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S. KIYONAGA

## THE DATE OF THE BEGINNING OF COINAGE IN ASIA MINOR

An Examination of the View of N. G. L. Hammond

Wir freuen uns, einen Aufsatz eines japanischen Gelehrten – in englischer Übersetzung des Verfassers – zu veröffentlichen, der sonst nicht zur Kenntnis der westlichen Leser gelangt wäre. Er erschien in japanischer Sprache im *Journal of Classical Studies* (Kyoto) 17 (1969), S. 11–21. Die von Prof. Kiyonaga vertretenen Anschauungen über das Datum der frühesten Elektronprägungen können im Lichte neuester Forschungen modifiziert werden. Das Pendel schwingt wieder zurück. Hierzu siehe vor allem Liselotte Weidauer, *Probleme der ältesten Elektronprägung* (in Vorbereitung als Band 1 der von unserer Gesellschaft herausgegebenen Reihe *Typos*). H. A. C.

### I. The points at issue

Until the Second World War it was almost beyond question to put the date of the beginning of coinage in Asia Minor in the early seventh century B.C. or the first half of that century<sup>1</sup>. But even in those days there were views suggesting the possibility of lowering the date<sup>2</sup>. And soon after the War, Cook guessed that the invention of coinage seemed to have been in the second half of the seventh century<sup>3</sup>. At the same time he added that E. S. G. Robinson was working on the origin of Greek coinage and that the conclusion of Robinson was similar to that of his own. The results of the work of Robinson were published in 1951 with those of P. Jacobsthal<sup>4</sup>. Both scholars reconsidered the finds from the foundations of the Ephesian Artemisium earlier than the Croesus period, which had been excavated by the British Museum under D. G. Hogarth in 1904–1905. Robinson dealt with 100 pieces of currency, that is, 93 electrum coins and 7 silver dumps. Among them he examined especially in detail 28 pieces from the foundation deposit of the Central Basis, the earliest building

<sup>1</sup> E.g. B. V. Head, *Historia Numorum*, 2nd ed., 1911, p. 643–644 (in the reign of Gyges, 687–652 B.C., in Lydia). Even J. Hasebroek, who underestimated the economic development of the archaic Greece, admitted that coinage was started in the Greek cities of the western part of Asia Minor about the beginning of the seventh century B.C. in his *Griechische Wirtschafts- und Gesellschaftsgeschichte bis zur Perserzeit*, 1931, p. 284–285.

<sup>2</sup> According to R. M. Cook, *Ionia and Greece in the Eighth and Seventh Centuries B.C.*, *JHS* 66, 1946, p. 90, n. 190, both E. Löwy, *Zur Chronologie der Frühgriechischen Kunst*, 1932, p. 21–28 and A. Rumpf, *Griechische und Römische Kunst*, 1932, p. 18 considered the date of the latest objects from the «Basis» at the Ephesian Artemisium to be within the sixth century B.C., while E. Gjerstad, *Liverpool Annals* 24, 1937, p. 15–34 preferred the third quarter of the seventh. As is shown in the text p. 5–6, this date is closely related to that of the beginning of coinage in Asia Minor, and if the former is lowered, the latter is also correspondingly brought down.

<sup>3</sup> *Ibid.*, p. 90–91. But he leaves the place of invention undecided between Lydia and Ionia.

<sup>4</sup> E. S. G. Robinson, *The Coins from the Ephesian Artemision Reconsidered*, *JHS* 71, 1951, p. 156–167; P. Jacobsthal, *The Date of the Ephesian Foundation-Deposit*, *JHS* 71, 1951, p. 85–95.

on the site and 19 pieces from the pot-hoard found beneath the space between the Central Basis and the Western Platform. He compared the features of the types on these coins with the similar features of other datable objects and found that all the coins were dated to 600 B.C. or just before that time and could not be much earlier<sup>5</sup>. Likewise Jacobsthal, who studied exclusively the objects from the Central Basis except the coins, concluded that the date of the foundation deposit fell within the first decade of the sixth century B.C. and that the pot-hoard was dated very little later than the foundation deposit. And Robinson discussed as follows. The above-mentioned 100 pieces represent a fair sample of the currency actually in circulation at the time they were laid down. Because there are considerably many typeless pieces, which suggest the stages immediately preceding true coinage, that is to say, 18 pieces out of 100, and because those 100 pieces are little if at all affected in appearance or weight by wear, we are compelled to suppose that they were deposited very near to the birth of coinage<sup>6</sup>. As the deposits including coins and dumps are dated about 600 B.C. or little later, it is almost impossible to presume that coinage began much more than a generation earlier. Who invented coinage, the Lydians or the Ionians? It is not easy to answer. But so low a date of the invention of coinage naturally brings down those of the beginning of silver coinages in mainland Greece. For example, the beginning of the first, that of Aegina, can scarcely be dated before the last quarter of the seventh century B.C.

