THE ARTEMISIUM COIN HOARD AND THE FIRST COINS OF EPHESUS*

I have often wondered what D. G. Hogarth thought or felt when he recovered from the mud those small electrum coins buried between the foundations of the earliest Artemisium. There were so many other precious finds that the coins may have seemed to matter less than they should. Many of them lack an exact account of their find-spots even if this was no fault of Hogarth's (the pieces having been mixed up afterwards). Had he been aware then and there that these electrum coins would presently become a topic of frequent controversy — and not only among numismatists — he certainly would have taken every precaution to avoid confusion. It was equally not his fault that the coin finds now in the Istanbul Archaeological Museum are apparently not complete (as five pieces from «Ephesus» in the Berlin Cabinet show (1)) — pilfering by the workman being something that can never be entirely prevented; but it seems very probable that except for two pieces (2) all the coins were extracted from the soil by the Hogarth expedition.

Ever since I have started working on the coinage of Ephesus, I have been dreaming of the lucky day when there would be another

(*) I am very indebted to K. G. Jenkins who (after the paper had been read to the Symposium) took over the task of correcting my typescript and so converting it into readable English.

As there have since elapsed 4 years, I have inserted some new facts and references and updated the article.

In 1986, at the Xth Turkish Congress of History, I announced to dedicate all my forthcoming articles concerning Early Ephesus to the doyen of archaeology in Turkey, Ekrem Akurgal; accordingly, the present one is also dedicated to him.

(1) These are Lion's Paws apparently not identical with those Head (see note 7) added to his list (p. 93) as they are of different weight.

(2) Found in 1987 by Anton Banmer who kindly left me photographs and weights: 1) dolphin to left, 2) forepart of Pegasus to left.
electrum coin-hoard in our excavation, and I would become an eye­

witness as archaeologist and numismatist. But the second hoard 
that was recovered scientifically came from Gordium: although 

being of great importance (it is even linked by several reverse pun­

ches to the Artemisium coins (3)), it contains only one type, i.e. the 

Lion’s Head. There are other hoards (like IGCH 1156 (4) which 

because of its composition (5) appears to come from Ephesus), but 

these went into commerce immediately and became mixed up. So 

today we can count up to 2100 electrum coins the bulk of which, 

however, are known only by way of sales catalogues with scarcely a 

hint of their provenance; those in public museums or otherwise 

accessible have also been acquired mainly by way of auctions. So 

we can build up a nice card-index where there are more or less exact 

accounts of weights, but in most cases inadequate photographs and 

very seldom a note concerning origin. As work proceeds connexions 

are found and a certain progress made, but we will always have to 

return to those few really secure points like our Artemisium find. 

Continued excavation at the Artemisium has brought to light a 

handful of new electrum pieces. And in 1987, the archaeological 

exploration of the oldest shrine was resumed because the water-level 

had gone down dramatically. But although I was not there, I did 

not miss much from the numismatist’s point of view: for only two 

electrum pieces were added to the known hoard (6). The new exca­

vation has yet to be continued, though, before a final verdict can be 

given. Although I may have appeared to start by criticizing 

Hogarth’s work we have to be very grateful to him as it was he 

alone who — in spite of all kinds of difficulties — succeeded in 

securing the first and still almost unique find of 93 early coins: a 

find which, as E. S. G. Robinson put it, gives us the « feeling of 

assisting at the very birth of coinage ». And this is no exaggeration, 

for whilst the Ephesus electrum specimens do contain some early 

pieces, the more developed ones outnumber them; but through this 

find we get probably closer to the « birth » of coinage than through 


(3) This was first discovered by Liselotte WEIDAUER, Probleme der frühen 
Elektronprägung, Fribourg, 1975, p. 23. 

(4) Inventory of Greek Coin Hoards 1973. No. 1156 from Western Turkey (7). 

(5) It consists of 30 Lydian Lion’s Heads and 26 Lion’s Paws (to these and 
their origin see below). 

(6) See note 2.
anything else, taking into account its variety of types, its internal and external connexions, its specific situation, and its particular relation to the other finds, controversial as all this may be. Above all, it must be the starting point from which to look for the first coins of Ephesus herself.

Now, since the thorough publication by B. V. Head (7) the coins have been reconsidered time and again (8), in isolation or in connexion with the other finds from the Artemisium (which alone seem to provide means for a dating (9)). But I can not get rid of the feeling that somehow or other the baby was thrown out with the bath-water, for even the re-considerations have been re-considered. And in the end we have not proceeded much further than Hogarth and Head did, almost eighty years ago. Yet, I dare say that better progress should have been made long since. The evidence handed down to us is adequate enough, and the evidence of the material itself is much better than usually acknowledged. That is to say, too many external arguments have been brought, instead of using internal ones; it is the material itself that should be made to 'talk'. And indeed, some scholars have followed the logic of the evidence, like the late C. M. Kraay, when looking for the Ephesian share in the hoard (10).

Then there is the current discussion of how and when coinage came about. This is seldom conducted without consideration of our coins, and justly so, for again it is the evidence of a find like this that will provide us with at least some basic insights.

The starting point for all our considerations has to be the archaeological account: there, we first have to check on which coins were found where, and try to analyse their specific dispersion. As there are only 55 pieces whose exact find-spots are reported (and of these, five bear a question mark) the missing 41% spoil the evidence perceptibly, although the results from the new excavation seem to

(9) P. Jakobsthall, The date of the Ephesian Foundation-Deposit, in JHS, 1951, p. 95 seq.
(10) L.c. p. 25.
Artemisium A.C. Distribution of electrum coins according to Head
(x = find 1987) Linkages of Types

References to Head:

1: striated surface
2: convex surface, plain
4: striated surface
6,9: convex surface, plain
12-17: fore-part of bust of goat
19-28: two cocks
29-30: heads and necks of two cocks
31: cock of fore-part of cock
32,33,35,38-43, 46,47: lion's head
52: lion
53: lion's head
54-58,63,64: lion's paw
74: fore-part of stag
77-79: horse's head
84-85: head of gryphon
87: head of seal

Fig. 1
Artemisium A.C. Distribution of electrum coins according to Head
(x = find 1987) Linkages of Types

Fig. 2
Artemisium A.C. Distribution of electrum coins according to Head
(x = find 1987) Linkage of Dies
show that this might not necessarily be so (11). There are five different find-spots:
1) the East Basis A (spot 'a') with 26 pieces of 10 different types;
2) the West Basis ('c') with 4 pieces of 2 types;
3) the narrow space in the North between West Basis and wall B ('d') with 1 piece;
4) the similar space in the South ('b') where a pot was discovered with 21 pieces of 4 types;
5) under (?) the Southern part of wall B ('e') with 5 pieces of 3 types (fig. 1).

