The Lydian Lion

Lydian electrum trite *(4.71g, 13x10x4 mm). This coin type, made of a gold and silver alloy, was in all likelihood the world's first, minted by King Alyattes in Sardis, Lydia, Asia Minor (present-day Turkey), c. 610-600 BC. It can be attributed as Weidauer 59-75 (Type 15), Mitchiner 9-11 (Group C), SNG München Plate 1, 2, SNG Lockett 2976, Rosen 653, Babelon Traité 4, and BMC Lydia 2.*

Lions have been considered kings of the jungle, and symbols of kingly authority, from time immemorial. One of the most fascinating coins of all time, a coin that I believe is the first true coin, features one the most fascinating lions ever to appear on a coin.

The coin illustrated above is a Lydian third stater, or trite,[1]minted sometime around 600 BC in Lydia, Asia Minor (current-day Turkey), a country in close geographic and cultural proximity to the Greek colonies in Asia Minor.

These coins are pricey (typically costing in the $1,000 to $2,000 range), and though scarce are not especially rare,[2]just in significant demand because of their history, the evocativeness of their design, their metallurgic characteristics, and their mystery. Other coins may vie for the title of the world's first coin, also from Lydia, nearby in Ionia, in the Middle East, and across the world in India and China, though none do so as persuasively.[3] The Lydian Lion is the one coin I'd personally call "The Coin." It directly preceded ancient Greek coinage, which through Rome

begot all Western coinage, and which through the Seleukids, Parthians, and Sassanians begot all Islamic coinage. Indian coinage has largely been a product of Greek, Roman, and Islamic influences.[4]Chinese coinage, though it probably developed independently, was succeeded by Western-style coinage in the late nineteenth century.[5]Other countries in Asia, in Africa, and elsewhere have adopted the Western approach to coinage as well. It's not chauvinistic, and it's only mildly hyperbolic, to suggest that virtually all coinage in use today is the progeny of the Lydian Lion, that it's the Adam of coins.[6]

With certain matters relating to the first coinage, suggestions and speculation, deduction and theorizing are necessities because of the paucity of written, archeological, hoard, find spot, and die-study evidence. What we don't know about this coin and other early coins is at least as great as what we do know, and with what we think we know, there's can be much disagreement and debate. Still, the totality of the evidence that exists points to certain conclusions that can be beneficial in understanding the origin of coinage as well as, for coin collectors, in appreciating our collections.

Among what we know with confidence is that the Lydian Lion trite was the most common Lydian denomination of its time[7]and that it's made of electrum, an alloy of gold and silver called "white gold" in ancient times.[8]

The Lydian Lion trite may have been worth about a month's subsistence, according to Ian Carradice and Martin Jessop Price.[9]R.M. Cook placed a higher value on it, suggesting it may have had the buying power of about eleven sheep.[10]Similarly, Richard Seaford felt it could buy about ten goats.[11]But as an indication of how unsettled certain matters involving these coins are, Michael Mitchiner placed a much lower value on it, believing it to be worth approximately one sheep or three jars of wine.[12]

Aesthetically, the Lydian Lion is pleasing.[13]It has a captivating archaic style, with the design consisting primarily of simple geometric shapes. The composition is both balanced and dynamic. The hatch marks of the lion's mane divide the coin roughly in half, diagonally. Most of the visual "action" -- the roaring mouth with teeth bared, the fierce triangle-shaped eye, and the mysterious starburst (often described as a nose wart) -- takes place to the right.

The lion head is sometimes referred to as a lion protome, with "protome" an archeological term meaning decorative motif in the form of an animal or human head. The lion's mane and sunburst

vary in style between earlier and later versions of the coin. As with most Lydian Lion specimens, the lion on the coin pictured above faces right; with rare varieties, it faces left. Other rare varieties feature an inscription or part of one on the obverse, in some cases with part of another lion head confronting the first lion head.

Like most of the earliest coins, instead of a design, the Lydian Lion features on the reverse an incuse punch created during the minting process, from the hammer used to force the blank planchet into the anvil die. With the trite, the punch consists of two squares that are joined or separate. The punch on smaller denominations consists of a single square.

The specimen pictured above weighs 4.71 grams, has a diameter of 13mm at its widest, and at 4mm, is thick as a nugget. It likely consists of about 54 percent gold, 46 percent silver, 2 percent copper, and trace amounts of iron and lead, based upon analyses of these coins by a number of different researchers. It can be attributed, among other ways, as Weidauer Type 15 and Mitchiner Group C.

What we also don't know with certainty about these coins is why they were minted and what exactly the obverse design means, though there's been no shortage of proposed answers. The dating of these coins has also been widely debated. Because of the significance of Lydian Lions, many numismatists have researched and studied these and related questions, but there's still much room for further research and clarity.

***Obsidian**, a type of volcanic glass or hardened lava, is one of many materials that were used as money before coins and afterward.*

The First Coin

The most fundamental debate involving these coins is whether the Lydian Lion is in fact the world's first true coin. Much here depends on what definition you use for "coin." I'm using a commonly held numismatic definition of what a coin is, which is spelled out well in Webster, Second Edition: "A piece of metal (or, rarely, of some other material) certified by a mark or marks upon it to be of a definite exchange value and issued by governmental authority to be used as money." Key here are "mark or marks" and "certified ... by government authority."

Other electrum pieces without a pictorial design but instead with an empty field, pellets, striations, parallel lines, or crisscrossing lines across their obverse were minted at about the same times as Lydian Lions.[14]Colin M. Kraay,[15]E.S.G. Robinson,[16]Charles Seltman,[17]and others have argued that these aren't true coins, only precoins, because they lack an essential feature of coins -- a "type," or mark, of a recognized issuing authority, which in the case of these coins is a roaring lion.[18]

Though some numismatists have identified these typeless precoins as transitional pieces leading to the Lydian coins (striated pieces with nascent types within the striations, in turn, were transitional pieces between the nontyped and fully typed), Mitchiner persuasively argued that they were Ionian Greek and led to typed Ionian Greek coins, and that chronologically they followed the Lydian coins.[19]There's no reason that fully typed coins couldn't have been the first coins. Stone and clay seals with pictorial designs predated coins, and some scholars have argued, persuasively, that the idea of stamping coins with designs developed from the use of seals to designate ownership or authority.[20]

Money in the form of ingots, rings, coils, and other pieces of precious-metal bullion, typically silver, emerged as civilization was emerging in Mesopotamia and Egypt,[21]though unlike coins these had no mark of authority. Some adhered to a weight standard and had a fixed exchange value, some didn't. The typeless western Anatolian electrum precoins are more akin to these bullion pieces than they are to coins.

Numerous other items have performed one or more of the roles of money -- store of wealth, medium of exchange, and standard of value -- before and after Lydian Lions. These items include but aren't limited to seashells, beads, obsidian (volcanic glass), disk-shaped stones, bamboo, grain, salt, tobacco, cigarettes, liquor, tea,

cocoa beans, honey, butter, dried fish, spears, swords, arrows and arrowheads, axes and axeheads, knives, guns, bullets, empty bullet cartridges, hoes, spades, nails, plastic, paper, animal skins, cloth, clothing, blankets, gemstones, jewelry, feathers, whale teeth, shark teeth, ivory, bone, cattle, camels, slaves, and wives.[22]

The Lydian trite is by far the most common Lydian electrum denomination. Though it's called a trite, or third of a stater, the stater as a denomination likely came into existence later and may not even be Lydian. An electrum stater with a roaring lion facing right and an elaborate reverse incuse exists, though it's rare, with only two specimens believed to be extant.[23]Mitchiner persuasively argued that this coin was more likely a later issue of Miletos. There is in fact nothing Lydian about the elaborate reverse incuse, while there's everything Milesian. Laura Breglia argued that the trite *was* the stater, or standard, of the earliest coins.[24]

If relatively little is known conclusively about Lydian Lions, even less is known about the numerous other early electrum coins that were likely issued at about the same time or somewhat later, about 300 types in all, according to Stefan Karwiese.[25]Some are tentatively attributed to states in nearby Ionia, including Miletos, Ephesos, and Phokaia; some may have been issued in Lydia. Many, perhaps most, of these other types may have been issued privately, perhaps by employers, merchants, noblemen, or bankers[26](some numismatists have disputed the likelihood of their being private issues).[27]

What is clear is that none was issued in anywhere near the same quantity as Lydian Lions. According to Karwiese, in an impressive exercise in inventory, Lydian electrum coins featuring a lion's head comprised 21.2 percent of the 2,057 early electrum pieces known to him from published hoards and auction and sales catalogs, while Lydian electrum fractions featuring a lion's paw comprised 4.6 percent, for a total of 25.7 percent for Lydian Lion electrum coins. The next largest group of early electrum pieces were typeless precoins, at 10.8 percent. Coins with a swastika pattern comprised 8.8 percent. The remaining 54.7 percent were spread out over the 300 or so other early electrum types.[28]

None of the other early electrum coins, I'd therefore maintain, has the same grounds for claiming to be official government issues as Lydian Lions. Though a small emission in itself doesn't rule out the possibility of any of these other coins being issued by a ruling authority first, it doesn't argue for it either. I'd argue that the rare

early electrum coins of other types were more likely issued privately, by merchants, and are thus more akin to tokens than true coins.

Given the absence of definitive evidence that clearly identifies the "first coin," one option you're left with is what Kagan described as "the feeling of numismatists."[29]The weight of what evidence we do have, even though not conclusive, points to Lydia as the source of the first coins, which many numismatists today believe[30]and which the ancients may have believed as well,[31]and to Lydian Lions as being the first coin. The emperor could well be without clothes, but until another coin comes along that can credibly claim the crown and royal garb of first coin, the Lydian Lion rules, to my eyes.

