 3 drachms of Corinth. Sixteen of these coins (including the three drachms) are group one coins. The drachms have the mill-sail reverse and the thirteen staters have the square punch incuse. The 23 group two coins have the head of Athena reverse within linear border. All but two of these coins were die-linked and this, in combination with the good state of the coins, leads to the conclusion that these coins left the mint shortly after they had been struck and arrived in Sicily just before the hoard was deposited<sup>700</sup>.

This hoard is of vital importance to the Corinthian chronology as it not only provides new dies for the study, but provides strong evidence that the group two coins were introduced at Corinth c505/500BC or possibly in the early 490's BC<sup>701</sup>.

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<sup>695</sup> Arnold-Biucchi et al., p.35

<sup>696</sup> Kraay, 1976, p.162-170.

<sup>697</sup> May, 1965

<sup>698</sup> Arnold-Biucchi et al., 1988, p.14

<sup>699</sup> Ibid, p.14-17.

<sup>700</sup> Ibid, p.25

<sup>701</sup> This is fully discussed in the absolute chronology chapter.

**Taranto, Italy 1911 (IGCH 1874) c500-490BC**  
(Plate B)

The Taranto hoard comprised c600 coins plus 6kg of ingots and worked silver. This large and important hoard was discovered in a vase in Taranto (ancient Taras) in 1911, at a depth of three metres, during excavations for the foundations of a factory<sup>702</sup>. According to the report, the site lay 300 metres from the shore of the Gulf of Taranto “outside the acropolis of Taras”<sup>703</sup>. Although the hoard seemed to have been split up upon discovery (or shortly after) it is accepted as a single find, and not “a conflagration of several finds” as some subsequently suggested<sup>704</sup>. As in the archaic Egyptian hoards, some of the coins were test-cut<sup>705</sup> and some were fragmentary.

This hoard has traditionally been dated to c508BC by Babelon who associated the Chalcis-Boeotia coin<sup>a</sup> “with the political events of 508BC”<sup>706</sup>. However, as the *IGCH* listing points out, some medium-incuse pieces of Metapontum from this hoard have been discovered in the British Museum, and this may suggest a later date. Ann Johnston, in her revision of Noe’s work on the coinage of Metapontum<sup>707</sup>, noted that the British Museum coins have the characteristic patina of the rest of the hoard, so their provenance is accepted as accurate. However, there is confusion over the exact descriptions of other coins in the hoard, as Noe’s listing did not correspond accurately with either his own catalogue, or Spink’s listings<sup>708</sup>. On the basis of the medium incuse coins of Metapontum, however, Kraay thought that a date of deposit in the first decade of the fifth century BC “seems reasonable”<sup>709</sup>, and Johnston agreed that sometime in the 490’s BC is “more plausible” than Babelon’s original date of c508BC<sup>710</sup>. It would seem, therefore, that this hoard should be re-dated to c500-490BC.

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<sup>702</sup> Babelon, 1912, p.3

<sup>703</sup> Ibid

<sup>704</sup> *IGCH* 1874.

<sup>705</sup> Although the actual percentage cannot now be ascertained.

<sup>a</sup> A rare issue combining the types of the two cities, thought to have been issued by Chalcis when it was in alliance with Boeotia against the Athenians c508/7BC (Herodotus 5.74)

<sup>706</sup> *IGCH* 1874.

<sup>707</sup> Noe & Johnston, 1984, p.37

<sup>708</sup> Spink’s *Numismatic Circular*, 1913 and 1917, which listed over 250 pieces.

<sup>709</sup> Kraay, 1956, p.49

<sup>710</sup> Noe & Johnston, 1984, p.40

As with the Metapontine coins, there is also confusion over the Corinthian content of the hoard. In addition to the five coins listed by Babelon (numbers 46 to 50<sup>711</sup>), he also listed under his number 48 that other varieties with the same description were reported, with weights ranging from 8.71gr to 8.05gr, some apparently with traces of overstrike (Cat. 14a, b, c)<sup>712</sup>. As the weight of the piece illustrated by Babelon and acquired by Jameson<sup>713</sup> is 8.50g, then there must be at least two other coins of this type.