All taken together, we can localize 17 different types from a total 23 (Head's numbers 7 = nugget, 10 = 'eye', 45-51 = primitive Lion's Head, 75 = Human Head, 76 = Bull's Head, and 81-83 = Scarab cannot be assigned to any of the find-spots):
of 23 coins of the Lion's Paw type 10 can be assigned, 7 to 'a', 3 to 'e'; of 12 Cocks Confronted all to 'b';
of 7 Lydian Lion's Heads without legend 2 come from 'a', 4 (only the small type) from 'e' (= 1) and 'c' (= 3);
of 8 Lydian Lions' Heads with legend 3 come from 'a';
of 5 Goats Confronted all can be allotted to 'b';
of 6 probably non-Lydian Lion's Heads 2 come from 'a';
of 5 Horse's Heads 3 from 'a', 1 from 'e';
of 12 'primitive' issues 2 striated ones are assigned to 'a' and 'b', 1 lump and 3 punched lumps to 'a', and 1 with simple pattern to 'b';
of 2 Seal's Heads one is recorded from 'a';
and finally 1 piece each of Ram's Head, Gryphon's Head, and Stag from 'a', 1 Lion Recumbent from 'd', 1 Lion's Mask from 'b', and 1 Dolphin from 'a' (12).

Thus the different types are dispersed in the various find-spots, allowing only one conclusion: they must archaeologically belong together (13). If they did not form one body of material originally (i.e. were part of the Treasure of Artemis as collected up to a certain date) they must have been buried at the same time, with the possible exception of pot 'b' which could have been buried at a different time. All this is supported by the die links (fig. 2): between the

(11) For now, we have — according to A. Bammer — to start from the fact that the interior of B was filled only when D was built.
(12) See note 2.
(13) Cf. note 11.
find-spots 'a' and 'e', punches of the Lion's Paws form links; another link connects 'c' with 'e' (Lydian Lion's Heads). Internal die links appear among the non-Lydian Lion's Heads in 'a', and particularly in pot 'b': here all the Cocks and almost all the Goats have the same (reverse-) punches each.

The connexion with the Gordium Hoard (14) is established by punches in 'a' (Lydian Lion's Heads without legend), 'c' and 'e' (small Lydian Lion's Heads). Another linkage leads from 'a' to IGCH 1156 (Lion's Paws). And finally, there is the single Stag specimen from 'c' which type — according to H. von Aulock (15) — is frequently found at Colophon.

The types and die links of our electrum pieces do not seem to yield more than this, archaeologically: they are of one stratum and apparently buried at the latest when wall B was built (16). But as A with its twin base (17) was evidently encircled by B, the foundations of which are not built on top of A, but around it as if to preserve it, all the objects found beneath i.e. within B must be regarded from this point of view. They were not lost by accident, nor were they buried without purpose; they were not hidden away from an approaching enemy but literally buried as property of the shrine, apparently when the new and larger building B was erected (18) — expression of the due regard for the sanctity of a venerable and time-honoured temple. This looks almost like a tabu in operation, which forbade the divine treasure being transferred into the new temple. Hypothetical as all this may seem, it does appear far more probable than

(14) See note 3.
(16) But see note 11. The same must apply to the other finds: if they were charted as I charted the coins (figg. 1-2) they would most probably show a similar picture.
(17) This aspect was never taken into account: But it is striking that there should be a 'double' shrine (without regard as to whether or not a & c were built at the same time) at a place where there were venerated a pair of twins — Artemis & Apollo — as a true copy of the old Anatolian dualism of Mother-goddess & paredros. Could it not be possible that originally there was such a double cult of the goddess Ephesia plus lover until her overpowering importance as protectress made him vanish and be forgotten, so that she could become sole and virgin? An answer to that can be hoped for from the continuing of the new excavation.
(18) See note 11.
the assumption that connects the end of A with an enemy raid (19): for then we would be faced with the 'Wunderlich-phenomenon' where the raider leaves behind enough precious things to be buried after his departure (20) (and in this case that would have been probably more than he could have taken away...).

Particularly this opinion, delivered in 1984, now seems to be corroborated by the new archaeological results A. Bammer is going to publish in due course.

Here we have reached one of the crucial points of the Artemisium find, i.e. its dating. It has become a general topos with many a scholar to connect this with the Cimmerians who raided Asia Minor during several decades of the 7th century B.C. (21). But I can by no means favour this interpretation, for these reasons:
1) There is no archaeological evidence convincing enough;
   a) no real layer of destruction was recorded by Hogarth (the little ash or charcoal mentioned (22) corresponds well with similar spots found during the Alter-excavations conducted by Bammer (23) — all simply traces of occasional sacrificial fires);
   b) too many objects would have been left behind (if we regarded those left as relatively worthless to the raiders those not left would necessarily have to have been by contrast incredibly much more valuable to satisfy the Cimmerians in the middle of their plundering).
2) The literary evidence for a destruction by the Cimmerians is very weak because
   a) the oldest source is the poet Callimachus who only sings of the arrows of Artemis which defended Ephesus (24);

(19) I.e. with the Cimmerian invasion, see WEIDAUER, l.c., p. 73 seq.
(20) H. G. WUNDERLICH, Wohin der Stier Europa trug, Rowohlt, 1979, 150 seq., argues that the palace of Cnossus could have been nothing but a necropolis. In that case its interior would have been painstakingly bared by the plunderers of every bone (such were found only outside) but not of all the precious things A. Evans found in masses.
(22) HOGARTH, l.c. p. 35 and 239.
(24) Hymn to Art. 3.248 seq. One could call Callimachus tendentious as he is praising the deeds and power of the goddess and might argue that he kept silent
b) the only source that speaks of a temple of Artemis having been destroyed by Cimmerians does not necessarily refer to Ephesus (25).

3) The Cimmerians were a people of the open steppe who were certainly possessed of the shamanistic fear and respect of any enclosure or precinct such as the earliest Artemisium must have been (26).

As a matter of method, the Cimmerians should therefore be excluded from any argument for the dating of our find. For as long as there is no better proof of their raid (or even presence) it is methodically not justified to be concerned by them. So, once more means for a dating have to be extracted from the intrinsic nature of the material — the coins and the other objects, as long as temple B does not yield a terminus ante quem of its own. During the London Symposium, it became evident through the papers read, particularly by the specialists for the Egyptian part of the find, that it was not closed before the first quarter of the 6th century. And Bammer now even thinks of Croesus' time.