Map of the Aegean world *c. 800-600 BC, at the time Lydian Lions were minted. The areas in pink, including Athens, were controlled by the Ionian Greeks. The areas in orange, including Sparta, were controlled by the Dorian Greeks. The areas in yellow were controlled by other Greeks. The areas in light green, including Lydia, Thrace, and Macedonia, were controlled by non-Greeks, though the Macedonians were closely related to the Greeks and moving toward integration with Greece and the Lydians, with their capital of Sardis, were in close contact with the Ionian Greeks.*

Lydia

If the Lydians were the first to strike coins, why them, an interesting people but a people not particularly celebrated in history, a people assimilated long ago?[32]This is another question, like many involving ancient coins for which there's a scarcity of hard evidence, that requires you to resort to deduction to answer. The result may not be conclusive, but it can be persuasive, and though it's only tentative, it can still be satisfying. The answer in this case, I believe, has to do with the Lydians' prosperity.

First, the Lydians commanded the electrum-rich Paktolos (Pactolus) River. According to Greek mythology, the Paktolos River acquired its electrum when King Midas of nearby Phrygia bathed in it to wash away his golden touch, which had turned even his food into gold, a telling parable about the destructiveness of wealth. In actuality, The Paktolos River acquired its electrum from electrum-laden quartz deposits near Mount Tmolos (called Mount Bozdag today). The Lydians, as did others elsewhere, probably sifted the silt, sand, and gravel of the Paktolos River as well as the Hermos River and other waterways with sheepskins, a practice in the ancient world that likely gave rise to the legend of the Golden Fleece.[33]Small quantities of electrum can still be recovered today from the Paktolos River and nearby streams.[34]

Second, the Lydians were well positioned at the juncture of trade routes between the Near East and Europe. As the 19th century German historian Ernst R. Curtius wrote, "The Lydians became on land what the Phoenicians were by sea, the mediators between Hellas and Asia."[35]Lydians have also been described as the inheritors of the knowledge and traditions of the earliest civilizations of Mesopotamia and the main conduit for their passage into the Mediterranean world.[36]This knowledge, according to George M.A. Hanfmann, included the concept of a state-guaranteed currency, the exact system of "Babylonian" weights, and probably the technology of processing gold. The Lydians profited, according to Mitchiner, by taking metals from the Babylonians, Assyrians, and Medians and passing them on to the Ionian Greeks.[37]

Third, Lydians were both commercial and savvy. In the fifth century BC, the Greek historian Herodotos (Herodotus), albeit exaggerating, wrote that the Lydians were the first merchants *(kapelois)*.[38]Some scholars today believe that the Lydians

created the world's first free market.[39]Hanfmann wrote that Lydia was "the first and prototypical example of the process of transition from an agricultural barter economy to an early commercial monetary urban economy."[40]It's clear that the Lydians knew ... money. The expression "rich as Croesus" came about because of the success this Lydian king had in amassing wealth.[41]His father, Alyattes, was enormously wealthy as well.[42]The Lydians were also a literate people, with literacy spread throughout society instead of being limited primarily to the elite, as with the Greeks but unlike with most peoples throughout history.[43]
Even though coinage doesn't appear to have initially served commerce or trade, it's likely that the Lydians created coins as we know them because they were the first to recognize their profit-making potential, as will be shown below. It would still be possible of course for later governments to earn seigniorage profits by issuing coins in pure gold and silver, just not as easy.[44]

***Electrum** , as found in nature. Electrum can be a naturally occurring alloy of gold and silver, or it can be a manmade alloy, as in the case of Lydian Lions, in which the Lydians carefully controlled the percentages of gold and silver.*

Electrum

Perhaps the most intriguing debate deals with why the Lydians minted these early coins in electrum, an alloy of gold and silver. Many sources erroneously refer to these coins as being made of naturally occurring electrum. According to those who have done the metallurgical analyses, these coins have a higher content of both silver and copper than naturally occurring electrum from the

area. Western Anatolian electrum, then as now, has a gold content of 70 to 90 percent,[45]while these coins have a gold content of 50 to 60 percent, with most of those that have been analyzed consisting of around 54 percent gold.[46]This indicates that the Lydians added these metals to electrum. Silver was less expensive, as was copper, and it was likely that the small amount of copper that was added was done so to improve the coins' color and hardness. Though some scholars disagree, the evidence, though not conclusive, suggests that the Lydians already possessed the technology to refine pure gold and silver and that if they wanted they could have produced pure gold coins, as they did shortly later during the rule of Kroisos (Croesus).[47]

The reason they didn't is debated. One theory, famously proposed by Sture Bolin in 1958, is that the first coins were the first numismatic deception. The Lydian ruling authorities may have deliberately and surreptitiously debased naturally occurring electrum as a profit-making enterprise, to put it politely, or as a state-sanctioned racket, to put it less politely. Bolin used the phrase "an imposture, a large-scale swindle."[48]This theory, sometimes in a slightly different rendering, has been supported by most scholars since then, including T.F. Carney,[49]Sally Herbert Frankel,[50]Hanfmann,[51]Price,[52]Andreas Fürtwangler,[53]Carradice and Price,[54]and most recently John R. Melville-Jones,[55]Robert Mundell,[56]Paul T. Keyser and David D. Clark,[57]Georges Le Rider,[58]and Koray Konuk.[59]

Fewer scholars, it seems, have argued that silver and copper were added to naturally occurring electrum for less sinister reasons, to create a more consistent alloy, including Robert W. Wallace,[60]Andrew Ramage,[61]John H. Kroll,[62]and Karwiese.[63]No logical reason exists that both purposes weren't served -- creating a consistent alloy for a consistent appearance, and earning profits. Gold could have been added to naturally occurring electrum as easily as silver. That the Lydian king earned what were undoubtedly large seigniorage profits wasn't criminal, just opportunistic.

It used to be thought that coins came into existence to facilitate commerce, preventing merchants from having to weigh bullion with each transaction. The weight of Lydian trites, in fact, is remarkably consistent, with most hovering very close to 4.7 grams.[64]But one of the things we now know about the function of the first coins with any degree of assurance is that they weren't used as coins were used later on in ancient times, and as coins are used today, that is, for everyday market transactions.

It's clear that it took some time before ancient coins were used for commerce and trade. Even the smallest-denomination electrum coins, perhaps worth about a day's subsistence, would have been too valuable for buying a loaf of bread.[65]Electrum coins have been conspicuously absent from archeological finds in the marketplace in Sardis, capital of Lydia.[66]Gold and silver bullion were likely still used for commerce in western Asia Minor, including Lydia, at the time that electrum coins were minted.[67]The first coins to be used for retailing on a large-scale basis were likely small silver fractions minted by the Ionian Greeks in the late sixth century BC.[68]

What's more, evidence shows that Lydian Lions weren't used in international trade, not showing up in substantial quantity in hoards outside of western Anatolia.[69]That role would be served later on by silver coins, whose intrinsic value could be more easily determined than electrum coins, beginning en masse with Athenian Owls and to a lesser extent with the coins of Aegina, Corinth, and the Thraco-Macedonian tribes.[70]The uncertain intrinsic value of electrum was the primary reason it was largely superseded as a numismatic metal by silver and to a lesser extent until the time of Alexander the Great by gold. (Electrum was also used in Asia Minor for the coinage of Ephesos, Miletos, Phokaia, Smyrna, Chios, Kyzikos/Cyzicus, Halikarnassos, Lampsakos, and Mytilene and elsewhere for the coinage of Carthage, Syracuse, the Celts, the Thraco-Macedonian tribes, the Kushans, and Bosporos.)

Instead of commerce and trade, these earliest coins were in all likelihood used for other purposes. What follows is a suggested scenario: Bullion had long been used as money. The Lydian king, Alyattes, a crafty and powerful figure who ruled for half a century, figured out that if he controlled the bullion market, or part of it, he'd further amass his wealth. So he deemed that only bullion with his mark, the roaring lion, could be used for official purposes -- the state paying state workers and mercenaries and the people paying taxes and making religious donations. Other purposes that this first coinage were soon put to likely included gifts as part of treaty ceremonies, wedding presents, and hospitality offerings. Along with typical seigniorage profits that later minting authorities would enjoy, Alyattes further enriched himself by debasing naturally occurring electrum with silver and copper. To facilitate acceptance, he carefully controlled the weight of each piece of this new type of bullion. Merchandisers and traders continued to use regular bullion until the Greeks,

clever traders that they were, took what the Lydians invented and went a step further. They figured out that silver coins, being more difficult to debase, would be more accepted in more places than electrum coins for retailing and trade while still earning them profits. Coinage, invented by the Lydians, was thus spread by the Greeks.[71]

Ancient Timeline

Pre-Man	**14 billion BP (Before Present)** Universe born in Big Bang, with most of

	250 million BP Mammals and dinosaurs emerge from reptiles
	65 million BP Dinosaurs go extinct after asteroid hits Earth and cools climate
	60 million BP Primates emerge, separating from other mammals
	5 million BP Hominids emerge in Africa, separating from other primates
Stone Age **2.6 million BP-3500 BC**	**2.6 million BP** Homo Habilis, or Handy Man, emerges in Africa, first hominid to make stone tools, first hominid clearly recognizable as us
	1.75 million BP Homo Erectus, or Upright Man, emerges from Homo Habilis in Africa, first to walk truly upright, domesticate fire, and migrate out of Africa
	250,000 BP Homo Neanderthalensis, or Neanderthal Man, emerges from Homo Erectus in Europe and Asia
	150,000 BP Homo Sapiens, or Intelligent Man, emerges from Homo Erectus in Africa, only hominid to engage in abstract thinking and symbolic behavior (mythology, art, writing, science, coinage, etc.)
	100,000 BP Homo Sapiens begins migrating out of Africa, replacing previous hominids
	75,000 BP Super volcano erupts in Indonesia at Lake Toba, reducing Homo Sapiens population to 10,000 or less, leaving only fittest surviving
	35,000 BP Homo Sapiens begins arriving in number in Europe
	28,000 BP Neanderthal man goes extinct, likely as a result of being both being killed off and outcompeted by modern man; DNA evidence suggests little or no interbreeding
	10,000 BP Agriculture emerges in Fertile Crescent, region of Middle East incorporating Mesopotamia, Levant, and Egypt (Neolithic Revolution), leading to the formation of permanent settlements; dividing line between Paleolithic (Old Stone Age) and Neolithic (New Stone Age)
Bronze Age **3500-1200 BC**	**3500 BC** Bronze invented independently in Middle East and Far East
	3300 BC Sumerians in southern Mesopotamia invent writing, using clay tablets, to keep records of commodities; Sumerians considered by many to be world's first civilization
	3200 BC Sumerians invent wheel; Uruk, in Sumer, is world's first city
	3000 BC Egyptians invent papyrus

