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Prevalence and Profitability: The Counterfeit Coins of Archaic and Classical Greece

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THE FLORIDA STATE UNIVERSITY
COLLEGE OF ARTS AND SCIENCES

PREVALENCE AND PROFITABILITY: THE COUNTERFEIT COINS OF ARCHAIC AND
CLASSICAL GREECE

By

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ABSTRACT

Fraudulent activities flourished throughout the Archaic and Classical Greek world. One such understudied fraudulent activity was the counterfeiting of Greek coinage during this period. Many numismatists have examined individual cities' coinages and have, in several instances, discovered the prevalence of this type of fraud in numerous individual cities across the Greek world. However, there is not a single collection of all this evidence, archaeological, literary or epigraphic, which draws together the many examples from several Greek cities in the Archaic and Classical Greek world. This Thesis will examine the evidence at hand and include a detailed diachronic study of the major Greek coinages during the Archaic and Classical periods to draw together a vast amount of evidence into one body. The examination will include a detailed assessment of ancient authors' views along with ancient rules and regulations regarding counterfeiting, and existing coin samples to determine how prevalent counterfeit coins were in antiquity. This research demonstrates that counterfeiting was more prevalent than previously expected, especially in major trade coinages such as Aegina, Athens and Corinth. The find spots and analysis of the extant evidence indicates that previously held assumptions of where and how counterfeit coins were passed into circulation need rethinking and further study.

INTRODUCTION

The invention and spread of coinage throughout the Archaic and Classical Greek world heralded new and profitable economic opportunities for both the individual and the *polis*. A city-state issuing silver coinage was able to both make a profit from coining silver and assure the purity of this handy currency through the type placed on the coin as the state needed to guarantee these small pieces of bullion for successful commerce. The alloys of Greek coins were carefully measured and rarely adulterated and consequently, diluted/debased coinage was not as much of a concern as coins which were plated. However, these new coins provided ample opportunity for illicit gain through deceitful recreations using metal of far less intrinsic value. Indeed it took little time for individuals to discover a way for personal profit from this new money.¹ The advent and spread of coinage captivated the minds of those who sought the quickest gains from the least expenditure, expressly through counterfeiting coins. Counterfeit coins, specifically plated coins, yielded vast amounts of profit for those willing to risk severe punishment, including death, if caught. This thesis attempts to bring together in one study the literary, epigraphic and archaeological evidence for the most complete examination to determine just how prevalent and profitable this practice was in Archaic and Classical Greece.

Fraud and deceit were nothing new in the Archaic and Classical Greek world, yet counterfeiting coins was a novel example of these crimes which many individuals and *poleis* quickly recognized and sought to minimize. The circulation of counterfeit coins drastically affected individuals more acutely as the receipt of a false coin could cause severe economic repercussions. On a larger scale, city-states could not only lose the fidelity of their coinage in ‘overseas’ markets, but the receipt of counterfeit coins in large payments year after year would undoubtedly cause great annoyance. Although harsh penalties existed in attempt to curb counterfeiting, evidence from Greek literature, inscriptions and the archaeological record all illuminate that this problem was incredibly pervasive in the Archaic and Classical Greek world. Unfortunately, many numismatists have downplayed this aspect of Greek coinage, but in recent decades a few have given more attention to the counterfeit specimens found among the numerous coinages of the Greek world. The focus of this thesis is to draw together a large part of the evidence into one body to better examine and understand the prevalence and profitability of this practice of ancient coin counterfeiting across the Greek world. The study begins with the

¹ Wallace 2001, 131.

invention of coinage in Asia Minor during the archaic age and proceeds through the classical age.²

It should come as no surprise that counterfeiting coins is virtually as old as coinage itself. Counterfeiting pre-coin ingots existed as well, but the prospect of counterfeiting a weighed and officially issued lump of metal must have had far greater appeal. As opposed to lumps of metal, coins were issued by an authority and stamped with a type so as to announce to all users that this metal was of a certifiable weight recognized by the issuing authority and would be reaccepted by that authority at any time. Anyone subject to or trusting the issuing authority would find the coins acceptable. The type only secondarily guaranteed metallic purity³ as the reverse was typically pressed into the coin superficially showing a solid interior. A counterfeiter could encase a core of less valuable metal inside a “skin” of whatever precious metal coinage he was replicating. The counterfeiter’s creation would then carry an appearance similar to a weighed, certified and readily recognized monetary medium, and at first glance the coin would draw less suspicion than a simple pre-weighed lump of bullion. This method, however, was not without its flaws, the counterfeiter would need to reproduce the types fairly accurately and create a counterfeit coin which adhered closely to both weight standard and size. It was the latter two issues that would create problems for many counterfeiters as typically the base metals used in the cores had a lower specific gravity than gold, electrum or silver.

Before examining the evidence, I believe it is necessary to define and identify what ancient counterfeit coins are and the various terms used to describe them. First, to minimize confusion one should always differentiate between ancient and modern false coins. J.M. Jones provides an excellent description of the distinction between the two and I will summarize here. The ancient counterfeiter’s primary goal was economic gain through using the least amount of precious metal in his coins, yet preserving a realistic enough appearance so as to pass it off as genuine.⁴ The most common way to do this in the Greek world was using one of various methods to encase a base-metal core/flan⁵ of copper, bronze or lead in the precious metal, which was most commonly silver in the Greek world. The techniques for plating cores vary and will be

² The intent of this work is not to argue a date for the inception of coinage but to analyze and examine examples and trends to better understand the frequency and impact of this phenomenon on the Greek world.

³ Kraay 1976, 2.

⁴ J.M. Jones 1986, 58.

⁵ Generally I will refer to the base-metal interior of subaerate coins as cores. However, as will be discussed in the archaeology section, in some instances it appears as though a few counterfeiters may have used flans to mass produce counterfeit coins.

discussed later. Other techniques for counterfeiting which were far less common, due to their easily detectable nature, involve either striking a coin from a similar looking base metal, i.e using tin or lead to mimic silver's appearance, or simply debasing the precious metal content of the mixture used to produce coins. The goals and techniques of the modern forger of ancient Greek coins are completely different. He does not strive to preserve precious metal when making the coin, but rather use as much high quality silver to create a superb specimen as realistically as possible because he can make substantial profit by selling the forged coin for much more than the cost of the precious metal.⁶ While the terms 'counterfeit' and 'forgery' can be used interchangeably, to minimize confusion I will use counterfeit when referring to ancient false coins and forgeries for modern creations. This thesis does not deal with diluted/debased coinage in detail as this type of counterfeiting was far less profitable and has received more study than Greek plated counterfeit coins.

There have been previous works discussing counterfeit coins, but many do not draw together large quantities of information, but rather focus on a smaller aspect of counterfeiting. These are welcome and helpful studies, however, few have attempted to draw such a body of evidence together into one work. J.M. Jones has collected numerous literary and epigraphic testimonia on Greco-Roman coinage and has focus one chapter specifically on forgeries and expedients.⁷ Ronald Stroud's publication of Nikophon's law on silver coinage⁸ initiated roughly a decade of research on Nikophon's law and possible Athenian counterfeits and imitations. These various works certainly aided more in understanding the vocabulary of counterfeits in some epigraphic and literary sources, but they did not focus on the archaeological aspect. T. Figueira⁹ and later P. van Alfen¹⁰ reassessed the epigraphic evidence, focusing around Nikophon's law, and including a more detailed study of the archaeological evidence in conjunction with epigraphy. Yet for the most part, archaeological, epigraphic and literary studies of counterfeiting have largely been done in isolation. The work of J. Graf¹¹ early in the last century helped identify plated coins from over 350 cities in the Greco-Roman world. Unfortunately, not many followed in his footsteps and the numismatic evidence unearthed after

⁶ Jones 1986, 58-9.

⁷ Jones 1993, 353-66.

⁸ Stroud 1976, 158-87.

⁹ Figueira 1998, 528-62.

¹⁰ van Alfen 2005, 322-44.

¹¹ Graf 1903, 1-130.

him was not adequately recorded. Numerous catalogues and monographs have not reported enough information on the counterfeit coins which they excavate or encounter for future study. Many conclusions have to be drawn from the scanty information at hand. Although this thesis is not intended as a catalogue of counterfeit coins, a few examples will be used. The hope is that this work will further the study of archaic and classical Greek counterfeit coins. Hopefully, deposits, hoards and collections may be fruitfully restudied or that catalogues of counterfeit coins may become available to advance our knowledge of Greek counterfeiting.

Although one major category of ancient Greek counterfeit coins is the plated base metal core, occasionally emergencies or financial crises forced Greek *poleis* to mint plated coins so that not all of the plated coins produced in antiquity were counterfeits. This occasionally causes some discrepancy in interpretation of the evidence; however, a close and detailed study will often shed light on the suspect coins. David Schaps wisely notes that it was not virtue but economics which prevented Greek authorities from somehow debasing their own coinage and leaving it with no value outside the issuing states own territory. This would have made it impossible for an issuing state's citizens to import and buy what they wanted or needed.¹² The earliest coins were simply bullion with a guaranteed weight and quality which made them easy to counterfeit as the false coins only need the proper appearance and correct weight. The majority of Greek coinage remained stamped bullion and had only marginal token status and never truly attained a token status. So it is clearly the *intent* of deceiving which must be considered, as that was how the counterfeiter made his profit. Yet it is the Greeks', and particularly the Athenians', attempt at token values for coinage that must not be confused with counterfeit coinage. The best example for this confusion between counterfeit and token coinage is the Athenian emergency issue of bronze-cored silver coins minted near the end of the Peloponnesian war. The Athenians produced copious amounts of silver-plated bronze-cored tetradrachms and drachms; however, unlike ancient counterfeiters who often worked outside the mint, the Athenian mint purposefully produced these coins roughly 15-25% below the specified weight standard. As opposed to many counterfeit coins this weight discrepancy is easily felt when hefting the coin; thus the Athenians could not be accused either of counterfeiting or deceiving anyone who handled these plated coins nor cause any commercial contacts to lose faith in their merchants and coinage. Consequently,

¹² Schaps 2004, 30.

not all plated coins are truly counterfeit, only those created with the intent to deceive the recipient.¹³

The existence of plated coins which were not counterfeits can produce more questions as to determining whether a coin was intended for deception. In regards to the Athenian *fouillée* coinage, various pieces of evidence indicate that these coins were official issues as opposed to counterfeits. Aristophanes derogatorily refers to these coins as “coppers” in both his *Frogs* and *The Women’s Council*. E.S.G. Robinson and a few others disagree that this emergency issue existed and that Aristophanes must be referring to small private issues of bronze fractions.¹⁴ However, this seems unlikely as Athens did not deal in bronze coinage in any significant amount until after the productions of these plays. Another defining feature between this emergency issue and actual counterfeits of Athenian coins is the weight of the coin. The *fouillée* coins in question weigh roughly 15-25% less than the standard. The tetradrachm’s weight standard was 17.2gms which could rise or fall .3gms without causing much suspicion on weight alone; the emergency issue coins typically weigh between 13.2 and 15.45gms, or noticeably outside the weight range for genuine coins. The emergency issue drachms are the same; 4.3gms is the standard and most weigh between 2.9 and 3.66gms which is well outside the acceptable weight range for genuine drachms. This weight difference is enough for anyone hefting the coin to notice, so as not to fool or deceive the users. The Athenians also produced this issue at the end of the Peloponnesian War at a time when Athens was short on resources and making these *fouillée* coins was an incredibly economical use of precious metal.¹⁵ The information learned from Athens can help in determining whether other questioned pieces are counterfeit or legally produced.

The ability to mass produce *fouillée* coins would naturally raise questions about the technology used to make them. The techniques of creating plated coins is not the subject of this thesis, the technology and labor involved provide clues to the prevalence and ease of making silver-plated coins. William Campbell’s and Susan La Niece’s extensive studies on the techniques used to create these coins remain two of the best available.¹⁶ There is no need to repeat the bulk of their research here, but they do discuss several methods of plating a base metal

¹³ The general term for a coin with a base metal core is the French word *fouillée* (lined), although the Latin word *subaeratus* (bronze underneath) is occasionally used. I will use the former when referring to a plated coin which may or may not be a counterfeit.

¹⁴ Robinson 1960, 13-5.

¹⁵ La Niece 1993, 227.

¹⁶ Campbell 1933, 1-174 and La Niece 1993, 227-33.

core/flan with silver. Ultimately, the goal of the counterfeiter is to have the silver adhere to the base-metal core/flan long enough and realistically enough to pass it into circulation. He could plate a base-metal core/flan in a number of ways; the first and oldest technique used silver foil roughly one tenth of a millimeter thick which was applied, through heating, directly to the base-metal core.¹⁷ Counterfeit coins made in this fashion did not last too long as circulation tended to wear away sections of the foil. Also, at times the counterfeits could weigh noticeably less than genuine coins as the specific gravity of the base metals was not the same as silver.¹⁸ As counterfeiters became smarter, their techniques improved. Many found that a thicker layer of silver was needed around the base-metal core to both obtain a weight within the accepted weight range for the coinages they were counterfeiting and that their plated coins would more easily pass any tests which suspicious merchants or *poleis* might conduct on the coins. The counterfeiters accomplished this by three methods; using silver sheet and striking it directly onto the core, another involved a eutectic alloy/solder that was a mixture of copper and silver which was adhered before the layers of pure silver, and a third method again involved a similar alloy in the form of a dust or shavings first, then silver dust or shavings were sprinkled over the core and heated to create a thicker silver casing around the core.¹⁹

These methods of producing counterfeit coins were not incredibly time-consuming, which the mass-produced emergency issue of Athens indicates. As will be seen in the following chapters, with the right tools, these plated coins could be produced quite quickly. Ultimately, the prevalent and pervasive problem was recognized by the Greeks themselves and combated fiercely. Unfortunately, counterfeit coins are not studied enough by modern archaeologists and numismatists as most just do not record all the necessary information, due to lack of interest, to properly examine this challenge. One problem which has long hindered the study of these coins is clearly demonstrated with William Campbell's study; the need to destroy or damage the suspect coins before researching further.

The extent of counterfeiting remains somewhat undetermined. However, the frequency with which they appear in the literary, epigraphic and archaeological record suggests that they

¹⁷ The melting point of copper is 780° C and the melting point of silver is 960° C. To adhere the silver plating to the base-metal core, which was often copper or bronze, the counterfeiter needed to heat the metals somewhere between the two melting points to fuse the metals together.

¹⁸ The specific gravity of silver is 10.42, copper's is 8.93 and bronze with 8-14% tin ranges from 7.4-8.9. The counterfeiter had to take precautions to make sure his combination reached the correct weight and size as too much base metal would either create an abnormally large coin or an underweight coin.

¹⁹ Campbell 1933, 145-51 and La Niece 228-30.

were not simply a minor problem. Counterfeiting was a far reaching phenomenon which appears to have a pattern previously unrecognized by many scholars. Counterfeiters seem to fall into two groups: those who produced false coins for use locally and those for use abroad. While it can be quite difficult to distinguish which category is in question at any given time, an examination of occupations conducive to counterfeiting and the find spots of several counterfeits may shed some light on the topic. The extant counterfeit coins suggest that some were made for local use while others clearly were meant for use abroad. A study of the weights of extant counterfeits shows that some were made far more carefully both in appearance and weight, suggesting that they would be used one at a time or in small numbers to purchase goods in a market or in personal exchange. Several counterfeits have less attention to both detail and weight, indicating that the counterfeiter intended to use the coin in a bulk payment to replace one or more genuine coins as they would have had a greater chance of detection if presented individually. Unless the recipient scrutinized every coin, one or two false coins could easily pass into circulation. It seems as though different counterfeiters had different purposes for their counterfeit creations

As we first examine the literary testimonia, we see how common counterfeit coins were in Greek literature. The numerous ancient authors often drew upon counterfeit coins as a ready metaphor for a man with a pure appearance but a base heart. Literature not only shows that counterfeit coins were common knowledge, but it helps to reveal possible occupations which were very advantageous for counterfeiters. The epigraphical evidence reiterates that mint workers may have been involved in counterfeiting. Several laws were established to deter counterfeits and some inscriptions also indicate that some of these counterfeits could be fractional coinage and not just the larger staters. Archaeology has corroborated these hypotheses and also shows that many commonly held assumptions of where counterfeit coins were used need to be rethought. Archaeology also allows us to examine several coins in an attempt to extrapolate how profitable counterfeiting was.

LITERARY TESTIMONIA

Evidence for the prevalence of plated counterfeit coins exists in numerous media including archaic and classical Greek literature. Perhaps the biggest stumbling block to modern classicists for fully realizing how widespread and common this practice was in antiquity is the lack of many works which bring together a substantial amount of this literary evidence into one body. J. M. Jones has collected numerous literary and epigraphic references to coinage in his book *Testimonia Numaria Vol. I*, where he devoted a chapter to forgeries and expedients. However, this book, while very useful, does not offer an in depth analysis of the ancient references.²⁰ Compositions such as that of T. Figueira have dealt with fewer literary examples of counterfeiting, but offer more in-depth analysis of those specific references. The objective of this chapter is to both list and analyze a significant number of ancient references; first to illuminate the numerous examples of literary allusions to and evidence of counterfeit coinage, then to examine how these remarks add to our knowledge of counterfeiting and counterfeit coins.

Scholars such as Richard Seaford have noted that the invention of coinage had a profound effect on the Greek psyche. This invention ultimately helped to create new thought patterns by changing social relations and interactions among the Greeks as their society became increasingly monetized by coinage.²¹ Indeed, the language and terminology of coinage became so highly developed as to include specific words for counterfeiting, plating, the different types of false coins, methods for detection of counterfeit coins and public officials appointed to validate suspect coins. Perhaps the Greeks' main linguistic weakness for counterfeit coins was a lack of vocabulary for coins which fell outside the acceptable range for the weight standard on which they were struck.²² Additionally, both the word choices and the way in which the various authors construct certain passages have been interpreted as evidence for how prevalent counterfeiting was in archaic and classical Greece.²³

²⁰ J.M. Jones 1993, 353-66. This chapter is not the only chapter which references counterfeit coinage, nor does his work encompass all testimony to counterfeit coins.

²¹ Seaford 2004.

²² Figueira 1998, 483. See also Caltabiano and Colace 1983, 447 and 1985, 81. As will be discussed later, the weight of a coin can be helpful for determining a coin's validity.

²³ This section will discuss some of the vocabulary of counterfeiting, the rest will be discussed in the epigraphic section which follows. For example, specific types of testers will be discussed in the epigraphic section. For a detailed examination of specifically the vocabulary regardless of the source, see Caltabiano and Colace 1983, 421-47 and 1985, 81-101.

Even before the rise of coinage, wealth was a prize coveted by virtually every Greek. Solon wrote, “Of wealth there is no limit that appears to men. For those of us who have the most wealth are eager to double it” (*fr.* 13.71-3).²⁴ The ability to trade precious metal for almost any commodity or service made it a desired material. As coinage gained prominence in the Greek world, more people had access to this incredibly convenient currency. Aristophanes portrayed Wealth as having power over all people and all things and distinct from all else such as sex, bread, music, honor, etc, in which one can be satisfied, yet money was different, if a man gets 13 talents he desires even more to get 16 and if he gets this then he wants 40 or life is not worth living (*Wealth* 189-97).²⁵ Aristophanes elaborated in his plays the items which money, and specifically coins, could buy: small amounts of food (*Ach.* 960-2), sex (*Thesm.* 1195-7), a signet-ring (*Thesm.* 425), paying the fuller (*Vesp.* 1128), and so forth.²⁶ No doubt the desire for profit and greater wealth, coupled with coinages’ virtually unlimited ability to acquire anything, created an environment where counterfeiting could easily accomplish both. A skilled counterfeiter could increase his wealth exponentially as well as use his debauched creations to buy anything imaginable. Two archaic poets seem to have understood the potential which counterfeiting had for easy gain.

Theognis and Anacreon were two archaic poets who flourished in the third quarter of the 6th century B.C. and provide important clues about counterfeiting shortly after coinage reached widespread use in the Greek world.²⁷ Daniel Levine observes that in western literature metals have long been used to describe both the pure and base character of humans.²⁸ However, these two poets wrote at a unique time in history when coinages’ widespread use rivaled bullion’s. Their works show a transition in the Greek thought process from simply using the metaphor of adulterated/diluted precious metals to specific examples of plated counterfeit coins. The construction of a plated coin, a base-metal core with a precious metal coating, proved even more suitable for the metaphor of a debauched/evil man than that of a homogeneously diluted precious metal mixture. Unfortunately, only about 1400 lines of Theognis survive and the merest fragments of Anacreon preventing a more complete view of this early development. Theognis,

²⁴ Solon undoubtedly preceded Attic coinage and here must refer to bullion. Kroll and Waggoner 1984, 325-33. Kroll 1998, 225. Translation from West 1998.

²⁵ Seaford 1998, 121.

²⁶ Seaford 2004, 100. See also Burelli 1973 for a survey of money in Aristophanes.

²⁷ While the date for the introduction of coinage is highly debated, I follow Kroll and Waggoner 1984. Here the earliest Greek coinages are placed in the second quarter of the 6th century.

²⁸ Levine 1984, 125.

due to the greater quantity of extant texts, presents a logical starting place for a literary study of counterfeiting. Theognis and Anacreon both possibly referenced plated counterfeit coinage in several passages

The writings of Theognis were often concerned with both wealth and the character of a man. One can interpret several of his passages as using counterfeit coins to describe the wickedness of man. Interestingly, certain sections of Theognis' writings hearken back to the prominent types of counterfeiting and monetary deception before coinage's prominence, indicating Theognis' position in a transitory world shifting from weighed bullion to coinage. These passages (415-8, 447-52, 1104ab-06, 1164eh) refer to the common techniques used for testing suspect precious metal. Theognis mentions the touchstone which the Lydians and Greeks used to test the purity of gold and electrum. The streak left on the stone by the precious metal would reveal even the slightest amount of silver or base metal in the gold. A skilled eye would use this for assaying purposes for both pure gold and to double check to silver content of electrum.²⁹ Theophrastus described the accuracy of the touchstone and its ability to detect even the smallest fractions of added metal in a gold or silver.³⁰ The touchstone was an effective assaying tool for chunks of bullion and later coins. Many aristocrats and merchants probably used or at least had seen one and could understand the metaphors regarding human testing.

Theognis referred to himself and "friends" who had no deceit within them and were proved pure and trustworthy when tested on the touchstone. Pindar (*P.* 10.64-8), among others, also used this allusion to gold tested on the touchstone. Leslie Kurke notes that the aristocratic elite used these references to show their pure nature compared to the common and adulterated lower classes.³¹ The ancient authors would likely have used the metaphor of diluted gold as it was a more readily understood and widespread problem before coinage. If most individuals dealing in the medium of gold had not encountered this problem or had never used a touchstone, these lines would prove meaningless to any who read them. It appears clear that at least shortly before and during the nascent stages of coinage, deception through adulteration was a common problem encountered by those who dealt in gold and electrum. Perhaps another concern for future studies may be the identification of those who counterfeited and possible upper class hostility to those who not only became rich, but did so by deceitful means.

²⁹ Craddock 2000, 247-8. Though it should be noted that the touchstone is less effective on silver.

³⁰ Caley and Richards 1956, 45-7, 150-9.

³¹ Kurke 1999, 43-4.

