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American Journal of Numismatics, Second Series

AMERICAN JOURNAL OF NUMISMATICS

1



Second Series, continuing
The American Numismatic Society Museum Notes

THE AMERICAN NUMISMATIC SOCIETY

NEW YORK

1989

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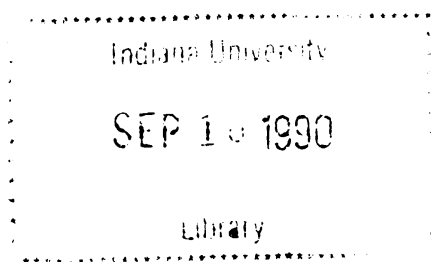
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REATTRIBUTION OF THE "MYRIANDRUS" ALEXANDERS: THE CASE FOR ISSUS

(PLATES 1-2)

J. D. BING

The fullest historical use of the coins of Alexander can only be made after they have been securely dated and securely attributed to the mint of a particular city. This is the prime concern of the numismatist, who should resist the temptation to turn to historical conclusions until after the basic facts have been established.¹

Regarding the municipal coinage in Alexander's empire, Alfred R. Bellinger observed:

It is not easy to find a consistent policy in the use or omission of mint marks. Apparently the greatest mints: Pella, Amphipolis, Tarsus, Babylon, and Alexandria dispense with them, but by no means all the lesser ones invariably use them and Newell's feeling that the difference was between imperial and local issues is hard to support. Here, as so often in ancient numismatics, one finds a general conformity without absolute uniformity which is distressing to what one likes to think of as the tidier minds of our day.²

¹ Martin Jessop Price, "On Attributing Alexanders—Some Cautionary Tales," *Essays Thompson*, p. 241, also pp. 246 and 250.

² Alfred R. Bellinger, *Essays on the Coinage of Alexander the Great*, ANSNS 11 (New York, 1963), p. 56.

An example of an anomalous lesser mint which issued coins without mintmarks would be "Myriandrus"—if E. T. Newell's 1920 attribution of a distinctive group of Persian staters and obols along with a distinctive group of Alexander issues is correct.³ The absence of a mintmark or any indication of place of origin is perplexing. Scarcely less mystifying is that no other coinage from Myriandrus is known beyond those issues attributed by Newell.⁴

The Myriandrian issues are the more troublesome because most early mints in the surrounding regions issued coins which clearly indicated their place of origin. This is true of the better known cities of eastern Cilicia: Soli in the fifth and fourth centuries with its name ΣΟΛΕΩΝ, ΣΟΛΙΟΝ, and ΣΟΛΙΚΟΝ; Tarsus in the mid-fifth century with Aramaic *trz* (Tarz) and in the fourth century with Greek ΤΕΡΣΙΚΟΝ; Mallus by the fourth century with the three Greek letters, ΜΑΡ, and Aramaic *mrln*; and Issus possibly in the fifth but certainly by the fourth century with ΙΣΣΙΚΟΝ and ΙΣΣΙ (Plate 1, 1).⁵ The same phenomenon also obtains for Nagidus and Celenderis, smaller and less well known towns of mountainous western Cilicia in the fifth and fourth centuries.⁶

The same tendency to mint coins with ethnics is generally the case for Phoenician cities to the south of Myriandrus. Aradus's coins have *m'*,

³ E. T. Newell, *Myriandros—Alexandria Kat'issos* (New York, 1920), hereafter *Myriandros*.

⁴ *BMCPHoenicia*, p. cxlv, n. 2, is the only place in this volume where the name Myriandrus occurs, and this in regard to a very conjectural attribution. Also see *BMCSyria*, p. lxxix, where only two doubtful attributions are mentioned. Ernest Babelon, *Les Perses Achéménides* (Paris, 1893), pp. clxxxi and xlvi, suggested either Issus or Myriandrus as the location of the mint for Sidonian types issued by Mazaeus; Hill attributed these issues to Sidon: *BMCPHoenicia*, pp. xcvi-c; compare J. P. Six, "Le Satrape Mazaios," *NC* 1884, pp. 144–51. Also see Cynthia Milton Harrison, "Coins of the Persian Satraps," Ph. D. diss., University of Pennsylvania, 1982, p. 363, who noted the absence of certain attributions to Myriandrus in the Persian period, and refuted Newell's Myriandrian thesis. Harrison does not provide a satisfactory solution to the attribution problem for the series of coins identified by Newell.

⁵ *BMCLycaonia*, pp. lxxi-lxxiii, 144–52, Soli; 162–73, Tarsus; pp. cxvii-cxxii, 97–100, Mallus; pp. cxxvi-cxxviii, 90, and *HN*, p. 722, Issus.

⁶ *BMCLycaonia*, pp. xlii, 109–15: Nagidus, ΝΑΓΙΔΕΩΝ, ΝΑΓΙΔΙΚΟΝ; *BMCLycaonia*, pp. 51–56: Celenderis, ΚΕΛ.

“from Aradus,” consistently throughout its early numismatic history.⁷ In the middle of the fourth century Azbaal, king of Byblus, placed his name and title on his coins ‘*zb’l mlk gbl*.⁸ Sidon’s name begins to appear only after Alexander: at first, its initial in Phoenician (Plate 1, 2), and subsequently Σ and ΣΙ.⁹ Tyre’s ethnic does not appear on its fifth and fourth century issues. Mint marks are not limited to the name of the city, and Tyre’s early issues can be identified by distinctive symbols. Early Tyrian coins display a dolphin over waves; later the dolphin and waves appear with bearded Melqart, the city’s patron deity, riding on a hippocamp.¹⁰ In the absence of Myriandrus’s name or its abbreviation, Newell’s attribution relied on symbols, arguing for their unique appropriateness to this city.

My purpose herein is to reexamine the argument in support of the Myriandrus attribution, indicate the tenuous nature of the evidence, and suggest a reattribution to a location which appears to be more strongly supported by the numismatic evidence. These issues should be reattributed to Issus, which was a well-known mint in southeast Cilicia. Issus’s geographical setting as well as evidence of Persian administrative arrangements in Cilicia and Syria before Alexander’s arrival tend to support the reattribution. Possible further support of the reattribution may be found in the mint marks and monograms occurring on the so-called Myriandrus Alexanders.

The attribution to Myriandrus rested partially on the prior existence of a mint in that city under the Persians. A Persian mint was argued for Myriandrus from the style and images associated with a distinctive group of fourth century Persic staters which can be divided into two

⁷ *BMCPhoenicia*, pp. 1–12. Also Posideion, located between Myriandrus and Aradus, struck coins displaying its ethnic ΠΟΣΙΔΕ in the late fourth century. See Georges LeRider, “L’Atelier de Posideion et les monnaies de la fouille de Bassit en Syrie,” *Bulletin de Correspondence Hellénique* 110 (1986), pp. 393–408, esp. pp. 400–402.

⁸ *BMCPhoenicia*, pp. 95.

⁹ E. T. Newell, *The Dated Alexander Coinage of Sidon and Ake* (New Haven, 1916), pp. 7–38; also compare Georges LeRider, “Numismatique Grecque,” *Annuaire École pratique des hautes études*, Section Sciences, Historiques et philologiques (Paris, 1968–69), pp. 182–83.

¹⁰ *BMCPhoenicia*, pp. 229–30.

series. Those belonging to the earlier include two silver stater on which Baaltarz appears on one side looking more like the enthroned Persian king than the usually hellenized Cilician deity. The Aramaic legend, *b'ltz*, identifies the figure as the god.¹¹ The distinctive portrayal of Baaltarz suggests a mint other than Tarsus. The reverses have a lion, believed to be emblematic of the city minting the coins. Two staters show the lion crouching to the left with a strung bow above.¹² One obol has a lion attacking a recumbent bull, and another depicts a striding lion.¹³

The striding lion connects the first series to the second which appears to have been minted entirely under the auspices of Mazaeus, satrap of Cilicia and Syria from ca. 345 to ca. 336,¹⁴ whose name in Aramaic (*mzdy*) often appears above the lion.¹⁵ The prominence of the lion on issues of both series led Newell to designate them "lion staters," distinguishing them from the "Tarsian staters" also issued by Mazaeus. The lion staters' obverses are close in design and style to Mazaeus's Tarsus staters. Based on comparison of the Baal figures, Newell dated the beginning of series 2 of the lion staters to the time of series 6 of the Tarsus staters (compare Plate 1, 4 with 5-7).¹⁶ Despite the similarities between these issues, they do have important differences.

The lion staters begin with a linear circle on both obverse and reverse, and only later show dotted circles first on obverse only. At Tarsus the dotted circle occurs consistently throughout all the issues. The more

¹¹ *Myriandros*, pp. 16–19; the two series of Persian coins were first identified by Babelon, *Traité 2*, cols. 467–75.

¹² *Myriandros*, p. 16, 1–2, and pl. 1, 1.

¹³ *Myriandros*, pp. 16–17, 3 and 5, and fig. 21.

¹⁴ Mazaeus became governor of Cilicia ca. 361. The date for the extension of his authority over Syria was given as 351/350 by Diod. 16.46.4, which was rejected by O. Leuze based on Mazaeus's dated coins from Sidon (see below, n. 53); also for the end of Mazaeus's tenure in Cilicia ca. 336, see discussion below.

¹⁵ *Myriandros*, pp. 17–18, 6–17, pl. 1, 2 and 3.

¹⁶ *Myriandros*, p. 15; E. T. Newell, *Tarsos under Alexander* (New York, 1919), p. 15, here after *Tarsos*. The similarity of the last issues of Mazaeus and the first of Alexander at Tarsus and "Myriandrus" is so striking that Newell suggests that Alexander used the same die cutters and other personnel. See *Myriandros*, p. 29. Also see below, n. 92.

Persian type of Baaltarz in the first series of lion stater makes it difficult to place it in the Tarsus sequence which portrays a more hellenic Baaltarz from the time of the satrap Datames in the second quarter of the fourth century. Nor can series 2 of the lion stater be placed at Tarsus prior to series 6 (which they most closely resemble) without a radical break in continuity of types.¹⁷ Finally, one characteristic feature associated with the Baaltarz on most Tarsus stater is consistently absent on the lion stater: grape clusters and shafts of wheat. These symbols of the agricultural productivity of the Cilician plain around Tarsus are associated with Baaltarz long before Mazaeus's Tarsus issues. There can be no doubt that the lion stater and the earlier coins grouped with them must have an attribution other than Tarsus.¹⁸ Since Newell believed the other Cilician mints were inactive and Mazaeus was also governor of Syria as well as Cilicia after 351, the logical place for the mint of the lion stater would be Mazaeus's Syria, giving him a mint in each province (Plate 1, 4, illustrates Mazaeus's double satrapy).

Newell argued that the prowling lion was a characteristic emblem of north Syrian coinage where it occurs repeatedly. It is commonly found on coins from Bambyce and later at Hieropolis. The kings of Commagene placed the prowling lion on their early coinage, and it also appears on the coins of Samosata as well as Palmyra. In Newell's words, “There is in fact no one type more indicative of northern Syria than the lion.”¹⁹

The ubiquity of the lion as an ancient symbol lessens the force of Newell's argument. The lion appears on very early Persic stater attributed to Issus.²⁰ While the prowling lion seems closely associated with

¹⁷ *Myriandros*, p. 21.

¹⁸ *Myriandros*, p. 22.

¹⁹ *Myriandros*, p. 23. See *BMCSyria*, p. 138, 1, and pl. 17, 7, shows a coin from Hieropolis dated to about 331, which seems to derive from Mazaeus's lion stater. This silver coin has Alexander's name in Aramaic on both sides, and the reverse shows a lion walking left with gaping jaw.

²⁰ Six (above n. 4), pp. 114–15, pl. 5, 8–9, attributed to Issus two classes of Persic stater showing on obverse the forepart of a lion; the attribution is conjectural, *BMCLycaonia*, p. 90. Newell believed the attribution was strengthened by a specimen in a Cilician hoard, “A Cilician Find,” *NC* 1914, p. 14, pl. 2, 14.

northern Syria, this may have originated with the Mazaeus stater rather than the satrap's adopting it from an already established northern Syrian emblem. All the examples Newell used in support appear to be later than the time of Mazaeus. The difficulty is not so much the northern Syrian provenance of the Mazaeus lion stater, but rather the more specific attribution to Myriandrus.

Newell supported the Myriandrian hypothesis with three arguments: 1) the prowling lion has an astral and geographical association, both uniquely appropriate to Myriandrus; 2) Myriandrus was a major terminal for trade routes from Mesopotamia and the Syrian interior as well as a major seaport thriving with commercial shipping; 3) no Cilician mint is suitable since Tarsus was the only mint still operational after 350 except for autonomous issues at Soli. These propositions will be considered in the order above.

The lion is associated with two geographical features which point directly to Myriandrus as the mint in question, sea and mountains. On some issues the lion prowls above waves and fish (Plate 1, 5), while on others it stalks above mountainous terrain (Plate 1, 6). On other issues the lion's astral association is indicated by a sixteen-pointed sunburst hovering above it and a sharp crescent moon below (Plate 1, 7). The sun and moon may in turn be connected with the mountains and the sea. From the perspective of the inhabitants of Myriandrus, the planets rise above the mountains and set in the sea to the west. The astral and geographical features on the lion stater do provide circumstantial evidence for locating their mint on the Mediterranean coast where mountains from the east encounter the sea to the west. Myriandrus, of course, does not have exclusive claim to these conditions. In fact, the same circumstances apply to the approximate location of Issus.²¹

²¹ The exact location of neither Myriandrus nor Issus is known, although Issus's relative location is adequately indicated in the ancient texts, e.g. Xen., *Anab.* 1.4.1–7, gives its location relative to the Pyramus River, Syrian Gates (Pillar of Jonah), and Myriandrus. Its modern location is probably Kinet Hüyük, J. E. Atkinson, *A Commentary on Q. Curtius Rufus' Historiae Alexandri Magni Books 3 and 4* (Amsterdam/Uithoorn, 1980), p. 471. See also M. V. Seton-Williams, "Cilician Survey," *Anatolian Studies* 4 (1954), p. 161, and C. L. Murison, "Darius III and the Battle of Issus," *Historia* 21 (1972), pp. 406–7, nn. 22 and 23.

Furthermore, there is evidence linking Issus with a lion almost in the same posture as that of the lion staters.

A Persic stater minted at Soli in the first half of the fourth century received three countermarks on the reverse (Plate 1, 8). Two of the countermarks indicate they were struck by paymasters, mint officers, or civic authorities at Issus. One shows a lion standing to the left, similar to the lion on the lion staters.²² Above the lion are the letters 𐤌𐤎 (𐤌𐤎), **yissû*, probably the Aramaic spelling for Issus. The second countermark shows a bull also facing left, and above are 𐤏𐤕 (𐤏𐤕), **yizzû*, probably the Phoenician spelling of the same name (Plate 1, 9).²³ These countermarks suggest that the striding lion on the lion staters is an emblem for Issus—not Myriandrus.

The evidence that Myriandrus was a thriving port rests on Xenophon’s description about 401.²⁴ According to Xenophon, Myriandrus was in Syria, inhabited by Phoenicians, and a coastal emporium with

²² Hunter 2, p. 543, 6, and pl. 60, 1; compare F. Imhoof-Blumer, *Kleinasiatische Münzen*, p. 488, no. 7; *Traité* 2, cols. 887–88, no. 1423. MacDonald, Imhoof-Blumer, and Babelon describe the animal beneath 𐤌𐤎 as a lion, although Imhoof-Blumer is uncertain. The enlargement (Plate 1, 9) reveals an animal with the body, legs, and feet of a lion, but the snout is pointed like a dog’s. The die for this countermark was ca. 5.5 × 4.5 millimeters, and its cutter had no magnifying instruments. The longer snout of the lion may be the result of the cutter attempting to portray a gaping mouth on such a minute scale. The lion is clearly striding as the lion on the lion staters, except that the position of the legs is reversed.

²³ The script of both countermarks is Aramaic, but the *wḡw* as a *mater lectionis* in 𐤌𐤎 suggests that it represents the Aramaic spelling of the place name. The second spelling, *yz* which occurs much more frequently in countermarks appears to be the Phoenician form. For further discussion of the latter, see below nn. 35 and 86.

In addition to reflecting different Semitic dialects at Issus, the two countermarks probably represent two different validating authorities in the city. Colin M. Kraay, *Archaic and Classical Greek Coins* (Berkeley/Los Angeles, 1976), p. 286, believes the more elaborate fourth century countermarks on southern Anatolian coins authorized the circulation of foreign coins in the region symbolized by the countermarks. Robert A. Moysey, “The Silver Stater Issues of Pharnabazos and Datames from the Mint of Tarsos in Cilicia,” *ANSMN* 31 (1986), pp. 21–22, describes the countermarks, “as bankers’ or civic revalidation stamps.” Satrapal paymasters stationed at Issus might also have employed them to facilitate and economize hastily conducted minting on a large scale.

²⁴ Xen., *Anab.* 1.4.6.

many trading vessels in its harbor. This latter condition may have been more the result of the presence of Cyrus's army than a typical condition. Myriandrus probably served as Cyrus's naval supply depot. It was the last point on the Mediterranean coast before Cyrus crossed the Amanus Mountains at the Beilan Pass and marched for Babylonia.

Newell theorized that the commercial importance of Myriandrus was due primarily to its being the coastal terminal for a trade route from Mesopotamia across the Beilan Pass. This is rather doubtful. The Amanus Mountains constitute a formidable barrier between Myriandrus and the Syrian interior; there are other coastal sites south of Myriandrus which are more accessible to heavily laden caravans. Moreover, an archaeological surface survey made in the 1950s indicates that during the Iron Age the Beilan Pass and the route along the narrow coastal shelf between the Amanus range and the Gulf of Iskenderun were little used and much less important than the Bahçe Pass to the north and the route across Cilicia to Misis, Adana, and Tarsus.²⁵ Finally, Xenophon describes Issus also as coastal, populous, and prosperous, the last city in Cilicia, and, even more importantly, he indicates that Issus had a harbor large enough to accommodate Cyrus's combined navy of 60 ships.²⁶ It would appear from Xenophon that both Myriandrus and Issus, each located on the Gulf of Iskenderun, were important enough to be the location of a Persian and later Alexandrine mint.

The view that coinage in Cilicia was centralized at the Tarsus mint after the middle of the fourth century is largely based on silence. In this period there are no known Cilician attributions other than those to Tarsus, with the exception of some local issues of Soli.²⁷ The only evidence to support the claim that the Cilician mints no longer func-

²⁵ Seton-Williams (above, n. 21), fig. 5, and p. 144.

²⁶ 1.4.1–3. Cyrus remained at Issus for three days and was joined there by a fleet of 60 ships consisting of a Spartan armada of 35 commanded by Pythagoras and 25 under the command of Tamos, the Egyptian. Also compare Diod. 17.32.4, where Issus is described as a noteworthy city.

²⁷ *Myriandros*, p. 23, n. 17, where Newell rejects the attribution to Mallus of satrapal issues later than Pharnabazus in *BMCLycaonia*, pl. 17, 4–5, since they bear no inscription and cannot be "proven" satrapal in character.

tioned is the two series of silver Persic staters issued at Tarsus under Alexander. The first series displays on obverse the same type Baaltarz without foot stool as series 2 of the Alexander tetradrachms from the same mint. The second series of Persic staters continues with the same type Baaltarz on obverse, but with a facing Athena wearing a triple crested Athenian helmet on reverse. On the basis of their stylistic similarity to series 2 of the Alexander tetradrachms, the staters must date to about 327.²⁸

The Tarsus staters remain quite distinctive from the Tarsus tetradrachms not only because they are of a different weight and type, but because they appear to be designed for local usage or at least allotted to local Cilician cities for their expenditures. This is indicated by the Greek letters beneath the throne of Baaltarz: T for Tarsus; Σ for Soli; M for Mallus; and I for Issus.²⁹ In contrast to these mint marks, the Alexander tetradrachms display no local designations.

Even if one concedes that Tarsus minted all of these coins in the name of the other three Cilician cities, this does not necessarily mean that Tarsus was the only city minting coins in Cilicia.³⁰ This is one interpretation, but neither the only nor the most plausible possibility. The special series of Persic staters can now be regarded as comparable to the previous satrapal issues in the Persian period, since two specimens bear the name Balacrus, Alexander’s governor of Cilicia, on the right of the obverse behind the throne of Baaltarz (Plate 1, 10).³¹ This

²⁸ *Tarsos*, pp. 17–18, where Newell compares in detail the Alexander staters from Tarsus and the contemporary tetradrachms. On Newell’s chronology based on estimated length of obverse die usage and the number of obverse dies in a series, see *Tarsos*, pp. 9–15, and esp. 13; also Newell (above, n. 9), pp. 67–68.

²⁹ *Tarsos*, pp. 16–17. The provincial character of series 1 is also indicated by the Aramaic identification of the god on the reverses, *B’ltrz*. It is also worth noting that the lion staters may reflect a similar practice of placing city initials in Aramaic beneath the throne on some issues. The letters *Ḍ* and *ʿ* appearing separately on two specimens in *Myriandros*, pp. 17–18, 10 and 15, may stand for Mallus and Issus respectively. Cf. Babelon (above, n. 4), pp. 38–40, 279–80.

³⁰ *Myriandros*, pp. 22–23.

³¹ Hans von Aulock, “Die Prägung des Balakros in Kilikien,” *Jahrbuch für Numismatik und Geldgeschichte* 14 (1964), pp. 79–82.

suggests that the Persic staters issued at Tarsus beginning about 327 may have been struck specifically for local administrative needs, and their coming from Alexander's imperial mint at Tarsus may reflect the centralization of the satrapal administration or possibly imperial control of satrapal finances in the province.³² The practice does not establish Tarsus as the only authorized mint in Cilicia prior to or during Alexander's reign.³³ Finally, Tarsus may not be the only mint for the Alexander Persic staters. Issus remains a possible second mint, especially for some issues within series 2. The facing Athena inclined to left wearing a triple crested Athenian helmet appears on Issus coinage dating to the early fourth century, and the type may have originated at the Issus mint. Moreover, Issus shares with Tarsus the distinction of having its ethnic, ΙΣ, above the shoulders of Athena on the reverse of some specimens.³⁴

The evidence considered above favors the reattribution of Mazaeus's lion staters to Issus. The Myriandrus attribution stands on circumstantial evidence which supports equally well a reattribution to Issus. But more decisively in Issus's favor is the evidence that Issus was a mint

³² *Tarsos*, p. 18, for these coins having been minted at Tarsus on behalf of the other Cilician cities.

³³ The satrapal staters of Balacrus establish the fact that Issus came under the satrapal jurisdiction of Cilicia following Alexander's victory there. For the fluctuation of Issus between Cilicia and Syria, see below.