Babelon then went on to state that a further six pieces were dispersed by Spink and Son and in trade<sup>714</sup> which he compared to *Traite* I, plate 36.10 and 36.11<sup>715</sup>. These are all Pegasus left with square punch reverse. Two of these have been traced, one was in the Courtauld Collection in Zimbabwe, and one passed to the collection of Cumberland Clark and was sold by Sotheby's in London in 1914<sup>716</sup>. This leaves four coins, the details of which can only be guessed from comparison with Babelon's plates in *Traite*.

Finally, Babelon listed one Corinthian coin with the head of Athena reverse (his number 50) which was Athena in linear border and incuse square on the reverse, with Pegasus flying right on the obverse. He stated that four of these coins were dispersed in commerce<sup>717</sup>. This makes a total of fifteen coins, which range from the earliest fragment with the mill-sail reverse, down to the group two coins.

The reconstruction of this hoard (see plate B) shows that the bulk of the Corinthian coins present had the square punch reverse. These coins ranged from the earliest experimental Pegasus type (Cat. 14a-c & 16c) to Pegasus in unrealistic pose (Cat. 26c-e) to the latest square punch reverse type with rounded inserts (Cat. 127c & 134j). It is notable that the standing and flying Pegasus types are not represented in the hoard. The head of Athena reverse type coins all come from the earliest phase of the group two coinage.

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<sup>711</sup> Number 49 is a hemidrachm, so it does not concern us here.

<sup>712</sup> Babelon, 1912, p.21

<sup>713</sup> *Cat. Jameson* 2083

<sup>714</sup> Babelon, 1912, p.22

<sup>715</sup> *Ibid*, f/n 1

<sup>716</sup> For full details of these coins, see the catalogue

<sup>717</sup> Babelon, 1912, p.22

The group one Corinthian coins span an estimated forty or fifty years<sup>718</sup>, but do not represent the full range of group one issues over that time, while the group two coins have almost certainly come straight from the mint. Thus, the Corinthian coins provide strong evidence that the Taranto hoard, like the Asyut hoard, comprised coins collected over some time rather than a large amount of coins being taken out circulation together at a specific point in time.

**La Castella, Croton, Italy 1956 (*CH* 8.24) c500-450BC**

This hoard is thought to be “two or more hoards mixed”<sup>719</sup> and not useful in an analysis. It contained eight group two coins of Corinth, but no details are known and no plates are available. If this hoard was dated by Ravel’s chronology then the Corinthian coins are pre-earring issues, so a date of before 450BC is probable.

**Catania, Sicily 1978 (*CH* 5.6) c460BC (before c450BC)**

This hoard contained eight coins - seven from Corinth and one from Leucas. As these coins were seen in commerce, it is possible that they are part of a larger hoard. However, no details regarding the hoard are available. As a survey of hoards has shown<sup>720</sup>, however, that no foreign coins appear in isolation in Italy and Sicily and are always found in association with local issues. As this hoard was discovered in Sicily, it seems likely that coins from Sicilian mints would be present and it is also possible that coins from Italian mints would also be included.

The coin of Leucas is similar to the galloping Pegasus and tall head issues of Corinth (Cat. 275) and must be contemporary with the Corinthian coins.

The Corinthian coins in this hoard include two group one coins, one of these having the rounded inserts characteristic of the latest group of square punch reverse issues (Cat. 71c & 131c). The earliest head of Athena reverse issues present have the galloping Pegasus type (Cat. 275d and 277h). Although the coins illustrated are discoloured and appear slightly

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<sup>718</sup> See table 17.

<sup>719</sup> *CH* 8.24 notes

<sup>720</sup> See classical hoards in Italy and Sicily analysis section



corroded, it seems that two of the later coins with head of Athena reverse (Cat. 329h & 331m) share the same obverse die, o154. The Corinthian coins present in this hoard are pre-earring issues so this hoard (or parcel from a hoard) is better dated to before c450BC.

### **Monforte, Sicily, 1947 (*IGCH* 2098) c400BC**

According to the *IGCH* entry, the Corinthian coin listed in this hoard is “obviously intrusive”<sup>721</sup>, so this hoard is not useful in this analysis.