Theognis detailed another testing method which applied more directly to coinage as opposed to precious metal bullion. He explained that experts recognize silver and gold's purity by fire (499-502). Theognis presumably has coinage in mind here, as testers would validate coins by means of a red-hot iron shovel. This method was typically destructive and most likely not used on objects not intended for reuse. Heating coins for testing purposes would have happened when coins were prepared for over striking or to be melted down for recasting. Coins which appeared clear white under heat were pure, those which glowed with a reddish hue or became black were either debased or plated coins.³² This procedure, however, would be too cumbersome and time-consuming for simple merchants or individuals dealing in small sums to conduct. Fire would only be a viable option when large amounts of coins were proffered as payment to city-states.³³ As will be discussed later, the *polis* would need someone knowledgeable in this or another method of testing, and would not go to such lengths to test coins by this technique unless there was a serious need for it because of the possibility of plated coins. These types of tests were probably common knowledge for Theognis' aristocratic audience and many might interpret and understand this metaphorical meaning.

Finally, Theognis probably had plated coins in mind when he composed these two passages.

κιβδήλου δ' ἀνδρὸς γνῶναι χαλεπώτερον οὐδέν,
 Κύρν', οὐδ' εὐλαβίης ἐστὶ περὶ πλέονος.
 χρυσοῦ κιβδήλοιο καὶ ἀργύρου ἀνσχετὸς ἄτη,
 Κύρνε, καὶ ἐξευρεῖν ῥάδιον ἀνδρὶ σοφῶ·
 εἰ δὲ φίλου νόος ἀνδρὸς ἐνὶ στήθεσσι λελήθη
 ψυδρὸς ἐών, δόλιον δ' ἐν φρεσὶν ἦτορ ἔχη,
 τοῦτο θεὸς κιβδηλότατον ποίησε βροτατοῖσιν,
 καὶ γνῶναι πάντων τοῦτ' ἀνιηρότατον. (Thgn. 117-24)

Nothing, Cyrnus, is more difficult to recognize than a counterfeit man and nothing is of more importance than being on one's guard against him. The ruin that results from counterfeit gold and silver is endurable, Cyrnus, and it is easy for an expert to find out (that they are counterfeit). But if a friend's intent is false and lies undetected in his breast and if he has a treacherous heart, this is the most counterfeit thing that the god has made for mortals and to recognize it cost the greatest pain of all.

πολλοὶ τοι κιβδηλον ἐπίκολοπον ἦθος ἔχοντες
 κρύπτουσ', ἐνθέμενοι θυμὸν ἐφημέριον. (Thgn. 965-6)

³² Hill 1899, 24.

³³ Figueira 1998, 549 n. 3.

Many indeed have a false, thievish character and keep it hidden, taking on an attitude appropriate to the day.³⁴

What is most notable in these passages is Theognis' use of the word κίβδηλος. This word originally had the meaning of a dishonest person and was applied to adulterated/diluted precious metal. However, its use here in Theognis, and in other texts and inscriptions discussed later, helps to show this word's development as the *vox propria* for a counterfeit coin.³⁵ Its use in the context of coinage often means any type of counterfeit, but its position and usage in certain passages allows for an interpretation of plated coins specifically. There are several specific words from Classical Greek which are not yet attested in Archaic Greek allowing κίβδηλος to be interpreted as a plated coin, it seems as though throughout archaic and classical Greece it generally meant any counterfeit coin but could be used in ways as to imply one type of counterfeits. Kurke notes that Theognis' thoughts and language of false intent and a treacherous heart *within* the breast deal specifically with a corrupted interior hidden underneath a polished exterior.³⁶ This is most likely referencing a plated coin as opposed to a homogeneously adulterated bullion piece; one cannot easily tell what the interior may contain even though the surface is flawless.

Theognis' verbal structure of these passages also might allude to a plated counterfeit coin. Kurke notes that typically the lines of Theognis which describe counterfeit metals are in a sequence of noun and adjective, but this style changes when he reaches the topic of human counterfeiting. Φίλου ... ἀνδρὸς surrounds the suspect "mind" (121) and δόλιον ... ἦτορ is concealed ἐν φρεσίν (122) and even the deity resides inside his most counterfeit handiwork (123). While in the second passage it is the hurried reception of untested individuals who have "put on" a temporary yet flawless exterior that invokes the image of a worthless interior surrounded by an unblemished surface. The amazingly well-crafted trickery, ἐνθέμενοι ... ἐφημέριον, surrounds what is completely base, θυμόν.³⁷ The unique construction found in these passages appears to mirror the construction technique of a plated coin. The prevalence of plated coins in the archaeological record allow for this interpretation of Theognis. His apparent knowledge of how counterfeit coins were constructed seems to indicate that he may

³⁴ Gerber 1999, 190-91 and 312-13. Used for both text and translation.

³⁵ *LSJ* 950 and Kurke 1999, 190.

³⁶ Kurke 1999, 54.

³⁷ Kurke 1999, 54-5.

have had personal experience with counterfeit coins which in turn supplied the means for a metaphor regarding debauched men. It would also seem that this new metaphor would fall on deaf ears if Theognis' audience had not encountered this problem as well. One can deduce that Theognis would most likely have used a metaphor which would fairly readily be recognized and understood.

Anacreon, like Theognis, used both word play and placement to presumably allude to plated counterfeit coins. Anacreon in fr. 388 *PMG*, which is perhaps the most substantial of his fragments, denounces the scoundrel Artemon for his dishonest lifestyle.

πρὶν μὲν ἔχων βερβέριον, καλύμματ' ἐσφηκωμένα,
καὶ ξυλίλους ἀστραγάλους ἐν ὧσὶ καὶ ψιλὸν περὶ
πλευρῆσι <δέρριον> βοός.
νήπλυτον εἴλυμα κακῆς ἀσπίδος, ἀρτοπώλισιν
κάθελοπόρνοισιν ὁμιλέων ὁ πονηρὸς Ἀρτέμων,
κίβδηλον εὐρίσκων βίον,
πολλὰ μὲν ἐν δουρὶ τιθεὶς ἀνχένα, πολλὰ δ' ἐν τροχῷ,
πολλὰ δὲ νῶτον σκυτίνη μᾶστιγι θωμιχθεὶς, κόμην
πώγωνά τ' ἐκτετιλμένος·
νῦν δ' ἐμιβαίνει σατινέων χρύσεια φορέων καθέρματα
πάϊς Κύκης καὶ σκιαδίσκην ἐλεφαντίνην φορεῖ
γυναιξὶν αὐτως

Formerly having a turban, wasp-like headcoverings, and wooden knucklebones in his ears and a worn oxhide around his ribs, unwashed covering of a lousy shield, keeping company with breadwomen and willing whores, wicked Artemon made his living by crime, many times putting his neck in the stocks, many times on the wheel, and many times having his back scourged with a leather lash, and his hair and beard plucked out; but now he mounts carriages, wearing golden earrings, the child of Kyke, and bears a little ivory parasol-just like women.³⁸

The fragment at first may seem to have little to do with counterfeit coins, but it is interpretation of the placement and probable “hidden meaning” of κίβδηλος in this passage which evokes the image of a plated coin. The word is translated in this context as “making a living by crime,” or dishonestly; however, an alternate meaning of adulterated metal and more specifically a counterfeit coin can be understood once Artemon receives his wealth. He now looks pure and official with his fancy earrings and opulent mode of transport, but this does not stop his debauched lifestyle which is now simply hidden under a false front. As noted above, κίβδηλος not only means dishonest in connection with men, but is also the *vox propria* for counterfeit coins and the audience could call to mind a counterfeit coin and more specifically a plated coin

³⁸ Kurke 1999, 187 for text and translation.

in connection with Artemon's flashy appearance and degenerate choices.³⁹ Artemon may look convincing, but his lifestyle stays the same, he is only wrapped in a flawless exterior which fools only those who do not bother to really find out who he is. I believe Anacreon's placement of κίβδηλος in the middle of his composition is highly suggestive of plated coins. The construction techniques of plated coins, obvious to anyone who had encountered one, mirrors the composition of Anacreon's text. Κίβδηλος is embedded in the center of the segment just as the base core is at the center of the false coin. Had Anacreon not wished to draw on this metaphor, he could have easily placed κίβδηλον εὐρίσκων βίον in several other locations.

These two authors began their lives in diverse regions in Greece. They traveled to different locations and likely did not meet each other. Yet their use of vocabulary and metaphors indicate that they probably had encountered the problem of plated counterfeit coins and may also have deemed the problem extensive enough to use it as a metaphor and realistically believe that their audience would understand. Certainly most Greeks never engaged in this activity, but archaeology shows there were enough counterfeiters for many Greeks to have encountered this problem and understand what it was. Theognis' own testimony (237ff) states that he expected his works to be read at banquets well into the future, which reinforces the fact that he would have chosen language and metaphors that would allow his popularity to survive.

Classical authors not only provide evidence for the prevalence of counterfeiting in the classical world, but they also report stories and events which occurred in the archaic period. Herodotus recorded a story (3.56) in which the Spartans besieged Samos, but made no headway and eventually returned to the Peloponnesus.⁴⁰ He related what he considered a "silly story" about this siege, that Polycrates the tyrant of Samos bribed the besieging Spartan army to leave by striking a large amount of the local currency in lead and gilding it. Interestingly, this "silly story" corresponds amazingly well with the archaeological record as J. Barron records five plated electrum coins of unknown provenance (four with lead cores, one with copper) and another from Samos itself (typeless and with different reverse technique) from this period.⁴¹ As Kurke notes, this excerpt represents only a single occurrence of corrupted exchanges in Polycrates's life and is fittingly retold to help emphasize his death.

³⁹ Levine 1984, 134. Kurke 1999, 190.

⁴⁰ This siege is typically dated to 525 B.C.E.

⁴¹ Barron 1966, 17 and 168. The coin found at Samos is *BCH* lxxxii 655.

Whether or not Herodotus believed the story, it follows the pattern established by Theognis and Anacreon; a κίβδηλος individual can be identified through his actions regardless of his appearance. One such action in Polycrates' life which identifies him as a debased man happens to be minting counterfeiting coins.⁴² Polycrates, like the coins he mints, has a flawless exterior but a worthless interior. D. Steiner believes Herodotus included this story to show not only Polycrates' counterfeit nature but to foreshadow his own demise.⁴³ It was the temptation of rocks gilded with gold that lured Polycrates to his death (3.121-5), an act of counterfeiting corresponding to his own act of issuing counterfeit coins.⁴⁴ Herodotus was able to draw upon a powerful metaphor nearly a century old by his own time through this "silly story" of Polycrates gilding lead currency. This story also acts a lesson that if you counterfeit, it will ultimately lead to your destruction. Additionally, Polycrates was a contemporary of Theognis and Anacreon. These false electrum coins could even be some of the examples which Theognis and Anacreon drew upon when composing their writings.

The above story is a rather straightforward example, but Herodotus used the language and metaphors of plated counterfeit coins subtly throughout his work. Herodotus chose the rare verb ἐπιλααίνω, "to smooth over" (7.10.1), when he related the story of Mardonius "beautifying" Xerxes' proposals. While at first it may seem like a stretch to correlate this example with counterfeiting, one needs only look half-a-dozen lines later to Artabanus' exhortation. Here he states that no man should simply choose a proffered opinion without a debate to test the merits of each opinion. Artabanus explains that the opinions are like gold, one cannot tell which piece of gold is more pure unless they test the pieces by rubbing them on each other.⁴⁵ Gold is a more appropriate metal than silver coins to associate with either royalty or divinity, yet the language indicates that Herodotus presumably intended to evoke the image of a plated coin.⁴⁶ One can interpret ἐπιλααίνω as reference to Xerxes' and Mardonius' counterfeit/base interior covered by a fanciful surface. Levine and J. Brown both note that gold, as opposed to silver, was most commonly tested by rubbing the suspect piece on a touchstone.⁴⁷ Thus one of the first ways to

⁴² Kurke 1999, 102-3

⁴³ Steiner 1994, 160 and Kurke, 1999, 114.

⁴⁴ Kurek 1999, 114.

⁴⁵ Kurke 1999, 63.

⁴⁶ The earliest electrum coins and the gold darics of the Persian Empire were often counterfeited as well. Though Persian coinage is outside the scope of this study, it was also counterfeited regularly. Campbell 1933, 1-174 has examples of Persian fourree coins.

⁴⁷ Levine 1984, 133 and Brown 1981, 180-2.

test suspect gold is through the streak left after rubbing on a touchstone. Not only are there extant examples of gold and electrum used to plate silver or base-metal cores, such as Polycrates of Samos's actions, but as *Od.* 6.232-3 indicates, "When a craftsman lays a plating of gold upon silver"⁴⁸ the technology to plate these two metals existed well before Xerxes' and Herodotus' time.

Finally, Herodotus used the imagery of a counterfeit coin to describe the responses of the Delphic Oracle. He wrote of a discourse between Croesus and Solon which was part of a lesson in understanding oracles. Herodotus stated (1.66.2-4) that the Spartans wanted to attack Arcadia and sent to the Pythia to see if they would be victorious. She replied that they would not take Arcadia but she granted them Tegea to dance on and measure the plain with a rope. The Spartans marched to Tegea *χρησμῶ κιβδήλω πίσυνοι*, "trusting in counterfeit/deceitful oracles." The lesson here about oracles, which Croesus did not take to heart, was "the mismatch between human interpretations and divine inscrutability."⁴⁹ The surface meaning may look flawless and pure, but without proper testing, the base-core/false meaning causes you pain and loss. Like the allusions in Theognis, Herodotus probably meant a plated coin here as he made the insinuation that the "surface meaning" of the oracle is unblemished and favorable and the "hidden core" is buried, and should be sought out and ultimately not taken at face value.⁵⁰ This revelation of Herodotus about oracles comes as no surprise to modern scholars who have the ability of hindsight, but Herodotus needed to a powerful metaphor to get his point across.

Herodotus, as did his predecessors, drew upon the powerful metaphor of a counterfeit coin to show how even a flawlessly appearing man or a convincing oracle could prove false. While the idea of an unblemished surface and a base core lends itself well to the concept of debauched men and untrue oracles, it would be a worthless metaphor if it were not easily understood by the audience for which these works were intended. Certainly the modern metaphor "don't judge a book by its cover" is somewhat equivalent to testing a man for his inner value. While it is possible to understand the basic concept of the metaphor, one fully understands the meaning when they judge a person prematurely, read a horrible book that looked good or find some worthless item which proves invaluable. The above works were no doubt intended for a predominantly aristocratic audience which dealt with money more frequently and

⁴⁸ Brown 1981, 179 for translation.

⁴⁹ Kurke 1999, 153.

⁵⁰ Kurke 1999, 153.

in larger quantities than the average citizen. However, numerous references in Greek Drama, which was intended for a much broader audience, to plated counterfeit coins indicate that average citizens also encountered this prevalent problem.

Aeschylus' extant plays provide intriguing insights into ancient counterfeiting. Aeschylus (*Supp.* 277-83)⁵¹ used the word *χαρακτήρ* metaphorically for the first time in Greek literature to express the maxim started by Theognis and Anacreon; though the outside looks official; do not let this mislead you as to the inner value.⁵² It probably called to mind for his audience the striking of coins. The *χαρακτήρ* was the upper die used by a mint worker to mark the coin as both created and certified by that producer.⁵³ In addition to simply restating Theognis' and Anacreon's metaphor, Aeschylus provides a clue to an important function which many *poleis* setup as a civic position: validating the *χαρακτήρ* as genuine. Here Pelasgos examines the outward appearance of the women, as one would a coin, to both distinguish between foreign/native and also good/false coins. Pelasgos must find if their inner nature is truly of the Argive race despite their foreign appearance. Ultimately, Pelasgos and the women succeed in the testing and the women are "legal tender" of Argos and accepted into the community.⁵⁴ Pelasgos takes an active role to validate these women, "probing" them with questions much as individuals and city officials had to do with coins to validate their interior. While there is no direct mention of this specific position at this time, later literature and epigraphic evidence mention a position at Athens titled the *Dokimastes*, whose duty it was to validate/test Athenian coins and remove counterfeits from circulation. The this position is not attested at this time, the numerous countermarks found on coins from Aeschylus' time and earlier which are identifiable to certain cities seems to indicate that this function of tester, which Aeschylus alludes to, was already in place.

While Aeschylus seems to allude to the position of tester/validator, he mentions by name the money-changer, *χρυσάμοιβός* (*Ag.* 437). Here Aeschylus hostilely describes Ares in a tragic metaphor which David Schaps phrases well, "[W]e may perhaps see behind the famous image the resentment of a citizen offered metal or metal dust (probably, in his eyes, not enough) for a more useful 'real' product. This may not have been everybody's view of the money changer; it

⁵¹ The exact date of production is unknown, c. 458, but certainly in the second quarter of the 5th century B.C.E.

⁵² Steiner 1994, 106. Kurke 1999, 320. Though *χαρακτήρ* has other usages, only those pertinent to this topic will be discussed here.

⁵³ Körte 1929, 67-86 for an excellent semantic description of *χαρακτήρ* in Greek literature.

⁵⁴ Kurke 1999, 320-2.

may not have been Aeschylus's in all situations.⁵⁵ Χρυσάμοιβός here, as Seaford notes, probably stands for ἀργυράμοιβός, however, coins did not exist in heroic times so χρυσάμοιβός is more appropriate to the heroic age and a god.⁵⁶ Plato described ἀργυράμοιβοί as “free men who trade in the market-place or by traveling from city to city by sea or by land, exchanging currency for other things or currency for currency” (*Pol.* 289e), an account which no doubt covered both titles. The position of money-changer was undoubtedly needed by Aeschylus' time, as numerous states across the Greek world minted their own coins and cities needed individuals to exchange acceptable coinage in a *polis*' territories. The position of tester was separate from money-changer as he was to make sure all proffered coinage was valid, not exchange it. These positions offered substantial profits for their practitioners, as well as intimate knowledge of many coinages circulating around the Greek world.⁵⁷

These occupations, along with others discussed below, not only provided ample opportunity for illicit gain from swindling, but also supplied a ripe environment for counterfeiting as these individuals could easily pass false coins into circulation. The changers had ample access to precious metal and intimate knowledge of the many Greek coinages, it would have been incredibly easy for a counterfeiter in this position to make a few false pieces from time to time and pass them off in larger exchanges as the recipient likely did not check every coin for validity. A few false coins out of several are much less likely to be discovered right away giving the counterfeiter enough time to leave the scene. If the plated coins were underweight as many were, it would be much less noticeable in a bag of several coins, and even then the coin could pass almost as a token of what it stood for unless proven false. For example, Doug Smith has in his personal collection an Athenian tetradrachm which was made from a cast of an actual coin (Figure 6). The counterfeiter made a mold of an actual coin which contained a test cut; the coin was dipped in an alloy to achieve plating which ultimately led to a loss in clarity. Its current weight is approximately 12.6gms but was likely heavier in antiquity. Its worn appearance along with a test cut would have greatly reduced suspicion and presumably allowed the piece to pass as genuine.⁵⁸ Ultimately, there is little direct evidence besides the strong dislike of money-changers and the excellent environment for counterfeiting in which they

⁵⁵ Schaps 2004, 180.

⁵⁶ Seaford 1998 128n.80.

⁵⁷ For a more detailed description of what many of these jobs entailed, see Schaps 2004, 179-93.

⁵⁸ Smith (1997) shows both the picture of the coin and has a brief description of the plating process.

worked to link them definitively with counterfeiting. It seems likely that a minority of money-changers would practice counterfeiting, yet their profession was favorable for counterfeiting.

Sophocles' *Antigone* reiterated the *polis*' need to test and regulate the coinage which circulated within its territory. Sophocles juxtaposes two key words in 177, ἀρχαῖς τε καὶ νόμοισιν ἐντριβῆς. This section contains Creon's intricate claim of devotion to the *polis*, while simultaneously comparing the ruler to a coin. The word νομίσμα, which is the most common word for a coin, shows that coinage relied on its acceptability from the νομοί or laws for its validity. Here Creon states that you cannot know the soul, mentality and judgment of anybody until he is 'proved in rubbing against rule and laws.' Ἐντριβῆς may be read as a metaphor here, used in the context of rubbing precious metals on a touchstone. However, the metaphor goes further as ἐντριβῆς is juxtaposed with νόμοισιν to remind of the state's concern to ensure, through testing, the quality of its laws and coins.⁵⁹ The very real threat of counterfeit currency probably caused these reminders and subsequently the state's response of establishing testers likely helped allay some of these fears. Epigraphic and later literary evidence names officials and defines their role in the city; additionally, contemporary archaeological evidence suggests that counterfeiting had been a significant problem since coinage's inception and that the need for this job was clear early on.⁶⁰

Euripides followed his predecessors and contemporaries by metaphorically comparing base men to plated counterfeit coins. He used the word χαρακτήρ more than any other 5th century dramatist⁶¹ and evokes the image of counterfeiting several times.⁶² Euripides utilized χαρακτήρ in its most familiar sense associated with coinage: as a distinguishing mark, engraved feature or stamp on a coin which the issuing *polis* used to denote the coin as certifiably genuine. The χαρακτήρ in essence authenticates its own material or precious metal. It was undoubtedly this increasing ability for coinage to self-identify and self-authenticate itself simply by the type which it carried that made it so popular.⁶³ However, Euripides indicated that it was still necessary to closely examine a χαρακτήρ to identify it as genuine (*El.* 550-65). The χαρακτήρ represents both identity and quality,⁶⁴ two important features for coinage. Yet the χαρακτήρ still

⁵⁹ Seaford 1998, 137-8. See also Stroud 1974, 157-88.

⁶⁰ See the archaeology section on countermarks as early individual attempts to validate suspect coinage.

⁶¹ *El.* 559, 572; *Hecuba* 379; *HF* 659; *Medea* 519; fr 329 N². Will 1961, 233-8 for a detailed analysis of these uses.

⁶² *El.* 550-1; *Hipp.* 616, 1114; *Medea* 516.

⁶³ Seaford 1998, 137-8.

⁶⁴ Seaford 1998, 139.

required close examination as it could be replicated to share affinities with a true distinguishing mark.

A word first found in Aeschylus, *Ag.* 780, and again a few decades later in Euripides, *Hipp.* 1114, has also come to mean a counterfeit coin among other things: παρασήμον, “marked amiss or falsely, counterfeit esp. of money.”⁶⁵ While often used interchangeably with κίβδηλος in Greek literature, it has a slightly different connotation as it is a compound from σήμα. Κίβδηλος, in the context of coinage, meant debased/diluted precious metal, but could be used for plated coins, while παρασήμον derived from falsifying the symbols or incisions on a coin.⁶⁶ As briefly noted above, on several occasions a counterfeiter would create an already tested coin so as to fool the recipient into believing the coin was already validated and proved genuine. The majority of surviving counterfeits which have enough silver casing to identify the exact type do not have die links with genuine issues. Very few of these counterfeits actually have die links with genuine coins indicating that the counterfeiter had to reproduce the stamp to the best of his ability, ultimately creating a falsified type. Although παρασήμον was used less frequently than κίβδηλος, they both were common words for counterfeit coins. This can be interpreted as another progression in the specialization of the language used to describe counterfeit coins.