³⁴ For early fourth century Issus coinage with facing Athena wearing triple crested Athenian helmet, see E. S. G. Robinson, "Greek Coins Acquired by the British Museum 1938-48," *NC* 1948, p. 56, and pl. 5, 9, and "A Stater of Issos," *NC* 1949, p. 114. For specimens of the second series of Alexander Persic staters with ΙΣ above Athena's shoulders, see *Tarsos*, p. 43, m and p, and p. 44; also *BMCLycaonia*, p. 174, 72. Another possible connection between Issus and these staters can be seen in the T rather than T beneath the throne of several specimens. T can be interpreted as a monogram of Issus: see *BMCLycaonia*, p. lxxxiv, where this interpretation is described and rejected on the basis that I and ΙΣ are used to represent Issus in this series. Also see p. 175, 80-81, for deviant style staters and the suggestion that another mint for this issue was located in Phoenicia, Kraay (above, n. 23), p. 284, states that the letters I, Σ, M, and T "appear to indicate a revival of the practice of Tiribazus of minting identical issues at Issus, Soli, Mallus and Tarsus...."

under the Persians, and a lion similar to the prowling lion found on Mazeaus’s lion staters occurs with Issus’s name in Aramaic on an early fourth century countermark. Issus may also have served with Tarsus as the mint for the second series of Persic staters issued by Balacrus during the 320s. Issus’s ethnic shares with Tarsus a special place in that series whose helmeted Athena type was modeled on an Issus prototype dating to the early fourth century.³⁵

The reattribution of Newell’s lion staters from Myriandrus to Issus raises a difficulty involving a long standing historical problem: the satrapal jurisdiction of Mazaeus and his power to mint coins in Cilicia. Many historians, relying on the literary accounts of Alexander’s campaign, believe that sometime prior to 333 Cilicia and Syria were separated to form individual provinces governed by Arsames and Mazaeus respectively. This administrative change probably occurred before Alexander’s invasion, perhaps shortly after Darius III’s accession.³⁶

Numismatists, on the other hand, have emphasized the similarities between the last issues of Mazaeus at Tarsus and “Myriandrus” and the earliest Alexanders from the same mints. In the apparent absence of coinage under Arsames and in the light of continuity of style, they claim that Mazaeus continued to mint in Cilicia until the arrival of Alexander who used Mazaeus’s issues as a model for his own imperial

³⁵ It is possible that a variant Phoenician ethnic for Issus occurs on an unusual Persic stater which Newell placed in the lion stater series, see *Myriandros*, pp. 27–29; also compare *BMCPHoenicia*, pp. cxliii–cxliv, and pl. 45, 1. Martin Price knows of the existence of three specimens, and their attribution remains uncertain. This stater bears a Phoenician legend on its reverse above the lion, **ꞤꞤ** (‘z), perhaps a variant Phoenician spelling for *yz* which is the more frequent Semitic spelling for Issus. See above, n. 23, and below, n. 86, for Aramaic and Phoenician spellings of Issus. Variant Aramaic spelling occurs on Cilician coinage, *BMCLycaonia*, p. 165, 20–21, pl. 29, 5, where **כּלך** occurs for **הכך**; compare *Traité 2*, cols. 393–400, 584 and 586–99; and above, n. 23.

³⁶ Based on Diod. 17.19.4, where Arsam[en]es is called satrap. See H. Berve, *Das Alexanderreich auf prosopographischer Grundlage*, vol. 2 (Munich, 1926), 149 and 484, among others cited in Oscar Leuze, *Die Satrapieneinteilung in Syrien und im Zweiströmland von 520–320* (Halle, 1935), p. 398 [242], n. 2. See below, n. 42, for Arsames as satrap of Cilicia in recent analyses.

coinage.³⁷ This evidence supports the view that Mazaeus remained satrap of Cilicia and Syria until 333.

A resolution of the problem of Arsames' Cilician command and the continuation of Mazaeus's Cilician coinage may be that the latter remained satrap of both Cilicia and Syria, while Arsames functioned as his subordinate in command of the defenses in Cilicia.³⁸ Arrian refers to Arsames as a cavalry commander, never as satrap, while Curtius says Arsames governed (*praerat*) Cilicia.³⁹ Leuze argued that it is unlikely that Darius would have removed from office someone as trusted as Mazaeus. He continued to have the confidence of Darius III through 331, and is always found in critical administrative or military positions. Leuze further maintains that Mazaeus's absence in connection with the defense of Cilicia in the face of Alexander's advance cannot be taken as evidence that he was not governor there. He was also not present in Phoenicia when Alexander advanced into that region, however the dated Sidonian coinage shows that Mazaeus remained in authority there until 333.⁴⁰ If Leuze's view is correct, the reattribution of Mazaeus's

³⁷ *Myriandros*, pp. 15 and 31, and *Tarsos*, pp. 3–4, and above, n. 16. Alexander's imperial coinage is so close stylistically to the last issues of Mazaeus's staters that Bellinger (above, n. 2), pp. 60–61, suggests that the latter continued to mint in Cilicia even during Arsames' tenure as governor. Also see Bellinger, pp. 10–11, for argument in favor of Alexander's issues at Tarsus and "Myriandrus" beginning in 333. For Mazaeus's Tarsus issues continuing to 333, see also Orestes H. Zervos, "Near Eastern Elements in the Tetradrachms of Alexander the Great: The Eastern Mints," in *Essays Thompson*, pp. 295–98.

The lion staters appear to be the last issues of Mazaeus as governor of Syria, since they provided the type for his first issues as Alexander's governor of Babylon in 331: see Bellinger, pp. 60–65; *Myriandros*, p. 24; Nancy M. Waggoner, "Tetradrachms from Babylon," *Essays Thompson*, pp. 269–70, n. 2; also see the lion stater type issued at Hieropolis (Bambyce) in 331 with Alexander in Aramaic: *BMCSyria*, p. 138, 1, pl. 17, 7. Compare Harrison (above, n. 4), pp. 368–70.

³⁸ Leuze (above, n. 36), pp. 398–406 [242–250], combined literary sources and numismatic evidence to argue for the probability that Mazaeus remained satrap of Cilicia and Syria until 333.

³⁹ Arrian 1.12.8, 2.11.8; Curtius 3.4.3.

⁴⁰ Leuze (above, n. 36), pp. 386–98 [230–42]. A distinction must be made, however, between Darius's defense policy in Cilicia and northern Syria in comparison to Phoenicia. He made a determined effort to defend Asia Minor and Syria by mobilizing his western satraps at the Granicus and fighting personally at Issus. The latter defeat left further resistance along the Levant to local authorities, and Darius began to negotiate, Arrian 2.14.

lion stater from Myriandrus to Issus argued here presents no problem. The reattribution to Issus might provide further circumstantial evidence to support Leuze’s thesis, *if* Issus and its surrounding plain remained part of the Cilician satrapy.⁴¹

On the other hand, the evidence for Mazaeus’s continued tenure as governor of Cilicia to 333 is far from conclusive.⁴² Diodorus calls Arsames[en]es satrap, and Arsames’ responsibilities extended beyond the defense of Cilicia, since he was a prominent Persian cavalry commander at the Granicus.⁴³ He was at Tarsus, the Cilician capital, responsible for its defense as Alexander approached the Cilician Gates.⁴⁴ Because of Alexander’s rapid advance, Arsames abandoned Tarsus and fled from the province to join Darius—not Mazaeus — and fought for his king at Issus where he died.⁴⁵

Mazaeus, in contrast to Arsames, appears to have had no role in the defense of Asia Minor in general, nor of Cilicia in particular. He may have fought with Darius at Issus, but he is mentioned for the first time

⁴¹ See below for the evidence that Issus was assigned to Syria in the reign of Darius III. An unlikely possibility is that Darius removed Mazaeus from the governorship of Cilicia but permitted him to use the Cilician mints to finance military preparations in Syria. Similar financial practices occurred in the time of Tirzibazus, Pharnabazus, and Datames. See Kraay (above, n. 23), pp. 278, 281, and 283.

⁴² For Arsames as satrap of Cilicia, see the following: A. B. Bosworth, *A Historical Commentary of Arrian’s History of Alexander the Great*, vol. 1 (Oxford, 1980), p. 111, follows Berve (above, n. 36), and rejects Leuze as having “no positive reason for extending Mazaeus’s tenure of Cilicia to 333”; Peter Green, *Alexander the Great* (New York, 1970), pp. 94 and 118; J. R. Hamilton, *Alexander the Great* (London, 1973), p. 65; R. D. Milns, *Alexander the Great* (New York, 1969), p. 72. Compromises and ambiguities persist in the literature: see Bellinger (above, n. 2), pp. 60–61, who believes Mazaeus remained satrap of Cilicia until 333, and only then did Arsames replace him; also Atkinson (above, n. 21), p. 138.

⁴³ Diod. 17.19.4 (Arsame[ne]s); Arrian 1.12.8, refers to Arsames as a strategos at the Granicus. The claim that Diodorus’s Arsamenes and the Arsames in other accounts are two different individuals is unnecessary: compare C. Reid Rubincam, “The Historiographical Tradition on the Death of Evagoras,” *The Ancient History Bulletin* 2 (1988), pp. 34–35, for deviant and false terminal elements in Diodoran names. Arsames is closer to the Persian and Aramaic forms: Rša-ama-, and ’ršm, see G. R. Driver, *Aramaic Documents of the Fifth Century B.C.*, 2nd ed. (Oxford, 1965), pp. 12 and 18.

⁴⁴ Arrian 2.4.4–6.

⁴⁵ Arrian 2.4.5–6 and 11.8.

guarding the approaches to the Euphrates in northern Syria at Thapsacus commanding a force between four and six thousand men.⁴⁶ If Mazaeus had been present at Issus, one would expect some mention of it, given his later importance to Darius and to Alexander. At the Battle of Gaugamela, Mazaeus commanded forces from Coele and Mesopotamian Syria.⁴⁷ Shortly following Gaugamela, Mazaeus as satrap of Babylon surrendered the city to Alexander.⁴⁸ Given the responsibilities of Mazaeus south and east of the Amanus, Darius appears to have relieved him of his Cilician satrapy, and appointed Arsames to administer that region and to assist in the defense of Asia Minor.

If Darius III placed Mazaeus in charge of Persian mobilization in Syria and northern Mesopotamia while appointing Arsames satrap of Cilicia about 336 as part of a defensive strategy against Philip's expeditionary force in Asia Minor, Mazaeus could have continued to mint coins at Myriandrus which was located in northern Syria. However, if Mazaeus's lion staters should be reattributed to Issus, how could Mazaeus continue to strike coins at a mint which was no longer within his satrapal jurisdiction?⁴⁹ A brief examination of the evidence for the boundary between Cilicia and Syria during the fourth century will show that by the time Alexander reached Cilicia in 333, Issus and its coastal plain were no longer in that administrative district, but under the juris-

⁴⁶ Arrian 3.7.1–2; cf. Curtius 4.9.7, where he is called satrap of Babylon.

⁴⁷ Arrian 3.8.5–6. Diod. 17.59.5 reports that Mazaeus commanded the Persian right wing, and had the best cavalry, cf. Arrian 3.11.4. If Mazaeus had remained governor of Cilicia until Issus, one might expect Cilician units under his command at Gaugamela.

⁴⁸ Curtius 4.6.17, 5.1.17; for Mazaeus's appointment by Alexander as satrap of the same province, see Arrian 3.16.4, and Curtius 5.1.43–44. Bupares, who commanded the Babylonians at Gaugamela, may have been Mazaeus's military subordinate: Arrian 3.8.5. The satrap of Babylonia at Gaugamela remains elusive, Leuze (above, n. 36), pp. 410–13 [254–57].

⁴⁹ See above, nn. 16 and 37, for numismatic continuity between Mazaeus's coinage and Alexander's earliest imperial issues. Newell, *Myriandros*, p. 23, used the circumstantial evidence of Mazaeus being governor of both Cilicia and Syria, and the contemporary character of his Tarsus issues and the lion staters to suggest that the lion staters were from a Syrian mint to supply coin for his Syrian province as Tarsus supplied Cilicia.

diction of Syria and its governor, Mazaeus. Consequently Mazaeus was in a position to mint at Issus, if not at Tarsus, from 336 until late 333.

In the *Anabasis* Xenophon clearly defined the boundary between Cilicia and Syria as he described Cyrus the Younger’s advance along the coast of the Gulf of Iskenderun. Issus was the last city in Cilicia.⁵⁰ From Issus the Syrian border was reached in one day’s march, a distance of five parsangs—about eighteen miles. Xenophon called it “the gates of Cilicia and Syria,” and described in detail this border located today at the Pillar of Jonah, a narrow defile where the Amanus Mountains to the east approach the Gulf of Iskenderun to the west. The Cilicians and Syrians had improved upon this natural boundary by constructing an elaborate double wall, each with its own man-made gateway. The Cilicians controlled the northern gate and wall and the Syrians the southern.⁵¹ These fortifications located between Cilician Issus and Syrian Myriandrus suggest a boundary of long standing. Once past the “Gates of Cilicia and Syria,” the first city Cyrus reached was Myriandrus. There can be no doubt that at the time of Cyrus’s expedition, Issus was in Cilicia and Myriandrus in Syria.

Following the abortive attempt of Cyrus to overthrow his brother, Artaxerxes II, administrative changes occurred in Cilicia. It ceased to be ruled by a native dynasty, and became a satrapy administered by a Persian governor.⁵² This change may also have involved adjustments in its borders with Syria. Another major change in the administrative arrangement of these provinces took place in the middle of the fourth century. About 345 Mazaeus became satrap over both Cilicia and Syria (Plate 1, 4),⁵³ remaining in this position probably until the accession of Darius III in 336 at which time the provinces were again separated with

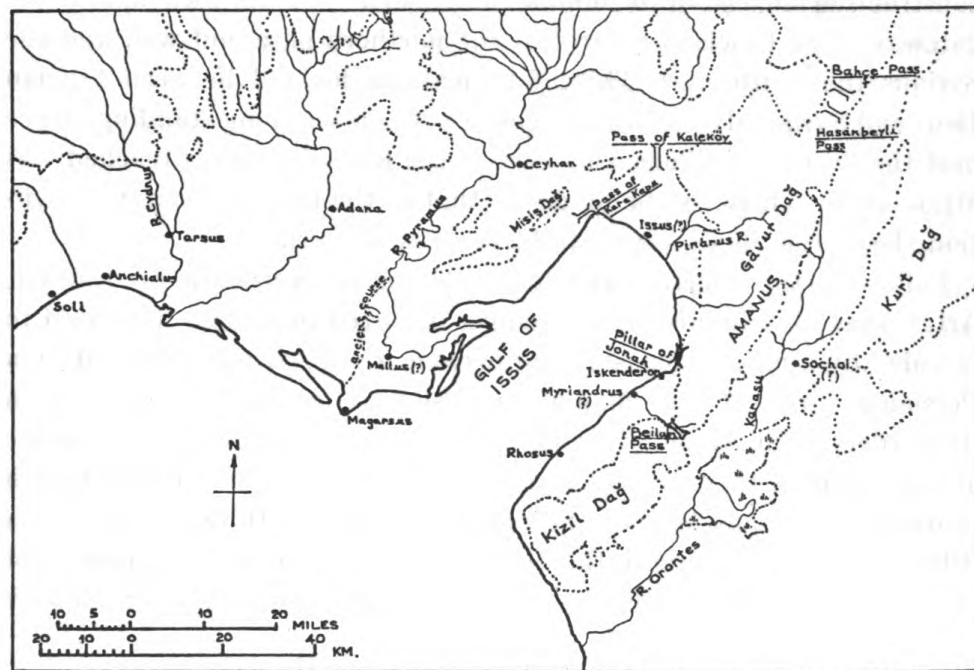
⁵⁰ 1.4.1.

⁵¹ Xen., *Anab.* 1.4.5–6.

⁵² Afif Erzen, “Kilikien bis zum Ende der Perserherrschaft,” Ph. D. diss., Leipzig, 1940, pp. 118–20.

⁵³ Mazaeus’s staters minted at Tarsus with his name and dual title as a legend are clear testimony to the merger of Cilicia and Syria under his authority. See Six (above, n. 4), pp. 130–32; *Tarsos*, pp. 3–4, and *Myriandros*, pp. 14–15. Diod., 16.42.1, dates Mazaeus’s governorship over both provinces to 351/350. Using the dated Sidonian coinage, Leuze (above, n. 36), pp. 386–98 [230–42], dated Mazaeus’s appointment to 343. For a recent discussion of the problem, see Harrison (above, n. 4), pp. 346–54.

Mazaeus retaining control of Syria. The unification of the Cilician and Syrian satrapies may have obscured the boundary, but any jurisdictional adjustment in 336 was more likely the result of deliberate royal policy.⁵⁴ Syria's boundary appears to have moved north to include Issus and its surrounding plain. The new boundary ran along the eastern spur of the Misis Dağ and the western spur of the Gavur Dağ, which form a semicircular ridge extending from the Cilician coast east of Aegae to the main Amanus chain southeast of Toprak Kale near Osmaniye. This natural perimeter around the plain of Issus is penetrated by two passes: Kara Kapu near the coast east of Aegae and Kaleköy, located immediately south of Toprak Kale.⁵⁵



⁵⁴ Various literary references to the provincial location of Myriandrus may reflect fluctuations in the Cilician-Syrian border throughout antiquity, see Leuze (above, n. 36), pp. 358-59 [202-3]. A possible explanation for the fluctuation of the Cilician-Syrian boundary between 336 and 333, from the accession of Darius III to Alexander's victory at Issus, will be suggested below.

⁵⁵ See the map in Murison (above, n. 21), p. 400, republished here with the permission of C. L. Murison and Franz Steiner Verlag, Wiesbaden, FRG; for Kaleköy, see Murison, pp. 408, 418-19; for Kara Kapu, see p. 420, and Atkinson (above n. 21), pp. 177-78, 192, and 470-71. See also Seton-Williams (above, n. 21), map on p. 122.

Evidence for this new boundary is found in the accounts describing Alexander’s Cilician campaign and the events leading to the battle of Issus. Following his recovery at Tarsus, he ordered Parmenio to take a sizable force to secure the “other Gates” which are described as the boundary between Cilicia and Syria.⁵⁶ It is easy to see why Arrian’s “other Gates” have been confused with the Syrian Gates at the Pillar of Jonah. Xenophon’s description of this pass in 401 makes it quite clear that it formed the boundary between Cilicia and Syria. But the location of the boundary in 401 was not necessarily the same in 333. The identification of Parmenio’s “other Gates” with the Pillar of Jonah is mistaken.⁵⁷ The accounts of Arrian and Curtius point to Kara Kapu as

⁵⁶ Arrian 2.5.1. Compare Diod. 17.32.2, where unfortunately the name of the Gates is lost. For Arrian’s use of “Assyria” for “Syria,” see Bosworth (above, n. 42), p. 292.

⁵⁷ This is contrary to scholarly consensus. For example, C. Bradford Welles, *Diodorus Siculus*, vol. 8 (Cambridge, MA, 1963), p. 207, n. 3, restores “Syrian Gates,” and refers to Arrian 2.5.1., “other gates.” Also compare Bosworth (above, n. 42), p. 192, at Arrian 2.5.1, who identifies the “other gates” with the coastal defiles at the Pillar of Jonah north of Iskenderun. Bosworth says that these gates are “widely attested as the boundary of Cilicia and Syria.” The ancient sources he cites are, however, much too ambiguous and usually do not refer to these gates as a boundary. The major exception is Xen., *Anab.* 1.4.4, which is the primary source of confusion for the Cilician-Syrian boundary as it existed in 333 for both ancient and modern writers. Callisthenes, recorded in Polyb. 12.17.2, is too condensed or confused to be much help: Alexander had passed “the narrows” and the “so called Cilician Gates” while Darius passed through the Amanus Gates into Cilicia. It is unclear to which passes the “narrows” and “Cilician Gates” refer in this context. Cilician Gates may be an error for Amanid or possibly Syrian Gates but their location with respect to Issus remains unclear. Curtius 3.8.13 seems to put the boundary at the Pillar of Jonah. Strabo 14.5.19 supports locating the boundary farther north either at Kara Kapu, east of Aegae, or at Kaleköy (Toprak Kale). Even if it is allowed that most ancient authors intended “the Gates” to refer to the narrows at the Pillar of Jonah between Issus and Myriandrus and also referred to these Gates as the boundary of Cilicia, this does not mean that the Cilician-Syrian border from Cyrus the Younger’s campaign to Alexander’s conquest, almost seventy years later, remained fixed at that pass. The Alexander accounts tend to be anachronistic regarding this border either due to the influence of contemporary boundaries or the influence of Xen. *Anab.* 1.4.6. Arrian at least had Xenophon’s *Anabasis* in mind when he narrated the events prior to Alexander’s Battle of Issus, 2.7.8–9. The exceptions to this anachronistic tendency are found in the combination of Arrian 2.5.1 and Curtius 3.7.6–7, and in Strabo 14.5.18–19 (676).

Parmenio's objective. Regarding Alexander's orders to Parmenio, Arrian is explicit: he was to seize and guard the pass (*προκαταλαβεῖν καὶ φυλάσσειν τὴν πάροδον*). Unfortunately, Arrian does not provide a clue to the location of the "other Gates," since he focused on the activities of Alexander to the neglect of the actions taken by his lieutenant. However, Curtius describes Parmenio's advance, and provides the evidence for locating Arrian's "other Gates" west of Issus at the Kara Kapu Pass.⁵⁸

According to Curtius, Parmenio was sent to explore the road through the mountain pass by which Alexander's army must march in order to reach Issus. He says that Parmenio *praemissus erat ad explorandum iter saltus per quem ad urbem Isson nomine penetrandum erat*. He seized the narrowest part of this road and left a force of moderate size to guard the pass, *angustiis eius occupatis et praesidio modico relicto*. Curtius's description of Parmenio's activities supplements Arrian's summary account of his assignment, i.e. "to seize and to guard the pass" which, if we are to believe Arrian, are the "other Gates which divide the Cilician and Assyrian lands."⁵⁹ In other words these ancient accounts establish the boundary between Cilicia and Syria at Kara Kapu at the time of Alexander's arrival in Cilicia; the plain at the northern end of the Gulf of Iskenderun on which Issus was located was the northernmost extension of Syria.

Only after seizing and securing Kara Kapu did Parmenio advance into the plain of Issus and occupy the city, which the Persians had abandoned. Curtius adds that Parmenio used Issus as a base to attack enemy posts in the mountainous interior.⁶⁰ He does not mention any

⁵⁸ Curtius 3.7.5–7; also Atkinson (above, n. 21), pp. 178 and 192 at Curtius 8.10, where Atkinson asserts that Curtius's *angustiae saltus* through which Parmenio advanced to Issus was the Kara Kapu Pass "whether Curtius knew it or not."

⁵⁹ Arrian 2.5.1. A. B. Bosworth, "The Government of Syria under Alexander the Great," *Classical Quarterly* 24 (1974), pp. 46–53, esp. 47 and 52, and nn. 4 and 5, demonstrates that Curtius is a reliable supplement to Arrian, particularly with respect to the military activities of Parmenio.

⁶⁰ Curtius 3.7.7, *deturbatis qui interiora montium obsidebant*. These interior mountain regions could only be directly east or north of the plain of Issus. Curtius does not refer to Parmenio advancing south along the coastal road to the pass at the Pillar of Jonah to Myriandrus or to the Beilan Pass. The only road which Parmenio secured was the one through the narrows to Issus. As Curtius says, *praesidiis cuncta firmavit occupatoque itinere, sicut paulo ante dictum est*.

other passes, but the enemy positions in the interior could have been at the Pass of Kaleköy to which some Alexander accounts refer as the “Amanid Gates.”⁶¹ The road which Parmenio secured was the road to Issus, the same route by which Alexander advanced eastward across Cilicia to reach the city. Parmenio joined Alexander at Castabalum which guards Kara Kapu.⁶² He did not reach the Gates described by Xenophon in the *Anabasis*—the Pillar of Jonah—much less the Beilan Pass over the main Amanus range.⁶³

Strabo, 14.15.18-19, seems to support the view that at some important historical point the boundary between Cilicia and Syria was located at the Pass of Kara Kapu. The geographer enumerates the locations around the Gulf of Issus in what appears to be a strict geographical sequence from southeast to northwest: Rhosus, Myriandrus, Alexandria, Nicopolis, Mopsuestia, and Pylae, i.e. “the gates.” The sequence places Pylae closer to Kara Kapu than to any of the other known passes associated with the Amanus Mountains. Strabo goes on to say that Pylae formed the boundary between Cilicia and Syria.⁶⁴

⁶¹ For the “Amanid Gates” see Polyb. 12.17.2, Curtius 3.8.13, Arrian 2.7.1. On the complex issue of the identity of the “Amanid Gates,” see Murison (above, n. 21), pp. 403 and 408, and Atkinson (above, n. 21), p. 196.

⁶² Curtius 3.7.5; cf. Atkinson (above, n. 21), pp. 177, 470–71.

⁶³ Curtius 3.7.7, refers to Parmenio dislodging enemy posts from mountains in the interior, *interiora*, which could hardly mean the Pillar of Jonah on the coast. See Atkinson (above, n. 21), p. 178, who locates these posts at the Pass of Kaleköy.

