

## NOTES ON THE IMPERIAL PERSIAN COINAGE.

### [PLATE V.]

THE rulers of the Persian Empire, during whose reigns the Persian Imperial coinage was issued, were the following<sup>1</sup>:—

	B.C.
Dareios I., s. of Hystaspes	521–486
Xerxes I., s. of Dareios I.	486–465
Artaxerxes I. Makrocheir, s. of Xerxes I.	465–425
Xerxes II., s. of Artaxerxes I.	425
Ochos = Dareios II. Nothos, s. of Artaxerxes I.	424–405
Arsakas = Artaxerxes II. Mnemon, s. of Dareios II.	405–359
Cyrus the Younger, s. of Dareios II.	401
Ochos = Artaxerxes III., s. of Artaxerxes II.	359–338
Arses, s. of Artaxerxes III.	338–337
Kodomannos = Dareios III., s. of Arsanes, s. of Artostes or Ostanes, s. of Dareios II.	337–330

The Persian Imperial coinage<sup>2</sup> consisted of gold coins, generally known to the Greeks as Darics (*Δαρεικοὶ στατήρες*), with smaller denominations, and silver coins, generally known as sigloi (*σίγλοι, σίκλοι, σίκλα*, the same word as Hebrew *shekel*), which also had smaller denominations. The word *Δαρεικός* was sometimes also used by the Greeks of the silver coins.<sup>3</sup> The Persian name for the gold coins is not known<sup>4</sup>; there can be little doubt that the word *Δαρεικός* is ‘a pure Greek formation from the Greek form of the Persian name *Darayavaush*; just as “fanciful” is a pure English formation from the English form “fancy” of the Greek *φαντασία*.’<sup>5</sup>

<sup>1</sup> References to recent authorities in Babelon, *Traité*, II. ii. 44. See also the genealogical tree in Pauly-Wissowa, *R.E.* i. s.v. ‘Achaimenidai.’

<sup>2</sup> The Plate accompanying this article represents a few of the more important varieties to which reference is made, enlarged to twice their actual size.

<sup>3</sup> Cp. Plut. *Cim.* x.

<sup>4</sup> It has long been known that there was a

word *dariku* used in contracts of the reigns of Nabonidus and the false Smerdis, before the reign of Dareios I., as in the phrase ‘he gave in payment two talents of dry dates and a *dariku*.’ The meaning of the word, however, remains quite uncertain, and it is not clear that it is the name even of a weight, as Babelon (*Traité*, II. ii. p. 39) now maintains.

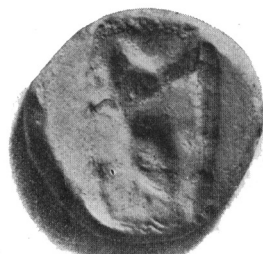
<sup>5</sup> Hill, *Hist. Greek Coins*, p. 27.



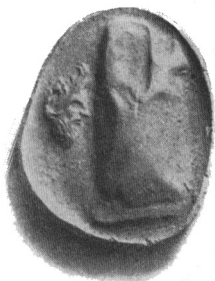
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The probability is that the daric was introduced by Dareios I.<sup>6</sup>; no specimens that have survived appear, so far as one can judge by style and fabric, to be earlier than his reign.

The metrology of the daric and siglos has been subjected to an exhaustive analysis by Regling,<sup>7</sup> which makes it unnecessary to go into details here. He comes to the conclusion that the normal weight of the daric is 8.4 grm. (129.7 grn.),<sup>8</sup> although single specimens are known of various higher weights from 8.41 grm. (129.8 grn.) to 8.83 grm. (136.3 grn.). The average weight is 8.354 grm. (128.9 grn.). The supposed half-daric does not exist as a denomination<sup>9</sup>; but two specimens of the  $\frac{1}{2}$  daric survive, one in the British Museum weighing 0.69 grm., and one weighing 0.71 grm. at Berlin,<sup>10</sup> as well as a single specimen of  $\frac{1}{3}$  of a daric, weighing 0.155 grm.<sup>11</sup> It is difficult to know what purpose these small denominations can have served, except as makeweights when it was desired to make up the value of under-weighted darics.

The specific gravity of seven of the darics in the British Museum has recently been ascertained by the Rev. J. W. Hunkin.<sup>12</sup> The average is 18.96. If the alloy is pure silver, the average fineness of these darics is 0.981, as opposed to 0.991 for Croesean staters also ascertained from the examination of seven specimens.

The normal weight of the siglos, again according to Regling's exhaustive demonstration, is 5.6 grm. (86.4 grn.); the highest recorded weight is 5.88 grm. (90.7 grn.); the average 5.38 grm. (83.1 grn.). A table of frequency shows the mass of the coins concentrated between 5.26 and 5.60 grm. As smaller denominations Regling gives thirds, fourths (the point of distinction between these two denominations is difficult), sixths and one specimen of a twelfth.<sup>13</sup> He reckons the curious little piece of 3.58 grm., illustrated in Pl. V, No. 5, and indeed other even lighter specimens as full sigloi; but the last piece in his list (British Museum, from Cunningham, 2.93 grm.) proves on examination to be nothing more than an electrotpe, though an admirably made one. Mr. Newell has a specimen weighing 4.00 grm., which, he says, shows no signs of being plated or cast. The coins of very low weight may, as suggested to me by Mr. Allan, be of Indian origin; certainly

<sup>6</sup> Herodotus iv. 166; Harpocration, s.v. *Δαρεϊός* (cp. Schol. Aristoph. *Eccl.* 602) says that it was named after some older king.