As for the coins, there seemed once to be a hopeful beginning with the Lion's Heads which were justly identified as Lydian: actually, they can be nothing but Lydian because their general frequency (27) points to a rich mint, and because if we did not allot them to Sardis there would be no other suitable coins left to have come from this important place. Above all, the Gordium Hoard gives excellent evidence as Gordium was Lydian hinterland in those days. The hope concerning the dating has to do with the name inscribed on at least two series of which there were 8 specimens in the Artemisium find; it was generally identified as the Lydian form of Alyattes. But now, since Mrs Weidauer (28) and others have rejected this reading and propose valvel- instead of valvet-, scholars have become uncertain, and we seem to experience a set-back. Yet, even if the controversial

about the destruction of her temple like he did in the case of Herostratus because these facts did not suit his homage.

(25) But rather to Sardes (as already Robinson pointed out) the destruction of which is certain. See Hesych s.v. Lygdamis.


(27) With 436 examples they make 21.2% of all early electrum coins known to me; the second group (pictureless 'nuggets') counts 222, the third (swastika) 180, the fourth (Lion's Paws) 95 examples.

(28) L.c., p. 59 seq.
letter is more or less blurred on most specimens I think we must read a clear 'T' (for the upper stroke of the letter does not point down as on lambda but up as on tau) (29). While we can restore a valvet- to *valvet[elim] (meaning « I am of Valvetes ») and thus gain a real Lydian king's name, valvel[im] (30) would lead to a Valves and therefore to an unknown name (although this is a very weak argument). The possessive form returns on the coins with a name Mrs Weidauer reads as -kalil- but which can easily be restored to -rkalîm (with the P not too certain, but the M very probable) (31) meaning « I am of -rkaš » whoever this may have been. With some more names (rather remnants of such) on other Lions' Heads (32) of which none does reveal a Lydian king, the evidence once more seems to be against the valvet-Alyattes theory.

When we try to reconstruct the sequence of the Lydian Lions by stylistic criteria we have to start with the four-rayed-nose-wart-type (this so-called wart being nothing else than the brow that protrudes on every cat when mewing or roaring). What was before these is difficult to say, but there is the possibility that the primitive looking Lion's Heads of which two pieces were found in our hoard (33) were their fore-runners (34). Recently, I discovered a punch linkage which connects a bare specimen (nugget) with a

(29) This is shown best on the piece in SNG Aulock 8204.
(30) The -lim ending is derived from R. Gusmani, Lydisches Wörterbuch, Heidelberg, 1964, §19. This would lead to the same understanding as is shown on the Barrekub-ingots or the Phanes-coins.
(31) See the Oxford piece (= Weidauer's no. 115).
(32) Monnaies et médailles S. A., Bâle, Vente Publique 72 (1987), 329 (ex MMAG 434:9) which is not 'valvel'; Head 72 (= Weidauer 99) which starts with K-.
(33) Head op. cit., 45 & 51. Another one was found in 1980 in the Altar area.
(34) See Weidauer's nos. 116 to 125. Previously I thought that they were of Cimmerian origin thus representing awkward copies of the sort later barbarians emitted. There is one observation that should not be withheld: many punches of this 'linear' (Weidauer) series have a cross-like appearance very similar to those of the Horse series (Weidauer 143 to 146). Could it be possible that the above proposed first Lydian coins were instigated by the latter the punches of which they imitated? Thus the Horse type could have been minted in one of the Greek cities on the Hermus river, and the Lydian coinage would not be mother of all coinage but daughter instead. On the other hand, I do not believe that it is justified to unite i.e. ascribe to the same mint (or rather place of origin) different types by way of similar punches without other evidence since there are so many coins of one type with quite dissimilar punches.
Lion's Head (35): it proves that pictureless pieces were still in use when picture-types were the rule! And it shows as well that the Lydian coinage too had started with typeless nuggets; otherwise it would have started suddenly with a perfectly developed series without having gone through the stages that other coinages certainly did. The most striking feature of the nose-wart-type is the mane pointing down (in this shape already appearing on cylinder seals of Middle Assyrian times) (36); on the early valvet-coins, the man is pointing sideways. On another series with seemingly advanced features, the man is standing up, and the 'wart' is a globule with six rays; no examples of this type were found at the Artemisium. But many details point to a dependence upon this series of the valvet-coins with Confronted Lions, namely their man and backhair as well as globule. Although I have not been able yet to find any die links between the two types the one with upstanding mane must have influenced the valvet-series (37); but I do not believe that the latter is necessarily younger than the series with the mane pointing down even though the die links between them suggest this (38). For it should not escape our attention that there appears a kind of dualism throughout all Lydian coinage: the die-linked valvet- and -kalim series with the double Lions, and even the Croeseids with Lion and Bull (39) reflect a dualistic pattern of which there is evidence in early Lydia (40).

(35) Vente Publique 72:4 / Weidauer 99-102 (smaller punch). This has to be proved through by autopsy of the originals.
(36) At Sardes, four small gold lions with similar manes were found, dating from about 600 B.C., now in Istanbul; see C. D. Curtis, Jewellery & Gold Works, in Sardis, 13, 1925, p. 86.
(37) This applies to the younger valvet-coins, the older ones are derived from the four-rayed-nose-wart type.
(38) It looks as though the earlier valvet-issues were to be placed at the end of this series, but this is evidence only gained by use of photographs.
(39) Rather than assume that the lion was standing for gold, and the bull for silver, I favour the explanation that they represented Sun and Moon, but in a particular aspect, namely the lion meaning Lydia, and the bull Phrygia: for after the fall of the house of Midas (who must have been chief of a bull-clan, according to the story about his death) his empire fell into the Lydian sphere of influence until it actually became Lydian.
(40) There are the two dynasties of Heraclids and Merinnads, the twin kings Cadys & Ardys, the rivals Candaules & Gyges, and especially the evident importance of the queen: so Cadys' wife, Damonno (which name recalls the Hittite
If we assign valvet- to Alyattes we get into a dilemma with -rkalim the latter not being the name of a Lydian king. Even more so with the other names (41). One could evade all difficulties and declare that these were just names of merchants or suchlike — a widespread interpretation by the way. But as I am convinced that all pictorial types on the early electrum coins are nothing less than coats-of-arms of ruling (or at least important and rich) families or royalty, I cannot understand how a merchant could have been allowed to use the royal beast, the lion, for his banking purposes — unless he was of royal descent, too (just royal commission will not have been enough). Only royalty can have had the legitimate right to use the lion, the heraldic emblem of the kings of Lydia. It was the king who was chief of the Lion-clan (42). For that reason, I can but adhere to Alyattes and see in the other names members of the royal family such as the queen (who seemed to have played an important role at the Sardian court) (43) and the heir to the throne: though, however, this should be Croesus whose name does not appear if we might not consider -rkalim belonging to him (44); but Croesus' position was not so safe at first, there were other princes who contended with him for the throne. Here it is noteworthy that the -rkalim-coins are younger than the bulk of the valvet-pieces, the linking punches being clearly a bit more worn on the former.