By most accounts, Alexander expected Darius to advance into Cilicia by the southern pass through the Amanus Mountains, i.e. the Beilan Pass, which would require Darius to march north along the coastal road from Myriandrus to Issus. Securing the Beilan and the pass at the Pillar of Jonah was contrary to Alexander’s strategy of engaging Darius in battle along the narrow coastal shelf south of Issus in terrain advantageous to the Macedonians. Alexander sent Parmenio to secure the wider plain at Issus and await Darius’s advance from the south. For his military strategy in eastern Cilicia, Alexander seems to have relied on Xenophon’s *Anabasis*, which does not mention the more northerly Bahçe Pass through the Amanus Mountains from Syria to Cilicia.

⁶⁴ Murison (above, n. 21), p. 408, n. 28, says that Strabo obviously is referring to the pass of Kara Kapu. Strabo’s boundary between Cilicia and Syria at this point, however, is unclear since at 14.5.20 he refers to Seleucia-in-Pieria as the first Syrian city after Cilicia. In most accounts, Alexandria and Myriandrus are in Syria. The boundary in Strabo’s time may have been obscured since Cilicia and Syria had formed a single Roman province since 44 B. C.: David Magie, *Roman Rule in Asia Minor* (Princeton, 1950), vol. 1, pp. 418 and 509; vol. 2, pp. 1271–72, n. 44.

If the boundry for Cilicia and Syria proposed above for 336–333 is correct, the border in this region seems to have fluctuated with unusual frequency. Darius III shifted the boundary of Syria north to include Issus, only to have Alexander restore the boundary presumably to the Syrian Gates since Issus appears to be within the jurisdiction of Balacrus, his Cilician governor.⁶⁵ Discussion of detailed administrative changes rarely occurs in the ancient accounts. Any explanation for the boundary alteration must be speculative and based on what is known in general about the political and military conditions of Asia Minor during the brief reign of Darius III.

When Darius learned of the expeditionary army which Philip II sent into Asia Minor not long before his assassination, the Persian king reacted vigorously to take the war to Macedonia. Diodorus provides few details, but he does say that on hearing of Philip's death Darius relaxed his military policy only to resume mobilization on learning of Alexander's energy and successes in Europe. Darius ordered the outfitting of a large number of triremes and the assembling of many large armies. He also appointed his best generals to command them.⁶⁶

Cilicia and its satrap played an important role in Darius's mobilization. It was a strategic staging area for many past Persian naval expeditions as well as a region rich in timber for shipbuilding.⁶⁷ While Cilicia's role in Darius's naval mobilization can only be surmised, its involve-

⁶⁵ Balacrus's Persic stater issued at Tarsus indicate some sort of centralized satrapal financial administration at Tarsus involving Issus, Soli, and Mallus: see discussion above, and compare *Tarsos*, pp. 16–22, 42–47, and von Aulock (above, n. 31), pp. 79–82.

⁶⁶ For Darius's military policy against Philip and Alexander, see Diod. 17.7.1–10. Philip's invasion occurred only months before his assassination in 336, Diod. 16.91.1–2; Justin 9.5.8–9; compare P. A. Brunt, *Arrian*, vol. 1 (Cambridge, MA, 1976), p. lix.

⁶⁷ Diod. 11.60–61, for Cilicia, Cyprus, and Phoenicia as regions for building and manning Persian naval forces. Cilicia's importance in this regard continued into hellenistic times, Diod. 19.57.2–5. For Cilician involvement in many of the Persian military campaigns: (a) Ionian revolt, Hdt. 6.6, 6.43.6–7; (b) Datis expedition, Hdt. 6.95; (c) Xerxes' expedition, Hdt. 7.91.1, 8.14.9, Diod. 12.3.7; (d) Eurymedon campaign, Diod. 11.60.5; (e) against Cimon in Cyprus, Thuc. 1.112.4, Plut. *Cim.* 18.6, Diod. 12.3.2–3; (f) base for Conon, Diod. 14.39.4; (g) campaign against Euagoras, Diod. 15.2.1–4; (h) Satraps Revolt, Diod. 16.42.1.

ment in the assembling of a large army to stop Alexander is more clear. The accounts describing the Persian forces at the Granicus indicate that Darius directed the more important satraps west of the Amanus Mountains to resist Alexander’s invasion of western Asia Minor.⁶⁸ They were unable to prevent the Macedonian crossing of the Hellespont, but they were ready to resist Alexander’s advance from the Troad.⁶⁹ The timing of Arsames’ appointment as governor of Cilicia suggests that it was part of Darius’s defensive strategy against the Macedonian invasion. Arsames commanded a cavalry force and had the distinction of sharing with Memnon the command of the Persian left wing at the Granicus.⁷⁰

Cilicia was part of Darius’s first line of defense in western Anatolia, and its governor Arsames joined other western satraps and Memnon before Granicus. In allowing his western satraps to join forces against Alexander, Darius ran another risk which may have seemed at the time more threatening to Achaemenid central authority than the youthful king of Macedonia.

The Satraps Revolt was still in living memory, and Darius himself possibly remembered this protracted rebellion which involved almost all the western satrapies during the middle of the fourth century.⁷¹ The danger posed by Alexander might be short lived. Alexander might die in battle as had Cyrus the Younger in 401. His army might be defeated in the early stages of the campaign, or revolts in Europe might require his withdrawal from Asia Minor. In view of such contingencies, Darius

⁶⁸ For the Persian generals and satraps who contributed to the combined Persian forces at the Granicus, see Arrian 1.12.8–9, and 16.3; compare Diod. 17.19.4–5. The Persian satraps included Arsames (satrap of Cilicia), Spithridates (satrap of Lydia and Ionia), Arsites (hyparch of Hellespontine Phrygia), Mithrobuzanes (hyparch of Cappodicia) who were joined by Memnon of Rhodes with a large force of mercenaries.

⁶⁹ Diod. 17.18.2.

⁷⁰ Diod. 17.19.4. Arrian 1.12.8 names Arsames first in his enumeration of Persian commanders at the Granicus.

⁷¹ For the Satraps Revolt, see W. Judeich, *Kleinasiatische Studien: Untersuchungen zur griechisch-persischen Geschichte des IV. Jahrhunderts v. Chr.* (Marburg, 1892), pp. 190–220; K. J. Beloch, *Griechische Geschichte* 3, 1 (2nd ed., Berlin, 1912–27), pp. 212–16, and 3, 2, pp. 254–57; William A. P. Childs, “Lycian Relations with Persians and Greeks in the Fifth and Fourth Centuries Re-examined,” *Anatolian Studies* 31 (1981), pp. 76–80. Moysey (above, n. 23), pp. 21–29, argues that Datames used the Tarsus mint in 362/1 to help finance the Satraps Revolt.

might have anticipated the possibility of being faced with independently minded Anatolian satraps emboldened by their increased military and financial resources amassed in the mobilization against Alexander. Royal precautions were necessary.

Darius's precautions are apparent in several ways—not the least of which was the boundary adjustment between Syria and Cilicia. The satrapal forces which assembled before Granicus had no unified command. The deliberations of the commanders before the battle as well as their dispersal following their defeat testify to the absence of a clear command structure. Memnon's appointment to command mercenary and naval forces may have been another precaution, since as a Rhodian he would have had a more difficult time gaining the loyalty of any part of mainland Asia. Finally, Darius retained his most trusted and loyal administrator, Mazaeus, as governor of Syria and extended the Syrian boundary to include Issus, thereby assuring Mazaeus easy access into Cilicia and Anatolia in the event of a satrapal revolt following an early repulse of the Macedonian invaders.⁷² Mazaeus's salient into the Issus plain would also place the Tarsus and Issus mints under separate authorities. Arsames probably used his mint at Tarsus to help pay for the western mobilization against Alexander. The new boundary, however, allowed Mazaeus to retain control of the Issus mint and possibly exercise some financial leverage over the mobilized forces in the west as well as pay for military preparations in northern Syria.⁷³

⁷² Another administrative change by royal directive in Asia Minor involving boundaries immediately prior to Alexander's arrival can be found in southwestern Anatolia. The satrap Orontobates replaced Caria's native dynasty; Lycia was separated from Caria, and the district of Milya was transferred from Greater Phrygia to Lycia: Strabo 14.2.17; Arrian 1.23.7–8, 24.3–5; cf. Childs (above, n. 71) pp. 78–79.

Imperial powers drew the political boundary of Cilicia in a way that would weaken Cilicia's strong natural defenses in the Amanus Mountains with a limited number of high passes. Syrian territory extended west of the main Amanus chain to keep the Beilan and Bahçe passes out of Cilician control.

⁷³ In contrast to his predecessor Mazaeus, Arsames' name does not occur on any extant Tarsus issues. The inability to make a firm attribution to Arsames, however, cannot be taken as evidence that he did not issue coins at Tarsus, cf. Bellinger (above, n. 2), p. 61. Arsames may have minted the unusual gold of daric weight showing Baaltarz on obverse and on reverse a lion seizing a stag with a Phoenician

Although numismatic evidence indicates Alexander placed Issus under the jurisdiction of Balacrus, his satrap of Cilicia, he seems to have continued the Persian policy of securing central control over this region.⁷⁴ Possibly after Mazaeus furnished Alexander with details of Persian policy with respect to Cilicia, Alexander in 331 appointed Menes to an extraordinary military command in Cilicia, Syria, and Phoenicia, which appears to overlap the authority of Asclepiodorus and Menon in Syria and Balacrus in Cilicia.⁷⁵ In addition to fulfilling special financial and military functions, this office with military authority in both Syria and Cilicia could have been established as a precautionary measure against any interruption of communications with Asia Minor should problems arise in Cilicia.

To summarize, the reattribution of the “Myriandrian” lion staters to Issus and Mazaeus’s relinquishing command over Cilicia ca. 336 raises

letter above and below. It is similar to a series of Mazaeus, but is distinguished from the latter by the absence of Mazaeus’s name on the reverse, and only *B'l* (-*trz* omitted) on the obverse. Robinson, who first published this coin, believed the gold issue implied a special emergency in Cilicia possibly just prior to the Battle of Issus in 333: *Numismatic Chronicle* 8 (1948), p. 59, and pl. 5, 12. This coin and the similar Mazaeus issues derive from an earlier Citium type and may have been minted to pay for the Cypriote navy of 120 ships which remained loyal to Persia until Alexander’s victory at Issus: Arrian 2.20.3, and Bosworth (above, n. 42), pp. 241–44, where Persia’s special favor to Citium is also noted. Cf. *Myriandros*, pp. 1–7; Harrison (above, n. 4), pp. 356–59.

Other possible specimens of Arsames’ coinage include Babelon, (above, n. 4), p. 35, 256, which appears to be a Persian predecessor to Balacrus’s Athena Persic staters. See above, n. 34. Also consider the Persic obol, p. 36, 257, with the same Athena type on obverse as the above stater. The obol, however, shows the Persian king on its reverse. The absence of Arsames’ name on late Persian coinage of Mazaeus types but without Mazaeus’s name may reflect Darius’s attempt to tighten royal control over Arsames and the Tarsus mint.

⁷⁴ Balacrus appointed satrap after Issus, Arrian 2.12.2; killed fighting against people of Isaura and Laranda, Diod. 18.22.1. For his control over Issus as well as Tarsus, see above, n. 65.

⁷⁵ Menes’ appointment appears to involve special military and financial functions, Arrian 3.16.9–10; Curtius 5.1.43; Diod. 17.64.5. Compare Bosworth (above, n. 59), pp. 53–64, and Brunt (above, n. 66), pp. 278–79, n. 11. Since Balacrus’s name appears on two specimens of series 2 of the Tarsus Persic staters which began about 327, Balacrus appears to have remained governor of Cilicia at least until that year. For the date of the Persic Staters, see *Tarsos*, pp. 16–18 and 42–46.

the Cilician-Syrian boundary placing Tarsus under the authority of Arsames and Issus under Mazaeus. This boundary is supported by Arrian 2.5.1. and Curtius 3.7.6–7 and appears to have been drawn as part of Darius III's preparations against the Macedonian invasion of Asia Minor. Arsames joined other Anatolian satraps at the Granicus while Mazaeus prepared Syria for Darius's arrival. The new boundary constituted a precaution taken by Darius against a possible revolt by the Anatolian satraps who were united and strengthened by the mobilization. By having Issus under his jurisdiction, Mazaeus had easier access into Cilicia in the event of a satrapal revolt, and he may have exercised some financial leverage over the western satraps through his control of the Issus mint. If Issus, not Myriandrus, produced Mazaeus's lion staters, was not Issus also the mint for the Alexander issues which Newell saw as a continuation of the Mazaeus lion staters at Myriandrus?

The "Myriandrus" Alexanders may provide further evidence supporting their reattribution to Issus. Analysis divides these issues into six series beginning about 333 and ending in 319 with a total of 25 obverse and 113 reverse dies for the tetradrachms.⁷⁶ The monograms usually beneath Zeus's throne on the reverse may furnish possible evidence supporting their reattribution to Issus. The most prominent monogram for most of the issue which may be the ethnic for the mint is \mathcal{M} , and can be found on all of the tetradrachms from series 2 into series 6 (Plate 2, 17–21).

Newell read this monogram as \mathcal{M} , and identified it as representing the senior magistrate of the mint, the symbols and monograms in the

⁷⁶ *Myriandros*, pp. 32–42. Newell limited his study of the Myriandrus Alexanders to those which were contemporary to his Tarsus study in order to make his works on these mints companion pieces. According to Newell, the mint at "Myriandrus" continued to issue coins beyond series 6, ca. 320–319, and he planned a future study of the later issues of both cities. The year 319 represented a definite break at both mints, and "their several coinages are, if such a thing were possible, even more closely parallel to each other than heretofore, until finally — shortly after the death of Philip III — a single chief magistrate or government official appears to have supervised the issues of the two cities," *Myriandros*, p. 42. Nancy Waggoner informed me that she did not know of any unpublished "Myriandrian" coins dating later than those which Newell published.

left field representing his subordinates.⁷⁷ Another possible interpretation is to read the monogram ΙΣ or ΙΣΣΙ for Issus.⁷⁸ Against this view is the fact that during series 6 Μ is related beneath the throne by Η and Μ appears in left field, and later is again beneath the throne but below Α before disappearing from the last two dies of the series (Plate 2, 20–22).⁷⁹ These changes are more characteristic of a magistrate’s signature than an ethnic, and Newell’s view that Μ represents the chief magistrate of the mint may be correct. On the other hand, ethnics in the form of initials, abbreviations, and monograms commonly occur on Alexander issues, and they often appear beneath the throne (Plate 1, 3).⁸⁰ The monogram Μ remains in its prominent position throughout series 2–5, and begins to change position and disappears only in the last year or two of the mint’s history in a time of radical change and great instability.⁸¹ Perhaps the confusion of the last year resulted in the unusual treatment of the mint’s ethnic. The interpretation of this monogram as the ethnic for Issus as well as the reattribution thesis may find further support in the interpretation of the earliest monogram appearing on these Alexanders.

All the reverse dies of series 1 display beneath Zeus’s throne an unusual monogram.⁸² Only three specimens of its earliest form and orientation are known to exist, each struck by a different reverse die (Plate 1, 11; 2, 12–13). This monogram was later modified by being

⁷⁷ *Myriandros*, p. 38.

⁷⁸ See above, n. 34, for ΙΣ as the abbreviation of Issus on the contemporary satrapal staters issued at Tarsus and perhaps Issus.


⁷⁹ For series 6, see *Myriandros*, pp. 36–37 and 40–42.

⁸⁰ For ethnics beneath the throne, see Aradus Ἀ (Demanhur, pp. 50–51, 3269–585); Damascus ΔΑ (Demanhur, pp. 48–50, 2898–3266); Sidon Σ, ΣΙ (Demanhur, pp. 53–55, 3682–768); in the field, see Citium Κ (Demanhur, p. 43, 2545–666); Paphos Π (Demanhur, p. 44, 2668–82); Karne Κ (Demanhur, p. 50, 3267–68); Ake Χ (Demanhur, pp. 55–56, 3805–975).

⁸¹ Newell, *Myriandros*, p. 40, states, “With series 6 comes the complete abandonment of the ‘Cilician’ style...[and] the substitution of Philip III’s name for that of the now deceased Alexander.” Newell dated series 6 to the years 320–319. Only one obverse die is used for the entire series with 7 reverse dies which manifest four changes regarding monograms and letters, *Myriandros*, pp. 36–37.

⁸² *Myriandros*, pp. 32 and 37–38.

turned 90 degrees counterclockwise, apparently to get the entire monogram more easily on the flan (Plate 2, 14–15).⁸³

The monogram  is problematical as a combination of Greek letters, and the possibility of its being Phoenician merits consideration.⁸⁴ The earliest Alexander issues at Sidon (Plate 1, 2) and Aradus show their ethnic in Phoenician which only later change to Greek.⁸⁵ The same development may also have occurred at Issus.

At first glance the original form of the monogram seems to be the Greek letters M and E written vertically or Z with an E suspended beneath it. In addition, a line extends up almost at a right angle from the end of the upper bar of the Z. The bizarre form of this monogram makes it doubtful that it should be read as Greek. On the other hand, there is no difficulty reading the monogram as a combination of the Phoenician letters \aleph (*yódh*) and \beth (*zayin*), long recognized as a Semitic spelling for Issus.⁸⁶ Comparison with the forms of these letters in

⁸³ The paucity of dies and specimens which illustrate the early version of the monogram may reflect the unsatisfactory representation of the monogram on the earliest reverse dies and their being discarded after only brief useage, cf. *Myriandros*, p. 38.

⁸⁴ Newell did not attempt to read the monogram, nor did he represent it accurately in *Myriandros*, p. 32, 17. Note that the full monogram is not represented on the specimens from Newell's reverse dies 1 and 3 (Plate 1, 11; 2, 12), but the plaster cast of the specimen in the Staatliche Museen zu Berlin (Newell reverse 2) shows the full monogram (Plate 2, 13). The author thanks Mr. H.-D. Schultz of the Staatliche Museen for kindly providing him with a plaster cast of this coin.

⁸⁵ Sidon: Newell (above, n. 9), pp. 9, 23, and 26, also pl. 1, 10–12; Aradus: LeRider (above, n. 9), p. 182; and Bellinger (above, n. 2), p. 52 and n. 75. For the Phoenician *b'n'* ($\aleph\beta$) in monogram, see Six (above, n. 4), p. 152; and *BMCPHOENICIA*, p. clxiv, pl. 45, 3.

⁸⁶ For *yz* as the Semitic spelling of Issus, see Babelon, *Perses Achéménides*, pp. xxx–xxxix; *Traité 2*, cols. 379–80, 857–60; also *HN*, p. 722. See above, nn. 22 and 23, for the view that *yz* is specifically the Phoenician spelling of Issus. These letters occur in countermarks on numerous coins issued from southern Anatolian cities in the first half of the fourth century: Aspendus, Side, Selge, Celenderis, Nagidus, Soli, Mallus, and Issus. See *Traité 2*, cols. 953–56, and for individual specimens, cols. 375–78, 572–73, (Mallus); cols. 855–60, 1372–73 (Issus); cols. 887–88, 1423 (Soli); cols. 903–4, 1474 (Celenderis); cols 915–20, 1511 and 1517 (Nagidus); cols. 937–38, 1540 (Side). For the importance of the countermarks on the coin from Soli, see above, nn. 22 and 23, and Plate 1, 8–9.

contemporary Phoenician inscriptions from Sidon, Tyre, and Cyprus supports this interpretation of the monogram.⁸⁷

When the monogram is turned 90 degrees counterclockwise (\mathcal{M} on Newell reverses 4–13), it looks more like Greek ME. However, this reading of the monogram remains highly improbable, given the monogram’s original orientation and its peculiar form. The short line which had extended straight off the upper bar of the Z of the earlier version of the monogram now sometimes curves on later specimens making the left vertical of the M appear more like an English J: $\mathcal{J}\mathcal{E}$ (Plate 2, 15).⁸⁸ Newell’s reverse 4, however, shows this line extending straight to the left (Plate 2, 14), conforming more closely to the original form of the monogram on reverses 1–3 (Plate 1, 11; 2, 12–13). This line is a normal component of the Phoenician *zayin* in the fourth century, and its original position on reverses 1–3 suggests how the die cutter composed the earlier version of the monogram. Appropriately, he began with *yodh*, the first Phoenician letter for Issus, which has the normal orientation for late fourth century Phoenician. The *zayin* was attached by being turned upside down and having the upper portions of both letters share the same line:

$$\text{𐤃} + \text{𐤆} = \text{𐤃𐤆}$$

If the above interpretation of the first monogram on the Alexander tetradrachms is correct, then a rather anomalous phenomenon occurred at the Issus mint. Its ethnic on early fourth century satrapal issues was written in Greek and on its earliest Alexander issues in Phoenician.⁸⁹

⁸⁷ Inscriptions dating from the fifth to the second centuries from Cyprus, Sidon, and Tyre provide many examples of both *yodh* and *zayin* with forms similar to those in this monogram, see J. Brian Peckham, *The Development of the Late Phoenician Scripts* (Cambridge, MA, 1968), pp. 7, 9, 11, 67, 69, and 105, pls. 1–3, 5, and 6, esp. the forms in pl. 1, 7 (*CISem* 98), dated to the reign of Milkyaton, 388; and in pl. 2, 6 (*JRAS* 1960, pl. 1), dated to the reign of Pumiyaton, 328.

⁸⁸ A plausible explanation for this minor change is that of Martin Price who believes the curve developed under the influence of the scorpion’s tail in the adjacent field of all reverses of Newell types 17 and 18. See Plate 2, 15.

⁸⁹ Although earlier satrapal coinage from Issus displays a Greek ethnic, various financial authorities in the city during the same period identified Issus in Semitic on countermarks. See above, nn. 22, 23, and 86. The Greek ethnic is either ΙΣΣΙ(KON) or ΙΣΣΙΚON . The neuter singular indicates satrapal authorization rather than municipal, Kraay (above, n. 35), pp. 278 and 285, and pl. 59, 1028–30. Satrapal issues with a Greek ethnic may have been minted to pay Greek mercenaries. See above nn. 5 and 34, and Plate 1, 1, for Issus’s ethnic in Greek.

Rather than an argument against the Phoenician character of the early monogram, this apparent paradox serves to illustrate what some scholars have recognized for many years. Cilicia was a unique region which constituted a cultural crossroads between the Achaemenid and Semitic east and hellenic west, and its cultural and social history did not manifest a lineal, "progressive," hellenization. What has in the past been interpreted as exclusively hellenic influence on Cilician coinage during the fifth and fourth centuries may represent a blending of artistic refinements occurring independently in the hellenic west and Achaemenid east.⁹⁰ Many of the symbols and seemingly hellenized divinities appearing on Cilician issues reveal the continuation of native as well as Phoenician cults.⁹¹ Moreover, the Phoenician letters which occur

⁹⁰ For a survey of Cilician coinage in the Persian period with emphasis on the cultural mix of this region while avoiding philhellenic bias, see Chester G. Starr, "Greeks and Persians in the Fourth Century B. C.," *Iranica Antiqua* 12 (1976), pp. 91–101.