Aristophanes lived in Athens during an interesting and turbulent time. He survived the Peloponnesian war and has illuminated for modern numismatists the repercussion of the Peloponnesian war on Athenian coinage. As noted in the introduction, Aristophanes referenced “bronze” coins which are commonly thought to be the emergency issue of bronze plated tetradrachms and drachms from 406/5 B.C.E.⁶⁷ There is no need to reiterate the discussion of Athens emergency issue, but rather to examine the remaining evidence from Aristophanes. First, Aristophanes speaks of bronze money, χαλκία, χαλκοῦς, not the more technical term found on inscriptions from slightly later, ὑποχαλκός, “bronze underneath, bronze infused.”⁶⁸ J.R.M Jones has demonstrated that sometimes in antiquity, including in Aristophanes, χαλκία, and χαλκοῦς did describe bronze-plated coins.⁶⁹ While ὑποχαλκός, is certainly more technical, it is also the language of the bankers and treasurers, Aristophanes’ style was more informal and one should

⁶⁵ *LSJ* A.I

⁶⁶ Caltabiano and Colace 1983, 439–40 for a detailed discussion of παρασήμον.

⁶⁷ Giovannini 1975, 189-90 and Kroll 1976, 335-8.

⁶⁸ Kroll 1976, 334. Inscriptions discussed in epigraphic chapter.

⁶⁹ Jones 1972, 41-3.

expect him to use the popular and more common terminology.⁷⁰ Aristophanes' language allows for the interpretation of his and other uses of χαλκία as bronze-plated coinage.

Aristophanes reference to this emergency coinage has certainly helped with chronology, and numismatic research has shown that a large majority of late 5th century Athenian plated coins have official die links. However, not every plated coin from this period appears official as some are without a die link. It seems as though counterfeiting still occurred during this emergency issue. Figueira notes that the "good" silver was probably not completely removed from the market place by the plated coins and for some time both likely circulated together. Many prices would undoubtedly need reformulation to allow for transactions with these plated coins and discounts could be given for paying in old silver similar to informal discounts given today for cash payments.⁷¹ I find little reason to doubt Figueira's argument, since it would have been nearly impossible to remove all pure silver coins from the market, and once word got out about the plated issue, the older silver coins would be hoarded for emergencies. During this decade or so when the emergency coinage was used, it seems as though a skilled counterfeiter could easily produce plated coins with little or no repercussions. Often the penalty for counterfeiting was severe, but one could produce plated coins up to the specified standard of 17.2gms, the emergency issues weighed 15-25% less than the standard, and attempt to pass them off as the old silver. In the event he was caught, he could simply claim it was one of the emergency issue coins. Also, several coins which date to the period of the emergency issue are within the 15-25% weight differential, but contain test cuts or defacing marks. Counterfeiters could also produce their coins at the emergency issue weight standard. This decade or so in which the emergency coinage was used certainly was a perfect time for counterfeiters to profit substantially, with a significantly reduced risk of incurring a harsh penalty as the Athenian citizens all used plated coins.

Plato and Aristotle provide intriguing insights into counterfeit coinage of the 4th century B.C.E. Plato's useful discussions on money for the topic of counterfeiting are limited compared to Aristotle, but he does use specific words which show the increasingly developed nature of language which described counterfeit coinage. Plato used the language of metals in *Rep.* 415b to relate social positions in society. Two words which he uses, ὑποχαλκός and ὑποσίδηρος, come

⁷⁰ Kroll 1972, 334.

⁷¹ Figueira 1998, 509.

from very technical terms used to distinguish different types of mixed metals and also counterfeit coins. Plato and Nikophon's law are some of the earliest attestations to these words, yet they may have existed much earlier to describe the types of plated coins which arose early in coinage's history. These references, while noted here, will be discussed even further in the epigraphic section, as Plato's contribution to understanding counterfeit coinage is best explained in connection with the Athenian Law on Silver Coinage dated to 375/4 B.C.E., first published by R. Stroud.⁷²

Aristotle's many discourses on money are very informative and help to understand the Greek concept of coinage. Regarding money, he explained that "all things of which the value is measured in currency" (*EN*. 4.1.2)⁷³ and both he and Plato recognize it as a medium of exchange (*Rep*. II 371b, *Pol*. I 9.7-8).⁷⁴ Money also acts as a standard of value so as to make everything measurable by a common item (Plato *Laws* XI 918b). Aristotle provided an excellent example when he postulated the value of a house compared to a bed (*EN*. 5.5.14-16). There is no answer to this except through money; here money gives all things a value so as to equate it with any other item.⁷⁵ Finally, money is a way for one to store value almost indefinitely (*EN*. 5.5.14). This was incredibly important for many, as they no longer needed to trade good for good and could simply take money for use later when the need arose.⁷⁶ These functions of money were recognized and utilized far before and after Aristotle's time, yet it is Aristotle who so eloquently explained them here. The ability of money to acquire virtually any object or service the user wanted made it an incredibly desired commodity. Coins' ability to be traded for anything immediately or in the future made it a target for those who sought illicit, quick and potentially easy profit.

There is an intriguing story which Aristotle related in *Problems* 24.9 (936b). He explained how mint workers profit from the refining process of silver. Silver boils over in the refining process and mint workers profit from this as they sweep up what is hurled around, they keep what they find. Thus far in Athens the mint which produced silver coinage has yet to be identified. The majority of refining and heating of silver and its ore would take place in the *ergasteria* of south Attica near Laurion. To what extent further refining or heating happened in

⁷² Stroud 1974, 157-88.

⁷³ Seaford 1998, 122.

⁷⁴ Schaps 2004, 12.

⁷⁵ Schaps 2004, 12-3.

⁷⁶ Schaps 2004, 13.

the mint is undetermined, but likely the workers needed to heat or even liquefy the silver to create workable flans. This simple story illuminates another ripe environment for counterfeiters to thrive. The mint workers both had a ready supply of silver and were in the proximity of all the mint tools. J. Graf has speculated on the possibility of ancient counterfeiters working out of the state mint,⁷⁷ and indeed there is a story which is discussed below that supports this. The difficulty arises, however, in the fact that few if any plated counterfeit coins have clearly identifiable die links with official issues.⁷⁸ What seems more likely is that those in collaboration cut their own die for making counterfeits similar to a current type, as it would be easier to replicate dies than steal them. Athenian style tetradrachm dies from the 5th century found in Egypt are not official state die of Athens, but dies cut mimicking official prototypes. These dies may have been in response to Athens inability to supply the market with tetradrachms, forcing some areas to coin their own owls.⁷⁹ This indicates that reproducing Athenian style dies and coins were certainly feasible almost anywhere, compounding the problem of counterfeits for “international” currencies like Athens. There is no conclusive evidence to say definitively that mint workers counterfeited coins, but certainly reaping the benefits of the refining process and being in such close proximity to minting tools and intimate knowledge of the techniques used cannot be discounted. Like the money-changers, there was probably a minority of mint workers who were involved in counterfeiting.

There exists a story in several later authors⁸⁰ concerning Diogenes of Sinope. Diogenes and his father Hikesias were accused of and exiled for παραχάπτειν τὸ νόμισμα, or “counterfeiting the currency,” in c. 362 B.C.E.⁸¹ As the story goes, Diogenes was the son of Hikesias the public banker and he himself kept the bank. He was urged by the workmen to adulterate or counterfeit the currency, no doubt for personal profit. He sent to Delphi to ask if he should do this and received the answer, παραχάπτειν τὸ νόμισμα. This expression has caused considerable debate as to the actual or intended meaning, but Diogenes apparently took it to

⁷⁷ Graf 1903, 77-9.

⁷⁸ As will be discussed in the archaeology section, some coins which are possible counterfeits could have links with official issues proving that mint workers comprise some of the private counterfeiters.

⁷⁹ Kroll 1976, 73. Dies were found at Tell el-Mashkuta in Egypt (*IGCH* 1649) along with several plated Athenian tetradrachms and at Al-Mina in Syria (*IGCH* 1486).

⁸⁰ Strabo *Chrestomathiae* 12,13. Diogenes Laertius 6,ii, 20-1. Lucan *Demonax* 5.

⁸¹ See Gardner 1893, 437-9, Bywater and Milne 1940, 10-2 and Bogaert 1968, 226-9 for interpretations as to actual meaning.

mean “counterfeit the currency.”⁸² Diogenes was subsequently exiled from Sinope and finished his life in Athens and Corinth. This story corroborates well with Aristotle’s mention of the profit mint workers made from the refining process and the reality that their environment was conducive for counterfeiting. As J. Milne notes, Hikesias was the monetary magnate of Sinope and as such would have access to the city dies,⁸³ as would Diogenes. It is apparent that Diogenes and the workers possessed the knowledge to make counterfeit coins with the motive of personal gain, the workers only needed to convince the magistrate in control of the mint and dies: Diogenes.

The discovery of this operation by city officials no doubt raised awareness of the problem in Sinope and the city most likely took every measure to remove these false coins as they could be potentially damaging to the city’s and merchants buying power. As Gardner notes, the coinages of Asia, particularly Persian gold darics and silver sigloi, which circulated in the vicinity of Sinope were highly susceptible to plating as they were a readily accepted monetary medium. Many coins from this area of the Greek world are covered in test cuts and chisel marks.⁸⁴ Seltman believes that Diogenes interpreted the oracle’s message to mean deface the currency. He claims that Diogenes identified and defaced any Sinopean imitation coins and removed them from circulation, helping to reestablish faith in Sinopean currency.⁸⁵ What seems more likely is that once the city magistrates found out what was happening, i.e. coin counterfeiting in the city’s mint, they quickly and efficiently removed all suspect and counterfeit pieces so as to preserve the quality and international standing of their coins. Incidents like these are hard to track, but there are some possible parallels. Phocaea and Mytilene had a monetary alliance in which they supervised and audited the individual responsible for making the electrum mixture used in their coins. Once these two cities formed the alliance, the presence of coins too poor in gold drastically decreased.⁸⁶ Cities could and did identify and remove some economic threats from counterfeiters.

Finally, not only did the 4th century orators use the metaphor of a counterfeit individual quite effectively in their speeches, but Demosthenes also stated the penalty for counterfeiting. First, he anachronistically remarks that Solon added the law, found in many other states, that the

⁸² See above, p. 9, on the counterfeit nature of oracles.

⁸³ Milne 1940, 12.

⁸⁴ Gardner 1893, 438.

⁸⁵ Seltman 1938, 121.

⁸⁶ This topic is discussed far more fully in the next section.

penalty should be death for those who debase the currency (24.212-4). While Solon lived roughly half a century before coinage arrived in Attica, there must have been serious penalties early on for those who plated or adulterated coins or other precious metal items. It is true that by the time of Demosthenes the penalty for counterfeiting was death (20.167) and he may not have known exactly when this law came into effect. These references clearly indicate that counterfeiting was a serious problem with a serious penalty, but as Figueira notes, this law had no bearing on a counterfeiter who outside the *polis* at the beginning of a long trail of intermediaries.⁸⁷ Counterfeits must have come from both abroad and domestically and this law seems aimed primarily at domestic counterfeiting. No doubt many citizens would try to check their own coins before finalizing a transaction so they could not be accused or face any penalty.

The literary evidence compiled in this section is a testimony to the pervasiveness of counterfeiting in the archaic and classical Greek world. Plated counterfeit coins early on provided an excellent metaphor to describe a base individual, but would not have proven such a ready metaphor if not common enough for all to understand. The pieces of literary evidence become even more helpful when coupled with epigraphic and archaeological evidence as it will be in the following sections. The authors here demonstrate an awareness and caution of this problem which is mirrored in the archaeological and epigraphic record. Counterfeiting was a serious problem with serious penalties, yet it proved profitable and successful enough for its practitioners to keep counterfeiting despite the penalty. Ultimately the literary evidence is a starting point for the study of the prevalence and profitability of counterfeit coins.

⁸⁷ Figueira 1998, 545.

EPIGRAPHIC TESTIMONIA

Greek Epigraphy, like Greek literature, is another category of evidence which illuminates the prevalence and profitability of counterfeit coins in archaic and classical Greece. Epigraphic evidence concerning counterfeiting meet with the same problems as the literary references: a lack of collected and analyzed works on the topic in one body. Scholars, such as R. Stroud, F. Cairns and T. Buttrey, have examined the various inscriptions individually or in small groups, which often do not give an adequate overall picture of counterfeiting in the ancient Greek world.⁸⁸ When taken as a whole, the problem and subsequent fear of counterfeiting becomes more apparent as the evidence is examined diachronically. Not only does the epigraphic evidence illuminate laws, regulations and penalties about counterfeiting and counterfeit coins, but epigraphy also adds significantly both to the specialized language of counterfeit coins and the officials charged by the cities to combat this problem. The objective of this section is to examine numerous archaic and classical epigraphic examples of counterfeit coins and related topics, first to illuminate the widespread nature of the problem, then to offer a brief explanation of how each inscription adds to our understanding of counterfeit coinage in ancient Greece.

Early inscriptions concerning coinage illuminate not only coinages function in the Aegean economy, but also the need to distinguish between the quality of coins. Several of these inscriptions include evidence of deterring counterfeit coins. The first of several laws is *IG XII.9 1273.1274 I* from Eretria. The dates of the four inscriptions which are all on the same stone slab have ranged from 550-525 B.C.E⁸⁹ down to the last decade of the sixth century B.C.E.⁹⁰ There are a total of four inscriptions from four different hands and each correspondingly has a different date. The specific inscription in question is *IG XII.9 1273.1274 I*, which most likely has a date of c. 525 B.C.E. based on stylistics.⁹¹ The inscription is in boustrophedon starting right to left, lines 1-4 of 1273.1274 I, the front of the block as restored by E. Vanderpool and W.P. Wallace:⁹²

1273.1274 [1] δίκεν ἰ ἐπεὰν ἰ κατομόσει ἰ τίν[υ-]
1 [2] σθα(ι) ἰ τρίτει ημε[ρ]ει ἰ χρέματα
 [3] δόκιμα ἰ κα[ι φ]υγία ἰάν : μὲ τείσ-
 [4] ε<ι> [:ήεραι]

⁸⁸ Melville Jones 1993, 353-66. As noted above, Jones includes a chapter on “Forgeries and Expedients” which include both literary and epigraphic evidence.

⁸⁹ Jeffery 1961, 84.

⁹⁰ Cairns 1984, 148.

⁹¹ It should be noted that the inscription is detailing the payment of fines to Hera, or exile is the penalty.

⁹² Vanderpool and Wallace 1964, 385.

Aside from dating by letter types, many scholars have attempted to date the inscriptions based on the first Eretrian coinage issues; the earliest numismatic evidence suggests the last decade of the sixth century. The phrase in question, *χρέματα δόκιμα*, was interpreted by Volkmann as meaning good, not counterfeit, money.⁹³ Cairns has noted that Eretrian numismatic evidence does not correspond with the inscription's date, and has suggested instead that the phrase should not be viewed in isolation, but with the adjoining words *καὶ φυγία*, and thus be interpreted as "goods which have a fixed value for barter and exchange purposes e.g. iron spits, bronze bowls and so forth".⁹⁴ He cites numerous examples of *δόκιμα* paired with other nouns such as stones, ships, etc. to bolster his case.⁹⁵ However, *χρέματα* certainly also carries the meaning of 'coinage' from at least the time of Herodotus on, c. 450 B.C.E. Although this inscription dates to before Eretrian coin production, Eretria itself lay in a region where at that time, Aeginetan, Corinthian, Athenian and Ionian coinages all circulated freely.

Undoubtedly the inhabitants of Eretria understood what *χρέματα δόκιμα* meant and what they were paying in fines to Hera. As Cairns notes, neither Hera's importance nor paying tithes as fines to deities in Euboea need citations.⁹⁶ The increasingly widespread use of coinage in the Greek world at this time also does not need documentation. Kroll and Waggoner date the earliest Aeginetan coinage to the early 6th century B.C.E., Athenian coinage to c. 575 B.C.E., and Corinthian to c. 550,⁹⁷ as well as the early 6th century Ionian coinages, all had enough of a time to have circulated well into Euboea and Eretria. Cairns himself recognizes that the sixth century history of Eretria is poorly documented with the exception of a few pieces of evidence.⁹⁸ Peisistratus was quite active with the coinage of Athens during his reign, and he obviously had good enough relations with Euboea and the oligarchic *ἱππεῖς*, quite possibly through commerce, to receive refuge there. The monetary influences of Attica, among others, may have penetrated Eretria through contacts with Peisistratus and various merchants.

Another possibility is that the date of this Eretrian inscription, c. 525, coincides quite well with the date of Samian Polykrates who minted copious amounts of lead plated electrum coinage

⁹³ Volkmann 1939, 101. While Volkmann was working under the assumption of a higher dating for Eretrian coinage, he states that the law was aimed at local currency, but above all at counterfeit currency.

⁹⁴ Cairns 1984 153.

⁹⁵ Cairns 1984, 149.

⁹⁶ Cairns 1991, 304.

⁹⁷ Kroll and Waggoner 1984, 339.

⁹⁸ Cairns 1991, 308.

to bribe the Spartans.⁹⁹ Had this particular incident reached the attention of the Eretrians, or had counterfeits of other issues, then *χρέματα δόκιμα* would stand as a stark reminder that no such false coinage of any type could be acceptable. The acceptance and circulation of many different coinages may have prompted the use of *χρέματα* above others as this word could encompass all coinage. A public statement such as this would likely deter any counterfeiter from trying to pass off false coins and encourage citizens to scrutinize their own coins more closely as counterfeit coins would not be accepted. Lastly, the date of this inscription again corresponds well with the writings of Theognis and Anacreon. Both were flourishing at this time, and both seem to have referenced plated counterfeit coins. It is entirely possible to read this phrase as good, not counterfeit, money based on contemporary happenings around the Greek world.

Greece experienced an explosion, both in the output and regularity of coinage, in the 5th century B.C.E. after the defeat of Persia. Numerous *poleis* minted their own coins, and as the literary and archaeological evidence has shown, the opportunities for counterfeiting were many. The archaeological evidence shows an increase in counterfeiting across the spectrum of Greek coinages in the first half of the 5th century. However, Athens' rise to prominence and the Athenian Standards Decree¹⁰⁰ help to illuminate the focus of counterfeiting efforts in the second half of the 5th century. The Standards Decree was an imperialistic decree forcing allies/subjects to adopt Athenian weights, measurements and coinage. Allies were welcome to give their silver to Athens for minting. Much debate has raged over the dating of this inscription for which the *communis opinio* is the early 440's B.C.E.¹⁰¹ I believe the extant counterfeit coins themselves also indicate a date of the early 440's for the decree. Athens was marginally successful in forcing uniform coinage on its allies/subjects, but many mints did close for a time and certainly Athenian coinage gained a prominence in trade it had not seen before. As Moses Finley notes, many would benefit slightly from this 'universal' currency except the money-changers, and it seems unlikely that they were targeted specifically by this law.¹⁰² Yet, I believe Finley may be a bit pre-emptive in his comments. Certainly this decree was Athenian imperialism, but reducing the role of money-changers would seem to be a blow against both a generally despised

⁹⁹ There are several Samian lead plated electrum coins of this time to corroborate Herodotus' story. This will be discussed in further detail in the following section.

¹⁰⁰ *ATL* 2.D14 (*IG*³ 1453)

¹⁰¹ I follow Figueira 1998, 431ff. Recent evidence has suggested a lower date of the 420's. This is acceptable also noting the increase in imitative coinage and continued rise in plated coinage from the 430's and 420's.

¹⁰² Finley, 1973, 168-9.

occupation and what could have been a ‘haven’ for possible counterfeiters. As we saw previously, money-changing was an excellent profession for counterfeiters, though many likely did not counterfeit, they often used their position for personal gain.

The effect of this decree was a drop in counterfeit coins in the issues of the ally/subject states of the Athenian empire. The various local mints of the allies likely produced smaller outputs of their staters and minted fractional coinage for local use. The Athenian mint was now far more concerned with producing large amounts of tetradrachms and drachms for commercial use.¹⁰³ Thus, the general pattern in counterfeit coinage in the last half of the 5th century B.C.E. was the larger Athenian staters and drachms as the coinage decree would allow for a more ready acceptance of Athenian coins over most others. The last few decades of the 5th century saw an increase in the imitations of Athenian coins which likely indicates that Athens was struggling to put enough money into circulation to meet demands,¹⁰⁴ however, Athenian imitations would not reach unprecedented scales until the 4th century. The imitation coins, while not the focus of this thesis, often came from Egypt and the Near East and demonstrated that reproducing Athenian dies to mint Athenian style coins was possible.¹⁰⁵ Many of the coins were quite good imitations and were probably readily accepted as they were in a form of a recognized currency acceptable virtually anywhere in the Aegean. The demand for Athenian coins and the production of imitations to meet this demand created an excellent counterfeiting environment. Numerous Athenian counterfeit coins found their way into other Greek cities and the Near East during the last half of the 5th century, and especially in the 430’s and 20’s. The presence of defaced Athenian counterfeits, as well as numerous test cuts and countermarks on Athenian coinage of this period reiterates the fear that many merchants and individuals had of receiving counterfeit coins. The Coinage decree does not in itself make reference to counterfeiting, but it marks a change in the focus of counterfeiting in the Aegean during the second half of the 5th century.

Electrum coinage also experienced counterfeiting from its inception and Ionian cities had laws established against such practices. An inscription from Mytilene, *IG XII.2*, typically dated

¹⁰³ Kraay 1976, 71 posits that some cities minting in the 430’s and 440’s may have had special exemption. Figueira 1998, 482 provides a list of allied cities minting in the 450’s through 430’s.

¹⁰⁴ Figueira 1998, 529.

¹⁰⁵ The quality of the imitations varied significantly depending on how much Athenian coinage penetrated the local economy. Figueira 1998, 529.

to the early fourth century B.C.E.,¹⁰⁶ states that Phocaea and Mytilene will take turns striking electrum coins. The inscription as recorded and translated by J.M. Jones, lines 4-18:¹⁰⁷

4 ... Τὸ[ν δὲ κέρναν]-
 5 τα τὸ χρύσιον ὑπόδικον ἔ[μμεναι ἀμφο]-
 [τέρ]αῖσι ταῖς πολίεσσι· δικ[άστιας δὲ]
 [ἔμ]μεναι τῷ μὲν ἐμ Μυτιλήναι [κέρναν]-
 [τι] ταῖς ἄρχαις παῖσαις ταῖς ἐμ Μ[υτιλ]-
 [ή]ναι πλ[έ]ας τῶν αἰμίσεων, ἐμ Φώκαι δὲ [τ]-
 10 αῖς ἄρχαις παῖσαις ταῖς ἐμ Φώκαι πλ[έ]-
 ας τῶν αἰμίσεω[ν]· τὰν δὲ δίκαν ἔμμεναι
 ἐπεὶ κε ὠνίαυτος ἐξέλθηι ἐν ἕξ μηνε-
 σ<σ>· αἱ δὲ κε καταγ[ρ]έθηι τὸ χρύσιον κέρ-
 ναν ὑδαρέστε[ρ]ο[ν] θέλων, θανάτωι ζαμι
 15 ὠσθω, αἱ δὲ κε ἀποφύγηι μ[ῆ] θέλω<ν> ἀμβρ[ό]-
 την, τιμάτω τ[ὸ] δικαστήριον ὅττι χρῆ α-
 ὕτ<ο>ν πάθην ἢ κατθέναι, ἀ δὲ πόλις ἀναί-
 τιος καὶ ἀζάμιος [ἔσ]τω.