	2800-1450 BC Minoan Greek civilization in Crete
	2700-2200 BC Egyptian Old Kingdom, period of pyramid building
	2500 BC Indo-European speaking peoples beginning arriving in Europe from Caucasus or northern Asia Minor
	2200 BC Mycenaean Greeks begin entering mainland Greece from the north, founding cities such as Mycenae, Thebes, and Athens
	1900 BC Epic of Gilgamesh, best-known of world's first literary works, written in Babylon
	1800 BC Hittites in Asia Minor invent iron, use for weaponry; iron may have been invented independently in India at about same time
	1755 BC Hammurabi, first king of Babylonian Empire, creates first code of laws
	1600-1100 BC Height of Mycenaean civilization in mainland Greece
	1500 BC Abraham of Ur in southern Mesopotamia leads Hebrews from Sumer to Canaan and then to Egypt
	1250 BC Trojan War, possibly a semilegendary fusion of several wars, pitting Mycenaean Greeks against Greeks from Troad region of Asia Minor
Iron Age **1200-800 BC**	**1200-1100 BC** Dorians (Spartans) immigrate from north into Greek mainland, ending Mycenaean civilization, Sea Peoples invade Mediterranean coasts, destroying Hittite Empire; Dorians and Sea Peoples succeed with use of iron weaponry
	1200 BC Widespread use of iron begins in Mediterranean region; Iron Age doesn't begin in Central Europe until 800 BC and Northern Europe until 600 BC
	1100 BC Writing ceases in Greece and Asia Minor, ushering in Dark Age; Greek city states ruled by kings
	1050 BC Phoenicians invent phonetic alphabet
	1100-1000 BC Ionians (Athenians) immigrate into Asia Minor
	900 BC Dorians (Spartans) immigrate into Peloponnesos, Aegean islands, and Lycia, Asia Minor
Archaic Age **800-500 BC**	**800-700 BC** Monarchies in Greece begin to be replaced by aristocratic republics
	776 BC First Olympic games

	750 BC Writing reappears in Greece; Greek colonization intensifies
	621 BC Draco institutes code of law in Athens, its first written constitution
	610 BC Lydians of Asia Minor invent coinage; shortly afterward it spreads to Greek cities in Asia Minor, then Greek islands, then Greek mainland, then rest of world
	600 BC Thales of Miletos, Ionia, Asia Minor, first philosopher in the Greek tradition and "father of science," offers naturalistic explanations of world
	550 BC First coinage minted in mainland Greece, in Athens and Corinth
	546 BC Cyrus the Great, founder of Persian Empire, conquers Lydia as well as Greek territories in Asia Minor
	509 BC Monarchy in Rome is replaced by aristocratic republic
	507 BC Kleisthenes ushers in democracy in Athens
Classical Age **500-330 BC**	**499-495 BC** Unsuccessful Ionian revolt against Persian domination of Greek Asia Minor
	490 BC First Persian invasion of Greece; Battle of Marathon
	480-479 BC Second Persian invasion of Greece; Persians defeat Spartans at Thermopylae; Persians occupy Athens; Greeks defeat Persians at Salamis
	477 BC Athens-dominated Delian League formed to unite Greece against Persians
	449 BC Peace with Persians
	443-429 BC Pericles is leader of Athens during its Golden Age
	431-404 BC Athens fights and loses Peloponnesian War to Sparta, ending its military domination of Greece
	395-340 BC Warfare among rival Greek leagues
	392 BC Rome begins conquest of Italy, sacking Etruscan city of Veii
	386 BC Plato founds The Academy in Athens, center of learning
	382 BC Celts of Gaul sack Rome
	338 BC Philip of Macedonia founds League of Corinth, ends autonomy of Greek city states

	336-323 BC Alexander the Great's reign; Alexander conquers Persian Empire and most of known world east of Greece
Hellenistic Age **330-30 BC**	**323-148 BC** Greek city states remain relatively independent; frequent warfare continues among rival leagues
	289 BC Rome issues first coinage, crude heavy cast bronze coins
	221 BC China unites for first time, under Qin (Ch'in) dynasty
	200-196 BC First Roman victories over Greece
	168 BC Rome wins Third Macedonian War
	148 BC Rome annexes Macedonia, making it Roman province, and begins stripping it of material wealth
	146 BC Romans sack Corinth, annexing Greece and ending Greek independence
	88-86 BC Athenians join revolt against Roman rule led by Mithridates the Great of Pontos, Asia Minor; Roman general Sulla sacks Athens
	64 BC Rome annexes Syria
	57 BC Caesar conquers Gaul
	31-27 BC Octavian defeats Antony and Cleopatra and annexes Egypt; end of Hellenistic Age and beginning of Roman Empire
Note: Many of the above dates are approximate and debatable; some early events are commonly accepted theories.	

Dating

The dating of Lydian Lion coins is "the most challenging question in ancient Greek numismatic scholarship," according to Nicholas Cahill and John H. Kroll.[72]I believe the coins illustrated above were minted during the reign of King Alyattes, c. 610-560 BC,[73]and that the first Lydian coinage was minted during the early part of Alyattes' reign (scholars disagree on the years of Alyattes' reign, with the date of his assuming power ranging between 619 and 609 BC and the date of his death typically being 561 or 560 BC). Alyattes was the father of Kroisos (Croesus), the Lydian king of legendary wealth who was likely the first to strike coins of pure gold and silver.[74]The

Mermnad (Mermnadae) dynasty of Lydia consisted of, in chronological order, Gyges, Ardys, Sadyattes, Alyattes, and Kroisos (Croesus).
Alyattes is infrequently referred to as Alyattes II. One auction house recently changed its attributions of these coins to Alyattes II, and a few other auction houses and dealers have since followed suit. Wikipedia uses "Alyattes II," based on the 1911 edition of *Encyclopaedia Britannica*, as does John Lempriere's 1788 *Classical Dictionary (Biblioteca Classica)*.
Using old references can shed interesting light on the state of scholarship in the past, but it can be problematic with ancient coin attributions when done in isolation. The above two references rely heavily on ancient epigraphs, which are lists of kings on clay tablets and other media. According to these lists, "Alyattes I" was an earlier king of Lydia, during the eighth century BC, and part of the Tylonid dynasty. The Tylonid dynasty allegedly consisted of Ardys I, Alyattes I, Myrsos, and Kandaules and preceded the Mermnad dynasty. The Tylonid dynasty, in turn, was allegedly preceded by the Heraklid (Sons of Herakles) dynasty, though sometimes the two dynasties are referred to as one, the Heraklid/Tylonid dynasty.
Epigraphic lists, however, are known by historians today to be generally unreliable as historical documents. For one thing, they sometimes combine kings from different regions. Livio C. Stecchini contended, for instance, that Gyges was the first Lydian king and those before him, including the earlier Alyattes, were kings of nearby Maionia, a Phrygia dependency.[75]What's more, epigraphic lists are often legendary rather than annalistic, including as they do, for instance, the mythic hero Herakles as a city's founder, so another possibility is that "Alyattes I" was a legendary rather than a historical figure. In general when consulting ancient sources, from Herodotos and Plutarch to Xanthos and Nikolaos of Damaskos, the further back in time you go, the more history recedes into legend and myth.
The ancient historians Herodotos and Strabo both refer to Kroisos' father as Alyattes and make no mention of an earlier King Alyattes of Lydia in their writings on Lydia. The same is true of modern historians, archeologists, and numismatists who have focused on Lydia, including George M.A. Hanfmann, Robert W. Wallace, Koray Konuk, and Andrew Ramage. Likewise, other newer sources such as recent editions of *Oxford Classical Dictionary* and *Encyclopaedia Britannica* don't use "Alyattes II" and make no mention of an earlier Lydian king

named Alyattes. No ancient coin attribution reference that I've found uses "Alyattes II" either.

Because of the unreliability of the epigraphy and because of the uncertainty about where "Alyattes I" reigned or whether he even existed, it makes little sense to refer to the historical Alyattes as Alyattes II in describing these coins.

My dating of the above coins to the reign of Alyattes is based on the archeological evidence uncovered in 1904 and 1905 by D.G. Hogarth and the British Museum at the Temple of Artemis at Ephesos, also called the Ephesian Artemision (which would later evolve into one of the Seven Wonders of the ancient world), on archeological work done by a team from Harvard University and Cornell University led by Hanfmann beginning in the late 1950s, on evidence uncovered there more recently by the Austrian Archaeological Institute,[76]on interpretations of the archeological evidence by various scholars, and on the timing of the subsequent spread of coinage throughout the Aegean world.

Early numismatists such as Barclay Head believed that Lydian coins were minted as early as c. 700 BC,[77]or even earlier, and some dealers today still date these coins the way they were dated a century ago, following "high chronology." But much archeological evidence has surfaced since then, and the dating of Lydian Lions has been inching forward in time, with most numismatists today arguing for later dating, or "low chronology." Kraay in 1976 wrote that the first coins were minted in "the second half of the seventh century BC,"[78]Price in 1983 "the last quarter of the seventh century [BC],"[79]G.K. Jenkins in 1990 "no earlier than in the late seventh century BC,"[80]Carradice in 1995 likely from "the late seventh to early sixth centuries BC,"[81]and Le Rider in 2001 not "before 590-580 [BC]."[82]

Often these coins are dated today by dealers c. 650 to 561 BC, which is how David R. Sear dated them in his 1979 standard *Greek Coins and Their Values*. Other times they're dated very broadly -- before c. 561 BC, this being approximately the year that Alyattes died and Kroisos assumed power. This is both overcautious and potentially misleading, suggesting the possibility that they could have been minted at any time before Kroisos.