C. Seltman opposed this conclusion in his book in 1955<sup>7</sup>. He says that until fairly recent times 700 B.C. was regarded as an approximate date of the beginning of coinage and that, though this figure is probably too early, the present movement to lower the date of the first coins is carried too far. Also he himself uses as evidence the coins and dumps excavated by Hogarth on the site of the Ephesian Artemisium. But whereas Hogarth and most other scholars assumed these pieces to belong to a foundation deposit, he insists that they are a part of the Cimmerian *debris*, that is, the remains of votive gifts accumulated at least during the past one-and-a-half centuries, which the Ephesians salvaged from the Cimmerians' ravages, collected and

<sup>5</sup> One of the coins has the inscription which seems to be read as Alyattes, king of Lydia (c. 615–560 B.C.). The argument of Cook (n. 3) was chiefly based upon this fact.

<sup>6</sup> But in order to infer with Robinson that those pieces were laid down soon after they had been struck from the fact that they hardly bear the marks of wear, it is necessary to presuppose moreover that they were not hoarded as mere treasure but actually and briskly put into circulation. Hence the problem of the original purpose of coinage. R. M. Cook, *Speculations on the Origins of Coinage*, *Historia* 7, 1958, p. 259–261 and C. M. Kraay, *Hoards, Small Coinage and the Origin of Coinage*, *JHS* 84, 1964, p. 76–91 reject the popular view which finds the purpose in the promotion of commerce and trade. Coinage was invented in order that the Lydian king might make a uniform payment of considerable value to a number of mercenaries (Cook), or in order that the payments and receipts of the «government» might be easy and sure (Kraay). Evidently both of them attach little importance to circulation at the outset of coinage, though their discussions don't lead to the denial of circulation, of course. But even if the theory of Robinson needs some modifications in view of these considerations, it still holds good in the main.

<sup>7</sup> C. Seltman, *Greek Coins*, 2nd ed., 1955, p. 14–18, 24–25.

incorporated in a new temporary structure soon after the Cimmerians had destroyed the Artemisium in 652 B.C. Therefore, according to him, many coins of the Cimmerian *debris* were minted some considerable time before 652 B.C., and the earlier ones should be assigned to the reign of King Gyges. And he concludes that some Ionian merchant marked his dumps to guarantee them for his own personal use and the use of his clients and that Gyges, perhaps not his predecessor Candaules, then affixed the royal arms to the electrum pieces to warrant both their quality and weight.

Seltman has thus proposed the idea of the Cimmerian *debris* on the analogy of the Persian debris, the broken remnants of votive objects given to Athena, which were collected and buried on the Acropolis by the Athenians two years after the Persians had destroyed it in 480 B.C. But he never refers to the fact that Robinson and Jacobsthal had fixed the date of some of the coins and other finds at the Artemisium as late as the beginning of the sixth century B.C. And so long as he can't refute their arguments, his contention is evidently not convincing. On the contrary, in 1957 Schwabacher criticized the view of Seltman thoroughly, pointing out that it was one of the most important results of study in recent times to put the beginning of coinage after 650 B.C.<sup>8</sup> And followers of the theory of Robinson have increased steadily<sup>9</sup>.

In the face of this general trend, in 1959 Hammond insisted that the first coins had been struck in Lydia at the beginning of the reign of Gyges, c. 687–677 B.C. and produced the following evidences<sup>10</sup>:

#### 1. *Archaeological evidences*

a) The date of the finds except coins and dumps from the foundation deposit at the Ephesian Artemisium falls within the period of 700–590 B.C. (*JHS* 71, p. 85–95, 156–167). Since the coins and dumps were no less likely to be preserved than the other finds, those pieces may also well have been minted within the same period.

b) Two vases found in Crete contained gold ingots and dumps and a silver dump with objects produced in c. 800–c. 650 B.C. (*JHS* 64, p. 86)<sup>11</sup>. Thus c. 650 B.C. is the *terminus ante quem* for the existence of the immediate antecedent to actual coins in an area where coinage did not originate. But this *terminus* will be raised, because new favourable evidences are likely to be discovered in the future.

c) At Perachora the dedication of the «drachma» is presumably contemporary with the introduction of coinage, and it is dated to a time before 650–640 B.C. by the

<sup>8</sup> W. Schwabacher, *Gnomon* 29, 1957, p. 99–100.