⁹¹ Alexander before the battle at Issus sacrificed to local deities, Curtius 3.8.22; for his sacrifice to a distinctive Athena at Megarsus, Arrian 2.5.9. 'Anat appears to be of special importance at Issus, see below n. 95. The caduceus which occurs throughout series 3 of the Tarsus Alexanders may be connected with 'Anat, since this symbol often occurs in association with the "sign of Tanit." See *Tarsos*, pp. 35–41, and R. A. Oden, Jr., *Studies in Lucian's De Syria Dea* (Missoula, 1977), pp. 142–44 and 151–55. Mallus's coinage displays sacred baetyl, caduceus, and ankh symbols, *BMCLycaonia*, pp. 95–100. See *Traité* 2, cols. 347–50, for the frequent occurrence of the ankh on Cilician coinage and the view that it reflects eastern influence at Soli, Tarsus, Mallus, and Issus. Baaltarz is a hallmark of Cilician coinage, and is always written in Aramaic, although his syncretism with Zeus occurs before the arrival of Alexander, Zervos (above n. 37), p. 296, and n. 5, where he is derived from the striding god with grape clusters and shaft of wheat on the hieroglyphic Hittite Ivriz monument. This native divinity is Tarhunzas who figures prominently in Cilician personal names and the Karatepe bilingual, J. D. Hawkins and A. Morpurgo Davies, "On the Problems of Karatepe: The Hieroglyphic Text," *Anatolian Studies* 28 (1978), pp. 114–16. Baaltarz continues to appear in Aramaic on the Alexander Persic staters minted at Tarsus, Newell, *Tarsos*, pp. 16–22. For Sahar, Shamash, Baalshamayn, and Kubaba in Aramaic inscriptions from Cilicia in the Persian period, see John C. L. Gibson, *Textbook of Syrian Semitic Inscriptions*, vol. 2 (Oxford, 1975), pp. 153–57. For Nergal of Tarsus, see Leo Mildenberg, "Nergal in Tarsos. Ein numismatischer Beitrag," *Antike Kunst*, supplement 9 (1973), pp. 78–80. Also compare Starr's discussion (above, n. 90).

frequently on the last Persian issues in Cilicia probably reflect a large number of Phoenician-writing administrators at Tarsus and Issus under Mazaeus and Arsames.⁹² Alexander’s continued use of these Cilician mints as well as his employment of the same mint officials and craftsmen used by the Persians help explain the close stylistic similarity between the last Persian and first Alexander issues at these mints as well as the possible occurrence of the Phoenician ethnic in monograms on Issus’s earliest Alexanders.⁹³

As at Aradus and Sidon, the early Phoenician ethnic at Issus gave way to Greek.⁹⁴ In the case of Issus, this occurs very early in Newell’s series 2 with the monogram **M** discussed above. The only anomaly in this evolution of the Issus monogram is the **M** beneath the throne on reverse die 14 (Plate 2, 16). This may be explained by its occurring on the first issue of series 2, perhaps following administrative and personnel changes within the mint. The scorpion in the reverse field of series 1 is replaced by **☞**, the “sign of Tanit,” which occurs on coins minted at Issus earlier in the fourth century (Plate 1, 1; cf. 2, 16–17, 19). The sign of Tanit continues to occur on Newell’s reverses 14–41, 61–88, and provides further evidence in support of an Issus attribution.⁹⁵ The **M** beneath the throne represents a temporary aberration, for

⁹² Six (above, n. 4), pp. 112 and 137; Harrison (above, n. 4), pp. 359–61; see above, n. 16.

⁹³ For the close stylistic affinities between Mazaeus’s issues at Tarsus and “Myriandrus” and the earliest Alexander issues, see above, nn. 16 and 37. Issus’s Phoenician connections may have contributed to its apparently hostile attitude toward the Macedonian occupation following the evacuation of the Persian garrison, Curtius 3.7.7 and Diod. 17.32.4; the Phoenician and Cypriot fleets at the time remained loyal to Persia, Arrian 2.1.1–2.5; 2.13.4–8. Also see below for further evidence of Phoenician presence at Issus.

⁹⁴ In contrast, Ake’s ethnic **☞**, was always written in Phoenician. See Newell (above, n. 9), pp. 39–63.

⁹⁵ Newell, *Myriandros*, p. 38, views this as a monogram rather than a “Phoenician Baal sign.” For a similar symbol now referred to as the sign of Tanit on early fourth century Issus coinage, see Plate 1, 1; also see *BMCLycaonia*, p. cxxvii. Numismatists have viewed this sign as a mintmark of Issus, *Traité 2*, cols. 393–94, 587; cols. 397–98, 596; also cols. 347–49, 857–58, n. 5; and Imhoof-Blumer (above, n. 22), p. 450.

For the various forms of the sign of Tanit, see Elisha Linder, “A Cargo of Phoenicio-Punic Figurines,” *Archaeology* 26 (1973), p. 185, and Jane Burr Carter, “The Masks of Ortheia,” *AJA* 91 (1987), p. 373, and the literature cited in n. 90. The sign

it is followed by reverse dies *15-106*, all of which have the Greek monogram interpreted above as the initial two letters of Issus.⁹⁶ The **M** could have evolved from the earlier Phoenician monogram which to a Greek eye would appear like a *mu*, and so may represent a brief vestigial in the series. The above interpretation of the monograms and letters found on the Alexander tetradrachms throughout all the series of the mint, with the exception of the brief sixth series, suggests an organic evolution of mintmarks beneath the throne (**𐤌**, **ME**, **M**, **M**), all of which possibly represent the ethnic for Issus.

In conclusion, the coinage which Newell attributed to Myriandrus seems more likely to have been issued at Issus. Issus was a well known mint under the Persians, and the geographical associations, emblems, and monograms which occur on the so-called Myriandrus coinage tend to associate these issues with Issus rather than Myriandrus which otherwise is not known to have minted before or after the Newell attribution. If the Issus attribution is correct, it provides supplementary evidence for the administrative arrangements made by Darius III against the Macedonian invasion and highlights the military dilemma faced by the Achaemenid central government in delegating military authority to its western satraps following the Satraps Revolt. The reattribution along with the evidence assembled here concerning the activity of the Issus mint suggests the need for a reassessment of its relative importance among the mints of the Persian Empire. Finally, these late issues from Issus confirm the continued presence of Phoeni-

of Tanit continued to appear on the Alexander issues at Issus throughout series 2-4, but not in group B of series 3. This sign of Tanit is unusual in that it lies on its side rather than standing upright. Its reclining position is the result of being turned 90 degrees counterclockwise just as the original monogram in series 1. Although no specimens exist on which the turned monogram occurs with the correspondingly turned sign of Tanit, it may be that the position of the Tanit symbol was due to the influence of the monogram's revised orientation. This suggests a close connection between Issus, 'Anat worship, and Phoenician presence there. See above, n. 91.

⁹⁶ The **M** beneath the throne of reverse die *14* may also be an engraver's error for the subsequent monogram, occurring when the monogram was first changed from Phoenician to Greek.

cians within Issus society and culture in a region which is noted for its early hellenization.⁹⁷

PLATE 1

- 1: Early fourth century B. C. issue of Issus with **ΙΣΣΙ** on obverse, published by E. T. Newell, "A Cilician Find," *NC* 1914, pp. 1–33, 72, pl. 3, 1. ANS
- 2: Sidon tetradrachm with *tsade* in field. ANS
- 3: Aradus tetradrachm with monogram beneath throne. ANS
- 4: Mazaeus Tarsus shekel with full title on reverse, *mzdy zy 'al 'brnhr' vhlk*. ANS
- 5: Mazaeus lion stater with lion over waves. ANS
- 6: Mazaeus lion stater with lion over mountains. ANS
- 7: Mazaeus lion stater with sunburst above and crescent moon below. ANS
- 8: Soli, Persic stater, *Hunter* 2, p. 543, 6. Courtesy of the Hunterian Coin Cabinet, University of Glasgow
- 9: Soli stater, enlargement. Courtesy of the Hunterian Collection, University of Glasgow
- 10: Balacrus Persic stater with **BAAKROY**. ANS
- 11: Issus tetradrachm, Newell 17, 1–1. ANS

⁹⁷ I wish to thank Dr. Nancy M. Waggoner for her assistance when I visited the American Numismatic Society in September 1987 and July 1988 and for her help in expediting the photographic services of the Museum. I also wish to thank Dr. Bateson of the Hunterian Collection, University of Glasgow, and Mr. H.-D. Schultz, Münzkabinett, Staatliche Museen zu Berlin, for their assistance in providing illustrations for this article. My special thanks are extended to Margaret Thompson, Martin J. Price, Ralph W. Haskins, and other readers at the ANS for their comments on earlier versions of this article. Their criticisms and suggestions have been beneficial; they do not necessarily agree with my interpretations, and the errors contained herein are my own. Brief versions of this paper were presented at the Southeast Regional Annual Meeting of the Society of Biblical Literature and American Schools of Oriental Research, March 19, 1988, at Mercer University, Macon, Georgia, and at the meeting of the Southern Section of the Classical Association of the Midwest and South, November 10, 1988, at the University of Florida, Gainesville.

PLATE 2

- 12: **Issus tetradrachm, Newell 17, 2–3. ANS**
- 13: **Issus tetradrachm, Newell reverse 2. Plaster cast courtesy of Staatliche Museen zu Berlin, Münzkabinett.**
- 14: **Issus tetradrachm, Newell 18, 2–4. ANS**
- 15: **Issus tetradrachm, Newell 18, 5–7. ANS**
- 16: **Issus tetradrachm, Abu Hommos, reverse = Newell 19, 9–14. ANS**
- 17: **Issus tetradrachm, Newell 20, 9–15. ANS**
- 18: **Issus tetradrachm, Newell 26, 13–55a. ANS**
- 19: **Issus tetradrachm, Newell 27, 15–66. ANS**
- 20: **Issus tetradrachm, Newell 35, 25–107. ANS**
- 21: **Issus tetradrachm, Newell 36, 25–109. ANS**
- 22: **Issus tetradrachm, Newell 38, 25–112. ANS**

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AN UNPUBLISHED COIN OF PHILIP II OF MACEDONIA, FROM HIS FIRST ISSUE OF BRONZES

PLATE 3

CHARLES HERSH

One of the most interesting unresolved historical problems of the fourth century B.C. was that of the succession to the throne of Macedonia, following the death of Perdiccas III in 359. Perdiccas was only in his mid-twenties and had been ruling in his own name for just over five years when he died on the battlefield with over 4,000 men of his army fighting against Bardylis, king of Illyria, who had made an incursion into Macedonian territory. A major crisis for the Macedonian kingdom arose following the death of Perdiccas, as the Illyrians raided deep into their country. Danger also threatened from the Paeonians in the north and the Thracians to the east.

Normal Macedonian practice was to have the new king chosen by acclamation of the army gathered in an assembly for this purpose rather than by the previous king designating a successor. "Which of the Macedonians really did assemble on these occasions we can only surmise. In normal times the princes and chief men from the whole kingdom, presumably, came to show their acceptance of the new king (if they did accept him): many of the smaller landowning gentry too no doubt . . ."¹ The

¹ N. G. L. Hammond and G. T. Griffith, *A History of Macedonia*, vol. 2, 550-336 B.C. (Oxford, 1979), p. 209.

primary choices for the kingship in 359 were Amyntas, the very young son of Perdiccas, at the most eight or nine years old and perhaps no more than a few months of age, and the dead king's brother Philip, the youngest of the three sons of Amyntas III, who was a mature 23 or 24 years old. "And if the [military] assembly was as a rule guided by the custom of dynastic continuity, it did have the power to break this normal chain, such critical circumstances as those of 359 presenting the strongest justification for doing so."³

Historians generally have followed the muddled testimony of Justin³ naming Philip regent for his young nephew. As late as 1974 Martin Price felt that "Philip may have been regent for the infant Amyntas IV...although little is known of the interesting years 359-356."⁴ Hammond and Griffith disagree with this view, however, stating baldly, "A regency was discussed, very likely; but it was never brought into being Philip was acclaimed as king."⁵ They do admit, in an appendix, that they "departed from the orthodox view"⁶ in this assertion. Ellis also stated that the young Amyntas was passed over.⁷

Several years ago, I became interested in royal Macedonian bronze coins of the first half of the fourth century B.C., due to the rarity of most of the silver of the period. Surprisingly there was a good selection of these bronze pieces in London and Switzerland, even though they too are generally very scarce. A number of these coins had fine pedigrees and provenances. An unpublished bronze coin of Philip II, with a definite Macedonian provenance, was among these acquisitions.

(a) Philip II

Obv.: Head of young Heracles r., wearing lion's skin knotted under chin

Rev.: Butting bull charging r., above ΦΙΛΙΠ, below ΠΟΥ

* Hersh coll. 3.49 g ↑ ↗

³ J. R. Ellis, *Philip II and Macedonian Imperialism* (Princeton, 1986), p. 47.

⁴ Hammond and Griffith (above, n. 1), p. 208, n. 4, and p. 209, n. 1.

⁵ M. J. Price, *Coins of the Macedonians* (London, 1974), pp. 20-21.

⁶ Hammond and Griffith, p. 209.

⁶ Hammond and Griffith, p. 702.

⁷ Ellis (above, n. 2), p. 47.

What is particularly important about this previously unrecorded piece is that the types are exactly those of the last issue of bronzes of his brother and predecessor, Perdiccas III.

(b) Perdiccas III

Obv.: Head of young Heracles r., wearing lion's skin knotted under chin

Rev.: Butting bull charging r., above ΓΕΡΔΙΚ, below KA
Gaebler, p. 161, Perdiccas III, 4, pl. 30, 16⁸

Some specimens in London, Paris and New York include:

1. London, B.M., 5.17 g 1910.11-4.3
2. Paris, B.N., 5.39 g
3. Hersh Coll. 5.31 g ↑↖
4. Hersh Coll. 4.90 g ↑↑
5. ANS, 4.92 g ↑↗
6. ANS, 4.75 g ↑↗

Martin Price, in private correspondence, has suggested Aegeae as the mint for both of these issues. The ephemeral issue of Philip II was undoubtedly copied from and struck at the same mint as the coins of Perdiccas III (even though in a seemingly different denomination) and probably only a short time after his ascending the throne and before he could take the time to select his own types for his coinage. This apparently was not a high priority for Philip after his assumption of the throne, particularly given his military difficulties. Continuity was very important for Philip at this time. The use of his brother's coin types underlined his right to the throne still further.

A factor that supports Hammond and Griffith's suggestion that there was no supervised reign for young Amyntas, with his uncle Philip as regent, is the evident custom or tradition during this period that a regent did not strike coins in his own name, but only in that of the king. This was true less than a decade earlier when Ptolemy Alorites was appointed as regent for his minor brother-in-law, Perdiccas III, who

⁸ H. Gaebler, *Die Antiken Munzen Nord-Griechenland*, vol. 3, *Makedonia und Paionia* (Berlin, 1935).

was then about 15 years of age, after the assassination of Amyntas III's eldest son and heir, Alexander II, in late 368 or early in 367. Ptolemy died in 365, either as the result of a plot organized by Perdiccas against the regent or just after Perdiccas III became king, upon reaching his majority. But, whatever the internal conflicts may have been, coinage was struck in the name of the minor Perdiccas, not in the name of the regent. In the case of Philip, the use of the same types as his brother, in an obviously small and short-lived issue, would seem to obviate any time for possible striking in the name of Amyntas IV by a regent.⁹

⁹ This argument restores to Amyntas III a tetradrachm that Price (above, n. 4), pp. 20-21, pl. 10, 54 says is a "possible" issue of Amyntas IV.

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PUNIC ICONOGRAPHY ON THE ROMAN DENARII OF M. PLAETORIUS CESTIANUS

(PLATES 4-5)

M. PAZ GARCÍA-BELLIDO

The denarii struck by M. Plaetorius Cestianus at Rome in the 60s B.C. have a rich but difficult iconography. The problems already defined by Mommsen still await resolution.¹ While scholars have interpreted each type as a different Italic or Roman divinity without any inter-relationship,² it is arguable that the two issues are closely connected and both dedicated to Tanit as Dea Caelestis as well as to the rest of the Maximal Triad of the African gods—Ba'al-Hammon and Eshmun—represented under the Roman interpretatio as Jupiter and Aesculapius.

The coinage of M. Metellus Imp., struck in Africa twenty years later (47-46 B.C., *RRC* 459-61) and focused on African themes, provides a good parallel and thus an aid to understanding of the issue of Plaeto-

¹ M. H. Crawford, *Roman Republican Coinage* (Cambridge, 1974) 405, M. Plaetorius Cest. ex S. C. (69 B.C.), and 409, M. Plaetorius M. f. Aedil Cur. (67 B.C.). A recent Italian hoard shows that the issues were minted in a different order and with a longer interval between them, *RRC* 409 in 69 B.C. and *RRC* 405 in 64, with Plaetorius "acting as a pro-praetor perhaps, rather than as regular moneyer," C. Hersh and A. Walker, "The Mesagne Hoard," *ANSMN* 29 (1984), p. 133. I thank Dr. William E. Metcalf for his assistance in preparing this article for publication.

² Crawford, *RRC*, pp. 418 and 437, gives the relevant bibliography on the types.

rius.³ The coins of Metellus bear an archaic representation of Jupiter (Plate 4, 1–2) who is identified by the eagle and scepter in Plate 4, 1. The reverses display a sella curulis, symbolic of his power as imperator, and, in the case of Plate 4, 2, an elephant, which simultaneously represents the Metelli and Africa. Why Jupiter in an African mint? In the Punic world Ba'al-Hammon was the Deus Maximus, identified with Saturnus, as is shown by the expanded cult which the Saturnus later received.⁴ In Italy, however, Ba'al, as Deus Maximus, was identified with Jupiter, as is shown by the treaty between Hannibal and Philip of Macedon (Pol. 7.9.2-3).⁵ Latin inscriptions show that even in Africa Jupiter was sometimes assimilated to Ba'al-Hammon.⁶

On one coin (Plate 4, 3) a female goddess is portrayed wearing a corona muralis with grain stalk and caduceus at each side; above there is a rudder (?), below, a prow. As will be seen later, she is the same goddess that appears on African stelai (Plate 4, 4). On the other (Plate 4, 5) a female divinity with lion's head surmounted by a disk, a moon, and dressed with wings is shown holding an ankh.⁷ The letters G T A identify her as the genius terrae Africae. The reverses of both coins have war and victory themes: trophy with caetra (a small round shield) and bow (a weapon rare on Roman trophies), and the sacral implements simpulum and jug. A figure of Victory holds caduceus and caetra⁸ in

³ The symbols are particularly important for understanding the meaning of the types. Originally the semitic religions were aniconic and employed a symbolic language. When anthropomorphic iconography was later adopted the symbols were not replaced, but began to appear beside the types. *RRC*, p. 738, 459-61, Crawford assembles the earlier bibliographical references, and explains the symbols allegorically without any reference to the principal type. Here, as in the Plaetorius issues, the symbols are closely related to the coin type.

⁴ M. Leglay, *Saturne Africain, histoire et monuments*, 3 vols. (Paris, 1966).

⁵ See M. J. Barré, *The God List in the Treaty between Hannibal and Philip V of Macedonia. A Study in the Light of the Ancient Near Eastern Treaty Tradition* (Baltimore, 1983), which has abundant data and discussion.

⁶ M. Leglay (above, n. 4), vol. 3, *Histoire*, pp. 233-35; vol. 1, *Monuments*, pp. 336, 3; 339, 11; 348, 43; 349, 45; and 352, 47. The inscription at p. 336, 3, is dedicated to *Iovi Optimo Maximo Saturno*.

⁷ The close relationship between the ankh and the "Tanit symbol," in both cases with the meaning of "life," is made clear in G. Garbini, *I Fenici, Storia e Religione* (Naples, 1980), p. 178.

⁸ Not a patera as asserted by Crawford, *RRC*, pp. 472 and 738.

Plate 4, 5. The caduceus is a symbol which often accompanies deities of the Punic world on coins and stelai from the fifth century B.C. to the second A.D. Its meaning is not yet clear, but it accompanies the high divinities such as Ba'al-Hammon, Tanit, Melkart, Eshmun, and others.⁹ We shall find it as a single sacral type in the Plaetorius issue (Plate 4, 6 and 7).

A head of Africa wears an elephant's skin in Plate 4, 8, and is accompanied by a grain stalk (as in Plate 4, 3) and a plow, which represent her as protector of earth and fertility. These three types allude to the attributes of the Dea Maxima of Carthage, Tanit, the later Roman Dea Caelestis. As Genius of Africa¹⁰ she wears the lion's head or skin that Tanit¹¹ wore from early Punic times to later Roman ones, as seen in the sculpture of the Bardo Museum, or in those of Tinissut, where the goddess either stands on a lion with the inscription C A S (Caelestis Augustae Sacrum) or has a lion's head and is dressed with wings (see below).¹² In Plate 4, 3, she is the Tyche of Carthage, with a city crown similar to that worn by other hellenistic Tychai—although Tanit had this crown earlier¹³—with rudder and prow as protector of a maritime city, with grain stalk as frugifera, and with caduceus as a principal

⁹ See B. L. Trell, "Phoenician Greek Imperial Coins," Proceedings of the International Numismatic Convention on Greek Imperials, *INJ* 1982-83, pp. 128-37.

¹⁰ Already identified as Tanit by G. Charles Picard, *Religions d'Afrique antiques* (Paris, 1954), p. 84. The assimilation of Astarte, Tanit, and Genius of Africa is a very problematic question; I think they are fundamentally the same, becoming differentiated only in Roman times. For the most recent treatment see M. Barré (above, n. 5), pp. 58-61 and 64-74.

¹¹ With a Canaanite epithet that means "the lion lady." See F. M. Cross, *Canaanite Myth and Hebrew Epic* (Cambridge, MA, 1983), p. 33.

¹² A. Merlin, "Sanctuaire de Ba'al et de Tanit près de Siagu," *Notes et documents publiés par la Direction des Antiquités et Arts de la Tunisie* 4 (1910), p. 44; G. Charles-Picard (above, n. 10), p. 105. M. Leglay (above, n. 4) *Monuments*, vol. 1, p. 350, n. 3, has a rich compilation of sources on the lion motif.

¹³ See the famous silver headband from Batna, Algeria, where she appears with city crown beside Baal-Ammon with ram horns: M. Barré (above, n. 5), p. 297. She also appears with city crown and wings on a funerary stele (Plate 4, 15): G. Charles-Picard, *Catalogue du Musée Alaoui*, 2 vols. (Tunis, n.d.) Cb 685. In many hellenistic cities the principal goddess became the *gad* or "tutelary genius." In Palmyra it was Atargatis, and in Ebusus the inscription *KAI* 72 calls the *gad* Tanit, that is to say Tyche. The identification with Tanit is problematic, see Barré (above, n. 5), p. 67.

divinity. These attributes have already been observed on stelai, Plate 4, 4.¹⁴ Both coins have on their reverses victory themes alluding to another facet of the same divinity, the war and peace power of Tanit who inherited from Astarte the attributes of a war goddess. Her weapons are the bow, the caetra, and the spear (Plate 4, 3, 5, and 9).¹⁵ There is inscriptional evidence for these attributes of Dea Caelestis in Italy, *CIL* 6.78 (*invicta*) and 6.756 (*victrix*), with this last appellation also in Spain and Africa,¹⁶ and as Dea Virtutis in Britain, *CIL* 7.759. The same interpretation applies to the representations of Victoria tropaeophora in the terracottas of Saint Monique, in sculptures of Carthage, and probably in the bronze group of Tortose.¹⁷ These attributes are also attested by African inscriptions recording the dedication to Caelestis of pectorals, *CIL* 8.12454 and 12501, and bows, *CIL* 8.16417 and 27416. Such military attributes are combined with those appropriate to a fertility goddess such as Tanit in land, sea, and sky—plow, dolphin, birds, and cornucopiae. In Spain too, issues from Baetica represent a helmeted goddess with weapons as well as grain stalks, fish, or ivy leaves, displaying the same duality as in the issues of Metellus and Plaetorius.¹⁸

The female head in Plate 4, 8, is the Roman version of provincia Africa with attributes of Tanit and dressed in an elephant's skin. The image on the reverse is Melkart, who had great popularity in Carthage because of his position as Ba'al in Tyre. He is closely related to Astarte,

¹⁴ S. Moscati, *I Fenici e Cartagine* (Torino, 1972), p. 279, reproduced here.

¹⁵ In the Punic sanctuary El-Hofra, a stele is decorated with a drawn bow inscribed into the "Tanit sign" holding a caduceus, pl. 43. B. Caetra and spears are represented also on stelai from the same sanctuary: A. Berthier and R. Charlier, *Le sanctuaire punique d'El-Hofra*, 2 vols. (Paris, 1955), pl. 18, A, B, C, D, and pp. 193–96. The same weapons appear in connection with later victories, see G. Charles Picard, "Le monument aux Victoires de Carthage," *Karthago* 1 (1950), p. 67, pl. 1, 2.