A minority of numismatists have diverged from these dating patterns, dating them earlier[83]or later.[84]

Because of the dating uncertainty involving these coins, "one should not rely too strongly on any published dates at this point," according to Wayne G. Sayles.[85]This advice may turn out to be

wise, but it's unsatisfying. Just as there are negatives in basing a conclusion on insufficient evidence, there are negatives in failing to suggest a conclusion when evidence, even if sparse or debatable, supports it.[86]

In their attributions, Lydian Lions are often associated with "Uncertain King," which I believe is also overcautious. While it's not certain that these coins were minted by Alyattes, the body of evidence and opinion strongly suggests they were, and attributing them to Alyattes (who reigned for about half a century) strikes me as being no more rash than the putting forth of much else that has become knowledge in ancient numismatics. SNG von Aulock and SNG Kayhan got the dating right for these coins, I believe, and SNG Fitz. got the attribution to Alyattes right. SNG Tübingen, Boston MFA, and the auction houses Fritz Rudolf Künker and Hess-Divo both date and attribute these correctly, I believe, giving them to Alyattes c. 610-561 BC. With the caveats in mind, I'm dating the first coin illustrated on this page and all coins of its type to c. 610-600 BC and the second and all coins of its type to c. 600-560 BC.

First coin above: ***Lydian electrum trite, first major variety*** *(4.71g, 13x10x4 mm). This coin type, made of a gold and silver alloy, was in all likelihood the world's first, minted by King Alyattes in Sardis, Lydia, Asia Minor (present-day Turkey), c. 610-600 BC. It can be attributed as Weidauer 59-75 (Type 15), Mitchiner 9-11 (Group C), SNG München Plate 1, 2, SNG Lockett 2976, Rosen 653, Babelon Traité 4, and BMC Lydia 2. It's slightly redder in hue than the coin underneath, which likely indicates a slightly higher copper content.*

Second coin above: ***Lydian electrum trite, second major variety*** *(4.74g, 12x11x4 mm), Sardis, Lydia, Asia Minor (present-day Turkey), c. 600-560 BC. This is the second main variety of Lydian trites, later, slightly more refined, and considerably more common than the first. The sunburst above the lion's eye typically has more rays, and the hatches making up the lion's mane point downward instead of upward. It can be attributed as Sear Greek 3398, Weidauer 86-89 (Type 16), Mitchiner 14-19 (Group D), SNG Cop. 449, SNG Kayhan 1013, SNG Fitz. 4836, SNG Lockett 2977, SNG Hart 1005, SNG Berry 1135, SNG Delepierre 2787-2790, SNG Tübingen 3648, SNG von Aulock 8205, SNG München Plate 1, 1, Dewing 2421-2423, Winterthur 3672-3673, Rosen 655-656, Boston MFA 1763-1765, Babelon Traité 6, and BMC Lydia 7.*

Varieties

The first major variety of the Lydian Lion trite, Weidauer Type 15/Mitchiner Group C, is distinguished from the second major variety, Weidauer Type 16/Mitchiner Group D, in the following

way: It was more crudely designed, portrayed a different forehead knob shaped like a cross instead of a sunburst (likely a more primitively rendered sunburst), and portrayed a lion's mane with hatch marks pointing up in the shape of chevrons instead of down in the shape of Vs. Weidauer Type 15/Mitchiner Group C is believed by Kraay,[87]Jeffrey Spier,[88]Mitchiner[89], and others to be earlier -- perhaps by a decade or two. Robinson pointed out that the last coins in this series feature a lion's eye that's smaller and less triangular and a forehead knob that shrinks to a discreet pellet.[90]

The many die links of the earlier variety, Weidauer Type 15/Mitchiner Group C, indicate it was minted over a far shorter period of time than this later variety, Weidauer Type 16/Mitchiner Group D, which was minted in far greater numbers. Because these later coins show evidence of few die links, this indicates they were minted over a longer period of time.

Varieties identified as Weidauer Types 17 and 18 or Mitchiner Groups A and B are rare coins carrying an inscription and sometimes part of another lion head that confronts the first one. The truncation of the other lion head indicates that these coins were struck on a die larger than the planchet, preventing part of the design from appearing. There are no bona fide extant staters, however, showing both heads in full. If such coins existed, they existed in very small numbers. A number of attempts have been made to explain these rare truncated issues. But most likely they simply resulted from early trial issues -- early experiments -- with the dies used for them soon cut down in size to produce the more practical trites. The crude attempts at the letterforms, and the difficulty today in reading in reading them, speak to this being a failed experiment.

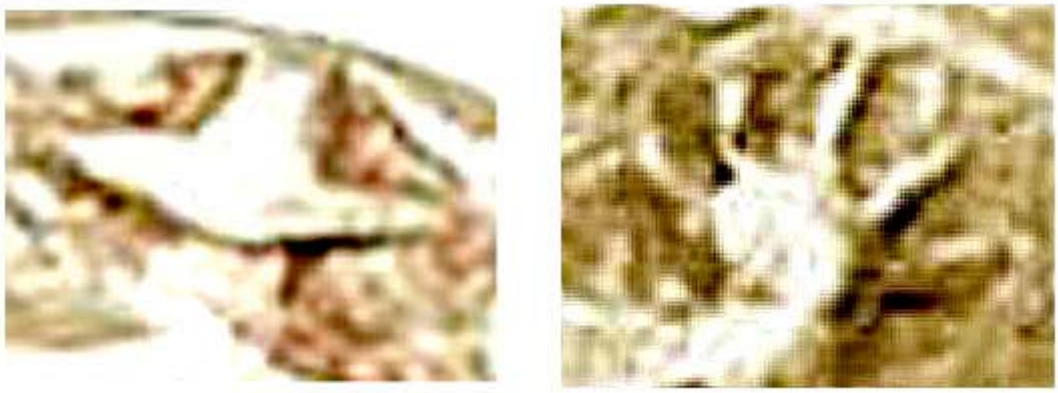
Type 17/Group B carries the inscription, depending on how it's read and transliterated, of "Walwet," "Walwel," "Welwes," "Welwet," "Valvet," "Valvel," or "Valvei," which has been variously interpreted, including Alyattes, Of the King, lion, a local governor, a mint official, a private merchant, a mint, a river, or an Anatolian deity. One Type 17/Group B variety, seldom seen, depicts the lion facing left. Weidauer Type 18/Mitchiner Group A carries the inscription "Kukas," "Kalil," "Kalim," "Rkalil," "Rkalim," "Rhas," "Kikalil," or "Kukalim," depending on how it's read, which has also been variously interpreted, including Gyges, Ardys, Sadyattes, a government official, or Alyattes' wife.

Karwiese as have others before him argued that the Type

17/Group B inscription means Alyattes, or more completely, "I am of Alyattes" (Walwet is short for Walwettes, which is the Lydian name for Alyattes), and the Type 18/Group A inscription refers to another member of the royal family, perhaps his wife, who is thought to have played an important role at the court.[91]Mitchiner agreed with the Type 17/Group B Alyattes translation but argued that Type 18/Group A was earlier, with the inscription meaning Sadyattes, who was Alyattes' predecessor. Wallace, through his examination of the reverse punches, concluded that some Type 18/Group A specimens were minted after some Type 17/Group B coins, meaning that the inscription couldn't mean Sadyattes or any other predecessor of Alyattes and instead stood for a member of Alyattes' royal family, which is in line with Karwiese's thinking. Mitchiner feels that Type 17/Group B and Type 18/Group A both precede Type 15/Group C and the more common Type 16/Group D. Wallace, more convincingly, argued that Type 15/Group C, Type 17/Group B, and Type 18/Group A were all contemporaneous and preceded Type 16/Group D.[92]

Mitchiner suggested that the inscriptions were used on the coins of Sadyattes and the first coins of Alyattes to clearly identify the issuer, with the inscriptions on later Group C and D Alyattes coins no longer needed. The 15 years he allots for Type 16/Group D, however, is likely too short to account for all the die varieties in existence. What's more, he doesn't account for why Kroisos didn't put his inscription on his first coins. Wallace argued, more credibly, that Type 17/Group B and Type 18/Group A were experiments.

Less credibly, Wallace argued that Kroisos/Croesus assumed power not in 561 or 560 BC, as is widely believed, but as early as c. 580 BC. Though he doesn't state it explicitly, this would suggest that many Lydian Lions were minted by Kroisos/Croesus. But Wallace's only justifaction is that he's "quite sure" that Herodotos made up some of his facts upon which the Kroisos/Croesus dating is based; he doesn't expound on why he's quite sure.[93]Nonetheless, at least one auction house has begun to attribute Lydian Lions to "Time of Alyattes II to Kroisos." As things currently stand, it makes little sense to redate Kroisos' and Alyattes' reigns, and the only electrum coins that can be securely attributed to Kroisos are rare transitional electrum pieces featuring Kroisos' iconography of a lion confronting a bull.