<sup>9</sup> E.g. A. Andrewes, *The Greek Tyrants*, 1955, p. 81–82; Cook, *Historia*, 7, p. 261. In describing the trend of study so far in the text, I have extended and arranged chronologically what I stated in my article, A Study of *Timema* in Solon's Constitution, *Historical Journal of Japan* 68–3, 1959, p. 9–10 (in Japanese).

<sup>10</sup> N. G. L. Hammond, *A History of Greece to 332 B.C.*, 1959, p. 131–132, 659.

<sup>11</sup> Hammond refers to «a vase» instead of «two vases». Also he adduces *JHS* 71, p. 164, but this is irrelevant.

study of the block bearing the dedicatory inscription. As the lettering is Corinthian, the introduction of coinage at Corinth was probably before 650–640 B.C. (*Perachora* I, p. 258).

## 2. Literary evidences

a) Hermodice<sup>12</sup> struck coins, perhaps marked dumps, in the first quarter of the seventh century B.C. (Heraclides Ponticus 11, 3).

b) The gold coins of Gyges, which were probably of electrum in fact, and the staters of Croesus (561–546 B.C.) were held in high repute (Pollux 3, 87; 7, 98).

c) The first coinage of the Greek mainland was struck by Pheidon of Argos at Aegina (Strabo 358, 376, Marmor Parium 30<sup>13</sup>, Etymologicum Magnum 613). There is good reason to believe that he was active in the time of Gyges. The Lydian coinage is earlier than that of Pheidon in Aegina (Herodotus 1, 94, 1), but not much earlier, because early Aeginetan coins and a unique stater of electrum in particular are similar to Lydian coins.

These are the arguments of Hammond. How should we judge them? Now let us examine them in the following sections.

## II. Examination of the archaeological evidences

1a)<sup>14</sup> There is no necessity to suppose that the date of the coins and dumps belonging to the foundation deposit is coextensive with that of the other finds excavated with those coins and dumps. At any rate the argument of Hammond in 1a) cannot cope with that of Robinson.

1b) In February of 1940 two square chamber tombs were opened at Khaniale Tekke near Knossos. In the case of one of them, two small pots had been buried in the virgin soil, one on each side of the entrance from the dromos into the chamber. Hammond referred to Hutchinson's description of these pots<sup>15</sup>. According to Hutchinson the *terminus post quem* for the contents of the two pots is about 800 B. C. and the *terminus ante quem* is not much later than about 650 B.C. The contents include gold ingots, dumps of gold and a single dump of silver, which represent the unit of currency just prior to the issue of the earliest coins. Therefore Hutchinson doesn't fix the *terminus ante quem* for these gold and silver pieces simply at c. 650 B.C., but

<sup>12</sup> Hammond refers to Midas, but Hermodice, wife of Midas, is correct.

<sup>13</sup> Hammond writes the figure of 45, not 30.

<sup>14</sup> In Section II and III, 1 and 2 correspond to 1 and 2 in Section I respectively. Likewise a, b and c to a, b and c.

<sup>15</sup> T. J. Dunbabin, *Archaeology in Greece, 1939–1945*, *JHS* 64, 1944, p. 84–86.



rather leaves the possibility to lower it more or less. And in 1954 he reported the contents of the pots more minutely <sup>16</sup>, but described the *terminus ante quem* for them merely as the seventh century. Besides he points out that though no Cretan coins proper seem to have been struck before 500 B.C., Aeginetan staters were imported in large numbers into the island early in the sixth century B.C., and perhaps imitated in Kydonia by the middle of that period <sup>17</sup>, and that this development of the use and minting of coins in Crete agrees well enough with the date of the gold and silver pieces which were found in the pots and were the medium of currency before the introduction of coinage. Thus we may safely say that Hutchinson's more recent description, though Hammond doesn't consult it, shows no contradiction with the latest trend to bring down the date of the beginning of coinage.