## **THE RELATIVE CHRONOLOGY OF THE HOARDS**

In the period leading up to the Peloponnesian War there are 22 hoards around the Greek world containing Corinthian coins. Some of these, however, only contain one or two coins of Corinth so they are not useful in an analysis.

In the Levant, the Jordan 1967 hoard only contained one coin of Corinth. This coin was issued considerably earlier than the latest Athenian coins which provide the date of deposit for the hoard. This is consistent with the hoard pattern which shows that Athenian coin became dominant in this area after c480BC. This hoard could have been accumulated over some fifty years as it comprises an older element, which probably arrived prior to c480BC, and a newer element of more recent Athenian coins. It may also be the case that the Athenian coins were supplemented by a parcel of older, obsolete coins to make up the required amount of silver bullion sought by the trader in Jordan.

In Asia Minor the situation is similar. In both the Anatolia hoard and the Selimiye hoard, the single Corinthian coins present are clearly much earlier than the latest coins in the hoards. This suggests that the Corinthian coins reached Asia Minor by accident rather than design, included purely for their bullion value. Such a tiny presence of Corinthian coins over such a long time does not suggest the presence of Corinthian traders in Asia Minor.

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<sup>721</sup> *IGCH* 2098 notes p.317

Although Corinth maintained quite a high numismatic profile in the archaic Egyptian hoards, the single coin of Corinth in the Zagazig hoard is again much earlier than the bulk of the coins in this hoard. The Asyut hoard, probably first concealed c475BC, contained group two Corinthian coins while the coin in the Zagazig hoard, dated to c470BC, is one of the old group one issues (Cat. 84a). Where Corinthian coins are found in Egyptian hoards, there is always more than one coin present<sup>722</sup> so the Zagazig hoard is also unusual in this respect. The hoard pattern shows that, like the Levant, Athenian coin became dominant in Egyptian hoards following the Persian Wars. The most likely explanation for the presence of this much older Corinthian coin in the Zagazig hoard is that it arrived as a result of internal trading in Egypt.

The Sambiase hoard in Italy must also be reluctantly excluded. Dated to c520BC on the basis of the coins of Sybaris illustrated in the rather limited publication report, no details at all are known of the Corinthian coins other than that they were group one coins. This is unfortunate, as more details would have been valuable in terms of the Corinthian chronology. It can be posited that the Corinthian coins were not among the oldest with the mill-sail reverse design, or the latest with the rounded inserts, or of the standing Pegasus type as surely these features would have been worthy of comment. It seems likely that the Corinthian coins were standard flying Pegasus issues with the square punch reverse, which occur in the middle of the group one coinage. Lack of information, however, prevents this hoard from being useful in an analysis.

Similarly, the hoards from Corinth 1935, Greece 1965, La Castella, Italy 1956 and Monforte, Sicily 1947<sup>723</sup> must all be excluded as there is not enough detail available regarding the coins. Thus, only fourteen hoards from Greece (6), Egypt (5) and Italy and Sicily (3) are available for analysis.

In terms of the Corinthian coins, the archaic hoards of Egypt clearly stand at the head of a relative chronology (see plate A). Sakha, with its preponderance of mill-sail reverses and low representation of standard flying Pegasus coins, contains the earliest Corinthian issues. Next, Mit Rahineh, still early in the Corinthian coinage with its unrealistic pose issues, but

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<sup>722</sup> Apart from the Delta hoard, but this is clearly a parcel from a larger hoard so it seems very likely that there would have been more than one Corinthian coin in the original hoard.

<sup>723</sup> *IGCH* 18, *IGCH* 41, *CH* 8.24 and *IGCH* 2098 respectively

with a higher percentage of square punch reverse types. Finally, Demanhur with its preponderance of standard flying Pegasus types. It is certain that the Delta hoard is a parcel from a larger hoard, and it seems likely that, originally it would have been similar in composition to the Demanhur hoard, so is probably contemporary with it.

These Egyptian hoards have all traditionally been dated to c500BC or late in the sixth century BC. However, it is unlikely that they are so late, as the Corinthian group two coins would have been in circulation for some years by then. It is more realistic to see these coins arriving in Egypt prior to the Persian invasion of 525BC, and subsequently being concealed in the skirmishes and revolts which arose under the Persian regime.