But there is still another argument for the equation valvet- = Alyattes, an argument of numismatic and antiquarian value.

When we look over the punches in the Artemisium find we will before long discern several separate groups such as Goats, Cocks, non-Lydian Lion's Heads, and Scarabs the mass of which each have their own set of punches, without any linkage to the other title of the queen tawannana), who handed over the kingship to another man; and Candaules' wife who made Gyges king shows that the Lydian queens played a role as significant as the kings did.

(41) See note 32.
(42) For Lydia, this is shown by stories like that of a lion having been carried by the king himself around the walls of the Sardian acropolis (Favorinus, De Fort. 22; Herodot. 1.84).
(43) See note 40.
(44) The possessive form (see note 30) would yield a name like -rkaš which as *;rkaš would have been inexpressible for a Greek tongue; but by a metathesis it could have been formed into *kr.s-: maybe something like this led to the 'non-Lydian' name of Kroisos?
types (45). The various Lydian coins are connected with each other cross-wise. And then, there are the Lion's Paws with many different punches forming several linkages; of these, two are connected with the valvet-coins, a very lucky discovery (46): Head's numbers 54-58 bear one punch of number 36-37, and number 60 one of 72. While in the first connexion the punch on the valvet-piece is distinctly worn the contrary is the case in the second connexion. This means that the Lion's Paws were started a little before or simultaneously with the first issues of the first series of valvet-coins (47); they were still emitted when the second series of the latter was in circulation. As I can count 36 different punches on the Lion's Paws and 32 different obverse dies this type appears to have been issued for quite a while.

The fact that the Lion's Paws are linked to the Lydian coins is not too much surprising, at second sight, since they seem to be members of a large family: this is proved by the die connexion between the Lion's Forepart and the inscribed Opposed Boars' Heads (48). The Lion's Forepart must be also Lydian as the type is similarly repeated on the Croeseids; thus, it represents the larger denomination otherwise missing in Lydian coinage (which it is impossible to have consisted only of thirds, sixths and so on). Through this, we may conclude that the Lydians coined not only Lions but other types as well, although in this case formerly non-Lydian territories seem to have been integrated; I presume that even more such unexpected links can be discovered (49). Now, this raises the awkward question of how such a procedure was possible. The answer, however, is not too difficult.

The Lydian kingdom before Croesus was centered on the king who in turn received his kingship through his wife, the queen, as in the

(45) Such links, however, may be found one day when all accessible material is not only collected in files (what I did) but also most of it checked in autopsies.

(46) The Lion's Paws form four groups one of which has six types: examples only of the latter have been found at the Artemisium; the most frequent punch which re-occurs on at least six inscribed Lydian coins looks like a Y-shaped 'valley' (see Weidauer 106 as the best example).

(47) = single Lion's Head. The punch is also found on a coin (Weidauer 78) without legend but with four-rayed globule: as it is linked by its second punch to an early Lion's Head (Weidauer 60) it could be regarded as an intermediate type.

(48) First discovered by Weidauer l.c. 21 and 68. There could certainly be added some more — a task which I have started (cf. note 35) but which is extremely difficult as long as one has just mainly photographs to work with.

(49) Cf. note 35.
old Hittite days: this at least is the best guess the relevant evidence permits, for the story of Gyges-Candaules-Tudo shows plainly that to become king the queen had to be won (50). The royal sons were suzerains or subkings as Croesus was at Adramyttium. Apart from that, the empire was built on a feudal base with Lydian or pro-Lydian tyrants in various towns. Particularly under Alyattes the empire expanded, and several Greek towns like Colophon, Priene, and Smyrna were subdued. In a system like this the right of coining will have been delegated to those ruling in the name of the Sardian king (51). But as the finances will have come mainly from his treasury there might have existed the condition that their coins were minted at Sardis. So this would provide a good explanation for a punch from a Lion coin having been used for a Boar coin of someone else (the two specimens of this type permit the reading -vetal[im ?]) (52) whose name will not necessarily have to be looked for among the historical great (53).

As to these coins with names on them, I do not suppose that they belonged to merchants or suchlike, not only because of my arguments but out of the conviction that any such interpretation is based on modern thinking (54). Even if the Lydians were rather clever in business, and many merchants like Sadyattes were of royal

(50) See note 40.

(51) This is, of course, an argument derived from later circumstances. At that early stage, even the 'right of coining' is questionable (see Karwiese, Zwischen Punze und Amboß, in Litt. Numism. Vindob., 3, 1987, p. 7 seq.): as the example of rich men like Sadyattes (who — although being a member to the royal family — refused to finance Croesus) shows, these were independent. Only the fact that local Lydian rulers will have been paid by Sardes which made them financially dependent, can have created a sovereign coinage.

(52) BMC Ionia: Clazom. 1 and a new find from the Artemisium Altar area (1986). There might even exist the possibility to combine the legend with valvet- and thus gain *valvetal[im] = *I am of Valvetas* (cf. note 30): this would lead to the conclusion that the Lydian king (Alyattes) had been also chief of a Boar clan, although the boar does not seem to play a significant role in Lydia (but cf. the story of Croesus' son Atys who was killed during a boar hunt): it plays a role in the Ephesian foundation myth where it — being clearly of autochthon (Lydian ?) importance — was killed by the Ionians, something Croesus later on seems to have reproached the Ephesians with.

(53) That he (if this was not Alyattes, see note 52) put his name on his coins might have been only an imitation of the king's practice.

blood, their coinage does not look 'private' in any way. There were many rich men but the richest was the king; there were even rich women like the prostitutes who contributed their maulisteria to the building of the tomb of Alyattes (55), but could their money have been any better or regarded as more inspiring of confidence ('pure') if they put their names on it? The value of any given piece of metal or coin was guaranteed — or better: demonstrated — not so much by the emblem or name it bore, but by something different (as I am going to show below, p. 20 seq). When the first mint-owner put his name on a coin this must have been for another reason: maybe it was just to give special importance to the person of a new ruler whose coinage, though continuing the general emblematic type of his dynasty, would otherwise not be recognized as his own. Maybe it was meant for foreign use (e.g. export) or foreign soldiers (who were sworn in to their war-lord by name), so that any representative of the king could have had reason to put his own name on the money he spent.

Now back to Lion's Paws. Their number in the Artemisium find is something no-one has yet taken into consideration. But 29 pieces out of 109 make 27% (the various Lydian coins with 20% draw nearest to that). According to the old numismatic rule that those coins that predominate in a hoard will not have come far from the place where they were found, particularly if they also presented the smallest denominations in the hoard, the Lion's paws must be considered from this point of view. This means no less than to try to assign them to Ephesus!