Lydian Lion trite sunburst. *Sometimes described as a nose wart, this design appears on the forehead of Lydian Lion electrum coins. Type 15 trites portray a crudely designed sunburst, shaped like a cross, with four rays. Most Type 16 Lydian Lions feature a sunburst that has five rays, like the above specimen, but the number of rays can range from three to seven.*

Sunburst

There's also much disagreement about the design device on or above the lion's forehead on these coins. It has been called, undoubtedly among other things, a nose wart, hairy knob on nose, tuft of hair on forehead, globular protuberance on nose, prominent knob, forehead knob, forehead protuberance, spiky protuberance on forehead, claw, radiate globule on forehead, rayed knob on forehead, star-shaped protuberance, radiate star, comet, sun, rising sun, and sunburst.
The most likely, and most intriguing, explanation is that it was meant as a sun symbol. Later coins minted in Lydia depicted a stand-alone sunburst or star symbol, including those of Alexander III and Philip III and cistophoric coinage. The Lydian Lion sunburst is too far above the nose to be a nose wart. On well struck and preserved specimens, the clearly delineated rays indicate that it's more than a generic bump. It can have from three to seven lines, so it was not likely meant as a claw. One possibility is that it may have been intended to be seen as the sun off in the distance behind the lion's head rather than attached to the forehead. But latter coins and earlier sculpture, using a similar device, clearly show it attached to the lion's forehead. This doesn't mean these devices can't still be sun symbols, which go all the way back to the beginnings of civilization, and before;

sunbursts and their cousins, halos, are still used as symbols of divinity. What it does mean is that the lion gains complexity. Robinson suggested that the lion-with-sunburst was an attribute or symbol of Sandon (Sandan, Sandas, Sandes, Santesh, Shamash), the Hittite/Babylonian sun, storm, or warrior god who the Greeks equated with Herakles (Hercules) and who the Lydians believed their royal house descended from.[94]Sardis (Sardes, Sardeis), the capital of Lydia, may have been named after Sandon. Hanfmann, less persuasively, argued that lions on Lydian artifacts were meant as an attribute of Kybele (Cybele, Kuvava),[95]the Anatolian mother goddess who the Greeks sometimes equated with Demeter. Rather than a sun symbol, Karwiese contended that the forehead device is an abstraction of a feline brow bunching up as the lion roars, an explanation that though creative seems unlikely.[96]

Whatever its genesis, the lion-with-sunburst was the heraldic emblem, the dynastic badge, used by the kings of Lydia, the Mermnad dynasty, to indicate their legitimacy to rule.[97]Lions in general show up with "enormous" frequency in Lydian art, according to Hanfmann.[98]In ancient literature, the Lydian king was described as carrying a lion cub around the walls of the Sardian acropolis as protection against attack.[99]The lion-with-sunburst design was also used beforehand by the Hittites, Assyrians, and Babylonians[100]and afterward by the Parthians. Lions on early coinage were far from unique to Lydia. The lion in fact was the most frequently used device on sixth century BC coinage, used elsewhere in Asia Minor and nearby islands including Miletos, Samos, Smyrna, Kyzikos, Termera, Knidos, Kamiros, Lindos, Mylasa, and Cyprus as well as on the coins of Velia in Italy and Akanthos in Macedonia.

Lion paw electrum 48th stater *(0.27g). This coin features on the obverse a lion's paw. There's disagreement over whether these fractions are Lydian.*

Denominations

Besides the trite, other Lydian Lion denominations are collectible, some more than others. The stater features the entire forepart of a lion rather than its head but is exceedingly rare and, as previously noted, is likely not an issue of Lydia at all. The sixth stater (hekte) and twelfth stater (hemihekte), which feature a lion's head like the trite, are common enough but are seen less often than the trite, though they're typically less expensive because of their smaller size. The twenty-fourth, forty-eighth, and ninety-sixth staters typically feature a lion's paw, sometimes a lion's head, sometimes just a featureless blob, and are seen even less often, as is typical of very small fractions, which circulated more and were hoarded less than larger coins.

There's much uncertainty with fractions below the twelfth. Mitchiner contended that these aren't coins of Lydia but issues of the Ionian Greeks, contending that the style of the lion and the incuse punch are more Greek than Lydian.[101]Karwiese disputed this, pointing to die links with the larger coins.[102]Rosen 658 is a lion head forty-eighth stater that Rosen (Nancy M. Waggoner) attributed to Lydia, while Rosen 659 and SNG von Aulock 8208 (same coin) is an electrum lion head ninety-sixth stater that both references attribute to Lydia, though Waggoner acknowledged questions about both of these attributions. Rosen 283 and 284 are electrum lion's paw twenty-fourth staters that are listed in the "Asia Minor: Uncertain" section but that are described as being "probably Lydian." Rosen 302 is an electrum lion's paw forty-eighth stater and Rosen 303 an electrum lion's head forty-eighth stater that are also listed in the "Asia Minor: Uncertain" section, but Waggoner mentioned that Rosen 302-303 and SNG Berry 1031-1033 are similar coins that SNG Berry tentatively attributed to Caria, which is just south of Lydia and Ionia. Head in BMC Lydia listed but didn't illustrate lion head twenty-fourth, forty-eighth, and ninety-sixth staters that he attributed to Lydia. Head described the twenty-fourth stater as having a globule on the lion's forehead and one of the forty-eighth staters as having a tuft of hair on the lion's forehead, which are good arguments for these issues being Lydian.

The possibility exists that the lion head pieces were minted in Lydia and the lion paw fractions were minted elsewhere.

Lydian electrum trite with nine countermarks. *Unlike later coins in which countermarks were used to certify that a coin was of good metal or was legal tender in a location other than where it was minted, countermarks on these very early coins are likely marks of ownership.*

Countermarks

Many Lydian Lions have countermarks, with some individual pieces having more than ten, all different, on the obverse, reverse, and edge. The countermarked coin illustrated above has nine countermarks. The most countermarks I've seen or read about on one of these coins is eighteen. A.R. Bellinger wrote that the countermarks on Lydian Lions "were doubtless intended to identify individual pieces for their owners" since the countermarks he observed on Gordion Hoard coins were all different. Because of the number of different countermarks on Lydian Lions, it's unlikely that they served as money changers' stamps to mark them as acceptable currency, as countermarks did on later ancient Greek coinage, though this has also been disputed.[103]

I believe that the fourree I've illustrated below, with eight different countermarks, proves that countermarks on these first coins couldn't have been used as marks of authenticity. It's illogical to think that eight different testers would have certified this underweight counterfeit as being authentic. You can feel the difference in weight, about 28 percent lighter, just by holding the coin in your hand. And unlike some later coins, Lydian Lions didn't circulate beyond the area in which they were minted, so there's no likelihood that they were countermarked in a foreign

land to certify them as official currency.

First coin above: ***Lion head electrum hemihekte.*** *This coin, like similar issues thought by many numismatists to be ancient imitations of Lydian electrum coins, features a crude outline of a lion's head. It may have been minted by the Kimmerians or Thracians. More likely though it wasn't an imitative issue at all but instead an official issue of Kolophon or Priene.*

Second coin above: ***Lion head electrum trite*** *(4.66g). This coin appears to have a much better claim to be a Kimmerian or Thracian imitative of a Lydian lion head coin. It's higher relief, and the reverse incuse isn't designed.*

Imitatives

Variants of Lydian Lion coinage with a crudely rendered low-relief outline of a lion, typically depicting the lion facing right, sometimes left, include coins usually attributed as "barbarous

imitations." If they are in fact imitative issues, they may have been struck by the Kimmerians (Cimmerians) from the north, who overran central Asia Minor and a significant part of the Lydian Empire during much of the seventh century BC, or they may have been struck by the Thracians allied with them, who imitated much later Greek coinage. Examples of these coins, all attributed as barbarous issues, are pictured in Sear's *Greek Coins and Their Values* (SG 3406), *The Weber Collection: Greek Coins* (Weber 6769), Weidauer's *Problemeder frühen Elektronprägung* (Weidauer 117-118), Seltman's *Greek Coins: A History of Metallic Currency and Coinage Down to the Fall of the Hellenistic Kingdoms* (Seltman Plate 1, 14), Babelon's *Traité des monnaies grecques et romaines* (Babelon Traité 56), and Head's *Catalogue of Greek Coins in the British Museum: Lydia* (BMC Lydia 27). A hekte of the same type is pictured above. Mitchiner, on the other hand, convincingly reattributed these instead as official coinage from Kolophon or Priene.[104]As he illustrated, other very early official coinage also exhibits similar crude, low-relief designs. What's more, the reverse style of the imitatives, more designed, is completely different from the style used by the Lydians for their punches. This doesn't mean that the Kimmerians, Thracians, or other peoples didn't imitate Lydian lion head electrum coins. The trite illustrated above, for instance, appears to be crudely engraved in an imitative or barbarous fashion, but it more clearly uses the Lydian trite as a prototype.

Lydian electrum trite fourree with eight countermarks *(3.41g). If Lydian Lions were the first true coins, this is an example of one of the first counterfeit coins. It's electrum-plated silver rather than solid electrum and is underweight compared*

with about 4.7 grams for official issues. The electrum plating has worn off in large areas, leaving the silver interior exposed, particularly at the high points of the obverse and reverse, the recesses of the incuse punch on the reverse, and the countermarks. The dark areas show uncleaned darkly toned silver.

Like all fourrees, this piece was plated before it was struck to prevent loss of detail, though the impressed areas wound up with thinner plating. That, no doubt, is the reason that the reverse incuse square has exposed silver. The incuse took the full force of the hammer that was slammed down on the obverse die in the anvil. Plating a gold/electrum coin in ancient times was done using a number of different techniques. The most popular, foil gilding, involved wrapping gold/electrum foil around a roughened planchet and securing it by tapping it with a hammer, burnishing it, and heating it before striking the coin.

Fourrees of Lydian Lions are much more difficult to find than official issues. Fourrees of these coins are also seen more with smaller fractions than with trites. The reason for this may be that it was easier to deceive with the smaller pieces, the weight difference between them and official coins being less. In the time I've been looking, I've seen only two trite fourrees on the market, the above coin and another, and the above coin was mistakenly being sold as an official coin. The European auction house mistook the exposed toned and cleaned silver as "black and silver deposits."

Fakes

Contemporaneous plated counterfeits (fourrees), having silver, billon, or lead cores, were struck as well, though they're seen more often in fractions smaller than trites, perhaps because the fractions were easier to deceive with, the weight difference between them and official coins being less. If Lydian Lions were the first true coins, these were the first counterfeit coins (deceptive plated precoin ingots were made as well).
Modern counterfeits of Lydian Lions, according to counterfeit coin expert Robert Kokotailo, are seldom seen because these coins, on one hand, aren't among the most pricey, and on the other hand, don't have mass market appeal.[105]I found three Lydian trite forgeries documented in the Bulletin on Counterfeits, two in the Vol. 22 (1997), No. 1 issue, one in the Vol. 20 (1995), No. 1 issue. The diagnostics include the following: the metal is

too red or brown, the obverse fields are too flat, and the reverse incuse punch is too regular in shape.