The decree states the issuing city had to monitor the individual responsible for composing the electrum mixture used to strike the coins for both cities. An audit was to take place within six months of the cessation of minting at each city to ensure that the mixture was neither willingly nor accidentally diluted. If the mixture was found to be diluted, and if willingly diluted, the penalty was death, whereas if accidental the punishment was at the judges' discretion. Electrum coinage, more so than silver coinage in archaic and classical Greece, was subject to counterfeiting by diluting, though numerous examples of plated counterfeits exist. However, as P. Craddock and others have noted, ways for detecting diluted electrum coinage were discovered early on in Asia Minor, and were quite effective.¹⁰⁸ Diluting was often the less preferred method of counterfeiting as even small percentages of additional metals to the mixture would change the color of the electrum coins, and the profit margin was far less than if one plated a base-metal core. As F. Bodenstedt explained, dilution was only one way of falsifying this coinage while plating a silver, copper, or bronze core with electrum was another.¹⁰⁹

¹⁰⁶ Bodenstedt 1981, 20. He dates the inscription on letter forms to 394. Heisserer 1984, 119-22 places the date shortly after the Mytilenean revolt of c. 426 B.C.E. based on the existence of a debased electrum stater which he suggests was minted during a breakdown of governmental control. The cities then reestablished this treaty to counter a relapse of an earlier problem. What is the most important is the original establishment of this treaty.

¹⁰⁷ Jones 1993, 256-9.

¹⁰⁸ Craddock 2000, 245-9.

¹⁰⁹ Bodenstedt 1981, 31.

Bodenstedt believes the pact described in this inscription originally goes back to c. 521 B.C.E when Polykrates finally lost power, with renewed sanctions again in c. 478, and the surviving text representing another revival of cooperation. Throughout his study of Mytilenean and Phocaeen coinage, he has identified what he calls “master-hands” in charge of cutting fifth century dies for both Mytilene and Phocaea, the first of which he dates to 509-491.¹¹⁰ Figueira agrees with Bodenstedt’s conclusions and adds that classical literary sources did not distinguish between the coins struck in Mytilene and Phocaea, but grouped them together, indicating some type of monetary cooperation well before the date of the extant inscription.¹¹¹ The numismatic evidence corresponds with Bodenstedt’s research as well; in the earliest issues, both plated and diluted pieces are represented fairly equally, while after c. 521 the ratio of plated to diluted pieces is much higher, indicating a much more firm control over the minting process, as well as recognizing and solving a threat to their currency. The area over which the cities could exert direct control coupled with the penalty of death significantly reduced counterfeiting in the areas of administrative control.¹¹²

The plated pieces continued with a drop in production during parts of the last half of the fifth century; probably due to a shift in counterfeiting the more readily accepted Athenian coinage. The majority of plated pieces must have come from private sources or areas outside of administrative control as the plated pieces do not bear an exact resemblance to official dies. How the counterfeiters reproduced the coinage is problematic, but there were few different possibilities which will be discussed in the following section. Bodenstedt’s research and the wording of the decree seems to indicate that at least the public mixer and possibly the mint workers or those associated with the mint were not above counterfeiting or the suspicion of counterfeiting in some way. The previously discussed literary evidence referencing mint workers must have some validity behind it, for the Mytileneans and Phocaeans deemed it necessary to not only pass this law, but observe and audit the work of the electrum mixer. If any individuals connected with the mint in Mytilene and Phocaea still counterfeited, they did so very carefully. What would be even more telling in this case is if the traces of electrum plating left on the plated pieces are of the same percentages as the official mixture, this would indicate that the

¹¹⁰ Bodenstedt 1981, 38-45.

¹¹¹ Figueira 1998, 487-8.

¹¹² Bodenstedt 1981, 31.

counterfeiters either had an intricate knowledge of the mixing process or someone connected with the mint was still involved in counterfeiting.

Large denominations like staters as well as the smaller fractions, i.e. obols, hemiobols, etc., were counterfeited in the Greek world. Although plating these smaller coins yielded less profit, it reduced the chances of being caught as a receiving party's first suspicion would be the larger denominations before the fractional coinage. Counterfeit fractions are rarely discussed in works dealing with counterfeit coinage, yet they were profitable enough for some to counterfeit. An inscription (*IG VII.235*) from the Amphiaraon at Oropos, dated c. 386 – 377 B.C.E.,¹¹³ outlines regulations concerning the priests and other temple matters. Lines 21-3 state, “μη̄ ἔλαττον ἐννεοβόλου δοκίμου ἀρψυρίου,” that anyone who misbehaves while at the Amphiaraon is subject to a fine of not less than nine obols. I believe this inscription stipulates that the coins must not be counterfeit, either debased or plated,¹¹⁴ as any fines would be inspected for quality. The location of Oropos was certainly conducive for many pilgrims from varying locations who were probably carrying a wide variety of different coins, allowing for the very real possibility of counterfeits as the Amphiaraon likely accepted any type of coinage.

This inscription makes it clear that no false coinage of any kind would be accepted at the Amphiaraon from those who were fined for misbehaving. Perhaps if plated coinage was at times dedicated by individuals to deities, the inscription is making it clear that this is an involuntary fine and not a voluntary offering,¹¹⁵ thus plated coinage is unacceptable. Conversely, the inscription is shortly after Athens demonetized its emergency coinage and it was at a time when counterfeiting was still prolific and could be a measure stipulating that all proffered coinage will be checked for quality and validated before acceptance, and like Nikophon's law which is discussed next, it may have had more of a psychological impact in dissuading people from even trying to pass off plated coins. The contemporary numismatic evidence certainly cannot rule out the possibility that the wording of the inscription was from a realistic fear of receiving counterfeit coins as payment and stating that all coins will be validated as a deterrent for anyone who might try.

¹¹³ Austin 1973, 72.

¹¹⁴ Cairns 1984, 151. Cairns concedes that coinage is probably meant here, but that any coinage of acceptable silver purity would be accepted.

¹¹⁵ Cairns 1984, 151.

Perhaps the most recognized and debated epigraphic reference to counterfeit coinage is Nikophon's law on silver coinage from 375/4 B.C. (*SEG* 26.72). The law states that a public Dokimastes is to sit among the tables in the Agora and test/validate Athenian coins for their authenticity and subsequent mandatory acceptance in the Agora. The inscription names specific types of plated coins which the Dokimastes is likely to encounter and instructs him on how to deface and dedicate these false coins. Any coin which he finds valid is to enjoy forced circulation and must be accepted by any merchants in payment. It also describes penalties for the non-compliance of both merchants and the Dokimastes, and the establishment of a second Dokimastes in the Piraeus. R. Stroud's publication of this inscription was invaluable in a number of ways, not least in adding to our understanding of the concept and problem of counterfeiting in the ancient world.¹¹⁶ The subsequent publications have encompassed aspects from public slaves to imitation and counterfeit coinage, and Peter van Alfen's recent publication is the most up to date attempt to reexamine much of the evidence.¹¹⁷ During the three decades since its first publication, there have been many suggested improvements on the original understanding and meaning of this law. An important individual comes to the fore in this inscription: the Dokimastes. His function and location within the Agora affected how he performed his job; however, his presence was integral to at least an "appearance" of stability and control of counterfeit coins on the part of Athens.¹¹⁸

Further study of this inscription has corrected certain interpretations first held and discussed by Stroud. Stroud suggests the law indicates that merchants in the Athenian Agora were refusing to accept Athenian coinage due to the fears that the proffered coins might be of uncertain authenticity or quality, i.e. debased or counterfeit. He notes that at this time there were a large number of foreign imitations of Athenian coins circulating in the Agora causing the merchants to doubt and refuse acceptance of Athenian coins in general. He suggests the law states (lines 8-10) that the Dokimastes is to check all Athenian style coins for counterfeits but if they (both authentic and imitation coins) are good, i.e. of acceptable purity, they are all to enjoy

¹¹⁶ Stroud 1974, 157-88. It should be noted that the vast majority of publications on this topic agree that the emergency issue of plated silver coins at the end of the Peloponnesian war are not at issue here. Not only were they all demonetized roughly 20 years before this law, but they were also minted on a lighter standard so as not to be confused with genuine silver issues.

¹¹⁷ van Alfen 2005, 322-54.

¹¹⁸ For text and translation see Appendix A.

forced circulation alongside the official Athenian mint productions.¹¹⁹ Stroud believes Athens was unable to put sufficient amounts of coins into circulation from the recall of the emergency issue, c. 393, down to the date of the law, and that Athens welcomed the production of imitations abroad so long as they were of acceptable purity and quality. Stroud believes then that imitations themselves were not the cause for concern but an apparently significant number of plated counterfeit coins arriving in Athens found among the imitations. As the imitations were not the problem, they must have been accepted as they were of good silver and the Athenian type.¹²⁰

Few have agreed with Stroud that Athens encouraged the production of high quality imitations abroad. A. Giovannini quickly realized that Stroud was incorrect in stating that imitation coins were to enjoy forced circulation. He correctly noted that there were many types of imitations and forcing their acceptance would only confuse the situation and allow for counterfeiters to proliferate as the standard of acceptable coinage would be so varied.¹²¹ Yet Giovannini maintains that the number of Attic counterfeits must have been disastrously high for the Nomothetai to enact such a law. He agrees with Stroud that the market was flooded with imitations due to Athens' emergency issue, and that the lack of sufficient coins in the markets created ample confusion for counterfeiters to introduce their coins, further causing suspicion in Athenian currency even on Attic soil. Additionally, Giovannini proposes that this law was a conscious effort by the Athenians to reestablish the credibility of their coinage as its date of inception is only two years after the foundation of the second Athenian confederacy.¹²² Giovannini did not take his conclusions of the law's enactment and the second Athenian confederacy further, which will be discussed below.

Stroud discusses the terminology of counterfeit coins used in the law, (10-11) Ἐὰν δὲ ὑπ[όχαλκον] ἢ ὑπομόλυβδον ἢ κίβδηλον. These are highly technical terms denoting a categorization of counterfeit types. Ὑπόχαλκος describes a bronze-cored coin, far more common among silver coins. Plato's use of this terminology (*Rep.* 415b) shows a very technical understanding of metallurgy. He uses these terms metaphorically to discuss social classes and the interior quality of a man much like the archaic authors. His use of this word, though, shows some familiarity with plated coins. While these words are not attested earlier, this language

¹¹⁹ Stroud 1974, 169.

¹²⁰ Stroud 1974, 186.

¹²¹ Giovannini 1975, 192-3.

¹²² Giovannini 1975, 193-4.

could have been used early on as clearly these specific categories of plated coins existed in the archaic period. Ὑπομόλυβδος denotes a lead-cored coin and although there are examples of this type of counterfeit among silver issues, it is far more common among electrum issues as lead is closer in specific gravity to gold and electrum. Κίβδηλος then would cover any other type of counterfeit coins which the Dokimastes might encounter. Κίβδηλος here simply means any counterfeit coin not covered in the first two categories as there is no unique placement or allusion here in this law to insinuate any specific type of counterfeits.

Stroud recognized these technical meanings,¹²³ and believed that the Dokimastes was to remove any of these types of coins, which are either official Athenian or imitation issues, from circulation, those which were pure and passed inspection then enjoy forced circulation. However, Buttrey agrees with Giovannini that imitations are not mandated for acceptance, but takes his argument further. Buttrey notes that Stroud believes incorrectly that a coin of good silver must be acceptable, but allowing others to produce Athenian coinage would cause Athens to lose vast amounts of profit from minting. If the coinage was ever questioned, no responsible authority would be able to verify it as it was not produced at Athens and Athens could not vouch for its purity or authenticity subsequently causing a loss in faith of Athenian currency.¹²⁴ The imitation coins which were not determined false in some way were returned to the one who proffered it, yet not mandated for forced circulation. These coins would likely have at least bullion value to their owners and could be accepted at the vendors' discretion.¹²⁵ Buttrey again raises an excellent point about completely foreign coins in the Athenian market. The numerous issues from other cities mints' undoubtedly found their way to Athens and could easily have been used in transactions. However, the law states nothing about this category, but the fear of receiving a foreign plated coin could still arise. The Dokimastes would be the person to turn to for a resolution, though he could not be expected to have expertise in foreign coin types,¹²⁶ he could still check for a plated coin. Thus the Dokimastes was probably responsible for all plated coins which might be found in the Agora.¹²⁷

¹²³ Stroud 1974, 171ff. As noted above, κίβδηλος can mean generically base/counterfeit, but it can also be used very specifically to mean a certain type of counterfeit. See also Caltabiano and Colace 1983, 441ff.

¹²⁴ Buttrey 1979, 39f

¹²⁵ Martin 1991, 26.

¹²⁶ Buttrey 1981, 88.

¹²⁷ Buttrey 1981, 75.

Peter van Alfen has attempted to categorize the types of imitative and plated coins which the Dokimastes might encounter.¹²⁸ While his work provides some interesting classes, I believe he incorrectly analyzes plated coinage. Ultimately, he states that many cities issued “official” or “emergency” issues which many scholars and ancients would view treacherously. He believes few recognize the profit and ability to solve financial problems that many ancient states realized when they issue plated coinage, and that we should not be so eager as to classify all plated coinage as counterfeits as many cities produced them legitimately.¹²⁹ I think that what van Alfen did not consider in its entirety was the *intent* of the coin producer. Velia in South Italy for example minted more staters than were necessary for local consumption. Kraay notes that the plated coins of Velia could easily have been traded to the barbarians of the interior who would be less likely to check the coinage.¹³⁰ Samian Polykrates produced a large amount of lead-plated electrum staters to trick the Spartans into lifting their siege. While these issues would be termed “official” by van Alfen, they clearly had the intent to deceive the recipients. Actual emergency issues would include Athens issue in 406/5 B.C.E., the Athenian Timotheus’s issue when he fought against Olynthus in 357-5 B.C.E. and very few other examples where there was no effort by the issuing authority to deceive those using the coins. Even if a city issued plated coinage, like Velia or Samos under Polykrates, they would not accept such coinage as payments or the plated coins use within their borders. Certainly the intent of the producer can be difficult to understand, but an examination of the coinage itself may help, especially when one examines the weight of the extant plated coins. What is important here with the Dokimastes, is that he was weeding out coins which were *intended* to deceive, which would likely be almost every plated coin he encountered, as Athens had long since demonetized its emergency issue.

The function and abilities of the Dokimastes have also come under scrutiny. Buttrey has discussed the difficulty of the task which the Dokimastes was assigned. The law stipulates that he be available to settle private disputes which would certainly boost confidence in the Athenian currency, but how did he do such a job. Buttrey notes that the law does not state who offered the coin or how the coins were proffered to him, only that he approves or rejects the validity of the specific coins handed to him. Buttrey claims that the merchant and purchaser who had the dispute brought the coins to the Dokimastes for judgment and that it was in no way mandatory to

¹²⁸ van Alfen 2004, 328ff.

¹²⁹ van Alfen 204, 336-40.

¹³⁰ Kraay 1976, 199-200.

have coins validated before entering the Agora. Buttrey posits this reconstruction based on the numismatic evidence that few good Athenian coins in Greece itself have counterstamps or some validating mark on them.¹³¹ There may be some truth to this theory as no doubt a long line of disgruntled agora-goers would quickly form from all those waiting to do business in the Agora, unless the Dokimastes chose individuals or coins from people at random to speed the process of validation. What was presumably the most important aspect of the Dokimastes, as P. van Alfen notes, is the “appearance” of stability and security which the presence of the Dokimastes or any other validator would provide for all those doing business in any city.¹³² The extant test cuts on Athenian coins could then indicate that more citizens were taking it upon themselves to test the coins before arriving at the Agora. If a dispute arose when he was there, merchants could then go to the Dokimastes for a final verdict as they would know where to find him. Additionally, the merchants might have greater faith in the coinage which the citizens used as the latter would be more cautious in their personal acquisitions.

How the Dokimastes actually tested or validated the coins in question has also raised debate. T. V. Buttrey and T. R. Martin have proposed some very likely possibilities, as the law itself does not state specifically *how* the Dokimastes was to test a suspicious coin. The Dokimastes would have undoubtedly had trouble distinguishing some of the high-quality imitations from the genuine mint issues as occasionally even modern numismatist do with high-quality Egyptian imitations. While undoubtedly a few imitations passed inspection, Buttrey explains some of the finer differences between most imitations and genuine issues: generally Athenian dies were smaller and made a deeper impression in the flan, Athenian flans were often more oblong and Athenian dies often had finer details.¹³³ De Callatay discusses the importance of die axis¹³⁴ and how Athens in the Classical period struck its reverses at 8-10:00 possibly in an attempt to thwart counterfeits.

When it came to κίβδηλος, or debased coins in this context, the Dokimastes would prove less skillful. The admixture of 10% copper to a coin would be difficult to detect by the Dokimastes as it is only around 15% that the coin began to have slightly noticeable fluctuations

¹³¹ Buttrey 1979, 37. What Buttrey could not have taken into account was that several coins from after c. 393 do in fact have test cuts and countermarks, however, many are unprovenienced and in the hands of private collectors.

¹³² van Alfen, 2005, 326. See also Martin 1991, 33-4.

¹³³ Buttrey 1981, 78.

¹³⁴ De Callatay 1996, 97. His work discusses the possibility that die axis was used to foil counterfeiters. Also see Buttrey 1982, 137-40 where he discusses how the high-quality imitations of Egypt were careful to replicate die axis as well, though many imitations did not. Certainly counterfeiters could replicate die axis.

in coloration.¹³⁵ However, genuine Athenian coinage is always of the highest quality, so if the coin was proven a genuine mint issue, it would be accepted. It was only the non-mint produced coins that the Dokimastes could not vouch for its issuing authority, and therefore imitations were the typical coins that were either debased or plated. Buttrey assumes that all mint productions were genuine, because he believes Athens had firm control over its mint.¹³⁶ The monetary pact of Mytilene and Phocaea, the story of Diogenes and the mint workers, coupled with Aristotle's explanation that mint workers made a profit from the silver refining process all suggest that controlling the mint, its employees and the coins issued there could be problematic. As with Diogenes, if the higher authority participates in the falsification, then the mint workers could openly practice counterfeiting, however, if the mint workers were acting alone, they could prepare plated or debased flans elsewhere and bring them to the mint for striking at an opportune time when supervisors were otherwise occupied. Therefore, I believe Buttrey is incorrect in assuming that if a coin is a genuine mint production it is good. While the chances were extremely good that an official mint production was pure, far from every Athenian counterfeit has been examined or even detected today, it is possible that a few of these coins were produced in the mint or with mint dies. However, a good cast counterfeit would reproduce official Athenian stamps with less detail and appear to be a genuine mint production, thus the Dokimastes would need to be on guard for all these counterfeits. The law does state (lines 3-4) that Attic currency must be accepted when [it is shown to be] silver and bears the official die. So it could have been both imitation and official issues which were not silver and had to be removed from circulation, not just imitations.

Obviously, marginally debased coins would be difficult to verify and so when returned, it was at the merchants' discretion to accept it for bullion value or haggle if suspected of less than the highest silver content. However, plated coins posed an even more difficult problem as there are no guidelines in the law for testing these types of coins, only cutting them across and dedicating them if they are discovered to be counterfeits. The profit margin for a plated coin was significantly higher than a debased coin and would probably be the preferred method of counterfeiting. A counterfeiter would likely use a pure silver coating over the base-metal core; the core was usually bronze for silver coins, so the coin's appearance would cause little suspicion

¹³⁵ Buttrey 1981, 79ff.

¹³⁶ Buttrey 1981, 79ff for his argument that all mint productions were genuine.

if the dies or model used were official or an excellent replica. Martin has published an excellent article on public slaves in Athens, with a large section on the Dokimastes.¹³⁷ He uses evidence from the early Roman Empire to postulate what the Dokimastes of Athens might have done to test for plated coins. The Dokimastes could use sight, touch, smell and the sound which the coin made when repeatedly thrown against a hard surface.¹³⁸ These are all useable methods as bronze and silver both have very different properties from each other. Depending on the size of the core, parts of the silver coating would wear away on the relief or crack at the edges revealing the interior, just as a test cut or countermark would. Touch would be more difficult for plated coins, but with debased coinage, even c. 15% copper could create a different texture on the coin. Bronze and silver have distinct smells and when the coin was warmed by rubbing in the hand, it would be possible for a trained nose to smell the bronze. The sound of a plated coin would vary greatly depending on the size of the bronze flan, but larger flans would ring distinctively different from pure silver coins.¹³⁹ Certainly a rich history of bankers, merchants and cities needing the skilled trade of an assayer helped to develop the skills required for the Dokimastes to perform his duties. However, the psychological importance of his presence should not be underestimated.

The penalties for the merchants who refused to accept the validated coins were severe and denote a law designed primarily to aid in private transactions. However, as Figueira notes, the *διακοπτέτω*, or cutting across of counterfeit coins (line 11), put the Dokimastes' evaluation to a final destructive test. Figueira elaborates that if the cutting should have revealed a sound Attic coin, he believes the coin's owner would appeal to the *Syllogeis*, the Dokimastes' supervisor, that they might punish him with the stipulated penalty for not doing his job: 50 lashes (lines 14-6).¹⁴⁰ I believe this punishment must have extended in some degree to imitation coins as well, as they still represented bullion value to the owner or full value elsewhere. The Dokimastes' first instinct with a suspicious coin would be to rule it as not valid for mandatory acceptance, but certainly would have been skilled enough to give an educated decision of

¹³⁷ Martin 1991, 21-47.

¹³⁸ Martin 1991, 34 from Arr. *Epict. Diss.* 1.20.7-9. Martin also has an excellent discussion on the possible training of a Dokimastes to ensure that he is capable of carrying out his functions, as well as a discussion of the slaves' trustworthiness in such important matters.

¹³⁹ No doubt many of these methods would seem foreign to us, but to one who dealt in precious metals daily, these would come as second nature. In the next section, we will examine how some counterfeiters used smaller cores, most likely so that their creations could better escape detection.

¹⁴⁰ Figueira 1998, 544.

whether the coin was also plated. Additionally, Figueira believes the general population was not expected to be experienced in determining between genuine, imitation and counterfeit coins. Yet he believes, and I agree, that they were indirectly penalized if they acquired an imitation coin as it did not carry its full token value, and counterfeit coins were subject to confiscation with no reimbursement as the complete loss of the coin's bullion or token value would warn against further casual acceptance of coins without at least some personal inspection.¹⁴¹ Therefore, citizens would likely be more conscious of the situation and exercise greater caution in their personal acquisitions, and if they somehow acquired a suspect coin, to at least use it far from the Agora in shops elsewhere in Athens or other locations in Attica. If one of their genuine or good imitation coins was destroyed, they would probably seek some kind of compensation which might have included physical punishment for the Dokimastes and possibly compensation from his salary. The Dokimastes would then, I presume, be more hesitant in cutting across and destroying coins which he thought counterfeit and relegate them to the category of imitations, especially if a clever counterfeiter used a smaller core so as to draw far less suspicion to the coin. It would still be better to use a smaller-cored plated coin at its "bullion" value than risk losing the hard work and value of a larger-cored plated coin.

The law in effect raised awareness and caution all across the board, but was not without its loopholes for dedicated local counterfeiters. The fear of having coins confiscated with no reimbursement would surely cause individuals to scrutinize their coins all the more. The safety of knowing that citizens now took more responsibility and caution in their own finances coupled with the ability to consult the Dokimastes at anytime about any coin would help to allay the fears of the merchants and return business to normal. The threat of punishment for the Dokimastes who either neglected his duties or was careless would keep him from simply destroying or defacing an inordinate amount of Attic coin and upsetting those whom he was obliged to serve and causing a completely separate problem. Athens seems to have been able to "encourage" its citizens to be even more diligent than they already were, and though the establishment of this law presupposes some type of problem with coinage at Athens, there was now a recognized law stipulating how these situations were to be handled.