<sup>7</sup> *Klio*, xiv. 1914, pp. 91 ff., with full tables of revised weights.

<sup>8</sup> Borrell (*Num. Chr.* vi. 1843, p. 153) reports that the average weight of 125 gold darics from the Canal Find was 129.4 grn., and that darics found in Asia Minor are always lighter, however well preserved, by from 2 to 2½ grn., than the lightest of those in the Canal Find.

<sup>9</sup> *Klio*, l.c. p. 106.

<sup>10</sup> *Z.f.N.* xxiv. 1904, p. 87, Taf. iv. 5.

<sup>11</sup> *Ibid.* Taf. iv. 6. *Obv.* Head of King, r., bearded; *rev.* Incuse.

<sup>12</sup> *Num. Chr.* 1916, p. 258.

<sup>13</sup> Macdonald, *Hunterian Catalogue*, iii. p. 354, No. 4; *obv.* King with bow and sword, *rev.* head of a satrap; therefore not a normal Imperial coin. Sir Hermann Weber possessed a quarter-siglos of 1.20 grm. (18.6 grn.) similar to one in the British Museum weighing 1.10 grm. To Regling's list of sixths, add that in the Prowe Coll. (*Egger Katal.* xlv. 2678, Taf. xli., 0.71 grm.) which is of Type I. (King with spear).

the coin figured in Pl. V, No. 5, came from Cunningham's collection, and is of very peculiar (though not, so far as I can see, of specially Indian) style.

The gold daric, as is well known,<sup>14</sup> was rated at 20 sigloi, the ratio between gold and silver being as 13·3 to 1.

It is perhaps necessary to say a word here of certain names of coins which, it has been thought, have some connexion with the Persian system. The Elephantine papyri reveal to us the existence in Egypt in the fifth century of a system of reckoning by which

1 kersh	= 10 shekels,
1 shekel	= 4 d(rachmae ?),
1 d(rachma ?)	= 10 hallurin. <sup>15</sup>

*Kersh* is the old Persian *karsha*. The word *hallur* (חֲלֹר) seems to correspond to the Assyrian *khalluru*.<sup>16</sup> Clermont Ganneau ingeniously interprets the system as based on a shekel-tetradrachm of the Attic standard; and this may well be right, although the premiss on which he bases his argument is apparently unsound.<sup>17</sup> It is very doubtful whether the *hallur* was an actual coin, and not merely a money of account; but it would be a convenient unit, since  $\frac{1}{40}$  of an Attic tetradrachm was roughly equivalent to  $\frac{1}{50}$  of a tetradrachm of the 'Babylonian' standard and to  $\frac{3}{100}$  of a tetradrachm of the 'Phoenician' standard, and many coins of those systems must have circulated in Egypt.

*Δανάκη* or *δανάκης* is the Greek form of the old Persian *dānaka*, and is described by late Greek writers (Hesychius and *Etym. Magn.*) as νομισμάτιόν τι βαρβαρικόν, δυνάμενον πλέον ὀβολού.<sup>18</sup> Whether it was a denomination of the Imperial Persian currency may be doubted. But there are small coins, such as the ' $\frac{1}{16}$  shekel' struck at Sidon (about 0·89 grm. or 13·8 grn.) and the Aradian 'obol' (about the same weight) which were fairly plentiful in Phoenicia, and would fit the description.<sup>19</sup> The *ἡμιδανάκιον* which is recorded would, on this theory, be represented by an actual Sidonian coin.

The classification of the Achaemenid coinage, in spite of one or two gallant attempts at solution,<sup>20</sup> remains almost where it was in the days when Lenormant<sup>21</sup> vaguely recognised that there were different profiles to be

<sup>14</sup> Regling, *loc. cit.* p. 100.

<sup>15</sup> See especially A. H. Sayce and A. E. Cowley, *Aramaic Papyri discovered at Assuan* (1906), pp. 22-23; Clermont Ganneau, *Recueil d'Arch. Orient.* vi. pp. 153 ff.

<sup>16</sup> *P.S.B.A.* xxv. (1903), p. 206. What precisely *khalluru* means, however, whether it is a small denomination of weight or coin, seems to me not to be quite made out.

<sup>17</sup> The Hebrew shekel which Josephus (*Ant. Jud.* iii. 8. 2) equates to four Attic drachms is the Tyrian shekel of his time which the Romans tariffed at four denarii (see Hultsch, *Metr. Script.*, Index, s.v. σίκλος, 3).

<sup>18</sup> Hultsch, in Pauly-Wissowa, *R.E.* iv. 2,

2092-3.

<sup>19</sup> *B.M.C.* 'Phoenicia,' p. cii.

<sup>20</sup> See especially Babelon; *Les Perses Achéménides* (1893), pp. xi-xviii; 'L'iconographie et ses origines dans les types monétaires grecs' (*Rev. num.* 1908, and *Mélanges Numismatiques* iv. pp. 254-269); *Traité des Monnaies grecques et romaines*, Part II. i. (1907), 257-64; ii. (1910), 37-71. J. P. Six was for a time working at the problem, and communicated his views to Babelon (*Perses Achém.* p. xiii. n.) and Head (letters in 1891).