First copy above: ***Lydian electrum trite plastic replica.*** *Severely underweight at just 0.4 grams, this is an obvious replica, made of plastic and gold painted. It's the correct size, and from its online picture, it doesn't look terribly inauthentic, though it's a bit muddy looking and the coloration is too saturated. Novelty pieces such as this aren't dangerous.*

Second copy above: ***Modern Turkish gold proof commemorative coin.*** *This noncirculating coin, minted by the*

Turkish State Mint as a collectible, has a face value of 1 million lira, which when the coin was minted in 1997 was the equivalent of about $10. The coin weighs 1.24g, measures 14.0mm in diameter, consists of .999 gold, and has a reeded edge. It commemorates the Weidauer Type 15/Mitchiner Group C Lydian lion trite, Lydia being a kingdom whose territory was within present-day Turkey. The obverse inscription translates into "First coin of the world, Lydia, 640 BC." This dating is likely a bit too early, and the hatches of the lion's mane point in the wrong direction. The reverse inscription translates into "Turkish Republic."

Endnotes

[1]As is customary in numismatics, I'm using the term "stater" here, which the ancient Greeks used and which in ancient times meant "weigher" or "that which balances the scales." A stater was the standard denomination upon which the smaller denominations were based, and it could refer to an electrum, gold, or silver coin. The term "trite" was also used by the ancient Greeks as a denomination of electrum coins, for one-third of an electrum stater. Silver fractions were typically referred to as drachms, obols, and so on instead of as trites, hektes, and so on. M. Mitchiner in his recently published *Ancient Trade and Early Coinage*, Hawkins Publications, London, 2004, p. 215, makes a case that instead of "stater" a more appropriate term that should be used in conjunction with these Lydian coins is "shekel," which was a traditional Mesopotamian term for a given weight of bullion, which became the term for the standard coin denomination of the Asian kingdoms and many Eastern cities, and which the Greeks subsequently Hellenized to "stater." The term "shekel" or "shiklus" goes back to ancient Sumer, according to R. Mundell in "The Birth of Coinage," scheduled to be published in the Zagreb Journal of Economics, http://www.columbia.edu/cu/economics/discpapr/DP0102-08.pdf, pp. 5, 6. Sumer is the most often theorized location for the beginning of civilization.

[2]S. Karwiese in "The Artemisium Coin Hoard and the First Coins of Ephesus," Revue belge de numismatique 137 (1991), p. 8, indicated at that time he had counted 436 extant Lydian Lion Head specimens from published hoards and auction and sales catalogs.

[3]Numerous claims have been made for other sources of origin for the first coin. Disputing each is beyond the scope of this article. As just three examples, C. Thompson argued for Cisjordan (Israel and the West Bank of the Jordan River) in her article "Sealed Silver in Iron Age Cisjordan and the 'Invention of Coinage'," Oxford Journal of Archeology 22, 1 (2003), pp. 67-107; T. Chandler argued for Jerusalem in his article "Hypothetical History: Scrabble of the Ancient World," Celator, May 1992, pp. 42, 43; and M. Balmuth argued for northern Syria in her paper "Remarks on the Appearance of the Earliest Coins," *Studies Presented to George M.A. Hanfmann*, Harvard University Press, Cambridge, 1971, pp. 1-7. In "A Hoard of Early Multi-Denominational Electrum Coins," SAN Vol. XXI (2002), pp. 17-19, E. McFadden didn't explicitly argue for Western Asia Minor "geometric" electrum as being the first coinage, but he did argue that these coins, which feature a geometric pattern on both obverse and reverse, may have preceded coins that feature a typeless punch for a reverse.

[4]N. Mahajan puts forth the contention that India developed the world's first coins in a book scheduled to be published by S. Hirano. On the other hand, M. Mitchiner, pp. 741-742, argued as others have before him that Indian coins developed from Western

prototypes, which Indians came in contact with through Babylonian traders. D. Schaps, *The Invention of Coinage and the Monetization of Ancient Greece*, University of Michigan Press, Ann Arbor, 2004, pp. 232-234, disagrees, feeling that Indian coins developed independently of Lydian and Greek coins, but later than them.

[5]Coins are generally thought to have developed independently in China, with the first coin-like devices being cast bronze miniatures of hoes, spades, and knives. They eventually carried inscriptions and mint marks, perhaps first appearing this way c. 700 BC, according to M. Tameanko, "The Coins of Hsienyang -- City of the First Emperor of China," Celator, July 2005, pp. 6-23. The first inscribed round metal disks, without designs and with central holes so they could be carried on a string, appeared later, perhaps c. 300 BC, though some scholars have dated them earlier, with Tameanko dating them to c. 600 BC, about the time that coins were emerging in the West. On the other hand, M. Mitchiner, pp. 1125-1126, contended that Chinese coins developed from Olbian dolphin money brought to China by Skythian traders. As with Indian coins, D. Schaps, pp. 234-235, contended that Chinese coins developed independently but later than Lydian and Greek coins. G. Davies, *A History of Money: From Ancient Times to the Present Day*, University of Wales Press, Cardiff, 1994, pp.54-57, 62, contended that Chinese spade, hoe, and knife money preceded Lydian coinage but refers to them as "quasi-coins."

[6]J. Porteous, "The Nature of Coinage," *Coins: An Illustrated Survey, 650 BC to the Present Day*, edited by M. Price, Hamlyn, London, 1980, pp. 9-12, presents an outline of the introduction of coinage in several locations in the world. S. Karwiese, p. 9, called Lydian coins the "mother of all coinage."

[7]E. Robinson, "The Coins from the Ephesian Artemision Reconsidered," Journal of Hellenic Studies 71 (1951), p. 159; G. Jenkins, *Ancient Greek Coins*, Seaby, London, 1990, p. 14.

[8]The Greeks initially used the term "white gold" but eventually used "elektron," a word that became "electrum" to the Romans. Following the Roman naturalist Pliny in the first century AD (*Natural History* 33.80-1), most numismatists in modern times have defined electrum as gold alloyed with 20 percent or more silver.

[9]Carradice and Price, *Coinage in the Greek World*, Seaby, London, 1988, p. 27. They postulated that the ninety-sixth stater was worth a day's subsistence. A third stater was worth 32 times more.

[10]R.M. Cook, "Speculations on the Origin of Coinage," Historia 7 (1958), p. 260.

[11]R. Seaford, *Money and the Early Greek Mind: Homer, Philosophy, Tragedy*, Cambridge University Press, Cambridge, 2004, p. 135. He postulated out that the ninety-sixth stater was worth about one-third of a goat.

[12]M. Mitchiner, p. 214.

[13]As with virtually everything else about ancient coins, not everyone is in agreement with the eye appeal of Lydian trites. R. Holloway described Lydian trites as being "artistically maladroit" in his article "The Date of the First Greek Coins: Some Arguments from Style and Hoards," Belgian Review of Numismatics 130 (1984), p. 8.

[14]M. Price, "Thoughts on the Beginnings of Coinage," *Studies in Numismatic Method*, Cambridge University Press, Cambridge, 1983, p. 4; S. Karwiese, p. 10; J. Spier, "Notes on Early Electrum Coinage and a Die-Linked Issue from Lydia," *Studies in Greek Numismatics in Memory of Martin Jessop Price*, Spink & Son, London, 1998, p. 328.

[15]C. Kraay, *Archaic and Classical Greek Coins*, Methuen & Co., London, 1976, pp. 21, 22.

[16]E. Robinson, p. 164.

[17]C. Seltman, *Greek Coins: A History of Metallic Currency and Coinage Down to the Fall of the Hellenistic Kingdoms*, Methuen & Co., London, 1933, p. 16.

[18]"Certification by the state is one of the ways in which coinage is quite different

from anything that had performed money functions in the past," R. Seaford, p. 114. Types "confer official character upon the coin, and in effect declare the readiness of the issuing authority to receive it back in payment," C. Kraay, p. 321. The modern numismatic term "type," meaning design imprinted onto a coin's surface, comes from the ancient Greek word *typos*, meaning the effect or imprint of a blow, Carradice and Price, p. 25.

[19]M. Mitchiner, pp. 210-211.

[20]R. Seaford, pp. 115-118; M. Balmuth, p. 2; R. Holloway, *Catalogue of the Classical Collection, Museum of Art, Rhode Island School of Design*, Brown University, Providence, 1998.

[21]Whether civilization first emerged in Mesopotamia or Egypt is another issue that's currently debated by scholars, though Mesopotamia appears to have the stronger case.

[22]C. Opitz provides a comprehensive discussion of primitive money in his book *An Ethnographic Study of Traditional Money: A Definition of Money and Descriptions of Traditional Money*, First Impressions Printing, Ocala, 2000.

[23]J. Spier, p. 331. For a photo of one, see Sear 3397.

[24]M. Mitchiner, pp. 210 and 219. S. Karwiese, p. 12, disagrees with Mitchiner, arguing that the same type is repeated on later Lydian coins of Kroisos. This follows a long numismatic tradition of identifying these staters as Lydian, but this tradition appears to be in need of revision. J. Breglia, "Il materiale proveniente dalla base centrale dell'Artemession di Efeso e le monete di Lidia," Istituto Italiano di Numismatica Annali Vols. 18-19 (1971/72), pp. 9-25.

[25]S. Karwiese, p. 15.

[26]M. Price, pp. 6, 7; S. Karwiese, p. 23; I. Carradice, *Greek Coins*, University of Texas Press, Austin, 1995, p. 22.

[27]R. Wallace, "The Origin of Electrum Coinage," American Journal of Archeology 91 (1987), p. 386; C. Howgego, *Ancient History from Coins*, Routledge, London, 1995, pp. 3, 4. With his four articles and papers dealing extensively with Lydian Lions published from 1987 to 2006, Robert W. Wallace has written broadly and deeply about the subject.

[28]S. Karwiese, p. 8.

[29]D. Kagan, "The Dates of the Earliest Coins," American Journal of Archeology 86 (1982), p. 358. Kagan himself, however, opposed this majority-view thinking.