The setting up of a Dokimastes in the Piraeus (lines 37ff) extended these awarenesses to the merchants and individuals conducting business in the Piraeus as well. As with the evidence

¹⁴¹ Figueira 1998, 546.

from Mytilene and Phocaea, at least a portion of the plated coins likely came from outside direct Athenian control and could be local, but more likely foreign. Athens probably recognized this as it continued to accept large state payments with the establishment of the Second Athenian Confederacy. The Dokimastes in the Piraeus helped to ensure fair transactions with genuine coins in Athens' port, and he could have served as a deterrent from many more plated coins reaching the Agora and have discouraged any foreign counterfeiters who visited Athens from bringing their creations into Attica. The counterfeiter, or individual who knew he possessed a suspect coin, would now either have to pass these coins off in areas outside the Agora or even attempt to spend them abroad into the hands of the less suspecting. The Second Athenian Confederacy must have reiterated the problem of counterfeits when they were discovered in state payments, which the private sector was experiencing as well.

Since the inception of coinage, there was a need for individuals skilled in assaying coins. While the bulk of the archaeological evidence will be discussed in the next section under countermarks and bankers marks, there is epigraphical evidence as well to suggest the Dokimastes was an established position before Nikophon's law of 375/4 B.C. Buttrey correctly notes that individuals, both public and private, were needed early in coinages' history to weed out the counterfeit coins from the good coins.¹⁴² This job would have been somewhat easier for states accepting large payments in coin with the purpose of melting them down and re-minting them into their own coinage. Theognis explains that testers weeded out counterfeit coins by heat (499-502), probably heating the coins in a red-hot shovel.¹⁴³ In Athens case, this could be used effectively for both coins on the Attic standard which would be overstruck or for Aiginetan coins which would be melted down for recasting and re-minting. While this is pure speculation, an official, such as the Dokimastes, could be on hand to record the number of false coins in any payment to ensure that those coins were removed from circulation and replaced with genuine ones. It is difficult to say with certainty when the Athenians or any other city first established this position, as countermarks on coins may suggest early in the fifth century, but Stroud suggests the Dokimastes himself was established by at least 398/7 B.C. based on the Hekatompedon inscription which reads, "the counterfeit staters sealed in a box from Lakon."¹⁴⁴ There is little reason to doubt his function in the Bouleuterion in 398/7 as there clearly was a

¹⁴² Buttrey 1981, 80.

¹⁴³ Hill 1899, 24.

¹⁴⁴ Stroud 1974, 176-7.

need for this official and he probably had his origins with the large state payments Athens received in the last half of the 5th century.¹⁴⁵ However, the law itself implies he was not previously working in the Agora or the Piraeus.¹⁴⁶ This also raised the question for Stroud of why counterfeit coins often appeared in temple contexts.

This question is certainly difficult to answer, but time and again evidence for counterfeit coins appears in temple contexts. There is significant archaeological evidence from temple contexts, and the epigraphic evidence corroborates this. The law states that counterfeit coins were to be cut across and become sacred to the Mother of the Gods and deposited in the Boule (lines 10-12). Stroud notes that the Dokimastes probably placed the coins in the Old Bouleuterion which housed the shrine of the mother, also called the Metroon.¹⁴⁷ Indeed several defaced counterfeit coins have been unearthed from this area. There are inscriptions from Athens and elsewhere suggesting the practice of placing counterfeit coins in a religious context preceded Nikophon's law.¹⁴⁸ Other early examples of counterfeit coins come from religious contexts, such as the archaic deposit beneath the Temple of Poseidon at Isthmia.¹⁴⁹ Additionally, several inscriptions also inform us that coining equipment, such as anvils, hammers, dies and test-pieces were kept in these repositories at Athens.¹⁵⁰ The reason for these objects' location in the temple inventories is difficult to establish, but a probable reason would be to keep these items out of public circulation.

The inscription from Eleusis (*IG I*³, 409) indicates Athens was already in the process of removing counterfeit coins from circulation. Athens would not want old dies circulating as they could be used either to strike coins or provide an accurate prototype for counterfeiters to replicate. The coins themselves were likely dedicated to the god for safekeeping and so they would never be used again.¹⁵¹ While the coins may have been plated with good silver, the

¹⁴⁵ Martin 1991, 31.

¹⁴⁶ Buttrey 1981, 74.

¹⁴⁷ Stroud 1974, 174.

¹⁴⁸ The numerous inscriptions from the Hekatompedon and Opisthodomos are: *IG I*³, 409 (420-405 B.C.E.) accounts from Eleusis – 20(min.) counterfeit staters. Inscriptions which state 25 counterfeit silver pieces from Eleusis: *IG II*², 1338 (378/7), 1393 (397/6), 1401 (394/3), 1400 (390/89), 1445 (376/5). Inscriptions which state “x” number of counterfeit staters in a box, stamped with the public (public only occurs in the inscriptions after 375) seal by Lakon: 1388 (398/7), 1401 (394/3), 1400 (390/89), 1407 (385/4), 1415 (375/4), 1424a (371/0), 1428 (367/6), 1443 (344/3), though there is debate as to which inventories/temples each inscription belongs. For inscriptions mentioning counterfeit coins from Delos and elsewhere, see Jones. 1972, 39-43 and Jones 1993, 161ff.

¹⁴⁹ Broneer 1955, 110-41.

¹⁵⁰ Harris 1995, 130 for a list of these inscriptions.

¹⁵¹ Stroud 1974, 175.

melting point of copper/bronze is lower than that of silver, so if the coins were melted down to extract the silver, there remained the possibility of contamination. The easiest solution must have been removing them from circulation forever so no one could use them again. The test pieces mentioned in the inscriptions are all of gold and appear to be pieces from the same mixture or smaller versions of the object for which the gold was intended.¹⁵² This would be a rather effective method of testing gold objects without having to mark or risk damaging the dedicatory object. Keeping the test pieces in the temple repositories would allow anyone to retest the pieces and objects at anytime. Ultimately, any counterfeited coin, or objects which could be used to aid a counterfeiter, appear to have been guarded and cared for adequately enough. Their protection by the keepers of the temples and sanctuaries eliminated anyone from reclaiming any equipment useful for counterfeiting. It appears also that other temples such as Eleusis and Delos took similar precautions with counterfeit coins. Removing any counterfeit coins from circulation and dedicating them to a deity or simply placing them in a temple context would not allow their use ever again. This would also keep the Dokimastes from confiscating and reusing coins, and prove to the citizens that Athens was not unlawfully seizing coins for personal gain or reuse.¹⁵³

Nikophon's law of 375/4 B.C. at least indicates that imitation and counterfeit coins were on the mind of the populace and merchants. Depending on the denomination of the coin, accepting a counterfeit could be a severe economic setback.¹⁵⁴ There is enough numismatic evidence from Athens which helps understand that the law was not intended to stem the disastrous level of counterfeits proposed by Stroud,¹⁵⁵ yet more than simply tidying up a situation as put forth by Buttrey.¹⁵⁶ There was a real and tangible problem with counterfeit coins of Athens and other cities around the Greek world in the 4th century. Athens dealt with the problem in a seemingly intelligent way by raising public awareness with the threat of confiscation. Athens placed a Dokimastes in the Agora to allay the fears of the merchants, yet under the severe threat of punishment kept him from simply destroying or defacing too many coins and possibly lowering the value of the coin. It was a probably a psychologically effective law designed to keep the coins of Athenian mercantile business, along with state fines, taxes,

¹⁵² Harris 1995, 106-7.

¹⁵³ Martin 1991, 32-3 briefly discusses the possibility of corrupt Dokimastes or city officials.

¹⁵⁴ van Alfen 2004, 344.

¹⁵⁵ Stroud 1974, 186.

¹⁵⁶ Buttrey 1979, 35.

payments, etc. pure and acceptable. Athens in essence seems to have tried to force the majority of counterfeiters and counterfeit coins to be used outside of Attica. Athens certainly did not want to degrade the high value her currency held around the Mediterranean, but surely this concern was secondary to what happened within her own territory. Athens could only try to exert control of coinage flowing in and out of her borders, and hope her monetary diligence would also help abroad.

An inscription from Olbia, *SIG*³ 218 c. 350, is somewhat similar to Nikophon's law in that it limits the type of coin acceptable in the marketplace to the bronze and silver coins of Olbia. This should come as no surprise as Olbia's location in the Black Sea located it near to the Persian Empire in which counterfeit coinage was rife.¹⁵⁷ Olbia, like many other Greek cities, must have experienced some type of counterfeiting problem to have demanded that all who wish to buy or sell gold and silver must do it in front of the assembly. There must have been some need to regulate these exchanges. Anyone was allowed to import and export any silver or gold coinage which they wish, but all official business transactions were to be in the native Olbian currency. An official must have been in place to either supervise the transactions, to act as an arbiter in case of a dispute, or to test all materials before the transaction took place. The Olbians attempted to fix it by observing and moderating all official monetary exchanges into the local currency which they undoubtedly knew was good.

Certainly the literary and epigraphic evidence, when taken together, shows that the Greek world had an active knowledge of counterfeits. Many places established regulations to deal with and offset the counterfeit problem. By the early fourth century we have indisputable evidence for civic officials whose duty was to check, remove counterfeits and reaffirm faith in the coinage. Bankers and private testers existed well before and the archaeological record will show that the need for this skill arose early on in the history of coinage. Unfortunately, many of the counterfeit coins mentioned in the Athenian and Delian treasuries have not survived, yet a quick glance at the numbers which they mention show that not insignificant numbers of counterfeits were detected and removed from circulation. Athens surely would have faced a greater than average challenge as her currency was one of the most widespread and readily used in the Eastern Mediterranean. However, the prominence of Athenian currency did not stop counterfeiters from reproducing the coinages of many other cities. Counterfeiting was certainly

¹⁵⁷ Gardner 1893, 438.

prevalent enough for ancient authors to write about it both directly and metaphorically and expect the audience to readily understand their insinuations. Counterfeits were certainly on the minds of the many Greeks who erected the laws against counterfeiters and counterfeits. As we move to an examination of the archaeological evidence, we will find that their fears and concerns were not unjustified.

ARCHAEOLOGICAL EVIDENCE

The literary and epigraphic record has already shown that counterfeiting was a problem well recognized by the ancients. The archaeological record more than supports this. However, the archaeological record can at times prove frustrating. Unfortunately, the lack of scholarly interest in *fourrée* coinage in general, excluding Athens' emergency issue, has led to a severe understudying of counterfeit coins. Much of the interest has come from private individuals who have collected counterfeit and *fourrée* coins on their own.¹⁵⁸ The problem of finding, recognizing and attempting to catalogue many examples remains incredibly difficult. The absence of provenance for many of these coins is also a disadvantage to understanding how they may have been used or how they were handled if discovered. Nevertheless, valuable information can be gained from almost any counterfeit coins as the cores or casings reveal clues as to how they may have been created, used and perceived in archaic and classical Greece, and some even yield just how profitable counterfeiting could be. This study will examine the evidence chronologically by city, dealing with coins of known provenance before those of unknown provenance.

Many scholars have assumed that most counterfeit coins were used far from home on gullible individuals. Perhaps the survival of certain stories, i.e. Polycrates of Samos, may affect modern perceptions, namely the gullibility of the foreigner. The archaeological evidence suggests that this was not necessarily the norm. Many counterfeiters produced false coins locally for local consumption and others produced false coins for use abroad. The Ionian cities, Athens and Corinth are excellent examples as smaller counterfeit coins appear within their local contexts and many larger counterfeit coins come from areas at least familiar with such coins. However, before discussing this further, a brief discussion covering the techniques used to both create and detect counterfeits will aid in understanding their prevalence and profitability.

The techniques used for both creating and detecting counterfeits have their beginnings in Asia Minor and were employed to full effect on the Greek mainland. It will aid in further study of plated counterfeits if we first discuss how they were created and certain means of detecting these coins. There are two works which explain in detail the methods used for manufacturing

¹⁵⁸ I am incredibly grateful to Amelia Dowler of the British Museum for invaluable communication on this topic. I am also indebted to Aaron Emigh, Doug Smith, and Reid Goldsborough for their invaluable assistance and use of images from their personal collections. The interest and study from the private sector hopefully be emulated in the near future with more publications and study of not only private collections but also the large holding of the many national institutions.

counterfeit coins, and we can briefly summarize them here.¹⁵⁹ The earliest counterfeits (Figures 1-5) were simply precious metal foil/casings wrapped around a base-metal flan, heated to fuse the metals together and struck probably from a set of hand-carved dies which imitated an official type. These coins could be spotted if one diligently examined both the suspect coin's weight and type as they would not always be exact. Any hand carved dies, including counterfeit dies, have slight peculiarities in appearance which detailed knowledge and inspection may reveal. Virtually all of these counterfeit coins can today be identified by the foil/casing which is either partly or entirely missing. As counterfeiting techniques improved, some counterfeiters chose to use a eutectic alloy to better fuse the casing to the core. This created a reduced risk of detection allowing for both a better chance of passing a test and a longer period of circulation which was important as the coins would pass through many hands before someone might discover them. The eutectic alloy would create a thicker silver-colored layer around the core so a chisel cut or countermark would have to penetrate deeper to expose the core. As H. B. Wells notes, the deteriorated state is how we find almost every counterfeit,¹⁶⁰ but the cleverest counterfeiters used smaller cores and a much thicker casing to reach a realistic weight and size

One of the first places often suggested for counterfeiting activities is the city's mint.¹⁶¹ As Bodenstedt's research indicates, cities had to actively control their mint to ensure that nothing but quality coins were issued there. The biggest reason that the mint is often excluded from excessive suspicion by modern scholars is the lack of study on counterfeit coins and the lack of physical evidence of counterfeiting from mints. There are a few extant suspect coins that have die links with official issues and should some of these coins be proven false it would be intriguing evidence to link mints with counterfeiting, but the topic has not been fully researched. It does seem likely that many of the higher quality counterfeits were created by individuals experienced in metallurgy or die cutting. Counterfeiters could easily hand-carve a set of dies from the many examples around them. These could then be used to strike counterfeits with a relative likeness to the original.¹⁶² Although hand carving a set of dies was possible, it was better to produce coins which already appeared worn. Then there would be less suspicion based simply on weight, as merchants knew that wear and tear reduced a coin's weight.

¹⁵⁹ Campbell 1933, 1-174 and La Niece 1993, 227-33.

¹⁶⁰ Wells 1978, 39.

¹⁶¹ Graf 1903, 77-9.

¹⁶² Larson (2000) attempted to reproduce Athenian coins for experiments on coin making. He reports that hand carving a set of dies took him 18hrs for the obverse and 16 for the reverse.

Another technique for reproducing exact types was creating a cast model of an official coin. Figure 6¹⁶³ shows two major problems the counterfeiter was likely to encounter using this technique: surface bubbles and loss of sharpness. The surface bubbles would not appear immediately, giving the counterfeiter some time to pass it into circulation. The loss of sharpness would look similar to wear and could help substantiate the lower weight of this coin, 12.6gms, giving it an overall better chance for circulating, especially if mixed into a group of genuine coins. This coin's mold also captured a test cut that was on the original coin, helping to "prove" the coin genuine showing that it had undergone and passed a previous test. This coin is from the 4th century B.C.E. and well after the period so far discussed, but it is one of the few good surviving examples of a Greek cast counterfeit which I have access to. These coins tended to degrade faster because this construction technique was less stable. Eutectic alloy could and was used occasionally in both techniques. How a counterfeiter chose to reproduce a coin likely depended on two factors: what tools were available for him and for what purpose he intended to use his counterfeit coins. He had more leeway in appearance and weight if the coins were intended to replace one or two of a larger group or if he planned to use the coins individually in the marketplace.

While counterfeiters were busy forging coins, individuals and even cities were just as busy finding ways to detect and remove these coins and counterfeiters from circulation. The touchstone, mentioned above, was quite effective for testing the surface quality of gold and electrum, but less so for silver. The easiest way to check the interior of a coin was through a countermark or test cut. The original use of countermarks on the earliest electrum coins is far from certain,¹⁶⁴ however, their use on later Greek coins was for verification/validation purposes. Starting in the late sixth and early fifth centuries many of these marks can be identified with certain cities or mints suggesting some type of civic verification of the coins. Countermarking involved placing a design, with a small punch, on a coin to verify its purity and/or validate it for acceptance. Often, this process is thought to have occurred on coins which were outside the territory of the issuing authority, though a closer examination of the evidence suggests many coins were also tested within the areas of a coinage's circulation. An official would validate the

¹⁶³ Smith (1997) <http://dougsmith.ancients.info/fourreeg.html>. Doug has kindly allowed me to use images from his personal collection in this paper.

¹⁶⁴ Goldsborough (2007) n.103 has an excellent summary of the arguments for the purpose of countermarks on early electrum coinage.

coins for local consumption. Originally, countermarks were probably individual owner's marks, or those of bankers and money-changers, but certainly by the fifth century particular cities are identifiable by their countermarks.¹⁶⁵

Coins of suspect authenticity, quality or origin would also be countermarked to check for plating.¹⁶⁶ Countermarks were generally applied on the areas of the coin which would often have the thinnest coating of precious metal: the high reliefs and edges. The Greeks clearly knew that these areas were the most likely to reveal a base-core if one was present (Figure 7). This clearly shows an understanding in how counterfeits work and knowledge in efficient detection techniques. On Aeginetan coins there are numerous countermarks which can be identified to certain cities. There are several coins with countermarks in the shape of a turtle showing that Aegina suspected and tested some of her own coins when they returned to her territory. These "civic" countermarks may have been placed on suspect coins by bankers or treasury officials, but in all likelihood they were placed by supervisor(s) of the marketplaces and could act as a permanent indicator of validity.¹⁶⁷ The fact that so many countermarks exist, both unidentified (probably by an individual) and civic, indicates the very real and justifiable fear that the Greeks had of counterfeiting. The fact that some cities chose to countermark/test their own coins suggest that their coins were also counterfeited both abroad and at home.¹⁶⁸

A far more common and unofficial method for testing coins in antiquity was a test cut. These were made by a chisel simply to test the interior purity of the suspect coin for immediate validation. Test cuts, like countermarks, were a necessary precaution by individuals to avoid a personal economic loss. Test cuts do tend to appear more on coins which traveled a substantial distance from their place of origin.¹⁶⁹ As with countermarks, often more than one test cut will appear on a coin as clearly testers recognized that these markings could be reproduced by counterfeiters. This Athenian coin (Figure 6) reproduced one test cut which was already on the original model. The test cut was not only on the relief, but also located at the edge of the coin in

¹⁶⁵ Figueira 1998, 125. See also Le Rider 1975, 27-56.

¹⁶⁶ Figueira 1998, 125-6.

¹⁶⁷ Figueira 1998, 125-6.

¹⁶⁸ Kraay 1976, 15 notes not incorrectly that some countermarks may appear on a coinage due to some major event in a series' history. Croesus demonetizing the previous electrum coins of his father Alyattes in favor of a bimetallic currency or the Athenian conquest of Aegina could represent a significant loss of faith in that city's coinage reiterating the need for countermarks. While certainly some of these countermarks may have come from such events, their function as a validating/testing mark still remains.

¹⁶⁹ Kraay 1976, 16.

the hopes of further deceiving the recipient. This Aiginetan coin (Figure 8) had two test cuts created prior to its construction; a close examination will reveal they were on the turtle shell and the edge. The presence of test cuts or countermarks on a coin would reduce suspicion but not eliminate it as many coins have two or more test cuts or countermarks. Both techniques were employed frequently in defense against plated coinage since a well crafted coin would be close to the weight standard and have an appearance similar to a legitimate type. Forty percent of the coins from Myrina hoard, and many other hoards, have countermarks even though they are of the correct weight suggesting counterfeiters could regularly reproduce accurate coin weights.¹⁷⁰ These were good countermeasures, but far from definitive proof that a coin was genuine.¹⁷¹

One of the first true coin issues to have a recognizable type and reverse was the Lydian electrum Lions, first minted by King Alyattes around 610-600 B.C.E. Alyattes changed the style slightly c. 600 and continued minting these new Lions until roughly 560 B.C.E. It is this second issue of Lions that we have most of our early numismatic evidence.¹⁷² It should also be noted that of these early electrum issues, the trite, or third of a stater, was the most common denomination minted.¹⁷³ Therefore it should come as no surprise that these early Lydian electrum issues are among the first coins to be counterfeited. The trite itself was on occasion counterfeited, but generally the smaller fractions have more extant counterfeit specimens. The reason is that the larger the denomination, the greater the weight difference is between false and genuine pieces. Reid Goldsborough owns a Lydian trite counterfeit (Figure 1)¹⁷⁴ which was likely created in an attempt to deceive its recipient. While this is difficult to state with certainty, this denomination represents a substantial value and a counterfeiter could make considerable profit from this piece. The lack of provenance is unfortunate, but these early Lions rarely circulated outside of Lydia and the surrounding territories. It most probably was created for local use or in the outlying territories with people familiar with but not regular users of Lydian Lions. Not surprisingly, other early electrum coins were counterfeited as well.

¹⁷⁰ Caramessini-Oeconomides 1979, 231-39.

¹⁷¹ Since large scale testing methods as well as those of the civic officials such as the Dokimastes have been discussed above, there is no reason to repeat those methods here.

¹⁷² Goldsborough (2007) has a thorough review of dating these early issues and arguments for Lydian Lions as the first coins. Cahill and J. Kroll, 2005, 613. Dating the Lydian Lion coins remains an incredibly challenging venture. Other possible candidates for early coins were minted around the same time see, Price 1983, 4.

¹⁷³ Robinson 1951, 159.

¹⁷⁴ Goldsborough (2007) I thank Reid for the use of his images in this Thesis.

Fredrick Bodenstedt has extensively studied the electrum coinages of Mytilene and Phocaea. As we saw previously, these two cities established a monetary alliance as early as c. 521 B.C.E.¹⁷⁵ Bodenstedt has noticed some interesting trends in the counterfeit coins of these two cities starting from the coinage's inception down to 326 B.C.E. Bodenstedt has cataloged the counterfeit coins of Phocaea and Mytilene by both city and time period, all of these are $\frac{1}{6}$ staters or hektes.¹⁷⁶ The coins included in Bodenstedt's counterfeit section are either proven to be plated, too poor in gold, or highly suspicious of being plated based on weight. This denomination still represented substantial buying power while itself weighing only c. 2.55 grams. Counterfeiters were able to reproduce the weights of these coins far more accurately than the larger denominations. An examination of Tables 1-3 shows that a few of the plated pieces which retain much of their plating were within a weight range many merchants would likely have found acceptable; especially if the counterfeit coins looked as though they were somewhat worn from circulation and use. As with the Lydian trite noted above, the counterfeiter risked a greater chance of exposure if he counterfeited larger denominations.

First, the larger the coin and heavier the weight, the greater the chance that the weight of the counterfeit coin might be off and these larger denominations held considerable value. The recipient would be more likely to carefully scrutinize the coin because it represented a dangerous economic loss if it proved false. These electrum coins, and especially the earliest Lydian coins, did not circulate too far outside their area of issue and would be subjected to much greater scrutiny, as significant large-scale trade would be handled in silver, whose intrinsic value was more easily determined than electrum.¹⁷⁷ What this represents then is that even after Phocaea and Mytilene established their monetary alliance c. 521 B.C.E., they still had to contend with local or neighboring counterfeiters, since their coinage did not generally circulate outside of neighboring territories. The counterfeiters of early electrum coinage likely were local or situated in adjacent territories and familiar with these electrum coins. As some of the Ionian coinages gained a broader circulation area, new opportunities were opened for counterfeiters and counterfeiting. As Bodenstedt's tables show, counterfeiters were clearly aware of the monetary systems and economics of the Aegean. When Athenian coinage gained prominence, local counterfeiting dropped significantly because not only would Athenian coins (and counterfeits) be

¹⁷⁵ Bodenstedt 1981, 20.