1c) Hammond refers to one of the three inscribed blocks of limestone from the temple of Hera Limenia at Perachora on the opposite side of ancient Corinth across the waters <sup>18</sup>. According to Wade-Gery, who examined the inscriptions, those blocks formed the curbstones of an altar or ash-pit in the centre of the temple's floor, but originally they had been engraved with the inscriptions and placed as bases or rather *stelai* for votive offerings in the temple or temenos. And as the temple was built about 750 B.C., this figure is the *terminus post quem* for the inscriptions. The altar of this temple seems to have been put simultaneously with the temple itself, not later than it, because the presence of an altar inside a temple is a primitive feature. There is no ash between the curbstones of limestone and the soil on which they were laid. According to Payne this fact may suggest that the inscribed blocks were used as the curbstones of the altar from the very time when the temple, that is to say the altar itself in this case, was first made. But it is unnecessary to accept this interpretation <sup>19</sup>. Rather in the seventh century B.C. the temple caught fire, the thatched roof was burnt down, ash on the whole floor of the temple was taken away, a new tiled roof was put on and the inscribed blocks were placed round the altar. If we suppose like this, we may say that the time when the present ash deposit began to accumulate, or practically the date of the oldest of its contents is equivalent to that of the diversion of the inscribed blocks to curbstones, that is, the *terminus ante quem* for the inscriptions. The block of schist on the west side of the altar has no inscription and ash remains beneath it. Evidently here was also placed a curbstone of limestone originally, but it was lost afterwards, and the present block of schist was placed after ash had spilt on that side. The two fragments of a kotyle found under this block cannot be later than 640 B.C. and may be as early as 675 B.C., so that about 650 B.C. may be taken as a rough *terminus ante quem* for the three inscriptions. Therefore they are

<sup>16</sup> R. W. Hutchinson – J. Boardman, The Khaniala Tekke Tombs, *BSA* 49, 1954, p. 216–219, 226–227.

<sup>17</sup> Cf. Head, p. 457, 460; Seltman, p. 169.

<sup>18</sup> H. Payne etc., *Perachora, The Sanctuaries of Hera Akraia and Limenia. Excavation of the British School of Archaeology at Athens 1930–1933*, 1940, p. 256–261 (H. T. Wade-Gery, The Inscriptions on Stone), cf. 111–113 (H. Payne, The Temple of Hera Limenia).

dated from c. 750 to c. 650 B.C. That one in question among them is very well preserved, which may be due in part to the fine quality of the limestone, but rather indicates that the date of the inscription is not early. Hence we can regard it as near 650 B.C.

The inscription reads as follows <sup>20</sup>.

Δραχμα εγω ηερα λευφ[ολενε κειμαι εν αυ] | λαι. «I, a drachma, O white armed Hera, am deposited in the court.»

The block is perhaps more likely to have been a *stèle* than a base. As remains of a socket can be seen on the inscribed face near one end of the block, it is supposed that there was another socket at the corresponding point of the lost portion of the block and that the drachma was set up between two metal supports fixed in the sockets. In view of the size of the block <sup>21</sup>, this drachma was not of silver but of iron (or bronze). It was consisted of six obols and was currency before silver coinage. According to the *Etymologicum Magnum* Pheidon of Argos coined money and calling in the spits, dedicated them to Argive Hera. This tradition going back to the fourth century B.C. <sup>22</sup> has frequently been rejected as an uncritical extension of Herodotus 6, 127, 3 that Pheidon made the measures for the Peloponnesians. Certainly the *Etymologicum Magnum* increased its credit by the discovery at the Argive Heraeum of a large bundle of iron spits which were not the temple furniture for burning sacrificial animals, but a form of money <sup>23</sup>. But at Argos a dedicatory inscription expected to have accompanied the iron spits was not found. On the contrary at Perachora there came out the dedicatory inscription without spits. Argos and Perachora complete each other. Thus the Perachora spits are older than the middle seventh century, that is, old enough to be contemporary with Pheidon. Though a number of ox-piercing iron spits at Delphi which were dedicated by the courtesan Rhodopis out of a tenth of her earnings <sup>24</sup> suggest other possibilities, it is also possible to suppose that the Perachora spits were dedicated when King Pheidon demonetized that iron currency. But since the lettering of the inscription is not Argive but pure Corinthian, it is very doubtful to identify the dedicator with Pheidon himself. Rather some Corinthian is likely to have dedicated the spits under Pheidon's inspiration.

<sup>19</sup> As Wade-Gery points out, if we agree to such an interpretation, we are forced to come to the surprising conclusion that the inscriptions are dated to the first half of the eighth century B.C. But Payne himself admits that their date cannot be determined, because there is an alternative possibility that the whole pit was cleaned out and reshaped when the blocks were put into position, Payne, p. 112.

<sup>20</sup> As to the restoration of the lacuna, the following alternatives are produced.

Δ. ε. h. λευφ[ολενε νυνδε ται αλ]λαι (Wade-Gery).

Δ. ε. h. λευφ[ολενε ταιδ επι στα]λαι (Cook, *Historia*, 7, p. 258, n. 10).