¹⁶ A. Blanco Freijeiro, "El panteón romano de Luceus Augusti," *Actas del Bimilenario de Lugo* (Lugo, 1977), pp. 107–15; F. Cumont, "Les cistiferi de Bellona," *CRAI* 1919, pp. 256–60.

¹⁷ G. Charles-Picard (above, n. 10), p. 71; see also n. 15.

¹⁸ M. Paz García-Bellido, "Leyendas e imágenes púnicas en las monedas libiofenices," IV Coloquio de Lenguas y culturas paleo-hispanicas, *Veleia* 2–3 (1987), pp. 513–16.

and it has even been suggested that there was a hieros gamos between them.¹⁹

In the issue of Metellus struck in Africa we have seen representations of the principal Carthaginian religious figures in different versions; this is also found in the issues of Plaetorius who, however, is more insistent on the attributes of Caelestis and alludes only secondarily to Ba'al-Jupiter and to Eshmun-Aesculapius. The first two types (Plate 4, 10-11) correspond to Plaetorius's issue as curule aedile and include the two more important civic facets of the goddess; the other five types in the later issue detail her other attributes.

The female head with corona muralis, lion's skin on shoulders, and moon under her chin (Plate 4, 10) combines the two images of Metellus (Plate 4, 3 and 5). The moon represents Caelestis, the crown Tyche, and the lion Genius Africae: together they show that a single goddess had all three attributes. The figure portrayed in Plate 4, 11, winged and helmeted with laurel crown terminating in grain stalks or poppy heads and with cornucopia, quiver, and bow, has variously been described as Vacuna, Minerva, Victoria, Diana, Isis, and Apollo;²⁰ she is to be seen as a single goddess. All these elements appeared in the iconography of Metellus and fit perfectly well with the attributes of Tanit: a helmeted war goddess fighting with bow, a winged Victory crowned with laurel, and a fertility goddess with grain stalks and cornucopiae. Caelestis was invoked not only as Victrix, Invictrix, and Virtus, as we have seen, but also as Nutrix, Specifera, and Ops.²¹ Thus the obverses of Plate 4, 10-11, refer to the same deity as the two faces of Metellus's issue (Plate 4, 3 and 5). The identification as a single goddess is confirmed by coins of Oea (Tripolitania) of the first century B.C. (Plate 4, 12) where a goddess wears both helmet and corona muralis and others of the same issue where she is accompanied by bow, quiver, caetra, and spears (Plate 4, 9) that permit her identification as the Dea Virtutis of African inscrip-

¹⁹ M. Delcor, "Le hieros-gamos d'Astarte," *RSF* 2.1 (1974), p. 70.

²⁰ *RRC* 409/1 with bibliography.

²¹ For the first two epithets see *CIL* 7.759; the third is very common in Africa; see Leglay (above, n. 4) p. 351. In *CIL* 8.2670 she is also mentioned: *Saturnus dominus et Ops regina*.

tions, as Tanit.²³ The reverse of Plate 4, 11, eagle on thunderbolt, alludes to Jupiter, that is to say to Ba'al-Hammon.

Obverses 13 and 6 once again represent a young female with hair in bands and an object which Babelon and Sydenham interpreted as a crescent but could just as well be a horn. The goddess also has the poppy heads, a symbol of fertility already observed in Plate 4, 11. The reverse of Plate 4, 13, bears a torch and a jug. The torch was a sacrum used not only in the cult of Ceres but in the rituals of the Mater Deorum. We know from St. Augustine that in Carthage, in his youth, festivals of the goddess were celebrated with torches and candles. The iconography is very old, and can be observed in a fourth century relief from Athens, Fig. 1.²³ The Greek Mater Deorum, who later came to Rome assimilated with Cybele, sits on a throne of lions accompanied by cymbals; representation of her votaries imply that essential elements of her cult included torch and jug. Caelestis was the Carthaginian Mater Deorum or Dea Magna as she is called in African inscriptions, *Dea Magna Virgo Caelestis*.

The horns in the hair of the female on the obverses are probably to be explained by Tanit's role as paredros of Ba'al-Hammon, identified in many ways with Ba'al-Ammon.²⁴ Hammon assumed the characteristic ram's horns of the Egyptian god and appears with them in the headband of Algeria, beside the mural-crowned head of Tanit.²⁵ The reverse attributes of this coin allude, as we saw, to Dea Magna, and its obverse is her representation wearing the horns as paredros of Jupiter-Ammon.

The coins of the African issue of Q. Cornifici as augur imperator have as their types Jupiter-Ammon, head of Africa, and Tanit.²⁶ This was, then, a common African depiction for the Romans, which may be related to the fact that Caelestis and Saturnus typically received rams as sacrifices from the third century B.C. at least.²⁷

²³ L. Müller, *La numismatique de l'ancienne Afrique*, 3 vols. (Copenhagen, 1860-74), vol. 2, pp. 15-20, 30-33; *SNGCopNAfrica* 20-26.

²⁴ W. H. Roscher, *Ausführliches Lexikon der griechischen und römischen Mythologie* (Leipzig, 1894-1937), vol. 2, p. 1663, fig. 5.

²⁵ M. Barré (above, n. 5), p. 297.

²⁶ See above, n. 13.

²⁷ *RRC* 509.

²⁷ Leglay (above, n. 4), p. 351.



FIG. 1



FIG. 2

The reverse type of Plate 4, 6, is a caduceus with wings which often accompanies the major Carthaginian divinities. The same type appears on the reverse of Plate 4, 7, referring to the young male head on the obverse. This been interpreted as Bonus Eventus even though, as Babelon realized, there are iconographic inconsistencies.²⁸ Perhaps this is Aesculapius, a god so closely related to Caelestis as to share the same priests—compare the *sacerdos publicus deae Caelestis et Aesculapii* of *CIL* 8.16417 or the *sacerdos publicus Aesculapii et Iunonis* of 1887. Eshmun became Aesculapius, whose temple in Carthage had the same

²⁸ For denarii of Plaetorius in comparison with those of Scribonius Libo, see E. Babelon, *Histoire des monnaies de la republique romaine* (Paris, 1885–86), vol. 2, p. 311; *RRC* 416/1a.

situation as that of the old one of Eshmun. He was considered the son of Tanit, and like her he may have had the caduceus as a badge.²⁹

A female head with winged stephane is represented in Plate 4, 14. It is well known that Tanit was often dressed with wings, as on the famous sarcophagus of the Lavigerie Museum or in the numerous terracottas from La Cueva d'Es Cuyram in Ebusus, where Tanit is enfolded by two wings. In both cases the wings have been related to Tanit's power in the underworld; in Plate 4, 15, and Fig. 2³⁰ she presides on Carthaginian funerary stelai. The reverse is invariably interpreted as the pediment of a temple, most often that of Jupiter;³¹ but this would be the first abbreviation of a temple to a pediment, eliminating the stylobate, in all of Roman coinage. Pediments were not exclusive to temples, but were used in many sacred or civil buildings: fountains, porticoes, propylaea, and sarcophagi. But the most decisive consideration in ruling out this image as the representation of a temple is the name of Plaetorius inscribed where there should be a dedication to a god (or, later, a divine emperor). The image in the pediment is an anguipede figure holding an uncertain object, perhaps better interpreted as a club than as a cornucopia. Both Curtius and, later, Fuchs have identified the anguipede with Typhon and thus the so-called temple as that of Jupiter; but as they noticed, Typhon also has associations with the underworld and is frequently represented in graves.³² The anguipede can also represent Scylla, a common funerary motif found in such objects as combs, terracottas, razors, and the pediments of Punic sarcophagi (Plate 5, 16)³³ in both Sicily and Carthage. The sarcophagi found in Carthage are described by Gsell, and one can do no better than quote him:

On a recueilli dans le cimetière de Saint Monique un certain nombre de sarcophages en marbre. Ils datent, pour la plupart,

²⁹ In spite of the caduceus it is clear that he is not Mercury.

³⁰ A. M. Bisi, *Le stele puniche* (Rome, 1967), fig. 44, of the third century B.C., reproduced here. For the Spanish documents see M. E. Aubet, "Algunos aspectos de iconografía púnica: las representaciones aladas de Tanit," *Homenaje a Garcia Bellido I*, Publicaciones de la Universidad Complutense de Madrid 101 (1976), pp. 72–76.

³¹ G. Fuchs, *Architekturdarstellungen auf römischen Münzen* (Berlin, 1969), p. 19, with earlier bibliography.

³² Fuchs (above, n. 31), p. 20.

³³ M. Fantar, *Schatologie phénicienne punique* (Tunis, 1970), pp. 21–23, and pl. 19, 2, reproduced here.

du III^e siècle. Les uns sont des monuments d'architecture, non de sculpture. Ils ont l'aspect d'un temple grec. Le couvercle imite un toit à double pente, avec les frontons aux deux extrémités et des saillies (acrotères) aux angles et long des grandes cotés. La cuve est bordé, en haut et en bas, de moulures, rehaussés d'ornements peints, oves et fers de lance, meandres. Dans le tympane des couvercles était peint des motifs qui ne se distingue plus guère: rinceaux, *bustes ailés-griffons*, Scylla avec sa ceinture de chiens.³⁴

The description fits exactly with the image of the coin, and in this case personal names were written on the friezes. Thus both faces of the coin refer to the underworld power of the goddess Tanit, inherited by Dea Caelestis as can be deduced from the many funerary dedications in Latin inscriptions. There is total congruence between the obverse and reverse types, one explaining the other.

There remains one issue, Plate 5, 17, in which a female head tells little of her personality but the reverse depicts a boy holding a tablet inscribed **SORS**. The figure is clearly an oracular divinity identified with Fortuna, but which Fortuna?³⁵ Some parallels for this scene can be found in other Phoenician cults, as in the relief from the Hercules sanctuary in Ostia (Plate 5, 18).³⁶ In the central scene Hercules himself draws out a tablet inscribed **S H** (Sors Herculis) from a cista and hands it to a boy who has the same role as the boy on the coin of Plaetorius, that is to read the oracle's answer. On the right of the relief we are told that Hercules' cult and his cista came from abroad, over the sea. The two sacra, image and cista, are fished out in a net and brought to the

³⁴ S. Gsell, *Histoire ancienne de l'Afrique du Nord* 4 (Paris, 1920), pp. 206–7. Notice the winged busts (emphasis mine) as funerary iconography.

³⁵ She has normally been identified with the Praenestina, cf. *RRC*, p. 418.

³⁶ For descriptions and details cf. G. Becatti, "El culto de Ercole ad Ostia ed un nuovo relieve votivo," *BullCommArch* 67 (1939), pp. 38–61, and "Nuovo documento del culto di Ercole ad Ostia," *BullCommArch* 70 (1942), pp. 115–25; R. Meiggs, *Roman Ostia* (Oxford, 1960), pl. 30a; D. van Berchem, "Sanctuaires d'Hercules-Melkart, contribution à l'étude de l'expansion phénicienne en Méditerranée," *Syria* 44 (1976), pp. 73–109 and 307–38; M. P. Garcia-Bellido, "Altars y oráculos semitas en occidente: Melkart y Tanit," *RSF* 15, 2 (1987), pp. 143–50, pl. 28, 7, reproduced here.

shore by fishermen; in fact we now know that the Hercules cult in Ostia was Phoenician in origin and came from Tyre.

Oracles by sortes also existed in the Tyrian sanctuary of Melqart in Gades. Some coins from Lascuta (a "Libyophoenician" city of Baetica), Plate 5, 19–20, represent Hercules on the obverse and two altars, perhaps the very two mentioned in several classical texts, on the reverse.³⁷ At the sides there are a cista similar to that of Ostia and a jug, and it is possible that these were the sacra which played the principal role in the famous oracle of Gades. The cista next to an altar is anomalous in a classical ambience, but not in a Phoenician or Punic one: in fact the same cista and jug are found in many stelai dedicated to Tanit in Carthage (Plate 5, 21–22).³⁸ Elsewhere I have tried to demonstrate that these cistai should be interpreted as the receptacles for the sortes used in the oracle of Tanit at Carthage, whose power was inherited by Caelestis as found in many literary texts and inscriptions.³⁹ In Roman Carthage her oracle played an important political role.⁴⁰ New data now seem to confirm this hypothesis. At Sidon, in the sanctuary of Eshmun, thirteen cistae ansatae have appeared in a section dedicated to Astarte (she and Eshmun are once again seen as companions), with no obvious explanation.⁴¹ In my view these cistae are the containers of sortes for the oracle of Astarte, this method of prophecy being the usual one in Phoenician cults and many different receptacles were used to correspond to the different nature of the questions put. I suggest, then, that the figure on coin 17 can be interpreted as Fortuna Caelestis, as she is called in *CIL* 8.6943 and 12.7610. Even in Rome Caelestis played this role, as in *CIL* 6.77: *dominae caelesti...numinae eius*.

It is difficult to explain this iconography for the issues of Plaetorius. All scholars agree that Plaetorius, as curule aedile (Plate 4, 6–7), had

³⁷ *Phil. Ap.* 5.5; *Sil. It.* 3.14. This topic is discussed in García-Bellido cited in the preceding note.

³⁸ Berthier and Charlier (above, n. 15), pl. 21, D; G. Charles Picard (above, n. 13), Cb 701; *CIS* 5710.

³⁹ *Phil. de haer.* 15: *Fortunam caeli...quam et Caelestem vocant*; *CIL* 8.6943, 8433, 9796, and 6.77.

⁴⁰ *H. A. Pert.* 4, *Macr.* 3.

⁴¹ M. Dunand, "La piscine du trône d'Astarté dans le temple d'Echmun à Sidon," *BMB* 13 (1971), pp. 19–25.

responsibility for the Ludi Megalenses, celebrated every year since 191 B.C. in honor of Cybele; this could account for the traditional identification of the image of obverse 10 with Cybele, but the rest of the issue is more suggestive of Caelestis than Cybele.⁴² Even in Carthage in the Roman period, as the literary texts (Aug., *Civ. Dei* 2.41; Tert., *Apol.* 12) and inscriptions (*CIL* 10.1596, where a *taurobolium Veneris Caelestae* is offered) show, Caelestis was not clearly differentiated from Cybele; and modern commentators, including Wissowa, Roscher, Latte, and D'Esurac, admit that Caelestis and Cybele had the same attributes.⁴³ Both represent the city's founder, Virtus, Pax, Ceres, both have lions as companions, and both are Mater deorum—the last of these being the reason for the quick assimilation. In her aspect as Mater deorum Caelestis was associated with the Cybele cult, and their feast was perhaps celebrated together in the Ludi Megalenses for which Plaetorius had responsibility.⁴⁴ In this case the coins provide one of the oldest testimonies of her cult in Rome.

If the cult of Caelestis came to Rome during the Republic, why the long silence about it? The answer may be inherent in the process of syncretism. Caelestis arrived at Rome as a Carthaginian Mater deorum coinciding in many of her aspects with Cybele, who was already settled in Rome. As the issues of Plaetorius and, perhaps, the earlier issue of

⁴² The fact that the issues were minted in different periods makes no difference. Plaetorius could have later returned to the same cult theme. If we recognize a familial remembrance in this iconography, it is still less problematic.

⁴³ G. Wissowa, *Religion und Kultus der Römer* (Munich, 1902), p. 302; W. Roscher (above, n. 23) s.v.; K. Latte, *Römische Religionsgeschichte* (Munich, 1960), p. 347. H. Pavis d'Escurac agrees that both have the same attributes, but he thinks that in Africa they were clearly differentiated in the dedications, "La Magna Mater en Afrique," *Bulletin d'archéologie algérienne* 6 (1980), especially pp. 228–33.

⁴⁴ It is also possible that Plaetorius, whose family history is all but unknown to us, was connected with Africa, where the Marian faction played an important role (see *RE* Plaetorius [16]; his father, Plaetorius [11], was killed in the struggle between Marius and Sulla). An even earlier connection of the family with Africa would explain the African iconography chosen by L. Cestius, perhaps of the original branch of the Plaetorii Cestiani, in 43 B.C. for his own coinage at Rome. Note the bust of Africa/curule chair with helmet and ivy leaves, and bust of winged Caelestis/Cybele (Caelestis) on throne. At *RRC* 491 the ivy leaves are interpreted as snakes' heads, and the winged Caelestis is described as "Sybilla (?)." See also p. 500.

Volteius⁴⁵ show, the Caelestis cult remained differentiated for some time, but was soon subsumed under the rituals of Cybele. One stage in this process can be recognized in the issue of Cestius. In the third century, with the revival of local cults, Caelestis came to Rome, not for the first but for the second time. Septimius Severus brought her icon from Carthage, and a temple was built and festivals organized for her; even a husband was found with the introduction of Sol Invictus from Emesa.

The arrival of Caelestis's cult at Rome in the Republican period is thus suggested by the issues of Plaetorius and is confirmed by two important texts which have been disregarded in the absence of any confirming evidence.⁴⁶ We read in Macrobius (3.9.7) that during the siege of Carthage Scipio offered the *advocatio* formula to the Punic deities, temple and feasts: *si deus, si dea est, cui populus civitasque Carthaginensis est tutela...voveo vobis temple ludosque facturum*. The episode is recalled in Servius, *Aen.* 12.841, in concrete and credible terms: *constat bello punico secundo exoratem Iunonem, tertio vero bello a Scipione sacris quibusdam etiam Romam esse translata*.

PLATE 4

1. Denarius of Metellus; *RRC* 460/2, ANS 1944.100.3307
2. Denarius of Metellus; *RRC* 459/1, ANS 1944.100.3006
3. Denarius of Metellus; *RRC* 460/3, *BMCRRAfrica* 6
4. Goddess on Punic stele; Moscati (above, n. 14)
5. Denarius of Metellus; *RRC* 460/4, ANS 1937.158.266
6. Denarius of Plaetorius; *RRC* 405/3b, ANS 1944.100.2069
7. Denarius of Plaetorius; *RRC* 405/5, ANS 1937.158.155
8. Denarius of Metellus; *RRC* 461/1, ANS 1944.100.3309
9. Oea, first century B.C., two overlapping shields, two spears, dotted border; bow and quiver, dotted border, neo-Punic legend WTT; *SNGCopAfrica* 24

⁴⁵ Probably with similar themes (forthcoming).

⁴⁶ G. Wissowa (above, n. 40), p. 313; K. Latte (above, n. 43), p. 346, n. 4.

10. Denarius of Plaetorius; *RRC* 409/2, ANS 1944.100.2299
11. Denarius of Plaetorius; *RRC* 409/1, ANS 1944.100.2294
12. Oea, first century B.C., bust of Tyche r., with helmet and turreted crown, dotted border, neo-Punic legend WT'T; tripod with bow and quiver, dotted border; *SNGCopNAfrica* 21
13. Denarius of Plaetorius; *RRC* 405/4b, ANS 1944.100.2070
14. Denarius of Plaetorius; *RRC* 405/1b, HSA 24872
15. Punic stele (above, n. 30)

PLATE 5

16. Punic stele (above, n. 33)
17. Denarius of Plaetorius; *RRC* 405/2, ANS 1937.158.153
18. Ostian relief (above, n. 36)
19. Semis of Lascuta, Baetica, head of Hercules l., LASCVT; altar with ears of grain beside cista and jug; A. Vives, *La Moneda Hispanica* (Madrid, 1926), pl. 92, 8
20. As of Lascuta, Baetica, head of Hercules l., LASCV; altar with ears of grain, below Neo-Punic legend; Vives, pl. 92, 7
21. Punic stele Berthier and Charlier (above, n. 38)
22. Punic stele J. Charles Picard (above, n. 38)

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ROME AND LUGDUNUM AGAIN

(PLATES 6–8)

WILLIAM E. METCALF

The recent appearance of several monographs treating the major coinages of the Julio-Claudian period has focused renewed attention on the location of Rome's precious metal mint from Tiberius through Nero.¹ In one sense the question is of little moment, for it is agreed that a single mint was responsible for the vast bulk of the currency at any one time, and the only open problem is to attach a name to it. For this there are only two serious candidates, Rome and Lugdunum. In another sense the correct answer would not only satisfy the nagging conviction that certainty is attainable but would also refine our understanding of the occasions, audience, and content of the early imperial coinage and our sense of imperial mint policy. The studies, all of which

¹ J.-B. Giard, *Le monnayage de l'atelier de Lyon des origines au règne de Caligula (43 avant J.-C. – 41 après J.-C.)*, Numismatique Romaine 14 (Wetteren, 1983), hereafter Giard; W. Szaivert, *Moneta Imperii Romani*, vols. 2–3, *Die Münzprägung der Kaiser Tiberius und Gaius (Caligula) 14–41* (Vienna, 1984), hereafter *MIR*; H.-M. von Kaenel, "Die Organisation der Münzprägung Caligulas," *RSN* 66 (1987), pp. 135–56, hereafter von Kaenel, "Caligula"; H.-M. von Kaenel, *Münzprägung und Münzbildnis des Claudius*, *AMuGS* 9 (Berlin, 1986), hereafter von Kaenel; D. W. Mac Dowall, *The Western Coinages of Nero*, ANSNM 161 (New York, 1979), hereafter Mac Dowall.

Two other works which consider the location of the mint are A. Savio, *La coerenza di Caligola nella gestione della moneta* (Florence, 1988), and C. L. Clay, "Die Münzprägung des Kaisers Nero in Rom und Lugdunum, Teil 1, Die Edelmetallprägung der Jahre 54 bis 64 n. Chr.," *NZ* 96 (1982), pp. 7–52.

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are of high merit, owe their varying and, in some cases, opposing views to slightly different preconceptions and methodologies. These views can be reconciled to produce a coherent picture of the coinage.

THE EVIDENCE OF STRABO

Writing of Lugdunum's eminence and commercial prowess, Strabo (4.3.2) says "the Roman emperors strike gold and silver coinage there."² Short of emendation, there is no getting around the clear statement, surely valid at least for Tiberius in view of the Greek, *ἡγεμόνες*, that a mint was active there when Strabo wrote. The existence of a mint in the city is confirmed by inscriptions mentioning its functionaries.³ The statement of Strabo—the most direct evidence there is for the location of any imperial mint—is finally believed, and there is now universal agreement that Tiberius's gold and silver coinage was produced at Lugdunum.⁴

THE COINAGE OF GAIUS

The brief reign of Gaius would not seem to demand lengthy discussion since his gold and silver coinage has all been laid out neatly by Giard. The problem it raises is not strictly numismatic, but conceptual as well. Up to this point, except for small issues struck by the monetales, all imperial precious metal had been produced outside Rome. Partly from reluctance to admit that this situation was unchanged for the remainder

² For a discussion defending the text at unnecessary length, see C. H. V. Sutherland, *The Emperor and the Coinage* (London, 1976), pp. 46–47. Sutherland is concerned to make *hegemones* embrace both Augustus and Tiberius, as it clearly must. The Augustan mint of Lugdunum as defined by Giard (above, n. 1) is accepted implicitly here.

³ *CIL* 3. 1810 and 1820.

⁴ One should note that the oft-cited "strategic importance" of the city at the confluence of the Saône and the Rhone may well have been offset by natural disadvantages. For salutary comments on the man-made importance of Lugdunum—perhaps intended, at least in part, to impress the native population—see J. F. Drinkwater, "Lugdunum, 'Natural Capital' of Gaul?" *Britannia* 6 (1975), pp. 133–40.

of the Julio-Claudian period, numismatists and others have sought a relatively early date for the centralization of precious metal striking in the capital. Because everyone who has ever expressed an opinion on the issue sees the coinage of Gaius and that of Claudius as a continuum, and most of these see the coins of Nero coming directly on the heels of the Claudian, it has been necessary to look for a clear break in the reign of Gaius.

An opportunity seemed to Mattingly to offer itself in the existence of two completely parallel issues, one characterized by bareheaded obverse portraits, the other by laureate ones, which come early in the reign—they bear only the designation TR POT⁵ (Plate 6, 3–8 bareheaded; 9–14 laureate). He placed these after an aureus/denarius couplet with bareheaded obverse portrait and the title COS⁶ (Plate 6, 1–2). It was Mattingly's view that the laureate head, which is characteristic of the later dated coinage of Gaius, replaced the bareheaded one in 37/8, and that the change was associated with a change of mints. In support he adduced less tangible factors such as a "closer parallelism" between gold and silver issues vis-à-vis the aes, the inherent probability that such a change would take place at the beginning of a reign, and, somewhat circularly, the fact that Claudius's coins show no sign of any change of mintage.