These four hoards only contained group one Corinthian coins. The introduction of the new head of Athena reverse type at the Corinthian mint provides hoards which, initially, contain both square punch reverse types and head of Athena reverse types.

The Corinthian coins in the Taranto hoard (see plate B) comprised a wide-ranging mix of issues from the group one coinage as well as four group two coins, all from the very first phase of the group two coinage. The coins of this type in the Taranto hoard, which have been seen, appear slightly worn suggesting some time in circulation before being removed to the hoard. The integrity of the Taranto hoard has been much discussed and the date of deposit has now been revised to c500-490BC. It seems likely that the Taranto hoard was accumulated over a group of time and is a series of “parcels” of coins, all finally deposited together, rather than a representative group of coins all taken from circulation together. The disparity of the Corinthian group one coins tends to confirm this.

The Selinus hoard (see plates C & D) is the first hoard containing Corinthian coins in which the group two coins outnumber the group one coins. This hoard has been dated by the coins of Abdera, which span c540-515BC, and Aegina, whose core group is in the range

c535/530BC with a couple of later coins which are issued early in the group c510-490BC. It seems most likely that this hoard was deposited c500-490BC. The group one coins of Corinth in the Selinus hoard include two earlier coins (one unrealistic pose Pegasus type and one standing Pegasus type) but are mainly standard flying Pegasus issues. The group two coins, all but two of which are linked, are in excellent condition. Thus the group one coins seem to be representative of those still in circulation when the new head of Athena reverse issues are struck. The person who assembled the group one coins then added a new parcel of head of Athena issues, probably obtained straight from the mint, as suggested by the condition and the die linkage of the coins. These Corinthian coins then left circulation soon after they were issued and travelled to Selinus, where they were concealed in the hoard.

Although the latest Corinthian coins in both the Taranto and Selinus hoards are contemporary, the group two coins in the Taranto hoard are more worn than those in the Selinus hoard suggesting a longer group in circulation. However, if the first head of Athena reverse issues were struck by the Corinthian mint c505/500BC or possibly in the early 490's BC, as suggested by Selinus, the group two coins in the Taranto hoard are not so worn as to suggest many years in circulation, if the date of Taranto is accepted as c500-490BC. This again supports the theory that the Taranto hoard was accumulated over some time. Thus, in a relative chronology of hoards containing Corinthian coins, the Taranto hoard follows the Selinus hoard.

The Asyut hoard has been dated to c475BC, although this date has been much debated. Again, as with Taranto, there is evidence to suggest that the Asyut hoard was accumulated over some time. The coin of Alexander I, some Persian sigloi and a few other coins seem to have been post 475BC additions to the hoard. In respect of the Corinthian coins present, there is one very early issue (Cat. 18c) which really stands out from the other group one coins present, all of which are standard flying Pegasus types. This coin is fragmentary and extremely worn.

As the rest of this coin was not in the hoard it is again tempting to suppose that, like the Zagazig hoard, this coin arrived in Asyut via internal trading in Egypt. If this is the case then the Asyut hoard may have drawn its coins from both Greece and Egypt over a group of time. The core group of the group two Corinthian coins are all from a point after the

linear border in the incuse square was dropped to the point where Pegasus changes direction to the right and assumes a galloping pose. It is quite hard to assess the degree of wear of the coins as many are test-cut and distorted but, on those coins where the detail can be seen, the wear seems to suggest a relatively short group in circulation.

The hoard pattern also suggests that these Corinthian coins possibly arrived in Egypt just after c480BC. After this, direct Corinthian contact with Egypt wanes and Athenian coin becomes dominant in the area.

The Isthmia hoard near Corinth comes from the archaic temple which was destroyed by fire at some time between c470-450BC. This means that the Corinthian coins present cannot have been issued later than this. Unfortunately, not much information about the coins is available. However, the Corinthian issues included both group one and group two coins. The latest of these is reportedly the issue having small Pegasus left in combination with a large head of Athena with pronounced archaic smile (Cat. 261) which is pre-earring.