Δ. ε. h. λευφ[ολενε δεξο μ'εν αυ]λαι (J. G. Milne, The Perachora Drachma Inscription, *Classical Review* 58, 1944, p. 18–19, from E. Will, *Korinthiska, Recherches sur l'Histoire et la Civilisation de Corinthe des Origines aux Guerres Médiques*, 1955, p. 347, n. 1).

<sup>21</sup> Its size is presumed from Payne, p. 261, Pl. 132, ii and iii to have been more than 1.2 metres.

<sup>22</sup> Cf. n. 34, 39 and 45.

<sup>23</sup> Cf. p. 13.

<sup>24</sup> Herod. 2, 135, 4. According to J. M. Cook - J. Boardman, *Archaeology in Greece*, 1953, *JHS* 74, 1954, p. 158 the dedicatory inscription of Rhodopis was discovered at Delphi in 1953.

Although the arguments of Wade-Gery are cautious, we can evidently draw from them the same conclusion as that of Hammond: the date of the beginning of coinage at Corinth was before 650–640 B.C.

But some problems remain still open. First the date of the inscription must be taken up. Wade-Gery himself says that the inscription is no more primitive in appearance than many archaic ones which are dated to the sixth century B.C.<sup>25</sup>. Cook, following the view of L. H. Jeffery, regards the date as likely to be in the first half of the sixth century<sup>26</sup>. Will observes that the kotyle whose two fragments were found under the block of schist and used by Wade-Gery in order to guess the date of the three inscriptions may have been already old when it was broken and thrown away there, and that in that case the date of the inscription here in question will be considerably later than 640 B.C.<sup>27</sup>. Therefore it is possible to make use of the inscription, in order to lower the date of the introduction of coinage at Corinth, say, to the sixth century B.C.

Secondly, even if the conclusion of Wade-Gery is correct concerning the date of the inscription, it is not obvious whether the spits which were supposedly attached to the inscription were monetary as well as those at Argos, since they have not yet been found after all. They may have been sacrificial spits as temple furniture. And even if they were monetary, we can rather regard them as a new or reformed currency dedicated either by Pheidon of Argos or by anybody else, as Cook suggests<sup>28</sup>.

At any rate, therefore, the inscription is not the decisive evidence to put the date of the beginning of coinage at Corinth before 650–640 B.C. Evidently it cannot refute the grounds for the date<sup>29</sup> produced by Robinson.

### III. Examination of the literary evidences

2 c) In this section we examine first of all Pheidon of Argos, because he has often been referred to in 1 c) of the preceding section. The sources reporting of the relation between him and coinage, and other main relevant ones are as follows.

(1) Pheidon made the measures (μέτρα) for the Peloponnesians<sup>30</sup>.

(2) And (Pheidon) invented the measures (μέτρα) called «Pheidonian» and weights (σταθμούς) and coinage (νόμισμα) struck from silver and other metals<sup>31</sup>.

<sup>25</sup> Payne, p. 256.

<sup>26</sup> Cook, *Historia* 7, p. 258 with n. 12.

<sup>27</sup> Will, p. 347, n. 1.

<sup>28</sup> Cf. n. 44.

<sup>29</sup> Robinson, p. 166 (Periander's time). This tyrant ruled over Corinth for about forty years in the first half of the sixth century B.C., cf. my article, Periander's Prohibition of Slave-Acquiring in Corinth, *Journal of Historical Studies* 294, 1964, p. 1, n. 3 (in Japanese).

<sup>30</sup> Herod. 6, 127, 3.

<sup>31</sup> Jacoby, *FGH II A* 70 Ephoros F 115 (Str. 8, 3, 33, C 358).



(3) Ephorus says that the silver coin (ἄργυρον) was first struck in Aegina by Pheidon<sup>32</sup>.

(4) The pheidon is probably a sort of vessel for oil, derived from the so-called Pheidonian measures (μέτρων), of which Aristotle tells in the Constitution of the Argives<sup>33</sup>.

(5) Pheidon of Argos first of all men struck coinage (νόμισμα) in Aegina, and putting it into circulation and withdrawing spits (ὀβελίσκους) dedicated them to Hera at Argos... Thus Heraclides of Pontus<sup>34</sup>.

(6) Pheidon of Argos, being the eleventh descendant from Heracles, made public the measures (μέτρα), furnished with the weights (στάθμια) and struck silver coinage (νόμισμα ἀργυροῦν) in Aegina, when Pherecles was king of Athens, six hundred and thirty-one years before (... , archon of Paros and Diognetus, archon of Athens)<sup>35</sup>.

(7) Pheidon of Argos or Palamedes, as Gellius has preferred, invented measures and weights (mensuras et pondera)<sup>36</sup>.