The last two points defy response and will be ignored. The first is plausible enough, but wants testing, and C. H. V. Sutherland attempted, on the basis of style and lettering, to separate the laureate and the bareheaded series. His analysis was admittedly based on observation of a very few specimens,⁷ but his points can now be viewed against the material assembled by Giard (who attributes both series to the same mint, Lugdunum).

Bareheaded coins, according to Sutherland, "show the obverse inscription beginning with an often bold semicircular C partly enclosing

⁵ *BMCRE* 1, pp. cxlii-cxliii, 7–13 ("Lugdunum," second issue), 14–20 ("Rome") = *RIC* 1^a, 6–12.

⁶ *BMCRE* 1, 1–5 = *RIC* 1^a, 1–2. The gold quinarius *BMCRE* 6 = *RIC* 1^a, 5, is not germane to the attribution, though the use of the title COS has always seemed to place it with this pair.

⁷ Sutherland (above, n. 2), p. 66, n. 22, p. 67.

the dot, while the laureate headed coins show the dot standing more or less free from the confines of a more widely lunate C." But examination of Giard's plates reveals the following:

C encloses pellet: bareheaded 160/8a, 162/6a, 165/4a, 165/6a; laureate 166/10a, 169/2a. On most coins of both classes there is no punctuation after the praenomen.

Lunate C: bareheaded 160/2a, 160/3a, 162/5a, 162/5a, 162/8a, 163/1a, 164/3a, 164/4a, 165/1a; laureate 166/2a, 166/6a, 166/11a, 167/4a, 167/6a, 168/4a, 168/8a, 168/15a, 169/3a, 169/6a, 169/11a, 169/12a, 170/1a, 170/4a, 170/7a, 170/8a, 171/3a, 171/9a, 172/1a, 172/12a, 172/13a, 172/15a.

Sutherland continues "Moreover, apart from the initial dot after the first C in the obverse inscription, the bareheaded series generally shows no other marks of punctuation, while the laureate headed series is generally punctuated at a number of places." Again to refer to Giard's plates, only one coin certainly has no further punctuation, 172/16b; possibly 170/10a and 172/7a also lack it. All three coins are laureate.

In neither case is the evidence quite so disjunctive as Sutherland supposes. One can agree with him that the laureate group, on the whole, has neater lettering and displays none of the gross letter forms that occasionally appear on the bareheaded group, but the other letter forms he itemizes, E, P, R, T, do not differ as consistently as his presentation would suggest; and the confidence one would feel in letter forms must be tempered by the occurrence of barred and unbarred A on the same die.⁸ It can easily be seen that the more abundant evidence assembled by Giard cannot be made to support the Mattingly/Sutherland argument in the most concretely measurable case, that of the punctuation.

The style, too, is consistent, even if we admit with Sutherland that the Divus Augustus heads of the bareheaded series occasionally have divergent wreath ties; when they are parallel they are identical to those of the laureate group. What this suggests, rather than a separation of

⁸ E. G. Giard 160/4a, bareheaded obverse; 166/8a, laureate obverse with reverse DIVVS AVG PATER; 160/2a, same reverse type with bare obverse.

mints, is a sequence of issues of identical type; and the most reasonable sequence is bareheaded then laureate, since the dated coins of 40 and after uniformly bear laureate obverses. If these two groups cannot be separated—and the evidence should not be strained to separate them—the case for a move from Lugdunum to Rome under Gaius evaporates.

Mattingly and Sutherland were right on one point. Although it does not signify a change of mint, the substitution of a laureate head for a bare one is a chronological discriminant. Not only does Giard's study show that bareheaded and laureate obverses do not share reverse dies, in spite of three types in common, but the fourth type introduced in combination with laureate obverses—*SPQR / PP / OB*CS in oak wreath (*RIC* 1² 19, here Plate 6, 16)—now has a firm terminus post quem of September 21, 37.⁹ The two issues are therefore consecutive products of the same mint.

Where does this leave the issue with *COS*? Giard places it first at Lugdunum; he reasons that the natural sequence of titles, no *COS* then *COS*, cannot apply here because that would confine this issue to the period of July 1 to Dec. 31, 37, leaving no gold or silver for 38/9. Since the two issues with identical types must belong together—and probably, as we have seen, in the sequence bareheaded then laureate—the *COS* issue, with its bare head, must come first.

A similar view has been adopted by von Kaenel, who takes into account both the adoption of the title *PP* on September 21, 37, and the fact that Gaius held the consulship for only two months (*Suet. Cal.* 17, *Claud.* 7).¹⁰ September 1, for him, becomes the terminus ante quem for the *COS* issue and September 21 the post quem for the laureate coins, so the bareheaded coins must belong in the brief period between. But must the *COS* issue really come first, and must the termini for the first two issues be so narrow?

If there are stylistic differences to be noted, they are between this issue and all the others of Gaius. The head of Gaius is most often

⁹ See J. Scheid and H. Broise, "Deux nouveaux fragments des actes des frères arvaux de l'année 38 ap. J.-C.," *Mélanges de l'École Française de Rome, Antiquité* 92 (1980), pp. 215–48, esp. pp. 215 and 240–42.

¹⁰ Followed by A. Degrassi, *I fasti consolari dell'impero Romano* (Rome, 1952), p. 10, and P. A. Gallivan, *Antichthon* 13 (1979), p. 66.

assimilated either to that of Tiberius or that of Augustus and does not withstand close comparison with either the bareheaded or laureate issues without COS. More telling is the head of Augustus, here with paired stars rather than the DIVVS AVG PATER legend of the COS-less aurei and denarii.

Sutherland has already drawn attention, as noted, to the matter of the parallel versus divergent wreath ties. He did not examine an equally concrete criterion, the number of radii in Augustus's crown, or their association with the ties. This may be summarized as follows.¹¹

<i>Issue</i>	<i>Ties</i>					
	<i>Divergent</i>			<i>Parallel</i>		
<i>Number of radii</i>	4	5	6	4	5	6
COS, obverse head bare	11	11	1	1	9/10	0/1
No COS, obverse head bare	6	0	0	3	1	0
No COS, obverse head laureate	0	0	0	25/26	3/4	0

It emerges from this more detailed tabulation that the parallelism or divergency of the wreath ties is not the only diagnostic. Although the complete absence of divergent ties on the issue with laureate obverse does set it off from those with bare head, the number of radii is significant as well. While this is variable, with a preference for five in the COS group, it is overwhelmingly four (at least 34 certain cases of 39 dies counted) in the group lacking COS, and within that group it is a matter of indifference whether the obverse is bare or laureate.

This issue has what scholars have been seeking, a clear stylistic break with an otherwise unbreakable run of Lugdunese gold and silver. But what it lacks is any stylistic connection with the coins that follow or—in the absence of any demonstrable association with them—parallel it. It is also, I think, subtly different in conception, a fact which has been

¹¹ Certainly the variable treatment of the radii must qualify as one of those “carefully observed differences of detail” which it would be “dangerous to ignore,” C. H. V. Sutherland, “The Mints of Lugdunum and Rome under Gaius: An Unsolved Problem,” *NAC* 10 (1981), pp. 297–99, at 298, in defense of the Mattingly and Sutherland arrangement against Giard.

concealed by the accident of the shared portrait of Divus Augustus. Here it stands alone; in the COS-less group the type (now with legend) is part of a larger dynastic motif that includes Germanicus and Agrippina as well.¹² Logically the Divus Augustus of the COS issue precedes the genealogical issues, though it may have been struck contemporaneously. It has no natural predecessor or successor.¹³ I suggest that the real key to this coinage is the use of the title COS itself, which is peculiar to this issue, and that it belongs at Rome in connection with the consulate assumed by Gaius on July 1, 37, to which the legend uniquely draws attention.

The case could be regarded as proven if the style of the bust of Augustus could be shown to arise naturally out of that of *DIVVS AVGVSTVS PATER* aes, whose attribution to Rome is not in dispute; but unfortunately this cannot be done on the basis of either the wreath ties or the radii. The latest coins of the series, those with eagle on globe and with thunderbolt (Plate 7, 17–18), seem always to have parallel wreath ties, and the number of radii varies about evenly between four and five. One feature that their portraits share with the COS issue is a more pronounced stereotrapezoid than can be found on the COS-less coins; on both the late *DIVVS AVGVSTVS PATER* aes and the COS gold and silver, Augustus seems to incline his head slightly toward the viewer (or, put another way, to have his visible shoulder thrust forward), while on the COS-less issues the head is usually seen in stark profile, Plate 7, 17–18. These considerations are not decisive for attribution, but confirm the distinctiveness of the COS gold and silver.

Looking to Rome for the origin of this issue, there is no dearth of possible occasions for it. On June 1, a month before assuming the

¹² Though even here the descent of Gaius from Augustus is left implicit, in contrast to his relationship to Germanicus, P[ater], and Agrippina, MAT; Augustus is rather claimed as *PATER PATRIAE*, perhaps a reference to Gaius's own refusal of the title.

¹³ Szaivert in *MIR* recognizes the Lugdunese origin of the COS issue (his 5/1, 5/3) and places it second in the sequence at Lugdunum; for him the first issue consists of the bareheaded aurei and denarii without COS, while the laureate ones are assigned to Rome. An officina structure is proffered: the first issue requires three, one for each type, the second only two—one of which is supposed to have struck only the two known gold quinarii with COS (his 4/2, Giard's 158/1–2).

consulship, Gaius had paid the donative of 2,000 sesterii (or 20 aurei) to the praetorians (1,000 bequeathed by Tiberius, then matched by Gaius) and 300 sesterii (3 aurei) to each of the 200,000 recipients of the dole; a similar payment was made on July 19. The obvious occasion in view of the legend is the assumption of the consulship on July 1; but perhaps even more likely, in view of the reverse type, is a connection with the dedication of the temple of Divus Augustus in late August.¹⁴ On this construction the mint was not “moved” to Rome under Gaius; the main precious metal mint remained at Lugdunum, while the mint of Rome struck a small issue celebrating the consulship of Gaius, distinct in legend, type, and style.¹⁵

The implications for the subsequent precious metal coinage are obvious. Von Kaenel, however, has recently identified the work of two engravers late in the reign of Gaius as the same that appears early in the reign of Claudius. He has further argued from the sharing of engravers for gold, silver, and aes for the attribution of the whole Claudian coinage to Rome. But can the attribution be reversed and the whole of the Claudian coinage be moved to Lugdunum?

THE COINAGE OF CLAUDIUS

For the reign of Claudius we are fortunate in having the recent studies of Trillmich and—more directly relevant—von Kaenel, the

¹⁴ On these events see J. P. V. D. Balsdon, *The Emperor Gaius* (Oxford, 1934), pp. 34–35, with sources.

¹⁵ Von Kaenel, “Caligula,” pp. 143–44, avoids the problem for now, content to have sorted out the chronology. It is implicit in his discussion, however, that no overlap of the COS and the COS-less issue will be tolerated. Strictly speaking, they need not have overlapped even if struck at different mints, as proposed here; but I believe they did. The obverse die counts do not make much sense on von Kaenel’s construct. In the following calculations it is assumed that the mint worked 6 days of every 7; November 30 and December 31 are used as alternative bases of calculation for von Kaenel’s third issue.

First issue, July 1–August 31 (here Rome): 36 obverse dies (0.7/day)

Second issue, Sept. 1–Sept. 21 (here Lugdunum 1): 35 obverse dies (1.94/day)

Third issue, Sept. 21–Dec. (?), 37 (here Lugdunum 2): 90 obverse dies (1.03–1.47/day).

I also find it implausible that no precious metal at all was struck from Gaius’s accession through July 1.

latter of which embraces all of the Claudian "mainstream" coinage represented in major collections and the literature.¹⁶ Most of von Kaenel's work was finished before the appearance of Giard's study of Tiberius and Gaius at Lugdunum, and therefore Giard's conclusions are dealt with summarily. Although most earlier treatments of the Claudian precious metal presume its production at Rome,¹⁷ it is worth examining von Kaenel's arguments for Rome both on their own merits and as responses to Giard. These may be summarized as follows.

- 1) There is no break between the coinage of Gaius and that of Claudius, either in terms of organization or thematically;¹⁸
- 2) Some engravers (notably his IV and V) worked for both Gaius and Claudius, some cut dies for both precious metal and bronze coinage and the oak wreath reverse type shows a small circle at the peak of the oak wreath linking both reigns;¹⁹
- 3) The first issues of Claudius make reference to the accession payments to the Praetorians.²⁰

The first two of these arguments are the most serious. But all they really argue for is a continuity between the coinage of Gaius and that of Claudius, and since here the attribution of Gaian issues to Rome is rejected the first argument need not be examined in detail.

The second is conclusive for common mintage unless we suppose the transfer of a group of engravers from, say, Gaul to Rome.²¹ Von Kaenel

¹⁶ For von Kaenel, see above, n. 1; W. Trillmich, *Familienpropaganda der Kaiser Caligula und Claudius: Agrippina Maior und Antonia Augusta auf Münzen*, AMuGS 8 (Berlin, 1978).

¹⁷ Sutherland, for example, attributes only the quadrantes with altar reverse (*RIC* 1^a 1) to Lugdunum; see his *Roman History and Coinage 44 B.C.–A.D. 69. Fifty Points of Relation from Julius Caesar to Vespasian* (Oxford, 1987), p. 78.

¹⁸ Von Kaenel, pp. 211–12, nn. 109 and 110. By "organization" he means the simultaneous production of related gold and silver types; his "Thematik" refers to the existence of types in the names of Caligula's forebearers as well as the oak wreath.

¹⁹ E.g. his aureus reverse 54, cited on p. 211, n. 107 (Plate 7, 19); compare the similar treatment on a late aureus of Gaius, Plate 7, 20.

²⁰ Von Kaenel rightly dismisses arguments from the existence of the gold quinarius in Claudius's first issue; the denomination had been struck since Augustus and only at Lugdunum on Giard's construct. The inherent implausibility of a denomination being mint specific ruled out consideration of this argument in the implicit attribution of gold quinarii to Rome.

²¹ See below on engraving and engravers. The transfer of personnel in this way is not unknown, but all the evidence is from a much later period.

sees the whole Claudian coinage as a unity that cannot be broken; naturally once again it may be replied that this only argues for attribution to Rome if Gaius's coinage can confidently be assigned there, and as shown above there are good arguments to the contrary for the gold and silver. The linchpin of von Kaenel's argument is not just the continuity of die engravers, but their simultaneous working on both precious metal and aes coins. If this case is made, the argument for attribution to Rome becomes virtually unassailable and has retrogressive force for the coinage of Gaius, all other arguments notwithstanding.

Von Kaenel so identifies three engravers:²²

A. Edelmetall V 47 (Graveur V) und Aes V 86 (Graveur VI) (Plate 7, 21–22). Hagere, wenig differenzierte Gesichtszüge. Der Kopf hebt sich in seinen Proportionen von den übrigen Claudius-Bildnissen ab. Die lange, kräftige Nase und das schwere Kinn charakterisieren beide Porträts. Das Große, innen nicht gegliederte Ohr erscheint auf beiden Stempeln.

B. Edelmetall V 52 (Graveur VI) und Aes V 40 (Graveur XI) (Plate 7, 23–24). Beide Vorderseitenstempel gehören zu den besten claudischen Stempeln. Die Bildnisse sind plastisch empfunden. Es fällt die übereinstimmende, feine, nuancenreiche Modellierung des jugendlich wiedergegebenen Gesichtes auf. Die Durchbildung der Stirn, Nase und Mundpartie entspricht sich genau. Der Ansatz der Nackenhaare liegt tief.

C. Edelmetall V 90 (Graveur VII) und Aes V 43 (Graveur IX) (Plate 7, 25–26). Strenge, unbewegte Physiognomie. Die Stirnlinie setzt sich in übereinstimmender Art und Weise fast ohne Unterbruch in der Nasenlinie fort. Die Gestaltung der Haare wie der Kranzknotung und der Bänder entsprechen sich.

The comparisons are seductive but will not withstand examination. In example A, the long nose is a departure, but hardly one which taken

²² Von Kaenel's engravers produced other dies than those cited on p. 196, but their association is not easily followed in his text; since these examples are regarded by him as his most convincing, I confine my remarks to them.

on its own is sufficient to support an identity of hand. As a survey of von Kaenel's plates will show, the range of styles among the official issues is extremely broad.

Example B is also weak. While it may be granted that the portraits are plastic and among the finest of Claudian numismatic portraits, they share little but the broad features of the emperor. The jawbone of the die for the aes is much more pronounced than that for the gold, where it seems to extend in a straight line from ear to chin; the effect on the whole image is considerable. The wreath ties, which are parallel and straight on the die for the aes, are much more curved for the gold.

Here, as was not the case in the previous comparison, von Kaenel uses the ties as a criterion, and consistency of treatment may be granted. But the continuous line from forehead through nose is characteristic of run-of-the-mill Claudian portraits, and contributes to the "severe, impassive physiognomy." Compare for example, obverse gold dies 99 and 102 with obverse aes dies 35 and 36.

More impressive than the alleged similarity of isolated dies is the dissimilarity where consistency might be expected. The one type which is both obvious and easy to compare is the **EX S C OB CIVES SERVATOS** in wreath, which occurs in all metals²³ and which, in view of its epigraphic and geometrical character, might be expected to betray engravers' conventions. In fact in all their principal components the reverses look like the products of different hands if not different mints. On gold and silver, the wreath is composed of eight elements and the knot, brought up into the wreath, is attenuated; on the sestertii the wreath is composed of ten elements and the ties are prominent. The oak leaves which compose the wreath are rendered with far greater attention to detail on the aes, on which the top (or front) of the wreath is usually shown open; on the gold and silver there is the circle already noted or a thin line filling the opening. The gold and silver almost always have a central compass point visible (and in other cases the legend may be cut over it);

²³ Von Kaenel type 6, *RIC* 1², 5–6, aureus and denarius; von Kaenel type 8, *RIC* 1², 15–16, aureus and denarius, 41/2; von Kaenel type 54, *RIC* 1², 96, sestertius, 41/2. The sestertius von Kaenel 69 = *RIC* 1², 112, which displays **P P**, has only four elements in the wreath and occasionally does show the central compass point.

the aes invariably lacks it. This last is particularly telling, since it is more likely to reflect mint practice than an engraver's mannerism.²⁴

The general impression of discrete origin for gold and silver dies vis-à-vis the aes is confirmed by the epigraphy. With few exceptions the legends on the aes are bold and neat, while those on the gold and silver are ill-spaced and badly aligned.

None of the other reverse types are common to all metals, and comparison is not in any case an easy matter; but a fair summary is that the case remains to be made for common hands in the precious metal and aes coinage. Their absence is not, of course, decisive, for there are many possible explanations. The simplest of these is specialization: the smaller format of the gold and silver may have demanded different skills from engravers, even different tools.²⁵

If an explanation is simple, the consequence is not, for we now lack any secure evidence for the common origin of the precious metal and the aes coinages, and in fact certain features of the Claudian coinage suggest separate mints.

VON KAENEL'S CHRONOLOGY OF CLAUDIAN ISSUES

<i>Year</i>	<i>Gold, Silver</i>	<i>Aes</i>
41		Quadrans
41/2	3 issues	1 issue
42		Quadrans
42/3		1 issue
43/4	1 issue	
44/5	1 issue	Quadrans, ROM ET AVG
45/6		

²⁴ There is no way of knowing who prepared blank dies for engraving; surely efficiency would argue for an unskilled artisan preparing a flat surface and perhaps using a compass before incising the border of dots, then turning over the prepared surface to an engraver. The central dot, easy enough to "erase" by filling, would usually be cut over except on epigraphic types.

²⁵ The issue of separate mints for precious metal on the one hand and aes on the other deserves discussion elsewhere, but I do not regard this as a plausible explanation.

<i>Year</i>	<i>Gold, Silver</i>	<i>Bronze</i>
46/7	1 issue	
47/8	1 issue	
48/9	1 issue	
49/50	1 issue	
50/1	2 issues	
51/2	2 issues	
52/3		
53/4		

If von Kaenel's chronology is right,²⁶ virtually all the aes may be characterized as accessional and dynastic, and the quadrans of 45 as an anniversary issue. Gold and silver were struck episodically and without reference to contemporary events except the emissions of 51/2. At no point is there any exact parallel between the precious metal and the aes, and therefore nothing to support a continuous functioning of the same mint for both coinages.

With regard to types and legends, excepting the oak wreath (already cited) and the issues in the names of Nero Claudius Drusus, Antonia, Agrippina, and Nero, there are no reverse type linkages between the gold and silver on the one hand and the bronze on the other.

Even when both precious metal and bronze issues were being produced simultaneously, there is unsystematic variation one to the other of titulary and ornament. The issues attributed to 41/2 by von Kaenel show Claudius uniformly without IMP on gold and silver, while the aes regularly has it. Only Antonia and Nero Claudius Drusus have titularies identical on the precious metal and the aes, and in the latter case the gold and silver show Drusus oak-wreathed right, while on the bronze he is bareheaded left. This variation is an echo of the situation with respect to Claudius himself: on the gold and silver he is oak-wreathed, on the sestertii laureate, on the lower denominations bare-

²⁶ Sutherland in *RIC 1*² adopts without defense a chronology that places the P P aes after 50. The basis for this is the absence of the title from dated gold and silver until 46, and from obverse legends until 50/1; for a discussion see von Kaenel, pp. 220-21. In bronze the issues spanning the adoption of the title P P must be continuous, since coins of Nero Claudius Drusus without and then with the title are die linked.

headed. For the aes it is possible to see differences that represent denominations, but this is obviously not so with the precious metal.

The onus remains on those who would assert the shift of precious metal emissions from Lugdunum to Rome, and there is one positive argument to be made in favor of Lugdunum. That comes from the quadrans (or semis)²⁷ which has been variously attributed to Lugdunum and Rome but whose type—the altar of Rome and Augustus—unquestionably belongs to Lugdunum and would, presumably, have been incomprehensible at Rome (Plate 7, 27).

Von Kaenel sees perfectly well the stylistic connection to the gold and silver coinage, and indeed it is he who identifies the engravers who worked on both series.²⁸ Nor has the counter-clockwise legend of the quadrans gone unnoticed: as Mattingly observed²⁹ the arrangement is characteristic of the altar series. The implication is clear: type, legend, and style show the quadrans and the associated precious metal issues to have been produced in Gaul, not in Rome.

What, then, of the argument regarding Claudius and the praetorians? The legends *IMPER RECEPT* and *PRAETOR RECEPT* have no exact parallel in Roman coinage; probably Mattingly is right to read them as “imperator receptus” and “praetorianus receptus (i.e. in fidem).”³⁰ But if the evidence of types is of any value at this early date, it may be significant that Claudius is not shown placating the troops, or even addressing them, as Gaius had been. These coins certainly do not proclaim themselves part of an accession donative; they look rather like an announcement that might have been emitted just as justifiably from Lugdunum as from Rome. There is nothing in the types that demands attribution to the capital.

These impediments removed, it is safe to suppose that Strabo’s statement regarding the mint at Lugdunum is as valid for Claudius as it was

²⁷ The 12 weights recorded by von Kaenel range from 2.59 to 4.37 g with a mean of 3.46, well within the range of quadrantes quoted by Sutherland, *RIC* 1², p. 126, but heavier than those from the Tiber find. The question of denomination is not soluble and fortunately not important.

²⁸ His engravers V, XII, and XIII: see von Kaenel pp. 195–96, 213–14, and 242.

²⁹ *BMCRE* 1, p. clix.

³⁰ *BMCRE* 1, p. cliii.

for his predecessors. The Claudian precious metal coinage is indeed, as others have supposed, a continuation of those of Tiberius and Gaius; like them it was struck at Lugdunum.