Next in a relative chronology comes the Corfu 1985 hoard. Not much information is available, but this hoard originally seems to have had a profile similar to Isthmia, with a small number of group one coins and the remainder being head of Athena reverse types. The latest coin in this hoard illustrated is from a phase of coinage just after that represented in the Isthmia hoard (Cat. 293d).

This is followed by the Catania 1978 hoard which is probably a parcel from a much larger hoard. The Corinthian coins ranged from two group one coins to coins from a phase of coinage just before the earring was introduced (Cat. 331m). This hoard is similar to the north west Greece 1964 hoard although none of the coins illustrated have the earring which ends this phase of issues as it does (see plate 23). If this is a representative sample of the coins in the original hoard, then this hoard must precede the north west Greece 1964 hoard in terms of the chronology of the coins, but the travelling time to Sicily may make it roughly contemporary in terms of date of deposit. The Catania hoard, therefore, can only be said to precede c450BC while the Greece 1964 hoard may have been concealed at some point in the early 440's BC.

The Corinth 1928 hoard is, in all probability, another parcel from a larger hoard. Only three staters were recorded and they are all earring types. The earring issues are likely to have been all issued within a relatively short space of time, so this hoard may have a similar date of deposit to the north west Greece 1964 hoard.

Finally, at the foot of the relative chronology of hoards with Corinthian coins in the period preceding the Peloponnesian War, comes the Corinth 1952/3 hoard. Unfortunately, this important hoard was poorly recorded, but the parcel of Corinthian coins obtained by the British Museum in London seems to be representative of the Corinthian types present in the hoard. It seems that there was a small amount of coins from the pre-earring phase of coinage (Cat. 274a), but the rest of the coins were either earring issues or had  $\phi$  behind head of Athena, or were transitional issues with head of Athena in varying styles.

As no coins from Ravel's group four were present, and it is fairly certain that his group four commenced c430BC, a date close to, or soon after, c430BC seems most attractive for the date of concealment of this hoard.

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THE CORINTHIAN COINS IN THE EARLY EGYPTIAN HOARDS

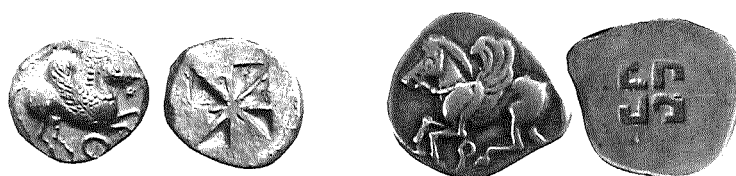
Sakha hoard, 1897  
(reconstructed)



Delta hoard, 1887

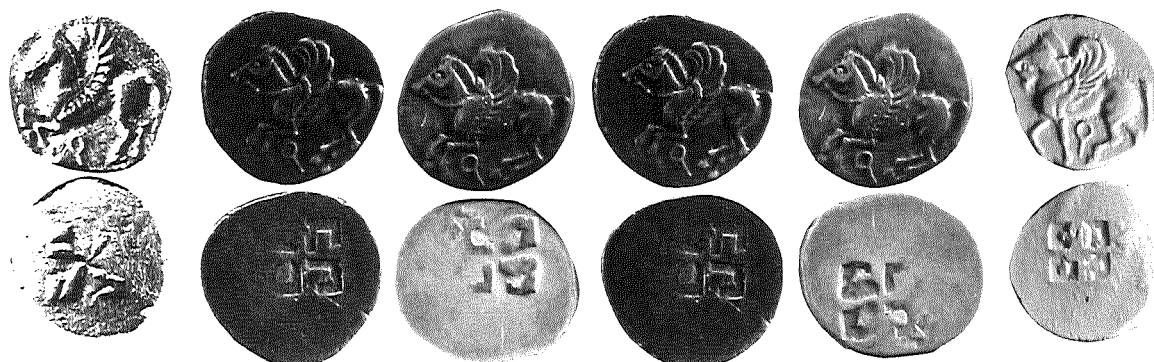


Mit Rahineh hoard, 1860  
(reconstructed)