First we have to take a close look at the political situation at Ephesus, at the end of the 7th century B.C. The first thing we see, is that Ephesus was not Ephesus in those days (56). There was the sanctuary of the old goddess Ephesia with its paramount importance as asylum; then there was a local Lydo-Carian population living in the neighbourhood, but the political centre was not situated here. This lays within the walls of the Ionian acropolis on top of a hill now towering above the Stadium. For when the Ionians arrived about 1000 B.C. they chose for their fortress, as everywhere else, a secure spot on the shore; the only one that could have satisfied them was the Stadium-hill which reached out into the gulf like

(55) Herodot. 1.93.
the beak of a crow — thus giving it the name of Coressus (which I derive from the Greek κορώνη = crow). In Lydian days it was this acropolis where the local tyrant resided. Under Alyattes this was a man called Melas (a Lydian name!) who was the king's son-in-law. We have, therefore, to rid ourselves of the idea that when speaking of the Ephesus of that time we refer to a complex settlement with religious and profane centres side by side (which was the case only since Croesus); the name of Ephesus only applied to the precinct of the goddess, while the urban focus was Coressus which acted as protectress over the temple.

Any coinage to be minted by the Coressites or their rulers could not have used for an emblem the sacred beast of the Ephesia, i.e. the bee (57). This became possible only because Coressus tied itself to the sanctuary by a long rope when the acropolis was besieged by Croesus (58). That and the fact that its walls had to be demolished afterwards, and that the Coressites were ordered to settle around the Artemisium, was the sole cause of there being henceforth only one city by the name of Ephesus; and her coins being struck now under 'democratic' circumstances could but bear the type of the Bee. But before that, Coressitan coins can have shown only the coat-of-arms of the ruling family, namely that of Melas.

It is a logical idea that early coinage cannot be allotted to a certain town solely on the ground that the types known from later 'democratic' times must always have been issued at the same place (e.g. an early Boar from Clazomenae, or a Ram from Colophon); and this solves a great dilemma. For since there are at least 300 different electrum types, we are not able to find the same number of different towns to assign them to. But aristocratic emblems and housesigns of tyrants may easily have been even more numerous.


(58) Herodot. 1.26. Whether or not this has actually been carried out in the way described is not to be answered (the rope would have had to be about 1300 m long) but something corresponding did happen to make everybody believe that Coressus had become part of the sanctuary and thus untouchable.
In this sense, the first coinage of the Ephesian area had nothing to do with bees, stags, or palms. Therefore, it does not matter that there are no examples in our find (the single Stag that generally is assigned to Ephesus (59) does not signify), since we have to look for something else. Accordingly, my attention was led to the most frequent type and the smallest denomination in the hoard, this being the Lion’s Paw: now if this emblem could be attached to the tyrant Melas the identification would become perfect. Fortunately, our evidence is virtually decisive because the fact that the Lion’s Paws were at least partially struck by punches used for Lydian coins, and that Melas was related to Sardis by marriage cannot be just coincidence. Indeed, this is more than one can expect. And so I do not hesitate in identifying the Lion’s Paw-coins as the first coinage of the Ephesian area, with at least two issues struck at the Sardian mint.

As for the question whether or not these are really Lion’s Paws, one has just to take a look at the paws on a relief from Malatya which are very similar, as though they had served as a prototype (60).

On these grounds, I think we have a very good foundation for the date of the whole find. With the Lion’s Paws and the various Lydian coins representing 40.5% of the total, this not only provides a strong and significant Lydian element (61) but also points to the conclusion that the coins were hoarded from the time of Alyattes onwards. For the die links now show that the velvet-pieces are still best to be read as “of Alyattes”. Under the predecessor of Alyattes the first tyranny was established at Coressus by a certain Pythagoras, evidently a Greek who seems to have been on good terms with the Lydians as no Lydian attacks on him are recorded. In addition, Alyattes made the Halys line his Eastern border by which the purely Lydian Gordium Hoard gains a special meaning: it is not probable that it was buried before Alyattes.

So our find must be dated down rather than up for it is more than possible that the Lion’s Paws continued under the son of Melas,

(59) See Weidauer, l.c., 62 and 68; Kraay, l.c., 23. But see note 15.
(60) 2nd half of 8th cent. B.C. See E. Akurgal, Die Kunst der Hethiter, Munich, 1961, pl. 105.
(61) A circumstance having become particularly distinct through the many Lydian pottery sherds unearthed during the recent excavations.
Pindarus (who had to submit to his uncle Croesus). As for the architectural context and its development at the Artemisium, we proceed by this into the 6th century and seem to have the difficulty that there are more buildings after shrine A than would have reasonably been erected before the sixth structure, to which allegedly Croesus contributed. As I have already pointed out, B appears to be built around A like an envelope or shelter; now also C — rather longer in its dimensions — repeats this pattern and similarly D seems to be nothing but another screening wall open to the West. This observation may lead to the simple explanation that the shrine was not replaced by C, and this by D in turn, but that these phases were rather just additions to A. Thus shrine A would have become encircled and walled in by B and C (with the necessary consequence that the West Basis must have been demolished beforehand (62)); which means that A continued to exist, but now as an adyton only accessible from the West. This will still have been the case when building E was built, enclosing the older walls concentrically; but all these structures disappeared when the first large temple — the so-called Croesus-temple — was founded. Whether this interpretation of the structures before Croesus can be maintained, only the results from the new excavation by Bammer will show.

But if we regard — for the time being — walls B to E in this way (not entirely new but based on the idea of a sanctum continually growing in importance) we obtain the picture of a sanctuary which grew steadily larger. This did not cause a new temple to be built every so often but lead to ever larger protective enclosures being set up around the sanctum. Now this leads to another idea: what if these walls were not erected just to make the temple more prominent or secure but simply to secure it from its surroundings? For the great problem of the spot where the Artemisium is situated is the fact that it was founded near a shore-line that (63) was (and still is) steadily receding, leaving behind ground that by sinking is making the water-level rise. As a consequence, the archaic and classical temples were each built on a higher level. From this point of view, the walls around A might have had no other purpose than to

(62) Or rather levelled, as otherwise there would have been no access.
(63) Because of the silting caused by the river Caystrus (that was called by the Ephesians ‘father of Ephesus’ — a just description of the topographical situation as the site of the sanctuary had originated in the activities of the river).
keep it dry (by which assumption there would have been only three 'Artemisia')\(^{\text{(64)}}\). The alternative, of course, would be to assume that buildings A to E were nothing but naisskoi built around the old shrine in succession, growing continually larger\(^{\text{(65)}}\). Something like this has been stirring in the minds of some scholars (the latest being M. J. Price\(^{\text{(66)}}\)) who have felt ill at ease about the frequent re-building of the Artemesium insinuated from Hogarth onwards.