[30]"There is a widespread view that the first coin was created in Western Turkey, by the Lydians," according to R. Mundell, p. 14. C. Thompson, p. 68; M. Kroll, review of G. Le Rider's *La naissance de la monnaie*, Schwizerische Numismatische Rundschau 80 (2001), p. 526; and D. Sear, *Greek Coins and Their Values* Vol. 2, Seaby, London, 1979, p. 317, made similar statements. In the nineteenth and early twentieth century, numismatists exhibited a prejudice toward the ancient Greeks and the superiority of Greek culture and against the East and couldn't fathom how the Lydians, possibly descended from the Hittites, could have beaten the Greeks, originators of Western civilization, to such a culturally and economically important invention. E. Babelon encapsulated this sentiment with his statement that such a clever invention as coinage must have come from the Ionian Greeks, as reported by C. Seltman, p. 15. Babelon attributed Lydian Lions as Greek coins of Miletos in *Traité des monnaies grecques et romaines*, Renouard, Paris, 1907.

[31]How widespread the belief was in ancient times that the Lydians were the source of the first coins is uncertain. E. Pászthory made the statement that Lydian coinage was generally recognized in antiquity as the earliest known coinage in his article "Investigation of the Early Electrum Coins of the Alyattes Type," *Metallurgy in Numismatics* Vol. 1, Metcalf and Oddy, Royal Numismatic Society, London, 1980, p. 151, and others have made similar statements, though without definitive support. The fifth century BC Greek historian Herodotos (Herodotus) wrote famously, but

ambiguously, that the Lydians were the first to use gold and silver coins in his *Histories* (I.94). He could have been referring to the later pure gold and silver coins of Kroisos (Croesus) or to the gold-and-silver alloyed (electrum) coins of the earlier period. Still, as Carradice and Price, p. 24, point out, Herodotos' statement is usually thought to refer to the invention of coinage in general. Xenophanes, a Greek philosopher who lived in the sixth century BC, was quoted as saying that the Lydians were the first to strike coins, but he was quoted four centuries later by the Greek rhetorician Pollux in his ten-volume *Onamasticon* (9, 83). Pollux also suggested other possible inventors of coinage.

[32]The Lydian ruling class may have been descended from the Hittites, who like the Lydians (and unlike the Assyrians) spoke an Indo-European language. On the other hand, Hanfmann, p. 68, says that the Lydian connection to the Hittite Empire, at least according to archeological evidence, is "tenuous." The Hittites may, or may not, have been the same people referred to in the Bible as the Hittites or more accurately the Hethites (Children of Heth). The Hittites dominated western Asia from c. 1600 to 1200 BC, including Lydia, and were renowned for their use of iron and chariots. The Hittites were defeated c. 1200 BC by the Sea Peoples, who may have been the Philistines of the Bible (the word "Palestine" is derived from "Philistine"), though more likely the Philistines were one of several different Sea Peoples, including the Achaeans, or early Greeks, who pirated and pillaged, contributing to a dark age that lasted until c. 800 BC or somewhat later. Lydia enjoyed more than six centuries of relative independence after the fall of the Hittite Empire until its defeat by Cyrus the Great of Persia c. 546 BC, according to M. Mellink, "The Native Kingdoms of Anatolia," *Cambridge Ancient History, Vol. III, Part 2: The Assyrian and Babylonian Empires and Other States of the Near East, from the Eighth to the Sixth Centuries BC*, edited by I. Edwards, et. al., Cambridge University Press, Cambridge, 1991, p. 621. At the time of the first coinage, because of close contacts with the Ionian Greeks, Lydia was significantly Hellenized, according to Hanfmann, Seaford, and others. After the conquest of Asia by Alexander the Great in the fourth century BC and the Roman conquest in the second century BC, the Lydians were completely assimilated.

[33]A. Spawforth, "Jason and the Golden Fleece," Minerva Vol. 1 No. 7 (9/90), pp. 13-17; G. Jenkins, p. 14.

[34]A. Ramage, "Golden Sardis," *King Croesus' Gold: Excavations at Sardis and the History of Gold Refining*, edited by A. Ramage and P. Craddock, Harvard University Press, Cambridge, 2000, p. 14.

[35]E. Curtius, *The History of Greece* Vol. 1, Richard Bentley & Son, London, 1868, p. 76. M. Mitchiner, p. 206, also wrote about the importance of the Lydians in intermediating between Asia and Greek sea traders.

[36]G. Hanfmann, "Lydian Culture and Society," *Sardis from Prehistoric to Roman Times*, edited by G. Hanfmann, Harvard University Press, Cambridge, 1983, pp. 67, 98. Taking this line of thinking further, it can be enjoyable to trace Western civilization today back to Renaissance Europe, Rome, Greece, Lydia, Babylonia, and Sumer, allowing for numerous other influences along the way. Admittedly oversimplifying, the Renaissance gave us independent thought (again), the Romans organization and Christianity, the Greeks science and democracy, the Lydians coinage, the Babylonians codified law, and the Sumerians writing, the wheel, and how we tell time. Viewed from this perspective, the contribution by the Lydians was relatively unimportant ... unless you're a coin collector.

[37]M. Mitchiner, p. 206.

[38]Herodotos, *Histories* I.94. Herototos was likely referring to the signicant role that retailing played in Lydian society. The importance of the merchant class in Lydia is supported by the use in Lydia of a term for a legally defined societal class, *agoraios* or "People of the Market," according to G. Hanfmann, p. 80. That Herodotos was exaggerating is almost self-evident. D. Schaps, p. 47, points out that

fixed places for retail trade certainly existed in Mesopotamia before this time and that few societies throughout history, in fact, have had no type of market exchange.

[39]G. Hanfmann, p. 69.

[40]G. Hanfmann, p. 83.

[41]Many in ancient times wrote about "Golden Sardis," including such Greeks as Archilochos, Herodotos, Xenophon, Diodorus Siculus, Dio Chrysostom, Pausanias, Lukian, and Diogenes Laertes, according to Ramage, Goldstein, and Mierse, "Lydian Excavation Sectors," *Sardis from Prehistoric to Roman Times*, edited by G. Hanfmann, Harvard University Press, Cambridge, 1983, p. 38.

[42]M. Mellink, p. 646.

[43]G. Hanfmann, p. 88. Even so, neither Lydia nor Greece achieved the mass literacy of industrialized society today. A maximum of 20 to 30 percent literacy was achieved in the ancient world, and even here it occurred in Hellenistic cities, according to W. Harris, *Ancient Literacy*, Harvard University Press, Cambridge, 1989. Harris pointed out that the literacy rate in both archaic and classical Greece as a whole was likely no more than 10 percent.

[44]"Through the history of money, countries have sought to use the profits from overvaluation as a fiscal
resource. The extent to which they are able to exploit this resource depends on the power of the state
and the extent of its empire," according to R. Mundell, p. 12.

[45]R. Wallace, "Remarks on the Value and Standards of Early Electrum Coins," *Hacksilberto Coinage: New Insights into the Monetary History of the Near East and Greece*, American Numismatic Society, New York, 2001, p. 127; M. Cowell, K. Hyne, N. Meeks, P. Craddock., "Analyses of the Lydian Electrum, Gold and Silver Coinages," Metallurgy in Numismatics Vol. 4 (1998), p. 529.

[46]M. Cowell et. al., pp. 529-530; Keyser and Clark, pp. 105-126; M. Cowell and K. Hyne, "Scientific Examination of the Lydian Precious Metal Coinages," *King Croesus' Gold: Excavations at Sardis and the History of Gold Refining*, Harvard University Press, Cambridge, 2000, pp. 169-174. Some scholars have reported that these coins have varying amounts of gold. But this likely results from the imprecision of testing methodologies. Different tests can come up with different results for the same coin. What's more, surface enrichment, deposits, and porosity can all compromise results. Previous testing by various people has shown that Lydian Lion electrum coins have a more consistent gold content than some other early electrum coins, which likely were other early experiments in seigniorage profit making.

[47]Gold can be found in nature in relatively pure form or alloyed with other metals. Some scholars, such as Ramage and Craddock, and M. Mitchiner, pp. 206-208, believe that the Lydians only later, during the time of Kroisos, learned to refine pure gold from gold alloys. But the archeological evidence suggests that pure gold may have been refined at Sardis as early as the third millennium BC, according to G. Hanfmann, p. 76. Furthermore, textual evidence suggests that pure gold was being refined in Mesopotamia in the second millennium BC, according to P. Keyser and D. Clark, "Analyzing and Interpreting the Metallurgy of Early Electrum Coins," *Hacksilberto Coinage: New Insights into the Monetary History of the Near East and Greece*, American Numismatic Society, New York, 2001, p. 110. Hanfmann pointed out that there's no proof of continuity into the first millennium BC, though it seems unlikely that such an important technology would have been lost even during the "dark age" that followed the fall of the Hittite Empire c. 1200 BC. Mundell, p. 28, points out that the Egyptians were refining gold as early as c. 2000 BC.

[48]S. Bolin, S*tate and Currency in the Roman Empire to 300 AD*, Almqvist and Wiksell, Stockholm, 1958, p. 36.

[49]T. Carney, *The Shape of the Past: Models and Antiquity*, Coronado Press, Lawrence, 1975, pp. 103, 104.

[50]S. Frankel, *Money and Liberty*, AEI Press, Oxford, 1980, pp. 15-17.