THE COINAGE OF NERO

There is no Claudian coinage in precious metal after 51/2 or in aes after 44/5. Although there is gold and silver for Nero as early as 55 (probably in 54), no aes was struck in his name until 62/3 on Mac Dowall's chronology.³¹ Modern studies attribute all of Nero's precious metal to Rome, but this view has been questioned: Burnett, for instance, states the case most plainly when he says "The mint was moved to Rome after 46 (when legends start to read outwardly) and before 69 (or Otho would have no coinage)."³²

The temptation is strong to hypothesize that the mint was moved after the last precious metal issue of Claudius, but this would be no more than a convenient guess incapable of proof. There cannot be confirmation from finds since everyone agrees only one mint was striking both gold and silver given the unity of style. As von Kaenel has observed, the hiatus between the last coins of Claudius and the first of Nero makes stylistic comparison difficult. Moreover there is no sure way of determining whether stylistic continuity or discontinuity, even if it can be perceived, results from a continuity of engravers or their location, or from extraneous considerations such as portrait model or denomination. It is easy to imagine that if the mint of Lugdunum, with or without its personnel, was moved to Rome and began coining again only after an interval of two or three years, stylistic continuity or discontinuity would be purely adventitious. Just as the origins of the

³¹ The date of the first Neronian bronze rests on stylistic comparison with the dated gold and silver. This approach assumes that the pre-reform precious metal coinage was produced at Rome. This is the weakest link in Mac Dowall's treatment and deserves more detailed examination. In the following discussion I have arbitrarily used 64 as a date of departure, without any great conviction.

³² A. M. Burnett, "The Authority to Coin in the Late Republic and Early Empire," *NC* 1977, pp. 37-63, at p. 62, n. 143. He goes on: "The obvious occasion is 54, when **EX S C** appears on the coins, although 64, when Lyon became a bronze mint, is also a possibility."

mint of Lugdunum have been sought retrogressively from the reign of Tiberius, it may be well here to work backward from 69 to seek a break in the continuity of Rome.³³

The first clue comes not from the gold and silver but from the aes. To this point, none—with the single exception of the obviously Lugdunese quadrans of Claudius—have been attributed elsewhere than Rome. In the reign of Nero, however, two distinct groups of aes coexisted, easily distinguished by style and now securely attributable on grounds of distribution.³⁴

One of these clearly belongs to Rome. On the early undated gold and silver, as well as on aes dated 64 to 66, its hallmarks include a trilobal truncation of the neck (sometimes with the rear lobe gently subdivided) and, usually, a treatment of the hair at Nero's nape that is taller than it is wide: all the hair is compressed behind and below the ear, and the front curls slope upward (Plate 8, 28–29; Mac Dowall, pls. 1, 22–24; 2, 27 and 29–30; 1, 25–26; and 2, 28, show somewhat different treatments; compare his pl. 7, 200 and 205). On later issues with IMP, both in silver and in aes, the truncation is flattened; the neck hair is as broad as or broader than it is tall, the front curls often slope downward, and the whole comes further forward in relation to the ear, sometimes enclosing it (Mac Dowall pl. 2, 31 and 65–69; compare pl. 9, 238 and 240, and see below, Plate 8, 30–31).

The truncation which Mac Dowall has attributed to Lugdunum has nothing in common with either of these stylistic treatments. The most obvious point of difference is that busts in precious metal never have the globe at the point which he identifies with Lugdunum (Plate 8, 32–33), but in any case these busts show an extraordinarily large central lobe at the neckline and attenuated points terminating the truncation. Mac Dowall thinks the form of truncation to be “an external factor derived from common *imagines* used by all the engravers at a mint,” and that “use of common *imagines* shared with the Roman *aes* [loca-

³³ The following discussion is obviously indebted to that of Mac Dowall, especially his pp. 9–14.

³⁴ The separation of the two groups is confirmed by F. S. Kleiner's study, *The Arch of Nero at Rome* (Rome, 1985), which dramatically illustrates the separate traditions of die engraving at the two mints. Sarah E. Cox of Columbia University has noted similar mint-related variations in the treatment of the Temple of Janus.

lized by findspot] clearly points to Rome rather than Lugdunum as the place of the gold and silver die engraving establishment."³⁵

This line of argument, accepted here, places the post-reform aurei and denarii of Nero at Rome. For the coinage before the reform, however, there are no bronzes to guide us, and it is necessary to examine whether the pre- and post-reform gold and silver represent a continuum, as is generally assumed.

The portraits of Nero have recently been analyzed by Hiesinger, partly on the basis of coins.³⁶ It is instructive to compare the treatments of Mac Dowall, who does not take account of the sculptural evidence, and that of Hiesinger, who employs the coins solely as dating tools with no numismatic ax to grind. Mac Dowall, for example, attributes the "coma in gradus formata" of Suet. *Nero* 51 to the issues he places 62–63, while Hiesinger sees it beginning only with the undated issues of 64. Of the post-64 portraits, Hiesinger remarks that Nero is seen as "a genuinely corpulent figure. The cheeks and underchin are noticeably heavier than before, with the bone structure almost threatening to disappear beneath the padding of flesh. One may still recognize the familiar profile of his earlier portraits, but the facial features seem more concentrated and smaller, set as they are against the massive bulk of his head and neck." Hiesinger also draws attention to the fact that after 64 the previously bareheaded Nero appears with a laurel crown and sometimes other regalia as well. By comparison the pre-reform portraits of Nero show a natural development: Hiesinger treats all portraits of Nero, both before and after his accession until 59, as part of a single progression, and remarks (see Plate 8, 34–37), "throughout the period of coin type 4, from A.D. 59–64, are to be found images with the closest possible resemblance to the Nero of coin type 3,...the most significant alteration...is a greater thickening and heaviness of the facial features."³⁷

This change of portrait was only one of many modifications of the coinage. Another is the uniform use of clockwise, inward-reading legends on both faces of the coin. A third is the abandonment, on the

³⁵ Mac Dowall, p. 12.

³⁶ U. W. Hiesinger, "The Portraits of Nero," *AJA* 79 (1975), pp. 113–24.

³⁷ Hiesinger, p. 118.

gold and silver, of any form of dating (even though rather elaborate titulary and considerable legend variation was the rule on the aes of both Rome and Lugdunum). The types and legends of the pre-reform coins, in contrast, show a natural progression and sequence of dates, and the format of the coins is self-consistent.

Finally there is, of course, the occasion of Nero's reform itself, the significance of which has long been recognized but only in part. While Nero's reform is widely treated only with respect to the weight of the gold and silver coins, it has now been shown that the composition of the denarius was altered as well. Walker has observed a slight decline in the fineness of the denarius early in Nero's reign, and then a dramatic change in 64, after which year the typical denarius contained ca. 14.4 percent less silver than earlier Neronian issues and 18.6 percent less than those of Augustus.³⁸ Though Walker's sample is small, it may also be significant that post-reform denarii, in contrast to those struck before 64, contain more than trace quantities of lead.

All of this suggests that the move of the mint to Rome is to be associated with 64 and the reform. The collocation of a change in style, format, legend content, and metrology constitutes the sharpest break in the imperial precious metal coinage to date. Particularly in view of the difficulties in breaking the coinage between Claudius and Nero the most natural date for the move of the precious metal mint is indeed 64.³⁹

One further piece of evidence, which seems never to have been cited in this context, may bear on the problem. In 64, probably shortly after the conflagration at Rome,⁴⁰ Lugdunum suffered its own disastrous fire. Tacitus, *Ann.* 16.13.5, reports that in 65 Nero offered the city 4,000,000 sestertii "quam pecuniam Lugdunenses ante obtulerant urbis casibus," i.e. matching a sum offered to the Romans in the wake of their own

³⁸ D. R. Walker, *The Metrology of the Roman Silver Coinage*, pt. 1, *from Augustus to Domitian*, BAR Supplementary Series 5 (Oxford, 1976), p. 25.

³⁹ See A. Savio, *La coerenza di Caligola nella gestione della moneta* (Florence, 1988), who also sees the move from Lugdunum to Rome occurring in the context of the reform. Savio uses somewhat different criteria—relying too heavily, in my view, on die discoveries—and admits the possibility of two simultaneously functioning mints, at Rome and Lugdunum, whose products are indistinguishable (p. 74).

⁴⁰ R. Syme, *Tacitus 2* (Oxford, 1958), p. 743, shows that the grouping of events that includes the account of the Lugdunese fire is a mark of haste rather than a chronological indicator.

disaster. One possible chronology would run fire at Rome, transfer of mint from Lugdunum to Rome (possibly to meet expenses there), fire at Lugdunum, offer of money from Rome.

Whatever the causation or chronology, from 64 on Lugdunum's mainstream issues were confined to bronzes on a pattern dictated by the mint of Rome. The stylistic divergence has been noted, but otherwise the coins conform to Roman paradigms in surprisingly faithful ways. Although there are no parallels for Mac Dowall's Rome issues 1 and 2, Lugdunum participated in Nero's experimental introduction of orichalcum asses and marks of denomination, and later employed a variety of legends almost as wide as that observed at Rome.

The mint continued, like Rome, to strike into A.D. 67, and produced a tiny coinage at the end of the reign of Galba;⁴¹ its coinage was then suspended until 71–72, when it produced coins for Vespasian as COS III and COS IIII. There are further issues of aes—still distinguishable by the globe at the point of the bust—in 77/8, but thereafter the mint seems to have closed until the Severan period.⁴²

CONCLUSION

Modern numismatists have been far more concerned about centralizing precious metal minting in Rome than were the Romans themselves, and that concern has led to oversubtlety in the interpretation of the limited numismatic evidence at our disposal. Where only a single source of coinage is at issue, as here, finds obviously have little to tell us. Nor can style be employed at some junctures (e.g. the hiatus between the end of Claudius's precious metal coinage and the beginning of Nero's). But elsewhere style, as it emerges from measurable elements, must provide the key. Even it has been misused, as in the phantom transfer of the mint of Lugdunum to Rome under Gaius. Against the overwhelming stylistic continuity of the gold and silver

⁴¹ C. M. Kraay, *The Aes Coinage of Galba*, ANSNNM 133 (New York, 1956), pp. 33–36.

⁴² C. M. Kraay, "The Bronze Coinage of Vespasian: Classification and Attribution," in R. A. G. Carson and C. M. Kraay, eds., *Scripta Nummaria Romana, Essays Presented to Humphrey Sutherland* (London, 1978), pp. 47–57, at 56.

from 14 to 64, relatively minor and infrequent differences are instead to be explained, with Giard, as “travail capricieux.” The strongest stylistic case for separation of any coins from the steady progression of gold and silver occurs in the COS issue of Gaius, but it has never heretofore been argued; I hope to have shown at any rate that it is stronger than the case for separation of the bare and laureate coins without COS in the same reign.

A corollary to the construct offered here is that the difference in content between precious metal and aes may be explicable solely in terms of the difference of mint, and not for any loftier reason. On any disinterested view these two coinages have never had much in common anyway: the aes of Tiberius and Gaius behaves as if its precious metal counterparts did not exist, and for Claudius the immiscibility of the typology of the two coinages is confirmed by their asynchrony. Though the same themes are often exploited, there is *not one* exact correspondence between gold and silver on the one hand and aes on the other, and this statement is only marginally affected by the consolidation of minting at Rome under Nero.

Some problems have been set to one side,⁴³ mainly in the interest of clarity, and one of the large ones on which this conclusion bears—the meaning of S C—may have to be reopened yet again. But at least it is evident that there is still room for discussion of so major a problem as the attribution of Rome’s early imperial coinage, on which the secondary literature suggests a unanimity not yet attained.⁴⁴

⁴³ Though the focus here has been on the precious metal, I have ignored the attribution of the gold quinarii of Gaius and Claudius; and the bronze itself continues to present problems of chronology, though the attributions seem clear enough. I hope to explore elsewhere Mac Dowall’s treatment of the early bronze of Nero, which I believe he dates too early, but this discussion would be beyond the scope of the present inquiry.

⁴⁴ J.-B. Giard maintains, without further argument, his preference for Lugdunum as the source of all pre-64 gold and silver in *Bibliothèque Nationale. Catalogue des monnaies de l’empire romain II. De Tibère à Néron* (Paris, 1988), pp. 5 and 25–27, which appeared after this article had been sent to press. This study was prepared while I enjoyed membership in the Institute for Advanced Study, Princeton, in the fall of 1988. It is part of a larger treatment of the early imperial coinage, addressed to a general audience. I am grateful to Dr. Brooks Emmons Levy of Princeton University, who, on reading an early draft, suggested that the Rome/Lugdunum problem was worth separate discussion and is responsible for improvement of the text in many respects.

GALBA AND THE SULLAN CAPITOLIUM

(PLATE 9)

FRED S. KLEINER

The American Numismatic Society possesses an apparently unique Æ drachma struck by the Roman mint at Alexandria under Galba (Plate 9, 1) that is of unusual interest and importance.¹ The piece, which weighs 25.46 g, was acquired by E. T. Newell in December 1934 from the collection of Dr. Lewellyn Phillips of Cairo, Egypt. The obverse bears the laureate head of Galba, facing right, and the legend [ΣΕΡΟVI] ΓΑΛΒΑΥΤΟΚΑΙΣΣΕ[ΒΑ]. The reverse depicts an impressive building with four columns on the front and a gabled roof crowned by an elaborate statuary group. To the left and right, barely discernible today because the coin is poorly preserved, are L and A, i.e., year 1 of Galba's reign, A.D. 68.

The ANS piece has been discussed only once, in a paragraph in Susan Handler's 1971 study of architecture on Alexandrian coins.² Handler described the monument depicted on the reverse as "the earliest apparently local arch to appear on the Alexandrian coinage. It is a very tall

¹ ANS 1944.100.53672. While preparing this article for publication I enjoyed the famous hospitality of the staff of the ANS, esp. W. Metcalf and F. Campbell. I also wish to acknowledge with gratitude conversations and/or correspondence with P. Bastien, T. Hackens, W. Metcalf, and L. Richardson, jr, about this coin and the problems raised by it.

² S. Handler, "Architecture on the Roman Coins of Alexandria," *AJA* 75 (1971), pp. 57-74.

structure of three entrances, with superimposed pilasters, the higher of which continue above the vaults of the arches up to the frieze. The gabled pediment supports a small attic, astride the roof ridge and crowned by a barely visible chariot. This arrangement is an architectural impossibility. The inexperience of the die engraver here apparently led him to crowd his design, leaving inadequate space at the top of the coin for both pediment and full-sized attic."³

Although Handler's article on the Roman coins of Alexandria is a major contribution to the study of *architectura numismatica*, her description of the building on the ANS drachma of Galba is inaccurate. In fact, the "small attic, astride the roof ridge [of the arch] . . . crowned by a . . . chariot" is not the only decoration on the roof of the building. There are two additional statues on small bases at the left and right ends of the roof above the facade. An inexperienced die engraver did not err in his rendition of a "full-sized attic"; he carefully recorded the statuary decoration at the sides as well as the center of the roof. Moreover, far from being "an architectural impossibility," Handler's undersized attic above the pediment of an "arch" is, in fact, the most characteristic feature of the most famous temple in the Roman world, the temple of Jupiter Optimus Maximus on the Capitoline Hill in Rome.⁴

That the Capitolium in Rome is depicted on Galba's drachma and not an arch in Alexandria can be confirmed by comparing the reverse of the

³ Handler (above, n. 2), p. 70. Handler misread the date on the reverse and attributed the piece to year 2, A.D. 69.

⁴ For the Capitolium see M. Vermehren, *Der Capitolinische Jupitertempel in Rom* (Jena, 1879); E. Rodocanachi, *Le Capitole romain*, 3rd ed. (Paris, 1912), pp. 27-40; D. R. Dudley, *Urbs Roma* (London, 1967), pp. 51-58; E. Nash, *Pictorial Dictionary of Ancient Rome*, 2nd ed. (New York and Washington, 1968), vol. 1, pp. 530-33, with full bibliography. For the Capitolium on coins see D. F. Brown, *Temples of Rome as Coin Types* (ANSNM 90, New York, 1940); B. L. Trell, "Architectura Numismatica. Early Types: Greek, Roman, Oriental," *NC* 1972, pp. 52-54; M. J. Price and B. L. Trell, *Coins and Their Cities: Architecture on the Ancient Coins of Greece, Rome, and Palestine* (London and Detroit, 1977), pp. 64-70; P. Bastien, "Vitellius et le temple de Jupiter Capitolin: un as inédit," *NumAntClas* 7 (1978), pp. 181-202; F. Prayon, "Projektierte Bauten auf römischen Münzen," *Praestant Interna. Festschrift für Ulrich Hausman* (Tübingen, 1982), pp. 320 and 327-28; P. V. Hill, "Buildings and Monuments of Rome as Coin Types, A.D. 14-69," *NC* 1983, pp. 87-88.

ANS piece of A.D. 68 with the reverses of a series of asses struck in Rome only three years later by Vespasian.⁵ Several examples are illustrated on Plate 9, 2–5.⁶ The Vespasianic coin shows Jupiter's chief temple with a facade of six Corinthian columns. The center of the pediment is occupied by a heroic, nude statue of the god. Above, on a wide pedestal straddling the ridge of the gabled roof, is a four-horse chariot; the charioteer, the god himself, is off flan on almost all examples. Such a group, we know, crowned the roof of the original Capitolium of the end of the sixth century B.C. and was the work of the Etruscan sculptor Vulca of Veii.⁷ The group atop the temple on the Vespasianic as was probably a replacement for the Archaic group, as we shall see below. To the left and right, above the corners of the pediment, also on prominent pedestals, are two smaller groups of two horses each, probably intended to represent bigae. In the central three intercolumniations are shown, in accordance with a standard numismatic convention, the three cult statues of Jupiter, Juno, and Minerva of the temple's three separate but attached cellas. Above the head of each deity is an arch, a curious feature that Martin Price and Bluma Trell have described as "the arched baldachinos which covered each of the cult images in the interior."⁸ Such interior baldachinos are, however, without parallel and this suggestion is highly improbable.

The drachma from the Alexandrian mint reproduces the same building, although only four columns are shown on the facade. It is well established that die cutters frequently did not include all the columns of a temple's facade in their designs. Abbreviated versions of the Capitolium's colonnade appear on other Roman coins: four columns, e.g., on

⁵ *BMCRE*, 614, pl. 23, 14; cf. 647, pl. 25, 10. Trell (above, n. 4), pl. 6, 27. Price and Trell (above, n. 4), p. 64, fig. 116. Bastien (above, n. 4), p. 194, fig. 14.

⁶ Plate 9, 2, Lucien Naville (Geneva) 2, 12-14 June 1922, 470; Plate 9, 3, *BMCRE*, pl. 23, 14; Plate 9, 4, *BMCRE*, pl. 25, 10; and Plate 9, 5, Bastien (above, n. 4), fig. 14.

⁷ Plin., *HN*, 35.157. Plut., *Popl.*, 13. Cf. Serv., *Aen.*, 7.188.

⁸ Earlier, Trell (above, n. 4), pp. 52–53, described this feature on the Vespasianic coins as follows: "On other coins of the Capitoline series, the three cult statues were brought forward to the face of the building, together with their protective arches. The three arches represent those that actually decorated the three aediculae of the interior."

the denarii of M. Volteius of 78 B.C.⁹ and on a unique as of Vitellius struck in A.D. 69 published by P. Bastien,¹⁰ and only two on the "military" denarii of the civil wars of A.D. 68¹¹ and on the denarii of Vitellius from the mint of Lugdunum.¹² Even on the monumental relief panel from a lost arch of Marcus Aurelius in Rome, the emperor sacrifices before a Capitolium with only four facade columns.¹³ On Galba's drachma the pedimental decoration is also reduced, to a conventional wreath, but the Capitolium's great and famous quadriga on its wide pedestal is unmistakable atop the center of the roof. The acroterial statuary groups to the left and right are also shown on their separate pedestals, although only one statue is reproduced in each case. Finally, the curious "baldachinos" of the Vespasianic coins of Rome appear once again, but this time much more boldly and without cult statues beneath them. The central arch is taller and wider than the other two, corresponding to the larger dimensions of the central of the three cellas of Jupiter's temple. It is this configuration that led Handler to confuse this depiction of the Capitolium with an arch. The "baldachinos" of Price and Trell's Jupiter temple and the vaulted bays of Handler's "arch" are, in fact, the barrel-vaulted ceilings of the three cellas of the Capitolium.

The resemblance between the Capitolium reverses of Galba in A.D. 68 and those of Vespasian in 71 is of special significance because the Capi-

⁹ *BMCR*, 3154, pl. 42, 1. Brown (above, n. 4), pl. 1, 1. G. Fuchs, *Architekturdarstellungen auf römischen Münzen der Republik und der frühen Kaiserzeit*, AMuGS 1 (Berlin, 1969), pp. 17–18, pl. 2, 16–18. Trell (above, n. 4), pp. 52–53. Price and Trell (above, n. 4), p. 64, fig. 117. Bastien (above, n. 4), p. 188, figs. 9–10.

¹⁰ Bastien (above, n. 4), p. 184, figs. 1–3. Hill (above, n. 4), p. 88, fig. 1.

¹¹ *BMCRE*, 70, pl. 51, 22. *RIC* 1^s, 127–28. P.-H. Martin, *Die anonymen Münzen des Jahres 68 nach Christus* (Mainz, 1974), pp. 70–71, 12–13. The pediment of the Capitolium on these reverses is filled with a wreath as on the Alexandrian drachma of Galba.

¹² *BMCRE*, p. 386. Bastien (above, n. 4), p. 184, figs. 4–5. On these coins the pediment of the temple is also filled with a wreath; cf. above, n. 11.

¹³ Price and Trell (above, n. 4), p. 64, fig. 118. I. S. Ryberg, *Panel Reliefs of Marcus Aurelius* (New York, 1967), pp. 21–27, figs. 14a and 16a. G. Koeppel, "Die historischen Reliefs der römischen Kaiserzeit IV," *BonnJbb* 186 (1986), pp. 52–56, 25, figs. 29–30, with bibliography.

tolium that appears on Vespasianic sestertii struck in Rome in 76 is a building of somewhat different character.¹⁴ The chariot groups of the roof are absent, the pediment has a central seated Jupiter flanked by other figures, the cult image of Jupiter in the central cella is enthroned instead of standing, and the vaults above the interior statues are no longer shown. A similar pedimental statuary group appears on the panel relief of Marcus Aurelius, where the cella doors are closed and we can see neither vaults nor statues, but where the quadriga and bigae of the roof are once again reproduced.

There is a ready explanation for the discrepancies in the representations of the sculptures of the pediment and of the cult statues in the cellas. The temple of Jupiter Optimus Maximus Capitolinus burned down in A.D. 69 when supporters of Vitellius in Rome besieged the forces of Vespasian that had taken refuge on the Capitoline Hill.¹⁵ The temple was rebuilt by Vespasian, but was destroyed again in a fire of A.D. 80, only to be restored once more by Domitian.¹⁶ Save for the coins of Vitellius, Galba's Alexandrian drachma of 68 is the latest depiction we possess of the Capitolium before the great fire of 69. Vespasian's coins of 71 must depict the same structure before its rebuilding; the sestertii of 76 show the new Vespasianic Capitolium.

The Capitolium on the coins of 68 and 71 is not, however, the original structure dedicated in 509 B.C. That temple had also been the victim of a fire, in 83 B.C., and was reconstructed under Sulla and consecrated in 69 B.C. by Quintus Lutatius Catulus, the consul of 78 B.C.¹⁷ The coins of Galba and Vespasian tell us that the Sullan temple, unlike its Archaic predecessor, had barrel-vaulted cellas, just as there were vaulted corridors in the Sullan Tabularium, a building dedicated in 78 B.C. at the foot of the Capitoline Hill by the same consul.¹⁸

¹⁴ *BMCRE*, 721–22, pl. 29, 5–6. Brown (above, n. 4), pl. 3, 1. Bastien (above, n. 4), figs. 18–20.

¹⁵ Tac., *Hist.*, 3.71–72. Plut., *Popl.*, 15.

¹⁶ Tac., *Hist.*, 4.53. Suet., *Dom.*, 5. Plut., *Popl.*, 15. Dio Cass., 66.24.