However, the effect of all this on the dating of the coins and all other objects found in Basis A are serious. First, the fact that they were discovered here and only here looks like a corroboration of the sequence of structures above given. Attempts at dating the minor objects in the 6th century appear in new light, as suddenly we have the possibility that a certain number of them were deposited at a much later time than hitherto assumed — that is down to the time when the arcaic temple was built (as Bammer, strengthened by his new evidence, is now regarding it). The same applies to the electrum pieces, five of which were reportedly found beneath the Southern wall of B: since they are linked by types and dies to the other ones within A, these seem to have been buried at the same time, thus dating them all before B. This is, however, not a necessary conclusion: die links do not inevitably indicate archaeological simultaneity\(^{\text{(67)}}\); the specimens beneath B may have been put or thrown there independently from, and earlier than, the rest.

Though this seems to leave some open ends, I think that we can grasp the whole complex better now. We are looking at a sanctuary probably dating back to the beginning of the eighth century\(^{\text{(68)}}\) that was highly revered and sacrosanct and therefore receiving a steady flow of offerings; suddenly during the reign of Alyattes

\(^{\text{(64)}}\) It is striking that wall C encloses B by following its shape and without leaving any space in-between, in the North and the South.

\(^{\text{(65)}}\) This is a proposition W. Schaber lines out in his *Die archaischen Tempel der Artemis von Ephesos*, in *Schriften des Athenäum Salzburg*, Waldsassen, 1982, p. 105.


\(^{\text{(67)}}\) Like the Gordium hoard, though technically simultaneous with our corresponding pieces, was not hidden away in any connexion with our wall B.

\(^{\text{(68)}}\) The oldest finds from the Artemisium did not date back further than that, hitherto; in 1987, the excavation underneath Hogarth's 'horizon' brought to light sherds dating from the 10th cent. as Mr Bammer has reported.
somewhere about the year 600, the need arose of protecting it against nature and a wall was built around it (or it just became a naiskos within a hypaethral temple). Some of the votives (our five coins, but maybe there are still some more) are buried beneath it (69); then a second wall closely attached to the first one is erected, then a third, and finally a fourth one standing back from the others. All this may have happened at short intervals, imposed by necessities of nature — or by new consecrations. And while the outer level ascended the cella sank ever deeper until it could not be used anymore. Whether this occurred under Croesus or later, whether Croesus contributed to the archaic temple or already to the older sanctuary in the shape of wall E — this is a question that also depends on how fast the ground may have sunken: there are about fifty years during which walls B to E and foundation F may have been set up if the first great temple is to be assigned to the time of Croesus. Whether or not this would have been too short a time might now find an answer before long.

Here my arguments concerning the date and assignment of the Artemisium coins end, for the time being. Hypothetical as some may appear I do think that they cannot be too easily rejected unless better proof is forthcoming; at least they form a new base upon which further discussion could be developed. But above all, I have certainly tried to let the evidence speak for itself as I hope, by investigating the possible background (70).

But there is still another background to our find. This has to do with the ‘birth’ of coinage in general. All of us know the ancient tradition that coinage was introduced by Demo(Hermodike), wife of Midas (71), or by the Lydians (72). Now while the latter may have been able to start anything of the kind only from the time of Gyges onwards, Midas leads us well back to the beginning of the 7th century. Mythical as all traditions concerning this person (73) may be

(69) The objects were evidently not kept in a strong-box but seem to have been ‘exhibited’ in and around the shrine this being a place of untouchable security.

(70) I will produce the whole complex with more detailed evidence in the first volume of my Coinage of Ephesus (in preparation).

(71) Pollux 9.83.

(72) Herodot. 1.94.

(73) It seems that this was a title rather than a name belonging to the chief of the Bull-clan (see note 39): the Mita referred to in Assyrian sources was king of the Muški = moschoi ‘Bull-men’.
(particularly his bath in the river Pactolus, causing it to become auriferous) there must lie behind them some real history. As is ascertained for his Lydian successors, the Phrygians had already tried to push through the Hermus valley to the Aegean, and must have established some kind of sovereignty there; so they will have held the prerogative over the region's metal sources. When Midas married Hermodike (74) he gained access to the sea. Behind the allegation that she invented coinage there could be nothing else than that at Cyme (as in the other coastal cities as well) there was being used a certain metrological system which was «married» to the riches of Midas thus bringing forth a new kind of money. Of course, we cannot speak of coins in this case but of a medium that had been known for quite some time previously: small size ingots of precious metal as existed already in the 2nd millennium in the Mediterranean (75).

One of these is preserved in the Artemisium find (Head’s number 7), flat and without any punch. Another one, looking much alike and as though it had been cast (no. 2) has no punch either. A third group (nos. 6, 9 10) with similarly curved surface is punched. Finally there are the Striated pieces (nos. 1, 3-5, 8) with one or two punches.

There is the well-known statement that these pieces should be chronologically arranged from punchless to punched and then on to striated and to pictorial. While nobody would question the punchless examples being more or less just bullion as of old, there are grave doubts as to the rest being so. But I think that here a reconsideration of the old view is needed.

The moment that someone undertook to issue lumps of precious metal, according to a common weight-system (and not to leave them in their natural shape and weight as was still the case according to the gold-stories told by Herodotus (76)); viz. that someone started to melt down and produce pieces of adjusted weight, and then even to create an artificial alloy as in the electrum coins; at that moment the door was thrown open to suspicion. Those who received any of these lumps would (maybe not at once, but after a while) have wanted and then tried to look inside them. This in turn

(74) This variant of her name clearly mirrors her provenance.
(76) e.g. 6.125 (on Alcmeon).
must have caused the issuing 'Mints' to provide means by which it was a simple matter to inspect the interior of the lumps. It must have been a very simple procedure that led to the employment of a nail with an irregularly sharpened tip to be driven into the flan. As a matter of fact, the early punches in many cases go almost through the coins thus exposing the interior of the metal. So the punch was meant to be a device of guarantee.

This punching was at first done on some hard support (not too hard though as the curved pieces were usually not flattened by the process). According to a new theory I have published (77), I do not follow anymore Robinson's sequence of types (78) — maybe with the exception of the Striated specimens where the engraved patterns never re-occur on another piece (79), which shows that these seem to have been laid onto a metal plate with engraved lines. This in turn must have led to the pictorial electrum coins where the empty space behind the devices is filled up with striations (80), a phenomenon certainly corresponding to the horror vacui known in art history; it can be justly assumed that such pieces belong to an earlier stage, as man tends to stick to existing models and to fill up the space. Equally, we must not say that the evolutionary steps in early coinage will have appeared in comparable form everywhere. It is more probable indeed that in one place the development had finished while in another it was still beginning; even that the steps did not vanish after the next one had appeared: they did not necessarily replace each other but were in use at the same time (81).