¹⁷⁶ Bodenstedt 1981, 32-3. See also tables 1-3.

¹⁷⁷ Kraay 1976, 318-9 and Howgego 1990, 3-4.

accepted in Ionia, but they could also be used abroad. What this illuminates is that early counterfeiting was most probably a local phenomena and the counterfeiters through trial and error learned which denominations they could successfully and repeatedly pass off without detection.

The evidence for local counterfeiting finds support in the counterfeit silver coins for many of these electrum issuing cities. Aaron Emigh has collected quite a number of counterfeit silver fractions from Phocaea, Mytilene and Asia Minor in general.¹⁷⁸ These coins (Figures 3 and 5) must have been made for local use as their fractional value would certainly not be worth as much abroad. It is probable that some fractions were counterfeited for use elsewhere in the hopes that unfamiliarity with a coin might have allowed them to pass as bullion value with little inspection, but this must have happened infrequently. Many coinages appear to have had their fractions counterfeited. These fractionals would certainly not carry quite the same value abroad but would be readily accepted by locals or merchants familiar with that city's coinage. A similar modern equivalent would be the acceptance and exchange between American and Canadian money when one first crosses into Canada from the United States.¹⁷⁹ Counterfeit fractionals, although occasionally found elsewhere, must have been typically created by locals for local consumption, or use in the territories of immediate neighbors. It would make less sense, both practically and economically, to counterfeit fractional coinage for use abroad unless it was an "international" currency. Even though counterfeiters could more accurately reproduce fractional coins' weights their higher value at home than abroad would suggest local use.

Herodotus (3.56), as noted and discussed above, related the story about the tyrant Polykrates. He stated that Polykrates minted a large amount of the local currency in lead and gilded it so he could bribe the besieging Spartan army to leave. This siege is typically dated to about 525-4 B.C.E.¹⁸⁰ There is a curious survival of four lead plated and one copper plated electrum staters with unknown provenance and one lead plated stater from Samos dating to this time period. There are unfortunately no surviving genuine electrum coins from this issue to definitively corroborate these coins, but the style of the reverse is clearly Samian and indicates a

¹⁷⁸ Emigh (2007) <http://www.emigh.org/numis/fourree/fourree5.html>. Aaron's interest in *fourrée* coinage has led him to collect a number of pieces from the coin market which he now displays on his webpage. He has graciously allowed me to use pictures of his personal collection in this thesis.

¹⁷⁹ As one crosses into Canada from the United States, the paper dollars are accepted at the current exchange rate whereas the coins may or may not be accepted but would not be given the same exchange rate value, i.e. American quarters equal the same as Canadian quarters regardless of how high or low the exchange rate may be.

¹⁸⁰ Barron 1966, 17.

date of around 525 B.C.E. Unfortunately, Barron does not give the exact location in Samos of where the coin was found or other details, except to corroborate Herodotus' story.¹⁸¹ The copper plated piece has a type for a double volute and was probably minted separately from the lead plated pieces.¹⁸² Barron notes that should these pieces date to Polykrates' issue, it would show that he was wise enough to not have used official dies to mint the false coins, so as to issue counterfeit coinage with the exact type of Samos and subsequently risk endangering his and/or his city's monetary reputation. Electrum had ceased to be the backbone of the Samian economy by this time, but the Spartans being a coinless society might have been more gullible than others when accepting these coins.¹⁸³ The survival of so many staters, as opposed to fractions, does seem to help verify Herodotus' story.

As noted above, at this early time, the larger denominations were less frequently counterfeited as the weight difference might have given away the counterfeit coin. There are examples from silver coinage in which the counterfeiters obtain a fairly accurate weight; this may not have been too much of a concern for Polykrates due to the Spartans' unfamiliarity with coins. However, these coins represent Polykrates deceitfully bribing the Spartans to leave. This should not be considered an official issue as the intent here is clearly to deceive the recipients while simultaneously maintaining monetary purity by using unofficial dies. These particular types or issues would be readily recognizable should they make their way back to Samos so that Polykrates and the citizens of Samos would know not to reaccept them. Polykrates would not have accepted any of this coinage should it have made it back to Samos. The effects of this particular occurrence could also have rippled across the Greek world. While no doubt local counterfeiters practiced almost everywhere, the fact that the market was suddenly flooded by so many fakes could have alerted many Greeks, raised awareness and encouraged them to establish laws, i.e. the Eretrians, or inspired poets, i.e. Anacreon and Theognis, to use this metaphor as now many Greeks would likely recognize this problem through word of mouth and possibly from the coins should they have made their way around the Aegean. If Herodotus remembered this event some 60-70 years later, it probably did not go unnoticed when it happened.

One of the more important electrum issues in the Greek world were the Cyzician staters. Cyzician electrum coins occupied a position of prominence in the Aegean until the gold staters

¹⁸¹ Barron 1966, 17. See also Robinson 1958, 590.

¹⁸² Barron 1966, 17 n.19. notes that the double volute also appears in the field of one of the lead pieces.

¹⁸³ Barron 1966, 17.

of Philip II came to usurp their distinction as representing the gold standard. Due to their high acceptability and value, these coins were targets of counterfeits in antiquity. Cyzicus experienced counterfeiting on both a grand scale due to her electrum coinage's reputation as the standard for gold currency and on a local level in her silver fractions. The larger stater cannot be equated to silver very easily as the exchange rate fluctuated over time, but a Cyzician electrum stater was roughly equivalent to one month's pay (Xen., *Anab.* v. 6. 23). H. Wells has examined Cyzician coinage and noticed that the identified surviving electrum plated coins from Cyzicus are under the weight standard. This should come as no surprise since many of these coins have lost weight from oxidation and degradation over time. Those extant plated coins with a silver core weigh roughly 73% of the weight standard while copper-cored coins weigh in at roughly 84% of the standard.¹⁸⁴ Almost any coin which one can easily prove to be plated has lost some of its coating as well as weight. Freshly minted counterfeits must have been quite deceiving.¹⁸⁵ As we will discuss later, some coins which are much closer to the weight standard may or may not be counterfeit, as certainly many counterfeit coins have yet to be discovered among both private and public collections. Cyzician coins, like many major trade coinages, were targets for counterfeiters due to their recognizability and substantial value almost anywhere. Those dealing in large payments could easily substitute one or two counterfeit coins and still make a substantial profit.

The more locally used Cyzician silver coinage was counterfeited as well. An examination of the *IGCH* shows that Cyzician silver coinage rarely ventured far from the regions surrounding Cyzicus. Therefore one can conclude that the silver coins of Cyzicus were likely counterfeited locally. The larger coinage did not necessarily have to be counterfeited locally as it was such an important international currency and could be found all across the Aegean and Asia Minor. Image 5, from the collection of Aaron Emigh, shows an example of a plated Cyzician silver obol. He also has a plated silver trihemiobol from roughly the same time period which is slightly different than the two pieces displayed (Figures 4 and 5). The trihemiobol seems to have been plated using a eutectic alloy of copper and silver (roughly 3:1 proportions) to better adhere

¹⁸⁴ Wells 1982, 19. Wells takes his information from Bodenstedt's research which has yet to be published. Bodenstedt passed away before its completion and to the best of my knowledge Maria Kaiser-Raiss is in the process of continuing this corpus. I have not examined the textual evidence for these pieces and must take Wells comments. Silver's value was much less than electrum and would still provide substantial profit to those who counterfeited electrum coins.

¹⁸⁵ Wells 1978, 39.

the plating to the flan. While this eutectic alloy created a more solid bond between core and plating, it also oxidized into a greenish color and one can see the color difference where the plating has chipped away. What this implies is that there were counterfeiters in or around Cyzicus who reproduced smaller fractions, and could, but not necessarily, also have counterfeited staters, as they had the equipment on hand. These fractions would have a reduced value abroad; they represent such small denominations that the most obvious conclusions are local production for local use. If a counterfeiter did create both silver and electrum coins, the electrum was probably not for personal local use as such a large denomination was not as practical for individual daily use. The trihemiobol and obol not only have different construction methods, but there are clearly no die links for these two pieces suggesting two different manufacturers. They may represent a counterfeiter improving his art over time, but likely suggest separate local counterfeiters both working simultaneously, a problem many major trade coinages had to deal with,¹⁸⁶ especially Aiginetan, Corinthian and Athenian coinages.

The Temple of Poseidon at Isthmia provides an excellent context for studying archaic counterfeit silver coinage. The archaic Temple burned down c. 470 B.C.E. providing a convenient *terminus ante quem* for the archaic deposit beneath the Temple. Oscar Broneer¹⁸⁷ recovered 43 Aiginetan staters and 18 Aiginetan drachmas. He also unearthed 14 Corinthian staters (tridrachmas) and 12 Corinthian drachmas. Unfortunately, his description of these coins is severely lacking. He notes that the excavation uncovered many Aiginetan and Corinthian counterfeit pieces, but does not discuss the quantity of counterfeit pieces from the archaic temple deposit, merely that several coins from each denomination were plated with thin shells of silver. He notes that one Corinthian counterfeit had a whitish substance under the silver plating which dissolved upon an attempted cleaning. This seems to indicate that this core was made of lead since lead oxidizes into a whitish substance. There are existing lead cores from counterfeits of other cities indicating that lead was used for silver coinage, but much less often. Ultimately, the information which Broneer gives is unsatisfactory. He notes that both the pure and counterfeit coins come from the same stratigraphic layer, yet appear to have been deposited individually and at separate times. Unfortunately, he does not give the number of counterfeit pieces to allow for a

¹⁸⁶ While not the focus of this thesis, it should be noted that numerous plated coins exist from both the Persian Empire and the Greek West. Counterfeiting was by no means limited to the coast of Asia Minor and the Greek mainland, but an examination of Persian counterfeits and those of the Greek West would require a separate study altogether.

¹⁸⁷ Broneer 1955, 135-6, see also Thompson et al. 1973.

ratio between pure and counterfeit coins. He does not record the weights of the coins nor does he list the material from which the base cores were constructed. A few of the coins were gashed or defaced to cancel them, but many counterfeits were probably disposed of once discovered and not necessarily defaced. Certainly the counterfeit coins from the Temple of Poseidon could be profitably restudied and this study would undoubtedly advance our knowledge in at least Aeginetan and Corinthian archaic counterfeit coins.

Let us continue with Aeginetan counterfeit coinage before returning to Corinthian and then Athenian counterfeits. Ross Holloway dedicates slightly more attention to the Aeginetan coins from the Isthmia deposit. He records three of the counterfeit coins from this deposit and shows an image of the silver-plating which survived after a cleaning had disintegrated the core. Several of the coins are heavily corroded which often happened to ancient counterfeit coins and other bi-metallic objects due to the destabilized nature of a bi-metallic composition. Holloway admits that he has not studied these coins in person nor seems to know just how much silver plating remains on the base metal cores or of which metal they are made. He does record the weights of these three pieces at 8, 10.4 and 11gms.¹⁸⁸ Without the knowledge of how much silver remains attached to these specific cores it is difficult to accurately determine the profit margin these pieces could yield. Clearly, the counterfeit coins of the Isthmia deposit need closer study.

Outside of the Isthmia deposit, Holloway has also shown some interest in Aeginetan counterfeit coins. He has compiled a brief list of some counterfeit specimens he has encountered in his research. He mentions two from the Athens Numismatic Museum, three from the British Museum and one each from Oxford, Munich and New York. Unfortunately, he does not include dates for any of these coins, nor find spots or composition of the base-metal core. He only mentions the weight of each coin without describing how much if any silver casing remains on the coin, though the weights and images seem to indicate that very little silver remains on these coins. Three range from 6.73-7.57gms, two are at about 9.5gms and one is as low as 3gms, probably a drachm core. It seems as though counterfeiters often made their Aeginetan stater cores around either 7 or 9.5gms. Holloway also notes that one coin which he has examined is suspiciously low in weight, 11.4gms, but does not have any base metal visible.¹⁸⁹ This coin has

¹⁸⁸ Holloway 1960, 56-7, 242-4.

¹⁸⁹ Holloway 1960, 56-7, 242-4.

die links with five other respectable pieces, and if proven false could indicate that either some counterfeiting could have happened in the Aiginetan mint or with official mint tools, as this coin shows none of the typical signs associated with cast counterfeit coins, such as the Athenian coin (Figure 6). However, a study has not been conducted as to the purity of this suspect coin.

Taking this information on the weights of the counterfeit cores, along with the counterfeit Aiginetan stater from the Athenian Agora which weighs 7.03 grams (Figure 8)¹⁹⁰ we can now extrapolate roughly how profitable counterfeiting could be. First, an examination of the Aiginetan weight standard will better explain counterfeiting profitability. William Daehn has compiled numerous graphs on the weight frequency of several important coinages throughout the Greek world in an attempt to show the acceptable weight ranges for various coinages. Table 4 shows the acceptable weight range for Aiginetan staters, 12.2 grams.¹⁹¹ An Aiginetan coin could rise or fall .3 grams of the 12.2 gram weight standard without drawing much suspicion based solely on weight. Minting was not an exact science in antiquity and so a percentage of error of about .3 grams, or 3-5% was expected. The bronze core from the Athenian Agora weighs 7.03gms, similar to Holloway's coins, and can indicate how profitable counterfeiting could be. An Aiginetan silver mina weighed 628gms and when minted would produce 50 staters (didrachms). If an entire Aiginetan mina were used to plate cores weighing around 7gms it would make 121 staters of 12.2 grams. This considerably stretches the value of the Aiginetan mina, roughly two and half times, if the counterfeiter reached the weight standard of 12.2 grams exactly. However, since most good counterfeits are still slightly under weight, usually within 1.5 grams of the weight range so as not to make an abnormally large flan, the profit would be slightly higher. It is reasonable to assume that since the profit margin for one silver coin is not substantial, and either having to make false dies or casting molds are time consuming, the counterfeiter would likely have made several coins rather than just one.¹⁹² Additionally, using a core of around 7 grams would be less risky than c. 9.5 grams but would of course reduce profit. A core weight of c. 7 grams would be more logical to use for individual local use as it would be

¹⁹⁰ Kroll 1993, 167 coin 659 (ΞΞ-4).

¹⁹¹ Daehn 1991, 32.

¹⁹² Larson (2000) experimented in the coin making process. He noted that to carve a set of Athenian dies it took him a little over 18 hours to carve the obverse and about 16 for the reverse. He also noted that striking the coins was incredibly difficult alone and that it became far easier with the assistance of one other individual. This would seem to indicate that one could carve a set of dies in a few days and they could last for quite some time. While Larson found it much easier with an assistant, this is not conclusive as to how many counterfeiters may have worked on a single coin. If this was the case then certainly numerous coins would be made to maximize profit for all involved.

harder to detect when tested as roughly 30-40% of the coin would be silver. A core weight of around 9.5 grams yields far more profit, a mina could produce about 232 staters, but would much more easily pass into circulation if mixed with a group of genuine coins as it would more readily be detected by countermarks or test cuts. A smaller base-metal core would stand up far better when personally scrutinized by a suspicious person, the sound would not sound the same as a larger core, and the chisel point would have to penetrate deeper to actually uncover the core. Since Aiginetan coins were used heavily abroad as an “international” currency in large payments, these latter coins could very easily have been mixed in with a large group rather than used in a market place or smaller transaction. The profit margin to be had from counterfeiting even a dozen coins makes it worthwhile as one could double, triple or even more than quadruple the value of his money.

Many counterfeit Aiginetan coins, and counterfeit coins in general, exist out of context. Frances Jones published a group of 15 Aiginetan coins from Princeton¹⁹³ of which several are counterfeit. The origin of the coins is unknown, but Jones has divided them into four chronological groups based on stylistic grounds. The first group consists of 1 triobol and 7 staters dating to c. 540-510 BC. All coins in this group show substantial wear indicating a long circulation life. Worn specimens like these sometimes draw suspicion due to the ever decreasing weight from wear. They require revalidating to prove their purity. One stater from this group is clearly counterfeit as a small section of its edge has worn away revealing the bronze core underneath.¹⁹⁴ What is remarkable is that this coin has only a slight patch of bronze showing, yet still weighs 11.95 grams, within the weight range. Had the plating not worn away, most scholars would have considered it genuine. Jones suspects another stater in this group; the patina and color of the coin, along with its weight of 11.87gms indicates that it may have a bronze core underneath.¹⁹⁵ Unfortunately, no one has yet determined the quality of this coin, but if this coin is proven false, it would indicate that counterfeit coins could have a long circulation life and that counterfeiters were not only able to reach close to the weight standard and appearance, but that it remain undetected throughout its circulation life and has stayed intact for over 2500 years.

A second group, consisting of three staters dating to 510-480 BC, merits a little more discussion. Jones’s coin 10 is quite worn and weighs 12.07gms, so is not outside of the weight

¹⁹³ Jones 1979, 116.

¹⁹⁴ Jones 1979, 117 coin 2.

¹⁹⁵ Jones 1979, 117 coin 5.

range.¹⁹⁶ Although difficult to see, it retains traces of dots down the back of the tortoise shell. Holloway indicates that during this period, Aeginetan coinage developed a series of dots/buttons down the shell of the tortoise as a built-in countermark/weight control system.¹⁹⁷ Apparently, Aeginetan coins were in circulation so long, that many pieces became underweight due to wear and thus not only became suspect, but also allowed counterfeit coins more leeway in the quality of their appearance and weight. Holloway notes that no Aeginetan stater which still has this row of buttons well preserved was ever countermarked. He concludes that this was Aegina's attempt to restore faith in their coinage.¹⁹⁸ However, Jones suggests again that the color and the patina of this piece indicate a potential bronze core underneath silver plating.¹⁹⁹ If this could be proven, it would suggest the opposite of the Athenian Agora piece which was created as an already tested piece; that at least one counterfeiter had risen to the occasion of creating a spectacularly realistic piece capable of long-term circulation. The construction techniques and the weight of the core, should this coin prove false, would prove most enlightening.

Unfortunately, most scholars just do not record enough information about counterfeit coins, whether discovered in excavations or published in large scale numismatic works. The counterfeit coins of Corinth follow this trend. The counterfeit coins of Corinth are scattered throughout different collections, but as with Aegina, several were found in situ in the archaic deposit beneath the Temple of Isthmia. Again, Broneer does not give adequate information on these Corinthian coins. An international trade coinage such as Corinth suggests that the majority of plated pieces from this deposit would be staters, but that is undetermined as of yet. Broneer notes that at least one of the Corinthian coins has a deep gash through the Pegasos which he suggests was for a test,²⁰⁰ but was more likely a defacing gash before removing it from circulation. Broneer relates that many of the counterfeit coins had only thin layers of silver, most the silver was lost through decomposition or cleaning. I would suggest that these coins were made by a counterfeiter hoping to pass them off away from his area of residence. So long as the coins with thinner silver coatings would not remain in circulation near his base of operations, he maintained only a slight risk of detection. The coins would then only needed to appear legitimate long enough for his personal gain. As with the Aeginetan coins, I believe the more

¹⁹⁶ Jones 1979, 118.

¹⁹⁷ Holloway 1960, 52.

¹⁹⁸ Holloway 1960, 52.

¹⁹⁹ Jones 1979, 118.

²⁰⁰ Broneer 1955, 135.

carefully crafted coins were intended for individual use probably closer to home. The thinner plated and more quickly constructed pieces only need to pass one inspection away from home to keep the manufacturer out of danger. A counterfeiter could more easily pass off one of these lower-quality counterfeits with a group of genuine coins.

There are several counterfeit Corinthian coins from numerous collections spanning the range of the Corinthian production. Colin Kraay has identified a Corinthian stater of light weight dating stylistically to 515-500 B.C.E.²⁰¹ The weight standard for Corinthian staters was 8.6 grams, this specimen weighs only 7.57 grams. There is nothing else which Kraay mentions that could suggest it is a counterfeit, such as the color of the coin or patina. If the coin displayed a greenish hue, then it would likely be a plated counterfeit of low weight. The loss of only 1 – 1.5 grams would be less noticeable by simply hefting the coin and the relatively good present state of the coin indicates either good construction techniques, like the Aiginetan coins, or an unusual fluke in the minting process. Aaron Emigh has a Corinthian stater in his collection which dates to c. 400-350 B.C.E. (Figure 9).²⁰² The coin's current weight of 7.98 grams and state of decomposition indicates that it probably weighed a little over 8 grams when freshly struck, making it a relatively realistic counterfeit. The coin's core shows through in the expected areas, the high relief on the obverse and the far edges. One would suspect that reproducing the weight standard of Corinthian staters was easier than Aiginetan or Athenian staters.

Another problem for which the evidence is unfortunately scanty is the plated fractional coins found during excavations at Corinth. C. Williams and J. Fisher²⁰³ have discovered two plated drachms, one plated hemidrachm and a porous flan whose size is in between the typical hemidrachm and drachm size. Williams and Fisher note that plated drachms, and especially late drachms, are not rare finds in Corinth.²⁰⁴ They suggest that Corinth may have experienced some type of monetary emergency similar to Athens either around 406 B.C.E. or under Timoleon in the mid 350's - mid 330's because of the abundant export of silver to Sicily necessitated plated issues at home. They then suggest that these coins represent either the remnants of a recall of the plated issue, or abandoned coins once the emergency passed. Fisher's coin/flan²⁰⁵ was found in

²⁰¹ Kraay 1966, 341 coin 480. Ravel 102.

²⁰² Emigh (2007) for the original image of the coin.

²⁰³ Williams and Fisher 1972, 176-8, there three coins were found in a hoard of small silver and bronze coins. Fisher 1980, 3.

²⁰⁴ Williams and Fisher 1972, 178.

²⁰⁵ Fisher 1980, 3.

well 75-5 along with a much worn Pegasos/Peirene fraction which was more than a gram underweight. The fraction has no bronze showing and although severely worn it can be traced to the Δ/Wreath series and only a closer examination could reveal its genuiness.

The porous nature of Fisher's flan is more problematic as the Pegasos trotting left/Trident types are not appropriate for either hemidrachm or drachm issues.²⁰⁶ As there is no definitive evidence for an emergency issue at Corinth, and based on previous patterns noted above, I would suggest that this flan represents a private counterfeit of most likely a drachm, and should the fraction from the same well also prove counterfeit, then both were probably discarded once discovered. It should come as no surprise that the majority of counterfeit Corinthian staters come from abroad while drachms and other fractions come from Corinth herself. This plated fraction is likely the work of local counterfeiters producing the coins which would benefit them the most in daily life. Larger staters would be more difficult to pass off as they would come under greater scrutiny because of their value. These coins and certainly many others represent counterfeiters at work in Corinth. Although an emergency issue is not totally out of the question, much more firsthand research of Corinth's plated coins are needed.

Athens follows a very similar pattern to Aegina and Corinth, yet reaches a far higher scale than both due to the popularity which her coinage eventually obtained. Athens early coinage, the *Wappenmünzen*, was highly susceptible to counterfeiting due to lack of standardization of the obverse types, there were roughly a dozen or so obverse types all linked by a common reverse. They were certainly a civic coinage as they were all also linked by standard fabric and weight, and even a few are die linked by common reverse punches.²⁰⁷ Kraay notes that this coinage was almost certainly intended for internal use as the Peisistratids created a stable environment which allowed trade and wealth to increase eventually leading to a more complex economy. Hippias and Hipparchos greatly simplified this process by not only producing a unified coinage by first raising the stater from a didrachm to a tetradrachm, but also later issuing the first uniform owls.²⁰⁸ As the *Wappenmünzen* coins are rarely found outside of Attica, we can reasonably state that it was primarily an internal Attic coinage.