<sup>21</sup> *Treasure of Numism., Rois grecs*, p. 135 (1849), quoted by Babelon, *Perses Achém.* p. xiii.

distinguished in the heads of the kings. Barclay Head<sup>22</sup> was content in 1877 to say of the darics (and the same must apply to the sigloi) that 'some are archaic, and date from the time of Darius and Xerxes, while others are characterized by more careful work, and these belong to the later monarchs of the Achaemenian dynasty,' and to describe Lenormant's attempt as a 'refinement of classification.' Thirty-four years later<sup>23</sup> he recognised that there were successive modifications in the physiognomy of the king which suggest rude attempts at portraiture; notably the beardless head, presumably of Cyrus the Younger (Pl. V, No. 3). The latest pronouncement on the subject<sup>24</sup> goes back to Head's position in 1877 and rejects Babelon's identification of the beardless king as Cyrus on various grounds.<sup>25</sup>

That there are various modifications, which enable us to divide the darics and sigloi into groups, is clear; but how far these are to be regarded as 'successive,' and how far they are merely due to local differences of workmanship is another question. It must be remembered also that the dating of other Persian works of art, such as seals, by their 'portraiture' alone is no more secure than the dating of the coins. Had we a dated series of seals, or of other objects with representations of the kings, it might be possible to obtain some evidence for the dating of the coins; although even then it would be necessary to remember that the traditions in one art are not always the same as in another.

The darics and sigloi fall into four very distinct series, according as the Great King is represented as:—

- I. Carrying strung bow in l., spear in r. (Pl. V, Nos. 1–6).
- II. Carrying strung bow in l., dagger in r. (Pl. V, Nos. 7, 10, 11).
- III. Shooting with the bow (Pl. V, No. 12).
- IV. In half-figure, holding strung bow in l., two arrows in r. (Pl. V, No. 13).

<sup>22</sup> *Coinage of Lydia and Persia* (1877), p. 28.

<sup>23</sup> *Hist. Num.*<sup>2</sup> p. 828.

<sup>24</sup> P. Gardner, *Hist. of Ancient Coinage* (1918), p. 90.

<sup>25</sup> These are: (1) Several of the Persian kings came to the throne young. [But none of them was so closely in touch with the Greeks, and therefore so likely to depart from the conventional bearded type; and the little mask of Pan on the reverse of the coin in question is purely Greek in style.] (2) 'The extreme rarity of the coin is a strong reason against supposing that it was issued by Cyrus, who must have used gold coins in great quantities to pay his Greek mercenaries, who received a daric or more a month.' [But there is no reason to suppose that Cyrus wanted more coins for his Greek mercenaries than other Persian kings for their vast armies. The rarity of ancient coins is also too much a

matter of chance to serve as an argument.] (3) 'The weight of the example in Paris (8.46 grm., 130.5 grm.) seems to point to the period of Alexander the Great.' [The darics, on the contrary, which are shown by the style of their reverses (see below) to belong to the end of the Persian period, are not distinguished by high weights; and Regling (*Klio*, xiv. p. 104) finds the average of the double darics (which everybody admits to be of the time of Alexander the Great) to be 16.59 grm., which yields a daric of 8.30 grm., or less than the ordinary Persian daric. A table of frequency (intervals of 0.05 grm.) constructed from Regling's list shows the highest point (11 specimens out of 48) between 16.65 and 16.61 grm., which would place the normal weight a trifle higher than the average. The weight of the Paris specimen is, if anything, in favour of a pre-Alexandrine date.]

Within the first two series the following groups may be distinguished. I give Babelon's attribution in square brackets after each.

*Series I.*—

- A. The King's figure is slight, his head inclined a little forward [Dareios I.]  
See Pl. V, No. 1.
- B. Kidaris usually low; beard more flowing [Xerxes].  
(The distinction between *A* and *B* is often very difficult).
- C. Coarse features, nose large, beard shaggy [Artaxerxes I.]
- C bis.* Similar to *C*, but more definitely barbarous, or connected by reverse dies with barbarous obverses.
- D. Slim figure with straight nose [Dareios II.]
- E. Eye in profile, nose short, cheek full, beard long, V-shaped fold in front of kandys [Artaxerxes II.]. See Plate V, No. 2.
- F. Beardless; kidaris without points (?); kandys of rough material [Cyrus the Younger]; mask of bearded and horned Pan, incuse, at side of incuse of reverse. See Plate V, No. 3, where a *negative* reproduction of the reverse is illustrated, so as to show the head of Pan in relief.
- G. Short figure, large head, square beard, straight nose.
- H. Short, squat figure; curls at side of beard; nose usually aquiline; V-shaped fold in front of kandys; fabric of coins usually small and circular. See Pl. V, No. 4.
- H bis.* Ends of hair curling; comparatively short beard; fabric of coin neat and circular. See Pl. V, No. 5.
- K. High relief; straight nose; long beard. Reverse pattern of wavy lines, approximating to that of Babylonian double-darics. See Pl. V, No. 6, and compare the reverse with that of No. 14, a double daric.

*Series II.*—

- A. Body without indication of waist.  
(a) With symbols on reverse. See Pl. V, Nos. 7–9.  
(b) Without symbols on reverse.
- B. Generally similar to *A* (b), but with pellets indicating ornament on undersides of sleeves of kandys.
- C. Barbarous in style.
- D. Coarse style; waist indicated; large nose; exergual line, where shown, is dotted [Arses]. See Pl. V, No. 10.
- E. Neat style; three or four annulets on breast of kandys; exergual line plain; fabric of silver resembling Series I. *H* or Series III. [Arses and Dareios III.] See Pl. V, No. 11.