(77) see note 51.
(79) This is a most striking and unexpected fact since one would have tended to suppose that at least one of the striated patterns (there are 58 pieces which can be divided into several groups) should reoccur; but they are connected only by the punches (cf. Weidauer pl. 1).
(80) Like the Cocks and Goats from the Artemisium. I can count 15 different types with background-striations. The striation has in no case anything to do with the picture. I do not believe that the striated examples received their appearance from the scratching out of a former picture on the pieces themselves (but rather on the die: cf. R. Göt., Antike Numismatik, Munich, 1978, I, p. 149), since they would have lost weight which is not the case as they all fit well into the weight-system. Today, I become more and more convinced that the striations were not engraved (only) into plates serving as ' anvils' but into dies (which is plainly the case with many nuggets with irregular surface).
(81) See note 35.
must not forget one very important point: we still cannot speak of coins but must bear in mind that we have to do with pre-weighed pieces of bullion. As in the centuries before, they were used as money in the large sense of the word, only being changed a little in appearance. The transformation into real coinage was yet to come.

Our find is no exception in that respect. For even the pieces with inscriptions are not coins but well adjusted weight specimens with their designs signifying their origin. They are, however, but one step from real coinage which was the logical consequence of an evolution initiated by the first punch employed. It was not the design that led to the coin but the revealing punch that led to the picture making the latter no more than a by-product. But of course, the workmen would not have been human had they not at once realized what enormous possibilities were disclosed by the application of designs. And so, the punch of guarantee remained, but the eye was more and more attracted by the picture on the obverse with its clear statement; by and by, this became more important (as the emblems could be linked to their origins which was not easy with the punches), until the reverse punch lost its meaning and was substituted by a second picture (82).

If we have to reckon that nugget-like lumps had been in use in West Asia Minor at least since the days of Midas (when there might have been introduced by way of Cyme the weight-standard usually being called 'Lydian' or 'Milesian') it will still have been a long way until the first pictorial specimens were issued. But I would not think that the striated pieces have to be put too late. Of course, we do not know whether or not the development was one with gaps and interruptions until there came about a sudden and impetuous progress; our material and the archaeological evidence are too scanty. With the Lydian Lion's Heads we can go back at least to the time of Alyattes; but it is not to be excluded that 'coins' were already minted under Ardys (83), i.e. from shortly after the middle of the 7th

(82) Small pictures were inserted into some punches before that (see e.g. Weidauer pl. 14), forming an intermediate stage. The first coinage with a proper pictorial reverse seems to be the 'Syn' coinage of 405 B.C. (see Karwiese, Lysander as Heraktikos Drakonopnigon, in NC, 19, 1980, p. 1 seq.).

(83) The story of Ardys (Nicolas Damasc. FGrHist 90 F 44.4) according to which 1000 staters were promised for his murder seems to refer to coined money; but staters were also weight units. Nevertheless, these might have been picture-
century onwards, although there is no real proof of that: if taken into account that the Lydian coinage imitated Greek models, we would have to allow the latter to become sufficiently advanced; this forces us not to go back to the first years of Ardys but to come down to the last quarter of the 7th century. This permits the third quarter of that century for the striated stage and the emergence of the first patterns.

And this is exactly a period when there would have originated the impetus that was necessary to make of the valuable but uninteresting lumps of metal something really new. After the decline of kingship there were established aristocratic oligarchies everywhere; these were still in power in the third quarter of the 7th century, but their success was already questionable as they were unable to cope with the social and political problems of the day (84). As a consequence they were replaced by tyrants who could be of noble as well as inferior origin and who adopted a 'popular' policy. During a phase of such social unrest one might wonder how 'coinage' or bullion pieces with pictorial designs can have come about. But a declining society before its fall can develop certain features that seemingly betray its importance. To an oligarchic mind of those days it must have been more than simply welcome to be able to put the family's coat-of-arms on a piece of precious metal; aristocratic self-confidence always being mindful of its fame and glory (85), this practice appears the more justified and conceivable.

With the Lydians, things were certainly somewhat different, for here there was an empire still rising. The minting of punched nuggets and then particularly of pictorial weight-pieces could have readily been adopted, even names could be put on them: here it is possible that this feature was first introduced by the Lydians. The riches of the Sardian kings, however, made these superior to petty struggle, they could go on drawing freely from their full stores of less nuggets like those already in use in the 2nd millenium (see Karwiese, l.c. [note 51] 6).

(84) There was the grave contrast between rich and poor, the Cimmerian threat, and the fact that the new hoplite phalanx which was non-aristocratic constantly outdid the aristocratic cavalry.

(85) This had hitherto been best celebrated on the occasion of Olympic or similar games where the nobles had found a grand field for their ostentation.
gold dust and nuggets (88), coined or uncoined. But one of them was to change it all, for by giving up the electrum which apparently had become more and more debased in its intrinsic gold value (because the natural resources were running out) he opened the door to the first real coins. This was Croesus who, by creating a currency of gold and silver where ten AR-pieces were equal in value to one AV-piece (87), led away from the pure bullion-system which in reality still belonged to the age of barter. So ancient tradition is right there too, after all.

In the Artemisium find, there is nothing of this reform to be observed which can only mean that the deposit was closed previously. But then also the construction of the first great temple has to be dated similarly (88). This could mean that the reform was not the first thing Croesus began as he was fully engaged in re-organizing his empire, politically. Those scholars who tend to ascribe all Croeseids to the Persians are on the wrong track (although part of this coinage may have been continued under Achaemenid rule, for use in Asia Minor only (89)) for they neglect the fact that the silver Croeseid's weight of 10.75 grm. was chosen as the equivalent in value of the electrum stater of 14.333 grm. (ratio 1:1½) (90) to demonetize the latter, something Darius I could have never been interested in.