²⁰⁶ Fisher 1980, 3.

²⁰⁷ Kraay 1968, 1-2.

²⁰⁸ Kraay 1968, 2-3.

There are several examples of counterfeit pieces from the *Wappenmünzen* issues. C. Seltman has listed three didrachms and one drachm which are plated.²⁰⁹ Seltman notes that the three didrachms are not from official dies but appear to have official prototypes. The single plated drachm has no identified extant official prototype.²¹⁰ While these are not smaller fractions, they still must have been from a local counterfeiter and for local use since the *Wappenmünzen* coins rarely appear outside of Attica. Seltman unfortunately does not list the weights nor how much plating remains but two of the didrachms do have large test cuts, possibly defacement cuts, on either the obverse or reverse. These two coins must have been discovered in antiquity and disposed of. The other didrachm and drachm may have enjoyed a longer circulation life, though this remains speculation. The drachm may have had an official prototype which does not survive or may be testament to how confusing early Athenian coinage may have been with the numerous types. Much like the early electrum coinage, these counterfeits must have come from a local counterfeiter. A detailed study of their weight would also help to better understand their use.

After the Peisistratid monetary reorganization, Athenian counterfeits slowly grew more numerous. Seltman records several early counterfeit owls²¹¹ and J. Svoronos records one.²¹² Seltman records four counterfeit tetradrachms and one drachm. Certainly provenance would aid greatly in understanding their use and function, however Seltman does not list this nor their weights. One of the tetradrachms and the single drachm both have a test cut on the obverse and on Athena's head. These two must have been discovered and removed in antiquity. Svoronos's has a large defacing gash on the obverse much broader and deeper than a test cut, no doubt canceling the coin's validity. Athens new found prominence on the international stage, like Aegina, made her coins, especially her tetradrachms, a target for counterfeiting abroad as well as at home. The drachm stands a better chance of having been counterfeited closer to home for local use as it represents a more realistic and usable denomination. There is also another interesting late 6th century find from the Athenian Agora: a plated Siphnian hemidrachm. Kroll records this coin from the Agora and notes that it appears to have been intentionally flattened,

²⁰⁹ Seltman 1974, 130 and Plate XXIII coins 1-4.

²¹⁰ Seltman 1974, 130.

²¹¹ Seltman 1974, 130 plate XXIII coins 5-9.

²¹² Svoronos 1975, plate 4 n. 40.

though he does not elaborate anymore on this.²¹³ While Siphnos certainly was known for its wealth in the archaic period, the circulation of “non-international” currencies, and especially fractions, was not too common. The majority of foreign coinage in the Athenian Agora had a status of an international currency or standard military pay, i.e. Persian gold Darics, Aeginetan staters and Cyzician staters.²¹⁴ It is probable that many merchants trading in Athens would know of Siphnos and its coinage, but the use of non-local coinage would have drawn more suspicion. The fact that it is a hemidrachm and not a smaller denomination may also factor into its presence. Athenians would probably have treated this coin more as bullion than at face value. Ultimately, the presence of a few other counterfeit pieces in the Agora shows that some counterfeit coins either could circulate long distances without detection or less likely that some counterfeiters chose to replicate non-local pieces so as to incur less of a penalty if caught with a false coin.

Athens’ rise to commercial dominance created an environment in which counterfeiting could thrive. The fifth and fourth centuries provided ample opportunities for counterfeiters across the eastern Mediterranean. As it would be impractical for this author to try and record even the majority of Athenian counterfeits from these centuries, one can gain a bit of an understanding of how widespread this problem was. The value of such a catalogue would be a significant advancement in the study of counterfeit coinage. A quick study of any large public or private collection will reveal plated Athenian pieces, some counterfeit and others from the emergency issue. Not surprisingly, the number of Athenian counterfeits increases in the last half of the fifth century and continues through the Classical period. The epigraphic and now archaeological evidence has shown that there was a shift in focus of the counterfeiting around the eastern Mediterranean and that Athenian coins were targeted more than others. Counterfeiters who forged coins for large scale trade or international use now had an excellent monetary medium as owls were accepted almost anywhere. Some counterfeits are exquisite examples (Figure 10)²¹⁵ while others are quite poor (Figure 6). The increase in test cuts on Athenian coinage from this period also suggests that merchants and individuals were recognizing this trend as well and taking measures to reduce the likelihood of accepting a false coin. Additionally, many counterfeits which were produced within the same stylistic range have varying weights for

²¹³ Kroll 1993, 167, 253 coin 846.

²¹⁴ Kroll 1993, 166-7.

²¹⁵ Emigh (2007).

the remaining cores which presumably points to many different counterfeiters working contemporaneously and different uses for certain coins.

Let us first examine some of the Athenian coins from the Agora. Kroll notes that of the 129 Athenian silver coins, 5-7 are imitations and 22 silver-plated bronze,²¹⁶ or 22% of the total Athenian silver coins. The first counterfeit coin chronologically to appear in the Agora dates to the 450's – 404 B.C.E. This is coin 9a or BG-895. It retains not quite half of the silver plating, weighs 11.81 grams, has a test cut on the obverse and was unearthed in a sanctuary context of the 420's.²¹⁷ Kroll also notes that coins 9b (NN-1789), 9c (O-126) and a drachm 11 (NN-2120), are also likely 5th century counterfeits. Coin 9b is only the bronze core (13 grams) while 9c retains only slight traces of silver (12.31 grams), is heavily corroded and has two test cuts on the reverse. The plated drachm weighs 2.23 grams is broken and heavily blistered but attributable to the 5th century.²¹⁸ Kroll believes they may possibly be from the Athenian emergency issue, but I find this unlikely. The fact that they are so heavily corroded and one has test cuts seems to indicate that they were rather poorly constructed, possibly cast counterfeits, and eventually discovered. Several do not come from a sanctuary context as that may have been reserved for counterfeits removed by the state rather than by the individual. Individuals likely discarded or threw away these fakes upon discovery as they were completely worthless.²¹⁹ The bi-metallic and unstable nature of plated coinage caused it to decompose quicker than a mono-metallic coinage and also, their poor construction coupled with quick deterioration has left them in this current state. Coin 9b presents an opportunity to gauge roughly how profitable counterfeiting Athenian tetradrachms could be as it has no sign of test cuts or countermarks. If a bronze core of 13 grams were coated to reach the Athenian tetradrachm standard of 17.2 grams or close to it (Figure 10) then an Athenian mina could effectively produce 102 counterfeit tetradrachms, quadrupling the value of a mina. Likewise coin 11, the plated drachm weighing c. 2.2 grams could produce 205 plated drachms, doubling the mina's output. As Figure 10 shows, should the counterfeiter have intended tetradrachms for local individual use, he could attain a realistic weight. The counterfeiter may not have had all the material to produce such numbers, but the profit margin for even a dozen coins is certainly great enough to entice many into counterfeiting.

²¹⁶ Kroll 1993, 4.

²¹⁷ Kroll 1993, 7 and 17.

²¹⁸ Kroll 1993, 7 and 17-18.

²¹⁹ Kroll 1993, 166-7.

As with the Aiginetan coins, an Athenian coins discussed below, the profit margin could be much higher if the coins were intended for use abroad and did not need to be incredibly close to the weight standard.

The fourth century Athenian Agora counterfeit coins also reveal interesting information. Coins 16o (E-2420) and 16p (E-1365) have identical deep gashes on the reverse, have no silver remaining and were found in front of the Metroon-Old Bouleuterion no doubt in accordance with the Nikophon's law of 375/4 B.C.E. (Figure 11).²²⁰ These are the bronze cores of what were once plated coins. Coin 16o weighs 12.55, coin 16p weighs 13.56, so 9b in the previous section is an average of these two. Interestingly both coins have a die axis of 8 o'clock, clearly imitating the official die axis. One counterfeiter may have produced both these coins, though it is entirely possible that it may have been separate counterfeiters, both of whom were careful enough to reproduce not only appearance and weight, but also die axis.²²¹ These coins certainly do verify the enforcement of Nikophon's law, but they must represent only a mere fraction of the counterfeit coins taken from circulation by the Dokimastes and others. The Athenian treasury inscriptions clearly show that there were at times dozens of coins removed from circulation. The ability of counterfeiters both abroad and locally to reproduce these coins indicates the need for action at Athens. The epigraphic evidence probably only records counterfeit coins which were removed from circulation by an official or state magistrate, and does not reflect coins removed in the private sector. The find spots of many of the coins in Corinth and Athens suggests that these counterfeits were simply discarded when discovered as they were absolutely worthless and certainly no one wanted to get caught with a counterfeit. These clearly counterfeit tetradrachms all weigh around 13 grams suggesting that this was at least one of the typical core-weights for Athenian tetradrachms. The fact that they were also found individually seems to imply that they were created to be realistic in appearance and weight for use one or two at a time rather than in a larger group.

Perhaps one of the most interesting finds of plated coins in the Agora comes from the fill beneath the Temple of Ares. These thirteen coins, 16a-m, are all from the same pair of dies and are quite nicely preserved.²²² Walker has suggested that these coins could not be from a forger's hand as the light weight would be too clumsy of a mistake. The heaviest coin is 14.10 grams and

²²⁰ Kroll 1993, 9 and 20.

²²¹ De Callatay 1996, 97.

²²² Kroll 1993, 9 and 20. See page 20 for the coins' inventory numbers.

the average is 13.5.²²³ He believes the thin plating and the die axis of all the coins, 7-9 o'clock, denotes an official, probably emergency issue from the panic Athens experienced in 338 B.C.E. Walker notes the presence of the emergency issue of 406/5 B.C.E. as a precedent for this issue. The undisturbed pockets of fill beneath the Temple of Ares were the only areas in which these coins were found. He believes the Roman workers who dug the fill must have removed any coins which they found while working and that these paltry few are all that remains of what must have been thousands of emergency coins dedicated as a thanks offering and to remove them from circulation as they were never needed. Ultimately, Walker's argument comes mainly from silence as no other hoards or similar coins have come to light from this supposed 338 B.C.E. emergency issue. Their burial in the Agora, Walker believes, would have been impossible for a single individual to deposit as the daily Agora activities prevented one from conspicuously burying this lot of coins. Since the Attic Orators never mention this issue, he postulates that Athens did not need to circulate them after Philip's lenient attitude toward the Greek cities.²²⁴

Walker's argument may have some merit, especially considering the thin plating and low weight which these coins have. Kroll has disagreed by stating that other contemporary imitative and counterfeit examples are careful enough to reproduce die axis, i.e. 16o and 16p. Kroll takes the opinion that this may have been a true forger's hand; freshly minted coins deposited by the counterfeiter or an accomplice to dispose of a bag of "hot" coins to avoid detection or capture. The busy surroundings, of vendors and their booths, ought to have created enough of a distraction to dig a hole and deposit the coins.²²⁵ Both authors agree that the fill and style firmly dates these coins to c. 350-25, but more likely to the earlier part of this quarter century as they represent an incipient form of the pi-style.²²⁶ While one cannot definitively prove either Kroll or Walker correct, there are some finer details which should be discussed.

Indeed it would have been easier and quicker to make coins only thinly plated and noticeably underweight. However, it would have been rather careless of the counterfeiter to correctly copy the die axis but not the weight, *unless* these coins were intended for mixing with larger payments. If the counterfeiter did not plan to use one or two coins at a time for personal purchases, but replace a few coins in a larger payment, then these represent an economical and

²²³ Walker 1982, 134.

²²⁴ Walker 1982, 134-5.

²²⁵ Kroll 1993, 9-10.

²²⁶ Walker 1982, 135. Kroll 1993, 10.

profitable hoard of counterfeits. Athens would have known that many counterfeits came from abroad, thus Nikophon's law. However, there certainly were local counterfeiters who could produce fractional or larger denominations and if they were themselves merchants or had a merchant or two as an accomplice to pass off a few of these coins in larger transactions far from Athens, then certainly Kroll's theory should not be discounted. A merchant could return to Athens every couple of months to pick up a dozen or so counterfeit tetradrachms to unload elsewhere on unsuspecting recipients in exchange for whatever products he was purchasing. Even if the counterfeiter and/or merchant only passed off two dozen a year, that still represents significant profit. Thus over the course of a few years, the counterfeiter and his accomplices could make a substantial profit without needlessly endangering themselves at home. As Walker correctly notes, the loss of 1 or 1.5 grams would hardly be noticeable, but 3.5-4 grams would be,²²⁷ unless there were only a few in a bag of 20-30 tetradrachms. The smartest counterfeiters were the most careful and did not flood the market with their false coins and risk detection.

The site of Olynthus may add some credibility to this possibility. Philip II's sack and subsequent destruction of Olynthus provides a *terminus ante quem* of 348 B.C.E. The pertinent numismatic evidence discovered so far includes two counterfeit Olynthian tetradrachms, one counterfeit Athenian tetradrachm and two separate hoards of bronze flans. The two counterfeit tetradrachms are No. 25 A21 (13.13grams) and No. 33 A25 (10.995 grams), both date to c. 410-401 B.C.E. and represent nearly 12% of the 17 tetradrachms found dating to c. 410-01.²²⁸ Robinson and Clement have compiled a frequency table of Olynthian tetradrachm weights to suggest that the standard was c. 14.5 grams.²²⁹ Coin 25 has most of its silver plating still intact and only a slight patch of silver has deteriorated on the back leaving a green spot which indicates a bronze core fused to the plating by a eutectic alloy. This coin likely circulated without detection as there are no test cuts or other markings present to suggest it was discovered or even tested. It shows, upon closer inspection a curious mixture of styles on the type which led the authors to conclude that the counterfeiter created a set of dies using an official prototype. Again, had a patch of silver not revealed the base core, the excavators would not have hesitated to consider this coin genuine. Coin 33, however, has little silver remaining and a large cancellation gash across the obverse. Robinson and Clement have suggested that it has very close similarities

²²⁷ Walker 1982, 134.

²²⁸ Robinson and Clement, 1938, 24 and 26.

²²⁹ Robinson and Clement 1938, 207.

to known dies and may have been from official dies or from a very clever counterfeiter.²³⁰ These, I suggest, were made for local use based not only on their find spots but also on the resources and effort spent to create such realistic pieces. This ultimately goes against theories that most counterfeits were used far from home on gullible foreigners. Here Olynthian tetradrachms were made for local consumption, not use elsewhere.

Also of interest is the counterfeit Athenian tetradrachm. Robinson states after briefly mentioning Athens' emergency issue, "But Athens evidently also issued false coins, of bronze thinly washed with silver, and perhaps some Athenian sailor passed off this one at Olynthus."²³¹ Athens certainly did not issue false coins as Robinson suggests. The coin weighs 13.29 grams and has lost most its silver plating. The picture on Robinson's plate is difficult to make out, but Athena's eye appears to be in full profile suggesting a date after 393 B.C.E. If the coin had only a very thin plating like Robinson suggests, it would likely weight around 14-15 grams, much like the hoard from the Temple of Ares. However, this core weight also suggests it may have been used for a more realistic counterfeit that has simply ended its journey here after a long circulation life. Additionally, Athenian coins could hardly be considered foreign anywhere in the Greek world in the 4th century as many Greeks would be familiar with Athenian owls.

The presence of two separate bronze flan hoards is quite unusual. N. Cahill has reexamined much of the evidence and has also suggested the hypothesis that these hoards may represent counterfeiter's workshops.²³² He believes that these flans must have been for private counterfeiting as their dimensions are too large for even the largest Olynthian bronze coinage. The hoard of 30 flans was found in house B ii 6. This house had a concave floor, but there is little else known about this house or its context. House A iv 5/7 room e contained the hoard of 11 flans with another found nearby the hoard, two more in the street in front of the room and one flan in A iv 5 room m. There are no traces of a furnace for heating the flans, but many ashes were found on the floor of room h which could indicate that a furnace was present. The entire house was only buried under 0.4 meters of fill so a furnace may not have survived.²³³ If the weights were known, it might better be determined for which counterfeits they were intended; Athenian or Olynthian.

²³⁰ Robinson and Clement 1938, 207.

²³¹ Robinson 1931, 22 coin 51.

²³² Cahill 2002, 259-60.

²³³ Cahill 2002, 260.

Following Kroll's and my theory, a counterfeiter would not mint massive quantities of coins to flood the market, but he certainly would not stop at just one or two coins. He could have a ready supply of material to make coins at his discretion producing a dozen or so at a time. The presence of these possible counterfeit workshops also indicates that counterfeiting may not have been a solo enterprise. It would be far easier to have a few people involved, not only would it speed up the process but there would be more people to pass off the counterfeits into circulation if the goal was for local use. If the weights of the flans as well as their dimensions could be compared with a larger section of counterfeit coins from Olynthus or Athens, the purpose or target coinage may be ascertained. Cahill suggests the counterfeiters would not produce local coinage but rather more unfamiliar foreign currency.²³⁴ Cahill's belief that counterfeiters would produce more unfamiliar coinage is certainly wrong. If these flans match Olynthian coins then there is little doubt that these workshops were for local use. However, if they were for Athenian coins, then they could have been for either local use or use abroad as Athens clearly had her coinage counterfeited outside of her territory. There is little chance that the counterfeiters produced some obscure or little known foreign coinage as those coins would be carefully scrutinized. These potential counterfeit workshops could have produced Olynthian or Athenian counterfeits which would have drawn less suspicion and remained profitable enough to continue. Producing Athenian coins would hardly fall under the category of unfamiliar foreign currency, should they have counterfeited Boeotian or Elean coinage for example, their coins would certainly have been more closely scrutinized. Their flans most likely were intended for either Athenian or Olynthian counterfeits, perhaps one hoard was for each, only a closer examination could tell this. Ultimately, this may be our best glimpse into the practice and mechanisms of ancient counterfeiting provided these were indeed counterfeiting operations. It was no doubt handled on a small scale by several different individuals or groups acting independently of each other.

Ancient counterfeits exist from almost every issue thus far discovered. Many issues were targeted far more than others because of their high standing across the Mediterranean. There generally seems to have been those who counterfeited the smaller coinages for local consumption and those who sought to maximize profit by counterfeiting the larger coins for either personal or large scale use. No doubt many city-states recognized this, and the epigraphic

²³⁴ Cahill 2002, 261.

evidence from Phocaea and Mytilene show, as well as Nikophon's law establishing a Dokimastes in both the Agora and Piraeus. The Greeks were keenly aware of counterfeit coins as they were constantly reminded by not only false coins, but the laws and literature about these coins all around them. They sought to minimize personal loss through awareness and detection techniques while the counterfeiters constantly attempted to make more realistic and passable coins. The problem certainly was not disastrous on a large scale though it was also not too uncommon. The profit to be made from counterfeiting was substantial enough for people to risk death for the chance to double, triple or more than quadruple the value of their money. A closer look at suspicious coinage in any major collection may still today yield excellent ancient counterfeits which have stood the test of time.

CONCLUSION

The resources and time to catalogue even a fraction of the many known plated and counterfeit coins is beyond the means of this author. However, a catalogue of even one city's counterfeit coins would provide the next step in the study of counterfeit coins. A catalogue of this nature could help identify possible die links with official issues or even among counterfeits and aid in identifying counterfeiting prevalence. Many coinage issues have at least one counterfeit coin, with the more important or wider circulating coinages experiencing a higher rate of counterfeits. This area of numismatics has been seriously understudied and much could be added to our knowledge of Greek coinage and the archaic and classical Aegean economy. Perhaps the greatest hindrance to better studying counterfeit coins is the perceived need to severely damage or destroy suspect coins to verify genuineness. H. Bluysen and P. B. Smith have shown that through neutron activation analysis it may be feasible to test the genuineness of suspect coins.²³⁵ This does require significant amounts of time and resources for a proper analysis, but it is possible to non-destructively test suspicious coins. Should a large scale testing of suspect coins occur, no doubt several more counterfeits would come to light greatly aiding the study of counterfeits.

The numerous counterfeits from across the Greek world should not go unmentioned. Private collectors have shown great interest in counterfeit coinage amassing sizeable collections. Aaron Emigh has acquired numerous plated coins, many clearly counterfeit, from across the Greco-Roman world and as far away as contemporary India.²³⁶ Reid Goldsborough and Doug Smith have also both shown a strong interest in *fourrée* and counterfeit coinage again publishing images from their personal collections on the web which allow for a greater study of these coins.²³⁷ Many of these plated coins come from issues which due to time constraints could not be adequately discussed in this paper. However, they represent a cross section of the Greek world. Counterfeiters target certain coinages which had a greater regional influence, such as Celtic imitations and counterfeits of Macedonian coinage, especially under Philip II and Alexander III. The pervasiveness of counterfeits in so many issues should not be underestimated nor ignored, but can only be mentioned here in passing.

²³⁵ Bluysen and Smith 1962, 113-8.

²³⁶ Emigh (2007) <http://www.emigh.org/numis/fourree/> This is the link to his main page on which the coins are separated by region.

²³⁷ Goldsborough (2007) http://rg.ancients.info/fourees/other_fourrees.html. Smith (1997) <http://dougsmith.ancients.info/index.html>.

The larger public collections also contain many of these coins. van Alfen has noted the percentages of plated coins in the holding of the American Numismatic Society. He does not differentiate between Athenian emergency issues and counterfeits, so therefore his numbers must be taken with caution. Eight percent (66 coins) of 791 Classical-style Athenian types are plated, and nineteen percent (154 coins) are obvious imitations. Eleven percent (26) of the 229 Classical coins of Velia are plated, while eleven percent (23) of the 196 Neapolitan are also plated.²³⁸ All the plated coins in ANS holdings, c. 350, represent only .0036 percent of entire Greek collection of roughly 98,000 coins.²³⁹ While these total numbers may not seem extraordinary at first glance, two items should be noted. First, major trade coinages were clearly target far more than others and an Athenian survival rate of 8% from the ANS and 22% from the Agora certainly suggests that Greeks dealing in Athenian coinage had to be wary. Even though these numbers from ANS represent only plated to genuine ratio, if larger collections like the British Museum or the Athens Numismatic Museum reached similar numbers, and especially if the emergency issue could be excluded, then realistic percentages could be tabulated for certain time periods. The evidence certainly does show that Athens experienced a higher rate of counterfeits from c. 450-323 B.C.E. than earlier periods. It would definitely help clarify whether counterfeiting was as disastrous as some conclude, simply a minor inconvenience or somewhere in between.

The literary, epigraphic and archaeological evidence thus far examined suggests it was somewhere in between. Counterfeits certainly could be devastating on a personal level, but less so on a large scale, especially with cities that actively controlled their mints and provided civic inspectors to verify and/or validate the coinage circulating through their territory. Plated counterfeit coins were clearly common enough that, beginning with archaic authors, many readily and easily drew upon this phenomenon both metaphorically and literally presuming their audience would understand both the meaning and referent. Cities and sanctuaries established laws explicitly stating that only validated coinage would be accepted. Other cities provided decrees to offset counterfeit coins, whether from the mint or from abroad. And if the percentage from the ANS is any indicator of how many coins from major trade currencies may have been counterfeit, roughly 8%, then all of these fears would be justifiable. Any regular user of a major currency which had a roughly 8% counterfeit rate would very likely have encountered at least

²³⁸ van Alfen 2004, 344.