*Series III.* and *IV.* [both given to Artaxerxes III. by Babelon] seem to allow of no division into groups.

The last two series are much rarer than the others, and differ from them in fabric, being as a rule round, instead of oblong in shape, and of much neater

workmanship. I have noticed among these no instance of barbarous style, and only two cases of punch-marking, and these punch-marks are placed on the edges instead of on the faces of the coins. The style of the coins of Series III. seems to be characteristically Persian, and there can be no probability that they were made in the portions of the Empire amenable to Greek influence. There is one group (*H*) among the coins of Series I. which approaches Series III. in neatness and roundness of fabric, and the same is true of Group *E* in Series II. Darics corresponding to Group *H* of Series I. are very scarce,<sup>26</sup> and the Series III. and IV. consist entirely of silver, with the exception of the tiny gold coin from the Montagu Collection (now in the British Museum) and its fellow at Berlin. Possibly this rarity of the gold pieces points to their having been issued in a different part of the Empire from the others.

In addition to the four ordinary series of Persian Imperial coins there exists a single gold coin,<sup>27</sup> with an obverse of Series I., on which the usual incuse reverse is replaced by the design of a ship's prow; on the side of the prow is the sign  $\mathfrak{G}$ , which is explained as the Carian letter  $\epsilon$  or *eu*. Babelon suggests that it was struck by Memnon the Rhodian when in command of the Persian fleet off the Carian coast in opposition to Alexander the Great. In style it certainly seems to belong to the latest period of the Persian coinage.

When we attempt to determine the classification of the coinage according to periods, we find that the fixed, or more or less fixed, points are few. One is offered by the hoard of 300 darics which was discovered about 1839 in the Canal of Xerxes at the foot of Mt. Athos<sup>28</sup> together with about 100 early Athenian silver tetradrachms, in the finest possible condition. It is a legitimate conclusion that darics of this group are probably not later than the time of Xerxes. The Paris Cabinet acquired 2 out of the 125 which passed through Borrell's hands<sup>29</sup> and these Babelon assigns to Xerxes, with the sigloi which seem to belong to the same group. One would like, before using the Canal provenance as a guide to classification, to be sure that these nine coins are representative of the hoard. In any case, it hardly seems proven that they are necessarily of Xerxes and not of Dareios I. They are certainly of worse workmanship than those which Babelon would assign to the earlier king, but, especially in dealing with a series like the Persian, it is unsafe to assume that the better coins are always the earlier.

Another point which possesses a certain degree of stability is the

<sup>26</sup> Babelon, *Perses Achém.* p. 8, No. 64 = *Traité*, Pl. LXXXVI. 10, describes one. Another was in the E. F. Weber Collection (*Hirsch Katal.* xxi. 4407, Taf. LVIII., where it is described as having a *cruz ansata* as symbol in field of obverse).

<sup>27</sup> Babelon, *Perses Achém.* p. 15, No. 124, Pl. II. 22; *Traité*, II. ii. 36, Pl. LXXXVII. 24. For other views, see P. Gardner, *Hist. of Ancient Coinage*, p. 334.

<sup>28</sup> H. P. Borrell, *Num. Chron.* vi. 1843, p. 153, note 56.

<sup>29</sup> In H. P. Borrell's sale (Sotheby's, 1852, July 12-21) there were only 6 darics (lots 426-31), all from the Canal Hoard, and none of these was acquired by the British Museum. It is of course quite possible that certain specimens afterwards acquired from M. J. Borrell and Woodhouse and Sabatier may have originally come from H. P. Borrell

identification of the daric of the beardless King (Pl. V, No. 3). Babelon has made out a good case for the attribution of this rare piece<sup>30</sup> to Cyrus the Younger<sup>31</sup>; although it may seem rash, when we are dealing with so small a piece, to assert that the figure 'a le visage empreint d'un caractère de douceur et d'intelligence qui convient plutôt à un Grec qu'à un Asiatique,' while the statement that the kidaris is not surmounted by spikes, like that of the ordinary kings, but resembles the 'toque' of a magistrate, might be upset by the discovery of a specimen on which the top of the kidaris was fully preserved. The workmanship of the coin is certainly more careful than usual. A curious fact may be noted about the reverse; the small horned and bearded human mask<sup>32</sup> which stands beside the incuse impression is not a punch-mark, but was worked (in relief) on the original die; it is in exactly the same position on both known specimens. It is clearly the mask of Pan or a satyr.

A third fixed point is provided by the general resemblance to the double darics of the reverses of the group with the figure in high relief (Group *K* of Series I. Pl. V, No. 6). The reverse shows a tendency to be filled with a pattern of wavy lines, which is on the point of developing into the well known pattern of the reverse of the double darics (Pl. V, No. 14). Since it is now generally admitted that the double darics belong to the Alexandrine period, these darics of Group *K* must belong to the last Persian king, Dareios III. A number of sigloi, with the ordinary type of reverse, resemble these darics in the relief and treatment of the obverse. There are also a certain number of darics (e.g. one in Mr. Newell's Collection) which, although they do not show the peculiar reverse, resemble the *K* darics in the purely Greek style of the portrait.