Plus two fragments with  
square punch reverse

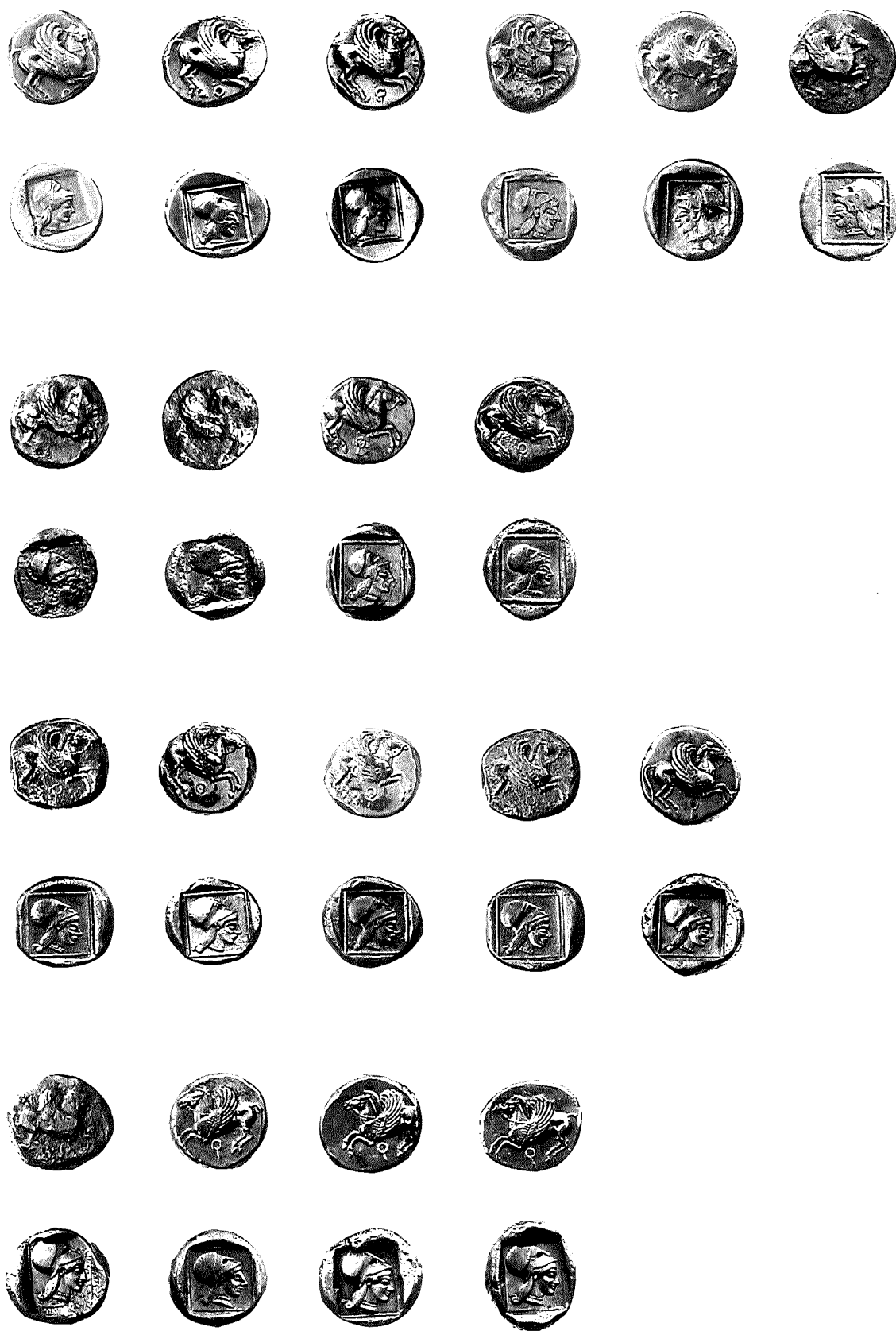
Demanhur hoard, 1900/1  
(reconstructed)



THE CORINTHIAN COINS IN THE TARANTO HOARD, ITALY 1911  
(reconstructed)







Plus four other coins in this phase, whose photographs are not available.





Another coin from this hoard with the wreath around the helmet is in the Calouste Gulbenkian Collection