Finally, there is one detail of my recent researches on which I would like to comment shortly. Since I am deeply convinced that we can gain much more than usually assumed by a close investigation of the metrological grounds on which a coinage is based, I devoted myself to the study of the real origins of the standards used

(86) Even Croesus did evidently keep these in their natural shape, cf. to note 76.
(88) As Croesus had sworn an oath to dedicate his enemy's whole property to the Ephesian Artemis if he succeeded to the throne we should expect that some of this were preserved in the temple. But can we be so sure that some of the objects found do not come from this source? These would naturally be the most recent ones.
(89) When considering the Croeseids this should be taken into account first of all.
(90) See Karwiese, l.c. (note 87), p. 36 seq.
for early electrum (91). Turning my attention to the Mesopotamian weight-system I was lucky to discover something that leaves the old 'school'-metrology far behind. Following A. Oxé (92) I found that in the ancient Near East there were used different distinctive weights formed out of certain natural products, these being barley, wheat, gold, olive-oil, eggs, and honey. In an admirable system they were related to each other as 60:72:80:90:100:150; the basic weights were barley and wheat (ratio 5:6) (93) by which all other weights could be established and literally constructed. As the system contained 180 grains to the šiqlu, and 60 šiqlu to the mina it was easy to export the system just by telling how many grains were needed for a certain unit. The evident advantage was that it was not necessary to obtain a model weight to copy the standard. Apart from the simple building up of a mina of barley or wheat, it was equally simple to build up e.g. a mina of honey by using 150 barley- or 125 wheat-šiqlu. The honey mina was also divided into 60 units, and weight examples proving this can be shown.

One could ask why it had been necessary to have such different weights and not to have used one single measure. But this comes out of metric thinking (therefore an Englishman would probably not ask, having been accustomed to three systems, until recently). The ancients were compelled to look for more than one measure as there is no weight standard in nature. It was clear to them that to measure honey this sticky product had to be treated differently from barley, particularly as it does not contain small units, 180 of which would lead to a unit agreed upon. So they built up their system by using corn grains, and reached the other products-units by experimentation.

This experimentation in turn was conducted with a simple procedure. One put on a pair of scales a mina of corn each, then emptying one substituted the corn by the same volume of water, thus making the scale descend. Particularly with wheat this led to a very important result: because if you do not stop with the water down but try to counterbalance it you find that to do so you need 83 1/3

(91) Cf. i.e. (note 51).
(92) Kor und Kah. Antike Hohlmaße und Gewichte in neuer Beleuchtung, in Bonner Jahrbücher, 147, 1942, p. 91 seq.
(93) 6 barley units weigh the same as 5 wheat units, a relation that can sometimes be found inscribed on one single weight.
šiqlu; this being not too convenient an amount you add it up to 100 — the scale with the water is lifted up; now you counterbalance the water which amounts to 72 šiqlu (if the first water unit had been equally regarded as a mina of 60), then add it up to 100. The next counterbalance proves that you need 138 1/2 wheat-šiqlu for the 100 water-šiqlu. Awkward as this may seem, it is exactly the relation Priscianus informs us of having existed between the 'small' and the 'big' Athenian talent (94)! This is an almost overpowering proof of the proposed reconstruction of the Mesopotamian weight-system. That this kind of system was by no means restricted only to the Middle East can be shown in all weights current in the Mediterranean and even in Egypt, although there are specific differences caused by local modifications probably due to older systems which were fitted in: thus, the Egyptians took over the system (as their weights impressively prove) but used different basic units.

Also the standard used for most of the electrum pieces (known as 'Lydian', 'Milesian', or even 'Babylonian') can apparently be derived from this source. The frequency tables show that it must be regarded as of 14.333 grm. to the stater (at least theoretically) the half-piece of which (95) weighs 7.166 grm. But while this recalls the Mesopotamian barley-šiqlu of 9.967 grm. and looks like 1/100 of the egg-mina, it rather seems to be a direct taking over of the Egyptian gold-qedet which weighs 7.166 grm. as inscribed weights prove. This becomes even more probable since also the so-called Phocaean and Light Samian standards show Egyptian units (96) (in a metrology where systems are 'mathematically' spread, assignment of weights must be carried out also mathematically and not just by approximation).

This evidence is not so amazing, after all. For trade with Egypt (this rich country being constantly in want of foreign products) was of highest interest to the Aegean, and at Eastern places like Al Mina there were even real contacts established. Above all, this would not

(94) De figur. num. 2.10.
(95) Maybe we should call these šikloi instead of anything else because their fractions follow the Mesopotamian system.
(96) The former took over the oil-qedet, the latter the honey-qedet. It is not probable that the mints employed these accidentally but there seems to be hidden the whole system behind: for both Croeseids (AV & AR), and even the later 'Chian' standard seem to be anticipated in Egypt.
have been the only Egyptian influence that took shape in the Aegean. It was so particularly in metrology because it was the Egyptian money that imposed its system on foreign exporters.

There is one last detail I might add. We all have become accustomed to the stater (which we now should call Egyptian-West Anatolian) being divided into thirds, sixths and so on down to \( \frac{1}{86} \), but there are too many pieces that metrologically do not fit in here so that — in the face of an otherwise well-adjusted system — we should 'permit' many more fractions such as tetartai and pemptai (and the like), since they actually exist (97).

Summing up, we can justly state that the numerous finds and therefore the electrum coins, too, from the oldest Artemisium in Ephesus, though containing several older objects, belong to one archaeological stratum (more or less); this in turn seems to belong to building E which was erected either shortly before or during the first years of Croesus' reign. As the statistically most numerous and smallest coins will be of local origin, their type of a Lion's Paw must have been issued not in the bee-city of Ephesus but at the 'Lydian' acropolis of nearby Coressus; here, a tyrant by the Lydian name of Melas was in power who, as son-in-law to Alyattes, had not only at least part of his 'coinage' struck at the Sardian 'mint' (as die links clearly show) but had the right — or was compelled — to use part of the royal emblem, the Lion, i.e. its Paw: thus, he appears to have been the 'fist' of the king. As for the beginning of coinage in general, it is not the Artemisium where the sole clue can be found — this has to be won out of the complex political situation in the second half of the 7th century B.C., when a declining aristocracy found a new instrument to 'advertise' itself by putting their coats-of-arms on pre-weighted electrum pieces. But by the fact that the Lion's Paws are linked to the Lydian emissions, the Lydian Lions can — apart from the question whether or not the velvet-specimens refer to Alyattes — be dated to the end of the 7th century. Their pictureless forerunners can scarcely be grasped, chronologically; for metrological 'traditions' (Hermodike-Midas) show that pieces of precious metal brought out according to a standard may have been in use in

(97) Many pieces that do not coincide with the usual fractions but cluster around deviating norms provide the respective evidence.
Asia Minor, already at the beginning of the 7th century, themselves being a continuation of much older nuggets (like those from Cyprus (98)). As we cannot speak of coins in their case, but must call them bullion, the border line between these and coinage — and that is what usually is called the "birth" of the latter — is not to be drawn even during the first decades of the sixth century. For as long as there were electrum 'coins' current, these were just weights. But coinage was 'born' out of them in due course. Now all depends on a new definition of 'coin' and 'mint' which for the early stage in my opinion has yet to be found.

(98) See note 83.