When, however, with the help of these more or less fixed points we attempt to classify the coins within the lines drawn between them, the difficulty of distinguishing groups, and, when they are distinguished, of saying which are the older and which the earlier, still remains as great as ever. Some of the groups—such as Babelon's first three groups attributed to Dareios I., Xerxes, and Artaxerxes I.—merge into each other almost imperceptibly. The coins are frequently so badly struck that it is impossible to say whether two are from the same die, or whether one is copied from the other; and, if the latter is true, the second coin may well belong to a later group than the first.

It would seem that the only direction in which a solution is to be expected is the recording of finds of darics or sigloi with other coins

<sup>30</sup> The only two specimens extant appear to be those in Paris and London, which are from the same dies on both sides. Babelon groups with them a siglos (*Traité*, Pl. LXXXVI. 18) which is, to judge by his reproduction, so badly worn that the beardlessness of the figure can hardly be assured.

<sup>31</sup> *Perses Achém.* p. xv. On the objections

which have been raised to this identification, see above, p. 119, note.

<sup>32</sup> Babelon's contradiction of Head's perfectly correct description of this head is perhaps due to his having looked at the coin sideways; although even so it is difficult to see a boar's head in the object.

susceptible of being dated. So far only two or three such finds have been noted or at any rate properly described. Four darics were included in the Avola Hoard, presumably the earlier of the two hoards which go by that name,<sup>33</sup> and are therefore to be dated before about 360 B.C. The only one of these darics which has been published belongs to the small but well-marked group called *E* in this Catalogue, and is of a type attributed by Babelon to Artaxerxes II. Mnemon. Another daric, from the same reverse die,<sup>34</sup> was included in a hoard of Cyzicene staters<sup>35</sup> which Head thinks was probably deposited not much later than 412 B.C. Six however (in one of his letters above mentioned) dated the Cyzicenes of this hoard, 'before and after 400.' All the coins illustrated by Head belong to von Fritze's<sup>36</sup> Groups II. *b*, *c*, or III. *a*, *b*, except the coin with the two eagles on the omphalos,<sup>37</sup> which von Fritze places in his Group IV.; his upper limit for that group is about 410 B.C. Wroth places the same type in his third period (480-400 B.C.). We may not unreasonably assume that if it belongs to von Fritze's fourth group, as is indicated by the coarse granulation of the reverse, on which he bases his classification, it must come fairly early in the group, probably before 400 B.C. The evidence of these two finds, taken together, goes to show that the daric in question was earlier than about 400 B.C. Six remarked that this particular type of daric 'a été recueilli en nombre dans la grande trouvaille de Cyzicènes' in question; if that is so, and all were in as good condition as the one illustrated by Head, it is probable that this type of daric belongs to the last quarter of the fifth century, but that it was struck by Dareios II. Nothos (424-405 B.C.) rather than by Artaxerxes II. (405-359 B.C.).

A second Sicilian hoard, from Mammanelli near Avola, has recently been described by P. Orsi.<sup>38</sup> It has unfortunately not been secured in its entirety. It contained from 300 to 400 gold coins, viz., about 100 hectolitra of Syracuse, about 100 pentekontalitra of the same mint, and about 100 darics. Of these last Orsi illustrates one and describes five, attributing them all to Artaxerxes I. Makrocheir (465-425)<sup>39</sup>; they would therefore belong to our Group *C*. To judge, however, from the casts which he has kindly sent me, it would appear that one of them is of our Group *E*, with the distinct

<sup>33</sup> See Miss Baldwin in *Zeit. für Num.* xxxii. 1915, pp. 4-6 on the two hoards. It is supposed that what was by Löbbecke taken for a single hoard, deposited about 320 B.C., was really made up of two, the earlier of which, containing the gold coins, was buried about 360 B.C. One of the darics in question (there were four) is illustrated by Löbbecke in *Zeit. für Num.* xvii. 1890, Taf. vi. (wrongly numbered x.) 1. Recently this find has been discussed by P. Orsi in *Atti e Mem. dell' Ist. Ital. di Num.* iii. (1917), pp. 6 ff.

<sup>34</sup> This reverse die, apart from its distinctive markings, is recognisable by the

granulation at one end of the incuse. Sir Hermann Weber possessed another daric from the same reverse die, and one was sold at Sotheby's sale, 7 Dec. 1915, Lot 1.

<sup>35</sup> B. V. Head, *Num. Chron.* 1876, p. 286, Pl. VIII. 1.

<sup>36</sup> *Nomisma*, vii.

<sup>37</sup> *Num. Chron. loc. cit.* Pl. VIII. 6; von Fritze, *loc. cit.* Taf. VI. 32.

<sup>38</sup> *Atti e Mem. dell' Ist. Ital. di Num.* iii. (1917), pp. 1-30.

<sup>39</sup> He assumes Babelon's classification to be substantially correct.

reverse already noted in other specimens of that group (above, p. 123, note 34). The other four are two from one pair of dies and two from another. Neither pair seems to me to belong to 'Artaxerxes I.,' *i.e.* to our Group *C*; in their comparatively refined style they seem to me to be of a distinct type, approximating to *E* more closely than to any other; they show the V-shaped fold in the kandys. The find, according to Orsi, was buried in the last years of the fifth or the first years of the fourth century; the darics show more or less signs of wear. The weight of each of the five coins is 8.3 grammes.