[51]G. Hanfmann, pp. 76, 77.
[52]M. Price, p. 7.
[53]A. Fürtwangler, "Neue Beobachtungen zur frühesten Munzprägung," Revue suisse de numismatique 65 (1986), pp. 153-165.
[54]Carradice and Price, p. 28.
[55]J. Melville-Jones, "The Value of Electrum in Greece and Asia," *Studies in Greek Numismatics in Memory of Martin Jessop Price*, ed. by R. Ashton, Spink, London, 1998, p. 263.
[56]R. Mundell, pp. 30-32.
[57]Keyser and Clark, p. 116.
[58]G. Le Rider, *La naissance de la monnaie: Practiques monétaires de l'Orient ancien*t, Presses universitaires de France, Paris, 2001, pp. 85-100.
[59]K. Konuk, *From Kroisos to Karia*, Graphis Matbaa, Istanbul, 2003, p. 34.
[60]R. Wallace, "The Origin of Electrum Coinage," pp. 390-392, as well as "Remarks on the Value and Standards of Early Electrum Coins," p. 127.
[61]A. Ramage, p. 17.
[62]J. Kroll, pp. 204-206.
[63]In an October 2, 2003, e-mail interview.
[64]R. Wallace, "The Origin of Electrum Coinage," p. 386.
[65]C. Kraay, p. 318. Also earlier in "Hoards, Small Change, and the Origin of Coinage," Journal of the Hellenistic Studies 84 (1964), p. 89. But R. Wallace disagreed with this in "On the Production and Exchange of Early Anatolian Electrum Coinages," *L'or Perse et l'Histoire Grecque*, Table ronde CNRS, Bordeaux, 1989, pp. 93, 94. He stated that the relatively low gold content of electrum coins and the wear on many smaller coins indicates that they could have been used in commerce. M. Price, in a comment at the end of the paper, disagreed with Wallace and supported Kraay's view, stating that it's unusual for early electrum coins to show significant wear and that it's unlikely that even the smallest electrum fractions were regularly used in the marketplace. M. Mitchiner, p. 214, circumvented the high-value argument for Lydian electrum coins not being used in retail transactions by assigning a lower value to them. But most numismatists seem to support the argument that Lydian electrum coins weren't used in retail markets.
[66]G. Hanfmann, pp. 73, 77. R. Seaford, p. 128, points out, "The nearly total lack of ... coins in the excavated commercial-industrial areas of Sardis suggests that they were concentrated in the hands of the king and possibly wealthy merchants."
[67]J. Kroll, "The Inscribed Treasury Record from Beneath the Archaic Artemisium at Ephesus (IK Ephesos IA, No. 1): Receipts in Gold and Silver Bullion and the Problem of Early Electrum," paper presented at the XIII International Numismatic Congress in Madrid, Spain, Sept. 15-19, 2003; G. Le Rider, chapter one.
[68]M. Mitchiner, p. 214.
[69]C. Kraay, pp. 318-320; R. Wallace, "The Origin of Electrum Coinage," p. 386. M. Mitchiner, pp. 213-214, disputes this, contending that Lydia initiated coinage to facilitate trade. His book, *Ancient Trade and Early Coinage*, has been criticized, however, for overemphasizing the importance of trade as a factor in early coinage. As K. Konuk, p. 36 points out, "That [Lydian Lions] were specifically designed to facilitate trade or commerce is doubtful." Similarly, D. Schaps, p. 97, wrote, "It is not ... likely that coins were designed ... to facilitate retail trade.... The earliest coins not only were not invented for international trade but were not even used for it."
[70]C. Howgego, "Why Did Ancient States Strike Coins?" Numismatic Chronicle 150 (1990), pp. 3, 4.
[71]Ancient literary sources are as inconclusive as modern numismatic sources about the purposes of the first coins. Plato (*Republic* ii, 371b, 8, 9) and Aristotle (*Ethics* v, 1133a, 17-20, and *Politics* i, 1257a, 19-41) both speculated on the origins and purposes of coinage, but it's clear they were talking about how coins had evolved to

be used in their times. People today are often guilty of the same, projecting current practices backward to account for original uses. There's no contemporaneous documentation regarding the reason coins came into existence, and the archeological evidence is inconclusive as well. Economic and anthropological models are just that, models. C. Howgego took this unsettled state of affairs to what I believe is an unjustifiable extreme with his statement, "We know nothing about the function of the earliest coinage," in *Ancient History from Coins*, p. 3. It's not without irony that the Lydians, known for their retail prowess, may have learned from the Greeks how to use coins for retailing.

[72]N. Cahill and J. Kroll, "New Archaic Coin Finds at Sardis," American Journal of Archaeology, Vol. 109, No. 4 (October 2005), p. 613.

[73]Others also have made this assessment. As A. Ramage, p. 18, pointed out, Alyattes is a "frequent candidate" for the honor of the ruler responsible for minting the first coins.

[74]This is disputed as well, with some numismatists believing that Croesus didn't issue "croeseids." See I. Carradice, *Coinage and Administration in the Athenian and Persian Empires*, British Archaeological Reports, Oxford, 1987, pp. 73-108. A. Ramage, p. 18, argued persuasively based on the archeological evidence that Kroisos (Croesus) did in fact initiate bimetallic coinage. Cahill and Kroll conclusively demonstrate that Kroisos did issue croeseids based upon new coin finds in an archeological context.

[75]L. Stecchini, "Gyges and Homer,"

[76]A. Bammer, "A Peripteros of the Geometric Period in the Artemision of Ephesus," Anatolian Studies 40 (1990), pp. 137-160.

[77]B. Head, *Catalogue of Greek Coins in the British Museum: Lydia* (BMC Lydia), British Museum, London, 1901, pp. XVII-XXII, 1-5, Plate 1; B. Head, *Historia Numorum: A Manual of Greek Numismatics*, Clarendon Press, Oxford, 1911, pp. 643-645. Head believed the typeless electrum coinage, with striations, was likely initiated during the reign of Gyges, which he dated 687-652 BC in *Historia Numorum*, and that the Lydian Lion type coinage was initiated during the reign of Ardys, which he dated 652-615 BC.

[78]C. Kraay, p. 317.

[79]M. Price, p. 4.

[80]G. Jenkins, p. 13.

[81]I. Carradice, p. 23.

[82]G. Le Rider, p. 65.

[83]J. Milne, *Greek Coinage*, Clarendon Press, Oxford, 1931, pp. 7, 16; C. Seltman, p. 18; L. Weidauer, *Problemeder frühen Elektronprägung*, Office du Livre, Fribourg, 1975; D. Kagan, pp. 343-360; R. Mundell, p. 32; G. Browne, "A New Lydian Text," Kadmos 39 (2000), pp. 177, 178.

[84]M. Vickers, "Early Greek Coinage, A Reassessment," Numismatic Chronicle 145 (1985), pp. 1-44; M. Weissl, "Grundzüge der Bau- und Schichtenfolge im Artemision von Ephesos," Jahresheftedes Österreichischen Archäologischen Instituts in Wien, Band 71 (2002), pp. 313-346.

[85]W. Sayles, *Ancient Coin Collecting II: Numismatic Art of the Greek World*, Krause Publications, Iola, 1997, p. 4.

[86]In his review of C. Howgego's *Ancient History from Coins*, American Journal of Numismatics 11 (1999), p. 154, R. Bauslaugh talks sagely about the "danger" of this kind of "all-encompassing skepticism." More often in ancient numismatics, however, the error seems to be in the opposite direction, with conclusions based on inadequate support.

[87]C. Kraay, review of L. Weidauer's *Problemeder frühen Elektronprägung*, Gnome 50 (1978), p. 212.

[88]J. Spier, p. 334.

[89]M. Mitchiner, p. 210.
[90]E. Robinson, p. 161.
[91]S. Karwiese, pp. 11-13.
[92]M. Mitchiner, pp. 210-211; R. Wallace, "KUKALIM, WALWET, and the Artemission Deposit: Problems in Early Anatolian Electrum Coinage," *Agoranomia: Studies in Money and Exchange Presented to John H. Kroll*, edited by P. van Alfen, 2006, pp. 39-40.
[93]M. Mitchiner, p. 210; R. Wallace, "KUKALIM, WALWET, and the Artemission Deposit: Problems in Early Anatolian Electrum Coinage," p. 39.
[94]E. Robinson, pp. 161, 162
[95]G. Hanfmann, pp. 91, 92, 95.
[96]S. Karwiese, p. 9.
[97]K. Konuk, p. 24, wrote, "There is no reason to doubt that [Lydian Lions] were issued under the direct authority of the king of Lydia, probably Alyattes."
[98]G. Hanfmann, p. 84. In "The Sculpture of the Prehistoric, Lydian, and Persian Periods," *Sculpture from Sardis: The Finds through 1975*, by M. Hanfman and N. Ramage, Harvard University Press, Cambridge, 1978, Hanfmann illustrated examples of lions in Lydian art. E. Robinson, pp. 160, 162, does so as well.
[99]Herodotos, *Histories* I.84, Favorinus, *De Fortuna* 22.
[100]E. Robinson, pp. 159-163. Robinson and S. Karwiese, p. 10, also pointed to the Assyrian origins of the particular pattern of the lion's mane -- the herringbone ruff -- on Lydian Lions. In her article "An Assyrian Bronze Disc," Bulletin of the Museum of Fine Arts, Boston 48 (1950), pp. 2-8, E. Porada described how the Assyrian kings identified themselves with the lion and used its image for their royal emblem.
[101]M. Mitchiner, p. 219.
[102]S. Karwiese, p. 12.
[103]A. Bellinger, "Electrum Coins from Gordion," *Essays in Greek Coinage: Presented to Stanley Robinson*, C. Kraay and G. Jenkins, Clarendon Press, Oxford, 1968. Six of the 45 Gordion Hoard coins were countermarked. In "Countermarks on Popular Ancient Silver Coins - Part I," Celator, December 2002, p. 8, J. van der Dussen wrote that the debasement of early electrum coins may be the reason many were countermarked. Head, BMC Lydia, p. XII, also made the argument that countermarks were made by money changers because of the debasement of these coins. Later bimetallic Persian coins from the same area, however, were often countermarked in the same way as well. This, and the plethora of countermarks on individual coins, makes the debasement argument seem unlikely. Kraay, pp. 15, 16, argued that despite the fact that individual coins have been found having as many as eighteen countermarks, and despite the fact that the marks are very varied (pellet, crescent, caduceus, anchor, triskeles, and a number of different animal and human heads), they were likely money changers' marks indicating they had accepted a particular coin. Kraay acknowledged that Persian darics and sigloi were marked in the same way and even acknowledged that "It has been suggested that these are owners' marks, presumably intended to identify property deposited with a banker or a temple," though he didn't acknowledge in the body of his text or in a footnote that it was Bellinger who suggested this. Bellinger's position is the more logical.
[104]M. Mitchiner, pp. 250-252.
[105]In an e-mail message. Kokotailo heads up ACFDL (Ancient Coin Forgeries Discussion List).