(8) Pheidon, ruler of Argos and brother of Caranus, the first king of Macedon, was the first inventor of measures and weights (μέτρα καὶ στάθμια), according to some people. But there were also others instead of him<sup>37</sup>.

(9) The Euboean coinage (νόμισμα). Since Pheidon, king of Argos struck the first gold coinage (χρυσοῦν νόμισμα) at the place called Euboea in Argos. The place has been named after Euboea, nurse of Hera<sup>38</sup>.

Herodotus (1), the oldest of the adduced sources, doesn't refer to coinage. It is Ephorus (2), (3), c. 405–330 B. C., who first recorded the tradition that Pheidon struck silver coinage earlier than anybody else in Aegina, and also it is only Heraclides of Pontus (5) who tells of the dedication of spits to the Argive Heraeum<sup>39</sup>.

<sup>32</sup> *Ibid.* 70 Ephorus F 176 (Str. 8, 6, 16, C 376).

<sup>33</sup> V. Rose, *Aristotelis qui Ferebantur Librorum Fragmenta* 480 (Poll. 10, 179).

<sup>34</sup> *Ibid.* 481 (*Orionis Etymologicum*, p. 118, 19 Sturz, s. ὀβολός). Orion is a lexicographer in the fifth century A.D. Also in T. Gaisford, *Etymologicon Magnum* (compiled in c. 1100 A.D.) 613, s. v. ὀβελίσκος we find almost the same description, though it lacks the last phrase «Thus Heraclides of Pontus».

<sup>35</sup> Jacoby, *FGH II B* 239 Marmor Parium A 30.

<sup>36</sup> Plinius, *Naturalis Historia* 7, 198.

<sup>37</sup> A. Schoene. *Eusebii Chronicorum Canonum quae Supersunt II*, 1866, p. 74 Hh.

<sup>38</sup> *Etym. Magn.* 388, s. v. Εὐβοϊκὸν Νόμισμα.

<sup>39</sup> According to Herakleides, *RE* 8, 1912, Nr. 45, S. 472–484 (Daebritz), Nr. 49, S. 487–488 (Daebritz-Funaioli) there were two Heraclidae of Pontus, one (c. 390–310 B.C.) was a disciple of Plato (Nr. 45) and the other was that of Didymus (c. 80–10 B.C.) (Nr. 49). Here while Wade-Gery (Payne, p. 261) refers to the former, Rose to the latter. And Rose further regards the tradition (5) as one of the fragments of the Constitution of the Argives of Aristotle (384–322 B.C.). Therefore the origin of the tradition (5) cannot be traced back earlier than the fourth century B.C. anyway. Cf. n. 45.

Those who accept these traditions produce with Wade-Gery the bundle of iron spits found at the Argive Heraeum as evidence. They, 176 in all, were excavated by the American School of Classical Studies at Athens under the direction of C. Waldstein in 1892–1895 in the northeast end of the platform of the Second Temple, which was built after the Old Temple had been burnt down in 423 B.C. We may suppose that originally each spit was about 1.19 metres long and that 180 spits were bound with iron bands and bedded in a leaden base. Their butt ends were plain. If they had been temple furniture, their butt ends would have been spread or looped to prevent the spitted meat of sacrificial animals from running off. Accordingly they were probably a form of money. And beside the bundle of spits the excavators found an iron bar of rectangular section, which was about 1.19 metres in length and 73 kilogrammes in weight. As the bundle of iron spits, with the fragments broken from it, weighed 72.54 kilogrammes, the weight of the original 180 iron spits was no doubt equal to that of the iron bar. Converting this weight of iron into that of silver on the Pheidonian or Aeginetan standard, we get the figure of 30 drachmae, the spits together with the bar representing just one mina. We can say that this fact also supports the view which considers the found iron spits as currency <sup>40</sup>.

Pheidon's date has variously been handed down: for example, about the turn from the tenth to the ninth century B.C., at the beginning or toward the middle of the eighth and in the first half, about the middle or in the second half of the seventh <sup>41</sup>. For the present the views of Lenschau and Andrewes are interesting. The former presumes Pheidon's date to be c. 660–613 B.C. from several data like Herodotus 6, 127, the oldest tradition of Pheidon, which tells that Leocedes, one of the suitors, who gathered together at Sicyon about 580 B.C., to Agariste, daughter of tyrant Cleisthenes there, was Pheidon's son, while the latter connects the rise of Argos soon after 675 B.C. with the introduction of the tactics of the phalanx of hoplites under King Pheidon <sup>42</sup>. But here I cannot afford to enter into the issue.