So far the evidence does not violently contradict any proposed classifications. But when we come to the hoard of coins described by E. T. Newell,<sup>40</sup> we obtain some important data, which throw a new light on the question. It will be observed that in the classification given above the sigloi of Series II. are divided into four groups (excluding purely barbarous coins); on two of these groups (*A*, *B*), the body of the king is represented without any indication of the waist (*e.g.* Pl. V, No. 7); on the others (*D*, *E*), the attitude is less stiff, the waist is marked, and more detail is displayed in the drapery (*e.g.* Pl. V, No. 10). Now in Mr. Newell's find only the waistless groups were represented<sup>41</sup>; and the evidence of the other coins in the hoard proves conclusively that all the sigloi present were struck before about 380 B.C., the date of the deposit. Further, to judge by their worn and punch-marked condition, it is unlikely that any of them were struck later than the fifth century. This suggests that the 'waistless' varieties belong to the earlier kings, before the time of Cyrus the Younger, and also that the other varieties of Series II. belong to the fourth century. Further confirmation of this view comes from the hoard published by J. G. Milne,<sup>42</sup> which consisted entirely of sigloi of Series I. of the earlier, sixth-fifth century, types (Groups I. *A* and I. *B* in our classification), and sigloi of the 'waistless' types of Series II. Yet again, out of eight coins obtained at Panderma, from a small hoard said to have been found at Miletopolis, seven are of the earliest types of Series I. (*A* or *B*), and one of the waistless type (Series II., *A* or *B*, much worn).<sup>43</sup> Finally, Mr. Newell provides a similar slight confirmation of the early date of the 'waistless' type. Of four sigloi which he bought at the same time from an Armenian dealer in Paris, and which, together with about a dozen others not bought, evidently came from a find, one is of the 'waistless' type, and the other three all of early types.

<sup>40</sup> *Num. Chron.* 1914, pp. 1 ff.

<sup>41</sup> A siglos which Mr. Newell received from Dr. Haynes's family after the publication of his article, and which by its appearance undoubtedly belonged to the 'Cilician find,' was also of the 'waistless' type.

<sup>42</sup> *Num. Chron.* 1916, pp. 1 ff.

<sup>43</sup> Mr. F. W. Hasluck, who obtained the coins from a money-changer, is not confident that the statement of their provenance was

correct. The eight coins still available for examination passed into the possession of Mr. E. S. G. Robinson, who presented two of them to the British Museum. Only one of the eight is without a punch-mark, and on no less than six of the others we find the same mark, No. 53a in the Table, p. 126. It would appear therefore that this mark was impressed by the person who had the coins not long before they were buried.

This appears to exhaust the present possibilities of chronological classification. It seems clear that types (i) *King with spear* and (ii) *King with dagger* continued in use throughout the whole course of the coinage, and that types (iii) *King drawing bow* and (iv) *King in half-figure*—which are unrepresented in the finds of early sigloi—belong to the later period of the coinage, since they approximate in fabric and style to those varieties of Series I. and II. which are not represented in the finds of early sigloi. The comparative rarity of punch-marked coins of this series admits of explanation if this chronology is adopted, and if, as I believe, the punch-marking was chiefly done in the Eastern Mediterranean.<sup>44</sup> It was only towards the end of the fifth century that the Persian Satraps began to make issues of any importance, and it was only in the half century from about 386 to 333 that these issues were so numerous as to supply the wants of the population under satrapal control. Until then, sigloi must have circulated in Asia Minor and Syria in great quantities, and it was in this earlier period, before the rise of the great satrapal coinages, that the punch-marking was chiefly done. But in the fourth century the import into Greek lands of the Persian sigloi must have been greatly diminished, the demand being supplied by the local and satrapal money. Hence these later sigloi are not punch-marked to anything like the same extent as the earlier.

Here we must leave the question of chronological classification. As regards the attribution of the various groups to individual kings, apart from the slight indications which have been noted above, the less said the better.

Mr. Milne has been the first to call attention to the extremely interesting groups of coins with small symbols, sometimes in relief, sometimes incuse, on the reverse. These all<sup>45</sup> belong to the 'waistless' variety of Series II. (Pl. V, Nos. 7-9), and are therefore, if our chronology is right, of the fifth century. Mr. Milne has made the very plausible suggestion that the lion'shead (Pl. V, No. 7) may indicate the mint of Sardes. The sigloi similar to Pl. V, No. 8, with what appears to be a curiously stylized lion's scalp, can hardly be separated from the others. Of the symbol on the coin illustrated in Pl. V, No. 9, I have no explanation to offer.

*The Punch-Marks* (Fig. 1). There can be little doubt that these<sup>46</sup> were impressed on the coins by local bankers or money-changers, who were also doubtless responsible for the stabbing and cutting of the coins with the object of testing their purity. One would have thought that a single cut

<sup>44</sup> This is also Babelon's view: *Perses Achém.* p. xi.

<sup>45</sup> With the exception of the daric attributed to Cyrus and, possibly, of one siglos.