²³⁹ van Alfen 2004, 344 n. 52. These numbers represent only coins purchased by the ANS and are selective. Again, they should be taken with caution.

one plated false coin in his lifetime. Even if half of the surviving plated coins in the ANS holding are from the emergency issue 4% is still large enough percentage for many merchants or vendors to have encountered at least one plated coin, and these are just the identified counterfeit coins.

The above evidence speaks volumes for the prevalence and pervasiveness of plated counterfeit coins in the archaic and classical Greek world. The tendency for some to plate smaller fractional coins for local use and others to counterfeit larger denominations for international use shows that counterfeiting was certainly profitable enough for many to attempt. Should the flan hoards from Olynthus prove to be true counterfeiter's hoards, then one could only guess at the number of "counterfeiting operations" in larger cities such as Corinth or Athens. It is no doubt that the Greek literary world drew so heavily on this phenomena, nor that many cities had to erect decrees and laws specifically detailing what was acceptable or how to handle counterfeiters and counterfeits. The Greek world certainly did have to contend with this profitable problem as a counterfeiter could more than quadruple his money's value. However, the prevalence does not seem to indicate a completely large scale disaster, but a problem which could cause personal financial crises and certainly an inconvenience to cities or individuals accepting large payments. Most Greeks were conscious of this problem, the detection and removal of many of these counterfeits indicates their awareness and knowledge of plated counterfeit coins.

APPENDIX A: Nikophon's Law of 375/4 B.C.E.

ἔδοξε τοῖς νομοθέταις, ἐπὶ Ἴππο[δάμοντος]
ἄρχοντος: Νικοφῶν εἶπεν·
τὸ ἀργύριον δέχεσθαι τὸ Ἀττικὸν οἱ [...9...τ]–
αι ἀργυρῶν καὶ ἔχη τὸν δημόσιον χα[ρακτῆρα. ὁ δὲ]
5 δοκιμαστὴς ὁ δημόσιος καθήμενος με[ταξὺ τῶν τρ]–
απεζῶν δοκιμαζέτω κατὰ ταῦτα ὅσαι ἢ[[μέραι πλήν]
ὅταν ἢ[ι] χρημάτων καταβολή, τότε δὲ ἐν τῷ βουλευτ]–
ηρίῳ. ἐὰν δὲ τις προσενέγκῃ ξ[.]ν[.....12.....]
ἔχον τὸν αὐτὸν χαρακτῆρα τῷ Ἀττικῶ[ι] ε[.7..]
10 ἀποδιδόντω τῷ προσενεγκόντι. ἐὰν δὲ ὑπ[όχραλλον]
ἢ ὑπομόλυβδον ἢ κίβδηλον, διακοπτέτω πα[.6..]–
α καὶ ἔστω ἱερὸν τῆς Μητρὸς [τ]ῶν θεῶν καὶ κ[αταβαλ]–
λέτω ἐς τὴν βολήν. ἐὰν δὲ μὴ καθῆ[ται] ὁ δοκι[μαστής]
ἢ μὴ δοκιμάζῃ κατὰ τὸν νόμον, τυπ[τ]όντων [αὐτὸν ο]–
15 ἰ τὸ δῆμον συλλογῆς πενήκοντα πληγὰς τ[ῆ] μᾶστι]–
γι. ἐὰν δὲ τις μὴ δέχεται τὸ ἀ[ρ]γ[ύριον] ὅ τ[ι] ἂν ὁ δοκι]–
μαστής δοκιμάσῃ, στερέσθω ὧν ἂμ [π]ωλητ[αὶ] ἐκεῖν]–
η τῆ ἡμέραι. φαίνεται δὲ τὰ μὲν ἐν [τ]ῷ σί[τῳ] πρὸς]
τὸς σιτοφύλακας, τὰ δὲ ἐν τῆ ἄγορᾷ κ[α]ἰ [ἐν τῷ ἄλ]–
20 λωι ἄσται πρὸς τοὺς τὸ δῆμον συλλογέ[ας], τὰ [δὲ ἐν τῷ]–
ἰ ἐμπορίῳ καὶ τῷ Πει[ρ]αιεῖ πρὸς τοὺς ἐπιμελητ]–
ὰς τοῦ ἐμπορίου πλὴν τὰ ἐν τῷ σίτῳ, τὰ δὲ [ἐν τῷ σί]–
τῳ πρὸς τοὺς σιτοφύλακας. τῶν δὲ φανθέ[ντων, ὅπό]–
σα μὲν ἂν ἦ ἐντὸς δέκα δρακμῶν, κύριοι ὄ[ντων οἱ ἄ]–
25 ρχοντες διαγιγνώσκουσιν, τὰ δὲ ὑπὲρ [δ]έ[κ]α [δραχμᾶς],
ἐσαγόντων ἐς τὸ δικαστήριον. οἱ δὲ θε[σ]μ[ο]θετ[αὶ] π]–
αρεχόντων αὐτοῖς ἐπικληρόντες δικα[στήριον] ὄ]–
ταμα παραγγέλλουσιν ἢ εὐθυνέσθω[ν.] δραχ[μαῖς]. τῷ
δὲ φήναι μετέστω τὸ ἥμισυ, ἐ[ὰ]ν ἔλη ο[...8...]
30 ἐὰν δὲ δόλος ἦ ὁ πωλῶν ἢ δόλη, ὑπ<α>ρχέτω μ[ὲν αὐτῷ]
τύπτεσθαι πλὴν τῆ μᾶστιγι ὑπὸ [τῶν ἀρχόντων]–
ν οἷς ἕκαστα προστέτακται. ἐὰν δὲ τις [τῶν] ἀ[ρχόντ]–
ων μὴ ποιῇ κατὰ τὰ γεγραμμένα, εἰσαγ[αγέτω αὐτὸ]–
ν ἐς τὴν βολήν Ἀθηναίων ὁ βολόμενος οἷς [ἔξεστιν].
35 ἐὰν δὲ ἄλῳ, ὑπαρχέτω μὲν αὐτῷ πεπαῦσθ[αι ἄρχον]–
τι καὶ προστιμάτω αὐτῷ[ι] ἢ βολῆ μέχρι [δραχμῶν. ὅ]–
πως δ' ἂν ἦ καὶ ἐμ Πειραιεῖ δοκιμαστής [τοῖς ναυκ]–
λήροις καὶ τοῖς ἐμπόροις καὶ τοῖς ἄλλο[ις] πᾶσιν],
καταστησάτω ἢ βολῆ ἐκ τῶν δημοσίων ἐὰ[ν ...7...]
40 ἢ ἐσπιάσθω, τὴν δὲ τιμὴν οἱ ἀποδέκται [μεριζόντ]–
ων. οἱ δὲ ἐπιμεληταὶ τοῦ ἐμπορίου ἐπιμελέ[σ]θω[ν ὅπ]–
ως ἄγ καθῆται πρὸς τῆ στήλῃ τοῦ Ποσειδῶνος[ος κα]–
ἰ χρήσθων τῷ νόμῳ καθάπερ περὶ τὸ ἐν ἄστ[ει] δοκ]–
ιμαστὸ εἴρηται κατὰ ταῦτά. ἀναγράψαι δὲ ἐν σ[τήλ]–
45 ηι λιθίνῃ τὸν νόμον τόνδε καὶ καταθεῖναι ἐν [ἄσ]–
τει μὲμ μεταξὺ τῶν τραπεζῶν, ἐμ Πειραιεῖ δὲ πρό[σ]–

50 θεν τῆς στήλης τοῦ Ποσει[δ]ῶνος. ὁ δὲ γραμματε[ὺ]ς [ὁ]
 τῆς βολῆς παραγγειλάτω μίσθωμα τοῖς πωλ[ηταις].
 οἱ δὲ πωληταὶ ἐσενεγκόντων ἐς τὴν βολήν. τ[ὴν δὲ μ]–
 55 ισθοφορίαν εἶναι τῷ δοκιμαστῇ τῷ ἐν τῷ [ἐμπ]–
 ορίῳ ἐπὶ μὲν Ἴπποδάμαντος ἄρχοντος ἀφ’ οὗ [ἂν κα]–
 τασταθῆι, μεριζόντων οἱ <ἀ>ποδέκται ὅσομπερ τ[ῶι]
 ἐν ἄστει δοκιμαστῇ, ἐς δὲ τὸν λοιπὸν χροό[ον ἔνα]–
 55 ι αὐτῷ τὴν μισθοφορίαν ὄθεμπερ τοῖς ἀργυ[ροκό]–
 ποις. εἰ δὲ τι ψήφισμα γέγραπται πο ἐστήληι πα[ρὰ τ]–
 ὄνδε τὸν νόμον, καθελέτω ὁ γραμματεὺς τῆς βολ[ῆς].

Translation

Resolved by the Nomothetai, in the archonship of Hippodamas; Nikophon made the proposal: Attic silver currency is to be accepted when [it is shown to be] silver and bears the official die. Let the public Tester, who sits among [the] tables, test in accordance with these provisions every [day except] whenever there is a cash payment; at that time let him test in [the Bouleuterion.] If anyone brings forward [foreign silver currency] which has the same device as the Attic, [if it is good,] let the Tester give it back to the one who brought it forward; but if it is [bronze at the core,] or lead at the core, or counterfeit, let him cut it across [immediately] and let it be sacred to the Mother of the Gods and let him [deposit] it with the Boule.

(Line 13) If the Tester does not sit at his post or if he does not test according to the law, let the Syllogeis tou demou beat [him] fifty lashes with the [whip]. If anyone does not accept whatever silver currency the Tester has approved, let everything the he offers for sale on [that] day be confiscated. Let denunciations for offences in the grain-market be laid [before] the Sitophylakes, for those in the agora and in [the rest] of the city before the Syllobeis tou demou; those [in the] market and in Peiraieus before the [Epimeletai] of the market, except for offences in the grain-market; offences [in the] grains market are to be laid before the Sitophylakes. For [all those] denunciations which are up to ten drachmai the magistrates [are to be] competent to give a verdict; for those over ten [drachmai] let them bring them into the law court and let the Thesmothetai assist them by allotting a court whenever they request one or let them be subject to a fine of [?] drachmai. Let [the one who] makes the denunciation receive a share of one-half, if he wins a conviction [---]. If the seller is a slave or a slave woman let [him] be beaten fifty lashes with the whip by [the magistrates] to whom the various denunciations have been assigned. If anyone of the magistrates does not act in accordance with the written instructions, let anyone of the Athenians who wishes, and to whom [it is permitted], bring [him] before the Boule. And if he is convicted, let him cease serving [as a magistrate] and let the Boule fine him up to [five hundred drachmai].

(Line 37) In order that there may also be a Tester in Peiraieus for [the] shipowners and the merchants and [all] the others, let the Boule appoint one from among the public slaves [---] or let it purchase one. Let the Apodektai [allot] the price and let the Epimeletai of the market see to it that he sits at the stele of Poseidon and let them apply the law in the same way as has been stated in the case of the Tester in the city.

(Line 44) Inscribe this law on a stone stele and place one in the city among the tables, another in Peiraieus in front of the stele of Poseidon. Let the Secretary of the Boule report the price to the Poletai and let the Poletai introduce it into the Boule. Let the payment of the salary for the Tester in the market begin from the time he is appointed in the archonship of

Hippodamas. Let the Apodektai allot the same amount as for the Tester in the city. For the future let his salary come from the same source as for the mint workers.

(Line 55) If there is any decree recorded anywhere on a stele contrary to this present law, let the Secretary of the Boule tear it down.²⁴⁰

²⁴⁰ Stroud 1974, 157-60 for text and translation.

APPENDIX B: Figures and Tables



(Figure 1) Lydia, Asia Minor early 6th century B.C.E. *fourrée* electrum trite (3.41g) The diagnostics of this ancient fake are its low weight and the exposed silver interior. The electrum plating has worn off in some areas, leaving the silver interior exposed at the high points of the obverse and reverse. The impressed areas wound up with thinner plating, which caused the interior silver to be also exposed at the incuse square and countermarks. The dark areas show uncleaned darkly toned silver. Goldsborough (2007), <http://rg.ancients.info/lion/article.html>). The weight standard for this denomination is c. 4.7gms and when this counterfeit was first produced, the weight variation may or may not have been detectable by hand. The presence of countermarks on Lydian and later coinage is highly debated, but at this early stage likely indicate ownership.

Table 1

Zusammenstellung und Vergleich						
Zeit v. Chr.	Phokaia			Mytilene		
	erfaßt St.	plattiert St.	%	erfaßt St.	plattiert St.	%
600–478	351	8	2,3	426	9	2.1
478–406	131	2	1,5	425	2	0,5
406–326	484	2	0,4	1048	12	1,15
	966	12	1,24	1899	23	1,21

Table 2*Phokaia**Nachweislich plattiert:**Vermutlich plattiert / zu goldarm:*

Em.Nr.	Katalog Nr.	Gewicht	Zeit um	Em.Nr.	Katalog Nr.	Gewicht	Zeit um
				2.2	3	2,09 g	570
15	2	2,08 g	540-530				
21	3	2,273 g	535				
22.1	3	2,082 g	533				
30	11	2,23 g	518				
36	4	1,99 g	506				
				37	4	2,14 g	504
				40	2	2,13 g	498
				52	4	2,01 g	474
				67	2	2,529 g	448
					<u>5 Stück</u>		
95	1	2,60 g	388				
101	13	2,356 g	330				
	<u>7 Stück</u>						

Table 3*Mytilene*

				7	11	2,22 g	509
8	1	2,248 g	507				
13	85	1,99 g	497	13	10	2,37 g	497
13	124	1,79 g	497	13	123	2,214 g	497
15	36	1,95 g	493				
16	20	1,89 g	491	16	22	2,16 g	491
41	29	2,44 g	446				
				65	4	2,29 g	406
				72	4	2,476 g	392
				79	11	2,284 g	378
				81	36	2,33 g	374
				83	34	2,30 g	370
				88	17	2,24 g	360
90	28	2,48 g	356				
91	74	2,326 g	354				
				95	18	2,134 g	346
96	36	2,06 g	344				
				100 B	94	2,38 g	336
				100 B	95	2,35 g	
				100 B	96	2,11 g	
					<u>14 Stück</u>		
	<u>9 Stück</u>						

(Tables 1-3) These three tables come directly from Bodenstedt 1981, 32-3. The first table represents the number of proven counterfeits, both plated and debased, per time period. The second and third tables represent a closer breakdown by city and issue. The left column list the pieces which are proven to be plated and the right column indicates pieces of either low weight, and possibly plated, or pieces too poor in gold/debased. Two patterns one should note is that all of the plated or suspect pieces which Bodenstedt identifies are $\frac{1}{6}$ staters, and there are almost no counterfeit pieces for the last half of the 5th century B.C.E. Hektes still represent a sizable denomination, but they are small enough that any weight disparity from the core could not be easily recognized. Notice that some of the plated pieces still retain enough plating to reach close to the weight standard of c. 2.55 gms. Without careful scrutiny some of these pieces may have circulated for some time before detection.



(Figure 2) Lesbos, Mytilene. c. 485 B.C.E. *fourrée* EL hekte (2.04g). Bodenstedt Em. 19 (dies unlisted). Emigh (2007) <http://www.emigh.org/numis/fourree/fourree5.html>. This is a *fourrée* piece corresponding with Bodenstedt's work, but not listed by him in his charts. Pieces such as this have made it into the market complicating the study of counterfeit coinage.



(Figure 3) Ionia, Phokaia. Late 6th Century B.C.E. *fourrée* AR trihemiobol (1.00g). SNG Turkey 526; Rosen 596var. Emigh (2007) <http://www.emigh.org/numis/fourree/fourree5.html>. This represent one of two trihemiobols in Emigh's collection. These silver fractions, I believe, were produced locally for local consumption as fractional coins would likely not have nearly as much value outside of the coin producer's territory. These coins may or may not have had some connection with counterfeit electrum pieces. The electrum counterfeits would have more value outside the issuer's territory, but were still probably meant more for local use than use abroad.



(Figure 4) Mysia, Kyzikos. 500-475 B.C.E. *fourrée* EL hekte (1.96g). Von Fritze 85; Boston MFA 1452; Rosen 462; Dewing 2167. Emigh (2007) <http://www.emigh.org/numis/fourree/fourree5.html>. While Cyzician staters were also counterfeited, I have not come across a good picture. This particular coin falls well under the weight standard, but not all such counterfeit did. This picture shows a very typical place for the plating to crack and expose the interior: the raised reliefs on the obverse and wear on the edges of the coin.



(Figure 5) Mysia, Kyzikos. 510-475 B.C.E. *fourrée* AR trihemionbol (0.94g). SNG Keckman 148-149. Emigh (2007) <http://www.emigh.org/numis/fourree/fourree5.html>. This counterfeit trihemionbol must have been for local use. There were money-changers available for consumers to change larger coins into the local fractionals, so traveling long distances with these small denominations is much less likely. It probably was a local creation modeled on an official trihemionbol. Aaron Emigh also has an example of a genuine obol of similar type from c. 510-475 B.C.E. It may be that this or a similar piece provided the prototype for this counterfeit.



(Figure 6) Athens 4th century B.C.E. *fourrée* tetradrachm. Smith (1997) <http://dougsmith.ancients.info/fourreeg.html>. This *fourré* Athenian tetradrachm is likely from the 4th century B.C.E. as Athena's eye is in profile. This is a cast fake as it shows the typical signs of this counterfeiting technique. The surface bubbles and loss of sharpness would be immediate indicators while mold lines would have been filed down in antiquity. The surface bubbles would not have appeared right away and the loss of sharpness could be explained away by the counterfeiter as wear and tear. This coin weighs 12.6 grams as is. What would add legitimacy to a lighter weight is the test cut on Athena's neck. This test cut was on the original and reproduced on the cast. When the counterfeit was made, it already had a test cut in it "proving" it had already passed a previous test. Doug Smith has communicated to me that he has another similar Athenian tetradrachm weighing 13 grams.

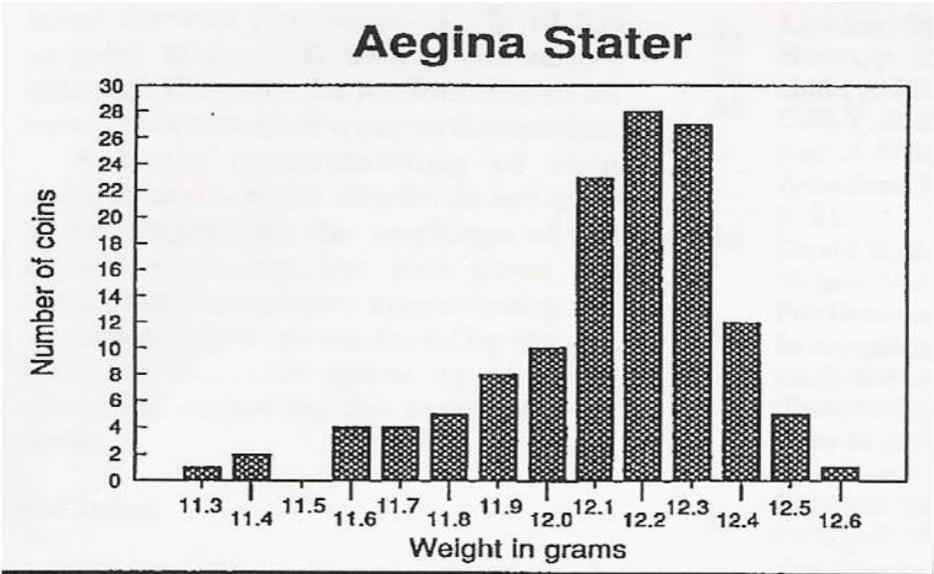


(Figure 7) Aegina c. 510-480 B.C.E. bronze core. Jones 1979, 118 coin 11. Comparable to Holloway Classes 16 and 17 c. 510-480. This specimen weighs 9.47 grams with no silver plating still remaining. There is one unidentified countermark on the high relief of the turtle shell and a theta countermark on the edge of the coin. The provenance is unknown as this coin was acquired from a dealer. It is undetermined as to how long this coin remained in circulation after its creation. It is possible that the counterfeiter deliberately put one or both of these countermarks on the coin himself as there are examples of counterfeiters going to extreme measures to create an acceptable coin.



(Figure 8) Aegina c. 510-490 B.C.E. bronze core. Kroll 1993, 167 coin 659 (ΞΞ-4). Found in the Athenian Agora excavations, Kroll dates this Aiginetan stater to c. 510-490. This specimen weighs 7.03 grams and has no silver plating still remaining. Kroll notes that the counterfeiter carved two chisel cuts into the core before plating to better deceive the recipient. The above Athenian cast coin reproduced the test cut from the mold whereas this was done by hand before plating. This clearly represents a though out and well planned process. This is an excellent example of attempting to pass off a counterfeit outside of the area of issue. It may be that a local Athenian was counterfeiting Aiginetan coinage or that an Aiginetan was counterfeiting his own coinage for use abroad.

Table 4



(Table 4) Daehn 1991, 32. This chart shows the weight standard for Aiginetan staters, 12.2 grams, and the generally acceptable weight range of + or - .3 grams. When a coin was too heavy or too light, it drew greater suspicion. Since counterfeit coins often weighed less than the standard they would be somewhat easier to detect. However, worn coins also weighed less, and if a counterfeiter created a coin which not only appeared worn, but also had test cuts on it, it would then appear more legitimate. Also, using a smaller core would reduce risk of detection as well as allow the coin to reach a more realistic weight, as may be the case with some Aiginetan coins that are suspiciously low in weight and have a greenish hue.



(Figure 9) Corinth. 400-350 B.C.E. *fourrée* AR stater (7.98g). This coin's plating has worn off in the most typical spots: the high relief and far edges. When freshly minted it would likely have been over 8 grams and a rather convincing counterfeit. Unlike the archaic example above, this indicates that at least one counterfeiter could reach acceptable appearance and weight standard when reproducing Corinthian staters.



(Figure 10) Athens, Attica. c. 430 B.C.E. *fourrée* tetradrachm. Smith (1997) <http://dougsmith.ancients.info/feac36owl.html>. - 23 X 27 mm diameter, 16.5g. Plated version similar to style of Svoronos, *Corpus of the Ancient Coins of Athens*, Plate 11. This coin is slightly over the typical size to compensate for weight. While this example does not reach the exact weight standard, many Athenian tetradrachms were underweight and the acceptable range was likely 17.2 – 16 grams. An examination of contemporary coins from the Agora verifies this. The presence of numerous test cuts on coins of proper weight suggests that counterfeiters could reach the weight range with their false pieces.



(Figure 11) Athens, Attica. 4th century B.C.E. *fouillée* tetradrachm. Kroll 1993, coin 16p (E-1365). This coin's defacement gash is identical to coin 16o (E-2420). These coins were found in front of the Metroon most likely in fulfillment of Nikophon's law of 375/4 B.C.E.

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BIOGRAPHICAL SKETCH

Robert Conn IV was born in Michigan and grew up in the Ann Arbor area, graduating from Saline High School in 2000. He then attended Harding University where he participated in a study abroad program in Greece. In Greece, his love of ancient history turned to a desire to practice archaeology. He graduated in 2005 with a Bachelor of Arts in History and was able to attend an excavation in Tel Beth-Shemesh Israel.

Robert began his graduate work in 2005 at the Florida State University, pursuing a M.A. degree in Classical Archaeology. His research focuses on the archaic and classical Greek world and the western colonization movement. He also excavated at Carsulae, Italy, in 2006, as a square supervisor. In his time at FSU he has also served as a Graduate Instructor for undergraduate courses in Greek and Latin Elements of the English Language and Classical Mythology.