Now let us regard Pheidon's date as the first half of the seventh century B.C. And let us also hold the iron spits discovered at the Argive Heraeum to be contemporary with Pheidon according to Seltman, though we don't find among the available evidences any certain clue to fix the date of the spits <sup>43</sup>. On these assumptions and in

<sup>40</sup> C. Waldstein, *The Argive Heraeum I*, 1902, p. 60, 61–62 (C. Waldstein), 117–118 (E. L. Tilton); C. T. Seltman, *Athens, Its History and Coinage before the Persian Invasion*, 1924, p. 117–119; Wade-Gery (Payne, p. 259).

<sup>41</sup> Th. Lenschau, Pheidon, *RE* 19, 1938, Nr. 3, S. 1939–1943; Andrewes, p. 39–42; Will, p. 346–351; H. Bengtson, *Griechische Geschichte von den Anfängen bis in die Römische Kaiserzeit*, 2. Aufl. 1960, p. 81.

<sup>42</sup> In this case, however, hoplites seem to have been mainly composed of the noble, cf. A. M. Snodgrass, *The Hoplite Reform and History*, *JHS* 85, 1965, p. 110–122.

<sup>43</sup> Whereas Seltman, *Athens*, p. 117 says that the iron spits were found at the northeast angle of the terrace on the site occupied by the early temple contemporary with Pheidon, which had preceded the building burnt down in 423 B.C., Waldstein, p. 61 and Tilton (Waldstein, p. 117–118) state that they were discovered in the northeast end of the platform of the Second Temple of the fifth century

view of the tradition of Heraclides (5), we can imagine that Pheidon dedicated the very iron spits as currency to the Argive Heraeum in the first half of the seventh century B.C. But even in that case, we may presume with Cook that Pheidon had nothing to do with silver coinage and that he only dedicated those iron spits which were put into circulation at that time as a new or reformed currency<sup>44</sup>. Therefore at least the discovered iron spits don't necessarily confirm the overall validity of the tradition of Heraclides (5). Also it is noteworthy that Herodotus doesn't refer to Pheidon's issue of silver coinage in the oldest source about Pheidon (1). After all we must say that the tradition of silver coinage struck by Pheidon is very much likely to be Ephorus' extension of Herodotus' report<sup>45</sup>. Thus the credibility of the traditions of Ephorus and so forth that Pheidon struck coinage in Aegina<sup>46</sup> is not always satisfactory, even if he is dated to the first half of the seventh century B.C. Consequently it is certain that the view of Hammond in 2 c) cannot equal that of Robinson concerning the date of the first issue of silver coinage in Aegina<sup>47</sup>.

2 a), b) The traditions of those who first struck coinage are as follows.

(1) (The Lydians) were the first people we know who struck gold and silver coinages and used them<sup>48</sup>.

(2) They say that Hermodice, wife of Midas, king of Phrygia, not only excelling in beauty but also gifted with wisdom and skill, first struck coinage for the Cymaeans<sup>49</sup>.

(3) The gold coin of Gyges and the staters of Croesus were in good repute<sup>50</sup>.

(4) The Daric and Gygadas are gold coins, refined, exact, unmixed, unhurt and pure<sup>51</sup>.

(5) Perhaps someone would think it ambitious to inquire into the story of coinage, whether Pheidon of Argos first struck coinage, or Demodice of Cyme who was wife of Midas of Phrygia (and daughter of Agamemnon, king of Cyme), or Erichthonius

B.C., which was built instead of the Old Temple destroyed by fire in 423 B.C. I think that Seltman misread the description of Waldstein and Tilton. If we prefer the excavators, it is possible to presume the date of the iron spits to be later than the second half of the fifth century B.C., though an earlier date is not impossible.

<sup>44</sup> Cook, *Historia* 7, p. 257-258.

<sup>45</sup> Jacoby, *FGH II BD*, 1930, p. 684, *II C*, 1963, p. 86-87; Bengtson, p. 81.

<sup>46</sup> I.e. (2), (3), (5) and (6). We need not pay particular attention to the tradition of *Etym. Magn.* (9).

<sup>47</sup> Cf. p. 6.

<sup>48</sup> Herod. 1, 94, 1.

<sup>49</sup> C. Müller, *FHG II*, p. 216, Heraclides Ponticus, 11, 3. Müller, p. 197 regards this Heraclides as the former (Nr. 45) in n. 39, but Daebritz-Funaioli as the latter (Nr. 49).

<sup>50</sup> Poll. 3, 87.