<sup>46</sup> Which must be strictly distinguished from the incuse symbols mentioned above, which form part of the reverse dies. For convenience of reference, the punch-marks which occur on coins which I have been able to examine, together with a few others drawn from casts, are collected in the accompanying

table (p. 126). It must be remembered that these marks are usually very imperfectly impressed, and it is consequently often impossible to recognise with certainty the design, or to draw it correctly. The drawings here given, though not by a professional draughtsman, are made with a view to showing no more than is visible on the original or can be reasonably inferred by comparison with other specimens.

would have been sufficient for this purpose, but some coins have been reduced almost to fragments. In spite of the occurrence among the punch-marks of

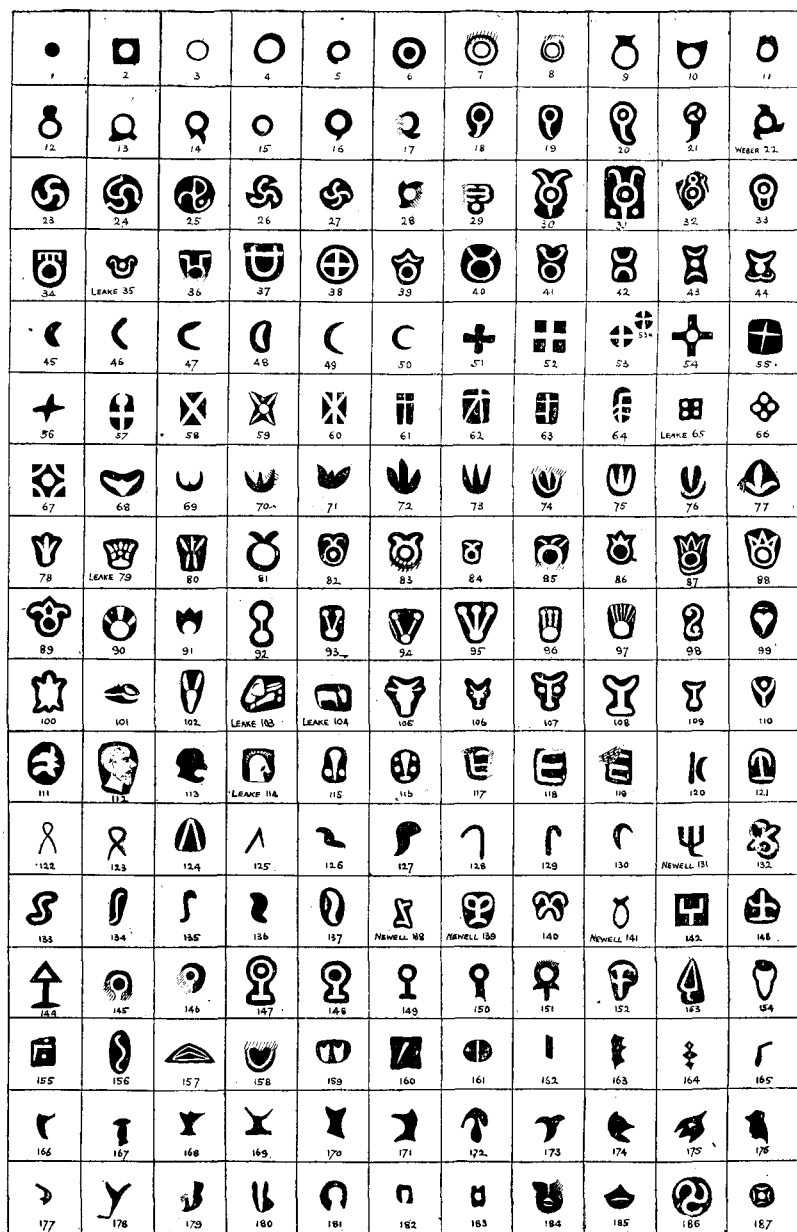


FIG. 1.—PUNCH-MARKS ON PERSIAN SIGLOI.

designs which suggest coin-types, such as the tortoise (No. 100 in the table) and the Aeginetic reverse design (No. 62), it is improbable that any of the

punch-marks were impressed by mint-authorities, although it is a reasonable conjecture that these Aeginetic-looking punch-marks were more probably impressed in Aegina than elsewhere. Such a head as that in No. 112 cannot have been designed by any but a Greek artist. (I beg the reader not to judge of the style of the original by the drawing.) The tetraskeles (No. 27), triskeles (Nos. 22-26 and 186) and monoskeles (Nos. 18-21) seem to point to Lycia; and this is partly confirmed by provenance, although the characteristic central ring is absent from the tetraskeles and triskeles. Babelon has noted the letters  $\Theta \Sigma$ <sup>47</sup> which are found on Lycian coins. Certain marks, such as the varieties of *ankh* (Nos. 147-151) and forms like Cypriote signs for *ba*, *si*, and *ro* (Babelon, *Perses Achém.* Pl. XXXIX. 8, and our Nos. 121-123), or Phoenician letters *gimel*, *yod*, *pe*, *mem* (Nos. 124-132) seem to indicate the coasts of Cilicia and Syria and Cyprus as a source. Rapson,<sup>48</sup> it is true, held twenty-four years ago that some at least of the punch-marks were Indian in origin, and included Brāhmī and Kharoṣṭhī characters. But of the former, his *yo*, if turned upside down would serve for the Cypriote *si* (No. 121), his *va* is more probably a more or less mutilated *ankh*, his *kha* is the Lycian monoskeles (Nos. 18 f.); his *pa*, if turned upside down, may be the Phoenician *p* (No. 128); his *ja* may be the Greek E (Nos. 117-119). He is inclined to think that his *go* (No. 140), is more probably to be completed as the symbol No. 81; but, as a matter of fact, it must be conceded to him that the form as given is correct. This exhausts his list of Brāhmī characters. Of the Kharoṣṭhī his *ma* is, he admits, in some instances at least, probably a crescent (Nos. 45 ff.); his *me* is a kind of flower (Nos. 70 ff.); his *mam* is really the symbol No. 173, his *ti* may equally well be a Phoenician *mim* (No. 132); while his *da* and *ha* (Nos. 133 ff.) are not sufficiently characteristic to afford strong evidence on either side. Newell<sup>49</sup> has added one or two more to this list of alleged Indian characters. No. 138 in our table he compares with Kharoṣṭhī *ta*, but there is nothing very close to the form in Bühler's table.<sup>50</sup> No. 139 (drawn by him without the complete loop on the right hand) he compares with Kharoṣṭhī *gha*; as here drawn it comes much closer to Brāhmī *cha* (upside down). His Nos. 32 and 16 I take to be floral in origin, and less angular than he has depicted them; his No. 24 (our No. 141) is not really very like Brāhmī *khi*; nor do I quite see with which Brāhmī sign he would identify his No. 31; his No. 37 is hardly characteristic enough to serve as basis for argument. On his coin No. 94 he says there is an elephant punch-mark, but this is not visible on the cast before me, unless his No. 12 is meant for it; and that appears to me to be a geometrical design of some kind.