<sup>51</sup> *Ibid.* 7, 98.

and Lycus for the Athenians, or the Lydians as Xenophanes says, or the Naxians according to the view of Aglosthenes <sup>52</sup>.

Among the persons adduced in these sources it is only Pheidon and Gyges who can be taken for historical. But traditions are diverse and lacking in certainty. We cannot make use of them as grounds for the view which regards the date of the beginning of coinage as the first half of the seventh century B.C. At least it is evident that they are not qualified to rival the arguments of Robinson.

So far I have examined the points of arguments of Hammond in detail. It has proved that every one of them is both indecisive and refutable. Therefore we may say that Robinson's conclusion of the date of the beginning of coinage in Asia Minor still holds good, even though the question of the place, whether Lydia or Ionia, remains unsettled <sup>53</sup>.

### *Appendix*

Having read my article in manuscript, H. A. Cahn was kind enough to draw my attention to some valuable contributions to our problems. He sent me two of them, that is, W. L. Brown, Pheidon's Alleged Aeginetan Coinage, *Numismatic Chronicle* 6-10, 1950, p. 177-204, and H. A. Cahn, *Schweizer Münzblätter* 10, 1960, p. 21-22, both of which had not been available in my country. Also Professor K. Suzuki of Kobe University was kind enough to send me a copy of D. Kagan, Pheidon's Aeginetan Coinage, *Transactions and Proceedings of the American Philological Association* 91, 1960, p. 121-136. And I had P. Courbin, Valeur Comparée du Fer et de l'Argent lors de l'Introduction du Monnayage, *Annales* 14, 1959, p. 209-233 copied for me at Tokyo University.

Brown, being influenced by but for the most part independent of E. S. G. Robinson, demonstrates numismatically that the earliest silver coinage of European Greece, that of Aegina, belongs to the end of the seventh century B.C. This result supplies my article with a very strong support. Then Brown argues that Pheidon of Argos, though he might have been alive and dedicated monetary spits to the Argive Heraeum in the late seventh century B.C., had nothing to do with the Aeginetan silver coinage, mainly because he could hardly have controlled Aegina at the time, and that Ephorus connected Pheidon with the invention of the silver coinage there deliberately. In my article I have tried to prove that Pheidon did not invent it there in the first half of the seventh century B.C., even if he dedicated monetary spits to the Heraeum at that time. But this argument is now unnecessary because there was no silver coinage so early in Aegina according to Brown.

As to the opportunity or purpose of Pheidon's dedication of spits, Brown only suggests that the tyrant perhaps wished to show his respect for traditional religion.

<sup>52</sup> *Ibid.* 9, 83.

<sup>53</sup> Cf. n. 1, 3, 4, 7 and 10.

Courbin's article, for which see Cahn's pertinent review in *Schweizer Münzblätter* 10, deals with the problem among others, being based on Brown's studies. Through the full re-examination of the iron monetary spits (obeloi) and bar at the Argive Heraeum and the strict examination of the iron spits of c. 730 B.C. found at the tomb 1 of Argos in 1952, Courbin concludes that the spits of the tomb are older, longer and heavier than those of the Heraeum, that Pheidon dedicated the new, so-called «Pheidonian» spits to the Heraeum when he devaluated the old spits and introduced the new ones, and that the image of Pheidon as the inventor of the Aeginetan silver coinage was afterwards conjured up from the wrong supposition that he invented the iron monetary spits. Evidently Courbin's hypothesis connecting Pheidon's dedication with his devaluation is an important contribution to the Pheidonian problems.

On the other hand Kagan insists that Brown's arguments are not to be maintained. Kagan puts Pheidon's reign at c. 675–625 B.C. and accepts the traditions of Orion-Heraclides and Ephorus. According to Kagan, Pheidon might have allied himself with Aegina, though it is not impossible for him to have conquered her, and in both cases he could have struck silver coins there. Certainly in this point Kagan criticizes effectively Brown's assertion that Pheidon had nothing to do with the silver coinage in Aegina. But otherwise, Kagan's discussions don't seem to be persuasive. For example, he tries to raise more or less the date of the invention of coinage in Asia Minor given by Robinson. However, his contentions are either indecisive or unconvincing after all. Also he doesn't give a proper attention to Brown's excellent analysis of the Aeginetan coin series, referring to it only in one note of a few lines.

Although the above-mentioned four articles are very useful and stimulating, they don't seem to compel me to change my conclusion essentially. On the contrary, in some cases they do give support to it. But concerning my article H. A. Cahn informed me that the date of the first coins should now be raised before 630 B.C. as a result of Mrs. Weidauer's studies. I hope that her work will be published as soon as possible.