<sup>47</sup> *Perses Achém.* p. xi and p. 7, No. 58.

<sup>48</sup> *Journal of the R. Asiatic Society* (1895), pp. 865 ff. I understand that he no longer maintains this view, at least in its entirety.

<sup>49</sup> *Num. Chron.* 1914, pp. 27 f. I have drawn those which are included in our table from casts of his coins. It should be said

that the little table illustrating Mr. Newell's article in *Num. Chron.* was re-drawn in England for purposes of reproduction, and may not always do justice to his intention.

<sup>50</sup> 'Siebzehn Tafeln zur Ind. Paläographie' (*Grundriss der Indo-Arischen Philologie und Altertumskunde*, 1896).

At the best we may grant that there is occasional coincidence between the punch-marks and the forms of Indian letters, and that it would be very satisfactory if their identity could be proved, since many marks otherwise uninterpreted would acquire significance. But we may still ask for more evidence that these Indian letters were used to any extent by the Indians in marking their own silver coins. Other marks they used in plenty, but these apparently not at all, or only to a very limited extent.

Of the three symbols which Rapson instances, the 'taurine' (Nos. 40, 41) would give most support to the Indian theory, if it could be shown that this astronomical symbol was peculiar to India. But there seems to be little doubt that it is not so confined and, indeed, that its home was rather in Eastern Asia Minor, Northern Syria, or Cyprus.<sup>51</sup> Nos. 60 and 58 on the other hand might be Cypriote or Lycian letters (though they are more probably mere patterns); and the triskeles, though it may be nearer the Indian<sup>52</sup> than the Lycian form, is too widely diffused a symbol to carry much force in the argument. It is worthy of notice that three specimens marked with the triskeles probably came from Lycia, since they were once in the collection of Daniell and Graves, and one marked with the tetraskes came from a Smyrniote collection. The tetraskes occurs on one of Mr. Robinson's little find from Miletopolis. Finally, of all the sigloi in the British Museum, only five come from Cunningham or the India Office, and of these it is significant that only one is punch-marked. There are in the British Museum no other sigloi of definitely Indian provenance, though there are many from Persia.

A day spent in examining carefully the collection of Indian punch-marked coins in the British Museum, while the punch-marks on the sigloi were still fresh in memory, the drawings for the accompanying table having just been completed, has left the distinct impression that the two sets of punch-marks have nothing whatever to do with each other. There may be certain curious coincidences as between a mark on one of the Indian coins and No. 153, although the Indian example does not show the hooked handle of the blade (or stalk of the leaf, whichever it may be). But the point to remember is that the leading characteristics of the two sets are quite different; the forms chiefly characteristic of the sigloi, such as the floral symbols (Nos. 68 ff.), the *ankh* (Nos. 147 ff.), the bull's head and its derivatives (Nos. 105 ff.), occur with extreme rarity or not at all on the Indian coins; and forms characteristic of the Indian series, such as the Stupa, or Chaitya, do not occur on the Persian.

<sup>51</sup> Mrs. Maunder refers, in this connexion, to the Cypro-Mycenaean cylinder, *J.H.S.* xxi. (1901), p. 169, Fig. 147. This is an example of the orb surmounted by a crescent, which is doubtless the origin of the symbol; and this crescent resting on a globe seems to be of Babylonian or Mesopotamian origin. The punch-mark with the two crescents back to

back (No. 42) is also probably a lunar symbol: see Roscher's *Lex. s.v. Sin*, 909.

<sup>52</sup> As a matter of fact, I do not find on the Indian punch-marked coins in the British Museum anything corresponding exactly to the form on the sigloi except in the case of No. 22; Rapson appears, from his remark on p. 806, to have met with the same difficulty.

It would probably be possible with a little ingenuity to find a number of analogies between these punch-marks and signs in various other scripts. Thus Nos. 52, 58, 117, 120, 124, and 133, and Mr. Newell's No. 37 (inverted) could all be interpreted as Lycian *spiritus asper*, sonant *m*, *ι*, *κ*, *λ*, *σ* and *τ* respectively<sup>53</sup> and some of the same, of course, as pure Greek; or again No. 142 as Himyarite **Ⲛ**, while Nos. 30 and 143 both suggest Himyarite symbols. But it seems idle to lay stress on these resemblances, which may be purely accidental.

G. F. HILL.

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<sup>53</sup> On the other hand the alleged Lycian **Ⲛ** Babelon, *Perses Achém.* p. xi) is really No. (Fellows, *Coins of Ancient Lycia*, Pl. VIII. 2; 172 in our table.