¹⁷ Plut., *Popl.*, 15; Sulla, 27.6. Tac., *Hist.*, 3.72. Plin., *HN*, 33.57, 36.45. Liv., *Per.*, 98. Aul. Gell., *NA*, 2.10.

¹⁸ *CIL*, 6.1313–14. Dudley (above, n. 4), pp. 71–72. Nash (above, n. 4), vol. 2, pp. 402–8, with bibliography; R. Mellor, "The Dedications on the Capitoline Hill," *Chiron* 8 (1978), pp. 319–30; P. Culham, "Archives and Alternatives in Republican Rome," *Classical Philology* 84 (1989), pp. 101–2.

The depiction of the Sullan Capitolium on drachmas from the mint of Alexandria under Galba raises two questions that need to be addressed: why would a building in Rome appear on the coins of Alexandria? why would Galba choose the Sullan Capitolium, dedicated nearly a century and a half before?

The answer to the first question is that non-Alexandrian monuments are not at all uncommon on the coinage of Alexandria. A Parthian arch of Augustus, copied from that emperor's Asiatic cistophori, appears on the Alexandrian coins of Augustus,¹⁹ as does a Mars temple, also copied from the Augustan cistophori.²⁰ A lost arch erected by Nero—on the Capitoline Hill in Rome—also appears on Alexandrian coins that are copies of Roman sestertii,²¹ and I have argued elsewhere that a lost Domitianic arch in Rome is also reproduced on Alexandrian tetradrachms and drachmas.²² Since non-Alexandrian buildings of far less importance than the Capitolium appear on the coins of Alexandria, it is not at all surprising that the chief temple of the Roman world was used as an Alexandrian coin type.

To say that the Capitolium was so renowned that it needs no explanation as a coin type may be true, but it is not the whole explanation. The Sullan Capitolium had a special significance for Galba: its builder and dedicator, Quintus Lutatius Catulus Capitolinus, was Galba's great-grandfather.

Servius Sulpicius Galba was inordinately proud of his distinguished ancestry and of his descent from the consul of 78 B.C. in particular. In the speech Tacitus attributes to Galba when he adopts Piso in January

¹⁹ G. Dattari, *Numi Augg. Alexandrini* (Cairo, 1901), p. 2, 13, pl. 27. J. Vogt, *Die alexandrinischen Münzen* (Stuttgart, 1924), vol. 1, p. 16; vol. 2, p. 1. J. G. Milne, *Catalogue of Alexandrian Coins* (Oxford, 1933), p. xxxiii. Handler (above, n. 2), p. 57, n. 6.

²⁰ *BMC Alexandria*, p. 2, 7, pl. 30. Dattari (above, n. 19), p. 2, 14–15, pl. 29. Vogt (above, n. 19), vol. 1, pp. 16–17; vol. 2, p. 1. Milne (above, n. 19), p. xxxiii; p. 1, 5. Handler (above, n. 2), p. 57, n. 6. Kleiner, "An Arch of Domitian in Rome on the Coins of Alexandria," *NC* (forthcoming).

²¹ Handler (above, n. 2), p. 70, 4, pl. 11, 26. Price and Trell (above, n. 4), p. 28, fig. 33; p. 33; p. 286, 838. F. S. Kleiner, *The Arch of Nero in Rome* (Rome, 1985), p. 95. Kleiner (above, n. 20).

²² Kleiner (above, n. 20).

A.D. 69, the emperor remarks that it is “a distinction for you [Piso] to add the glories of the Sulpician and Lutatian houses to your own high rank.”²³ Plutarch, in his biography of Galba, emphasizes the special pride Galba took in his being the great-grandson on his mother’s side of Lutatius Catulus: “his connection with the noble house of the Servii gave him great prestige, although he prided himself more on his relationship to Catulus, who was the foremost man in his time in virtue and reputation, even if he gladly left to others the exercise of greater power.”²⁴ Suetonius is even more explicit in recounting Galba’s special reverence for Catulus. In his account of the emperor’s life Suetonius reports that Galba was “unquestionably of noble origin and of an old and powerful family,” that “when he became emperor he even displayed a family tree in his hall in which he carried back his ancestry on his father’s side to Jupiter and on his mother’s to Pasiphae, the wife of Minos,” and that Galba “always added to the inscriptions on his statues that he was the great-grandson of Quintus Catulus Capitolinus.”²⁵

The ANS’s Alexandrian drachma thus not only provides us with invaluable evidence regarding the barrel-vaulting of the cellas of the Sullan Capitolium, but also welcome confirmation of the picture we get from our literary sources of the great pride Galba took in his connection with Quintus Lutatius Catulus Capitolinus, restorer of Rome’s greatest temple.²⁶

²³ Tac., *Hist.*, 1.15: *tibi insigne Sulpiciae ac Lutatiae decora nobilitati tuae adiecisse.*

²⁴ Plut., *Galba*, 3.1: *μέγα δὲ ἔχων εὐγενείας ἀξίωμα τὸν Σερούϊων οἶκον, αὐτὸς ἐφρόνει μείζον ἐπὶ τῇ Κάλτου συγγενείᾳ, πρωτευσαντος ἀνδρὸς ἀρετῆ καὶ δόξῃ τῶν καθ’ ἑαυτὸν, εἰ καὶ τὸ θύνασθαι μᾶλλον ἐκῶν ἑτέροις παρήκεν.*

²⁵ Suet., *Galba*, 2: *haud dubie nobilissimus magnaue et vetere prosapia, ut qui statuarum titulis pronepotem se Quinti Catuli Capitolini semper ascripserit, imperator vero etiam stemma in atrio proposuerit, quo paternam originem ad Iovem, maternam ad Pasiphaam Minonis uxorem referret.*

²⁶ The Capitolium type of the “military” coinage of A.D. 68 has also been associated with Galba. See Martin (above, n. 11), pp. 46 and 67–68, with earlier bibliography.

MARSYAS AT CORINTH

MARY E. HOSKINS WALBANK

Among the published coins of the Corinthian mint there is a single coin, issued during the reign of Hadrian, which has on the reverse the figure of a silenus.¹

Obv.: Bust r., laureate, cuirassed ---] CAES TRAIAN HADRIANVS
AVG

Rev.: Silenus standing l., r. hand raised and wineskin over shoulder
-]OL LAV IVL [- - -
25 mm., 6.64 g



The stocky, bearded figure has a paunch and a small tail, although the latter is not very clear on the published example, and is naked save

¹ K. M. Edwards, *Corinth 6: Coins 1896–1927* (Cambridge, MA, 1933), 126, reproduced by courtesy of the Director of the Corinth Excavations. I thank W. E. Metcalf for his comments on an earlier version of this article.

for high, cuffed boots and a cap. He has his right leg, slightly bent, in front of the left and is carrying a wineskin over his left shoulder, with the right arm raised in salutation. In the original publication the figure is described as a satyr holding a pedum in the right hand, but it is clear on inspection that the scarcely visible traces interpreted as a pedum are the result of surface corrosion.² Three other unpublished examples of this coin are known to me. Although the pedum appears on none of them, the tail and other details are clear. On one of these coins the ethnic reads -JOLLAV [-]VL COR, which confirms that this is, indeed, an issue of the Corinthian mint. The details of the representation, in particular the boots, wineskin, and raised right hand, identify the figure as "Marsyas in the Forum" or "Marsyas with the wineskin," who appears on a large number of Roman provincial coins during the second and third centuries A. D.³

The original statue of Marsyas in the Forum Romanum, which was of Greek origin and dated from the Republican period, no longer survives. It is now known primarily from literary references, but it also appears on two marble relief panels of the Hadrianic period which show scenes in the forum.⁴ By imperial times it had come to be regarded as a symbol of civic freedom, possibly because of the mythological connection between Marsyas and Liber Pater (later amalgamated with Dionysus), who in turn was associated with Libertas, the personification of individual liberty.⁵ Another, more probable, explanation for the transformation of Marsyas into a political symbol is the fact that the statue was placed in the central area of the Forum, near the rostra and the tribunal

² I am grateful to O. Zervos for his preliminary inspection of this coin.

³ By no means all sileni with wineskins on coins represent Marsyas, see J. P. Small, *Cacus and Marsyas in Etrusco-Roman Legend* (Princeton, 1982), pp. 132-39.

⁴ The Plutei or Anaglypha Traiani: see E. Nash, *Pictorial Dictionary of Ancient Rome* (New York, 1981), pp. 176 and 177, figs. 902 and 905, and p. 399, fig. 1190.

⁵ The texts which refer most precisely to Marsyas as a symbol of liberty are fourth century A.D. or later, e.g. Servius, *ad Aen.* 3.20: Quod autem de Libero diximus, haec causa est, ut signum sit liberae civitatis. Nam apud maiores aut stipendiariae erant, aut foederatae, aut liberae. Sed in liberis civitatibus simulacrum Marsyae erat, qui in tutela Liberi patris est. Also, *ad Aen.* 4.58: Lyaeo, qui, ut supra diximus, apte urbibus libertatis est deus; unde etiam Marsyas, minister eius, per civitates in foro positus vel libertatis indicium est, qui erecta manu testatur nihil urbi deesse. The literary sources are conveniently collected by Small (above, n. 3), pp. 127-31.

of the praetor peregrinus, who originally dealt with legal cases involving non-Romans or peregrini. The pose of the statue, with the right hand raised in a gesture resembling the adlocutio of the emperor, may also have been a factor.⁶

In the provincial context, the significance of this particular figure of Marsyas, whether it took the form of a statue erected in the forum of a provincial city or appeared on the civic coinage, has been vigorously debated. Opinions have varied as to whether it related to the status of the city, to its possession of the *ius Italicum*, or whether it simply indicated a desire on the part of the issuing city to emphasize its links with Rome. The earliest view, put forward by Mommsen and later endorsed by Paoli, was that it referred to the fact that the city in question possessed the *ius Italicum* with its ensuing tax privileges.⁷ Other scholars, represented by Veyne, have seen Marsyas simply as an *indicium libertatis* or symbol of civic liberty, implying a desire on the part of the community to be linked with Rome, but having nothing to do with colonial status nor with the possession of the *ius Italicum*. His case is based largely on the fact that some cities are known to have had a statue of Marsyas, but not to have possessed the *ius Italicum*. This view has now been generally accepted. Most recently, the various aspects of the controversy, including the origins of Marsyas in the Forum and why this particular statue became known as a symbol of

⁶ There are many studies on Marsyas in the Forum. The articles referred to in the text are J. Paoli, "Marsyas et le *Ius Italicum*," *Mélanges d'archéologie et d'histoire* 55 (1938), pp. 96-130, and "La Statue de Marsyas au Forum Romanum," *Revue des études latines* 23 (1945), pp. 150-67; P. Veyne, "Le Marsyas 'Colonial' et l'Indépendance des Cités," *RevPhil.* 35 (1961), pp. 87-98. E. W. Klimowsky, "The Origin and Meaning of Marsyas on Greek Imperial Coinage," *INJ* 6-7 (1982-83), pp. 88-101; J. P. Small (above, n. 3), esp. ch. 4 and appendix 3, in which she discusses the iconography of Marsyas in the Forum and lists all the extant sources, including the Roman provincial coins. She suggests that Marsyas as an *indicium libertatis* was originally connected with the rite of exauguration and the ritual freeing of the land, hence the raised right hand, and it was only later that the meaning of *libertas* was transferred from augural freeing to civic freedom (p. 92). For a full bibliography and additional references, see both Small and Klimowsky; also P. B. Rawson, *The Myth of Marsyas in the Roman Visual Arts*, BAR International Series 347 (Oxford, 1987).

⁷ Th. Mommsen, *Römisches Staatsrecht* 3, 1 (Leipzig, 1871-88), p. 810. It was also the view of J. Eckhel, writing in the late eighteenth century.

liberty, have been summarised and discussed by Klimowsky. In the course of his discussion he casts some doubt on Veyne's argument. He rules out, as do other modern scholars, the possibility that the silenus refers to a cult of Dionysus. He concludes that this particular reverse type had a political character, and, more tentatively, that the appearance of Marsyas indicated the fiscal privileges which the city enjoyed.

In this note I am not concerned with inscriptions relating to the statues of Marsyas erected in the fora of provincial cities, but only with his appearance on Roman provincial coins. In this connection there is some epigraphic evidence at Corinth which supports the view that Marsyas on the coinage may refer directly and specifically to the possession of the *ius Italicum*, as originally proposed by Mommsen.

During the reign of Hadrian, Corinth was granted *ἀτέλεια*, that is, freedom from taxation. This was due to the good offices of Cn. Cornelius Pulcher, an equestrian from an old Epidaurian family, who was also a distinguished patron of Corinth.⁸ A large number of inscriptions, mostly fragmentary, testify to his prominence in both city and province. Two substantially complete and identically worded dedications give his *cursus honorum* and end with the words, "he also bestowed many other great gifts and immunity from taxation on the city."⁹ At this time, Corinth would have been paying the normal taxes, both *tributum soli* and *tributum capitis* to the central government, so it seems clear that the *ἀτέλεια* obtained by Cornelius Pulcher provided the

⁸ *PIR*², C1424; also J. H. Kent, *Corinth 8, 3: The Inscriptions 1926-1950* (Princeton, 1966), 139. Pulcher was *duovir quinquennalis* and *agonothetes* of the Isthmian games, and also acted as *curator annonae*. He served as *procurator* of Epirus under Trajan; *iuridicus* of Egypt and Alexandria under Hadrian; became *helladarch* of the Achaean League and high priest of Greece, and towards the end of his career was *archon* of the Panhellenion. He was also a close friend of Plutarch who dedicated "*De capienda ex inimicis utilitate*" to him.

⁹ B. D. Meritt, *Corinth 8, 1: Greek Inscriptions 1896-1927* (Cambridge, MA, 1931), 80. The text reads: . . . ἄλλας τε μεγάλας δωρεὰς ἐπιδόντα καὶ τὴν ἀτέ[λειαν] τῆ(ι) πόλει παρασχόντα . . .; no. 81, which is restored, is identical, and so is Kent (above, n. 8) on the use of *ἀτέλεια* meaning freedom from taxation, and related terms; for *πόλις* meaning *colonia*, see H. J. Mason, *Greek Terms for Roman Institutions* (Toronto, 1974), pp. 11 and 103-4.

same fiscal privileges as those which resulted from possession of the *ius Italicum*.¹⁰

The city of Corinth coined prolifically from the time of its foundation in 44 B.C. to the early third century, and there is a wide variety of reverse types. However, the only appearance of Marsyas is the Hadrianic coin described above. The rarity of this particular type indicates that it was a single, small issue. If one accepts Veyne's argument, this fleeting appearance of Marsyas on the city coinage simply indicates a desire on the part of the Corinthians to make reference to the civic liberty which they had enjoyed for over 150 years. This seems unlikely. Other cities, recently given colonial status, or whose identity was open to question, might have felt the need to assert their links with Rome, as Veyne maintains, but Corinth was one of the best known of Julius Caesar's colonial foundations and, by the time of Hadrian, had become an important city of the east. What is more, the emphasis in the Corinthian coinage is on types with a local significance, buildings, cults, and events of importance to the city, whereas Marsyas in the Forum is a purely Roman, imperial symbol. The sudden appearance of Marsyas makes good sense, however, if the type commemorates the emperor's beneficence in granting freedom from taxation to the city.

The next question is whether it is possible to date the Marsyas coin and the grant of *ἀτέλεια*. The inscription in honor of Cornelius Pulcher must have been erected at some time after A.D. 131/2, when the

¹⁰ See Kornemann, *RE* 16, 633. The territory of communities which possessed the *ius Italicum* was, by a legal fiction, regarded as Italian ground; as a result the land could be possessed in full and was free from *tributum soli*, and the inhabitants were not liable to *tributum capitis*, see von Premerstein, *RE* 10, 1238. For the most recent discussion, see A. N. Sherwin-White, *The Roman Citizenship*, 2nd ed. (Oxford, 1973), pp. 316–22. He suggests that the *ius Italicum* was normally given to colonies of Roman citizens, such as veterans, who were moved from Italy, or to colonies which were a long way from any urban center. Corinth had, presumably, benefited from the freedom and immunity from taxation granted to the whole province of Achaia by Nero in 66 but, since these privileges were rescinded by Vespasian, the city must have again been paying the standard taxes to Rome in the early second century. Both colonies and municipia normally paid taxes unless they were exempted and, for fiscal reasons, exemption was given sparingly. Carthage, the other great Julian colony founded at the same time as Corinth, did not receive the *ius Italicum* until the time of the Severi.

Panhellenion was founded, since it refers to Pulcher as having been both archon of the league and priest of Hadrian Panhellenius, but it does not provide a date for the granting of ἀτέλεια, which could have happened at any time before the inscription was put up.¹¹

More can be said about the Marsyas issue, although the coinage of Hadrian is notoriously difficult to date precisely. An approximate chronology of the Corinthian coinage can, however, be developed on the basis of the legends and changes in imperial portraiture. The form of the imperial titulature on the coin in question is found on Corinthian coins issued between 118 and ca. 126. The usual form of the ethnic on Hadrianic issues is COL L IVL COR. The longer form, COL LAV IVL COR, which is used on the Marsyas coin, is much less common and it appears only between 118 and ca. 124.¹² Hadrian's portraits show a chronological progression from a youngish man to one in late middle age.¹³ The earliest portraits have a very small head, set on a long neck and deep bust, with sharp features and an upward gaze; the beard is scarcely visible. On somewhat later issues, which include the Marsyas coin, the head is slightly larger, the neck thicker, and the gaze straight ahead rather than directed upwards; the beard is more in evidence. There is a sharp contrast between these portraits and those on coins which can be dated on other grounds to 128 or later. The latter have a

¹¹ The reference to ἀτέλεια comes right at the end of the inscription, but that has little significance since the main purpose of the dedication is to give Pulcher's cursus honorum, and his imperial and civic offices take precedence over other miscellaneous benefactions. J. H. Oliver, *Marcus Aurelius: Aspects of Civic and Cultural Policy*, Hesperia Supplement 13 (Princeton, 1970), pp. 132–33, concluded that the Panhellenion was officially found in 131/2, although it may not have been operating until somewhat later. See also A. J. Spawforth and S. Walker, "The World of the Panhellenion," *JRS* 75 (1985), pp. 78–104. Cn. Cornelius Pulcher was the first, or possibly the second, archon to hold office.

¹² H. B. Earle Fox, "Colonia Laus Iulia Corinthus," *JIAN* 6 (1903), p. 13, noted that L was invariably expanded to LAV under Trajan and thought that Hadrianic coins with the same abbreviation would probably be the first issues of the new reign. This is only partially correct. LAV is used on some, but not all, early issues; it does not appear, for example, on coins which can be attributed to 117.

¹³ The changes in Hadrian's portraiture can be related to the Roman mint for which a chronology has been established, but the Corinthian mint does not follow the central authority in all respects.

large head with fleshy features and a thick neck, and the beard is clearly shown. It is obvious that these coins represent a much older man. Taking into account both the legends and the portrait, the Marsyas coin must have been issued in the first half of Hadrian's reign, between 118 and ca. 126, and later rather than earlier in that period.

It remains to suggest an occasion on which the grant of immunity might have been made. It is possible that Pulcher, who had held responsible posts in the imperial administration, and who was an intimate friend of Plutarch, a man much admired by Hadrian, obtained the concession at the very beginning of Hadrian's reign, but there were no long-standing ties between the new emperor and the city of Corinth, such as existed between Hadrian and Athens, which would justify such a favor. It is more likely that *ἀτέλεια* was granted to mark an imperial visit.¹⁴ Hadrian's first visit to Greece is dated to 124. He arrived at Athens from Asia in time for the Eleusinian Mysteries which were celebrated at the beginning of October (Boedromion), and he was based at Athens until after the Great Dionysia in March 125. The numerous benefactions described by Pausanias, as well as the epigraphic record, show that Hadrian traveled widely, both in the Peloponnese and elsewhere in the province, before returning to Rome at the end of the summer of 125.¹⁵ It is difficult, however, to be precise about the em-

¹⁴ On imperial visits generally, and the benefits deriving from them, see F. Millar, *The Emperor in the Roman World* (London, 1977), pp. 31-39.

¹⁵ On Hadrian's travels in Greece, see W. Weber, *Untersuchungen zur Geschichte des Kaisers Hadrianus* (Leipzig, 1907), pp. 156-97 and 205-11; W. Kolbe, *Ath. Mitt.* 46 (1921), pp. 106-31; and P. Graindor, *Athènes sous Hadrien* (Cairo, 1934), pp. 1-58. The evidence and more recent scholarship are summarized and discussed by S. Follet, *Athènes au II^e et au III^e siècle* (Paris, 1976), pp. 107-35. She queries the conventional date of 125 for Hadrian's return to Rome for his first journey but, on balance, accepts it. It is generally agreed that Hadrian also spent the winter of 128/9 based in Athens and was there for the inauguration of the Panhellenion in 131/2. Hadrian's activities are recorded by Pausanias: his benefactions included an aqueduct and baths at Corinth (2.5.5) as well as repairing the coastal road from Megara to Corinth (1.44.10). A. Garzetti, *From Tiberius to the Antonines* (London, 1974), pp. 390-94 and 684-86, suggests, reasonably, that since Hadrian's second visit to Greece in 128/9 was much shorter than his first, many of his benefactions were probably made during his earlier travels. A whole series of altars at Sparta was dedicated to Hadrian in 125, J. Bingen, "Inscriptions du Péloponnèse," *BCH* 75 (1953), pp. 642-46; see also A. Benjamin, "The Altars of Hadrian at Athens," *Hesperia* 32 (1963), pp. 97-123.

peror's itinerary, and particularly his presence at Corinth. A coin with an early portrait and, on the reverse, a galley and the customary legend **ADV AVG**, which must commemorate Hadrian's arrival at Corinth, should be attributed to this first imperial visit to Greece.¹⁶ He certainly visited Epidaurus in the autumn of 124, and an inscription found at Corinth which was erected in his honor by "the Achaeans" suggests that he passed through Corinth in the course of this journey.¹⁷ Although there is no definite evidence that Hadrian attended the Isthmian Games, which took place in either April or May, it is very likely that he did do so, especially as Isthmia was also a center of the imperial cult, with the Caesarea and games in honor of the reigning emperor being held in conjunction with the Isthmia every four years. Either the arrival of the emperor in Corinth or the celebration of the Isthmian festival would have been an suitable occasion on which to grant *ἀτέλεια*. If the latter, it is tempting to think that Cornelius Pulcher was agonothetes of the Isthmian Games when he prevailed upon the emperor to bestow such a favor, but this is only speculation.¹⁸

To summarize the argument: Corinth was granted freedom from taxation in the early years of Hadrian's reign, probably during his visit to Greece in 124, and this was commemorated on the coinage by a small issue showing Marsyas in the Forum. This interpretation of Marsyas on the Corinthian coinage does not, of course, invalidate the conclusion reached by Veyne and other scholars that some provincial cities put up statues of Marsyas or portrayed him on their coinage simply to demonstrate their civic liberty and links with Rome, but this was patently not the case at Corinth. It cannot be coincidence that Marsyas

¹⁶ *Hunter* 2, 135, p. 104, and ANS 74.226.32.

¹⁷ *IG* 4², 606; Kent (above, n. 8), 102. The restoration of the number in line 6 of this inscription, which refers to Hadrian's *tribunicia potestas*, is Η, "eighth" (124), since the space is a little cramped for Θ, "ninth."

¹⁸ On festivals at Isthmia, see Kent (above, n. 8), pp. 28–31; also D. J. Geagan, "Notes on Agonistic Institutions at Roman Corinth," *GRBS* 9 (1968), pp. 69–80. Geagan, p. 72, says that the festivals in honor of the reigning emperor ceased after Trajan, but Kent, p. 28, n. 25, thinks they may well have continued until the reign of Marcus Aurelius. Pulcher presided over the festival in the reign of Trajan, Meritt (above, n. 9), 76 and 80, but this does not rule out the possibility that he was agonothetes at a later date as well.

at Corinth only appears when there is epigraphic evidence of approximately the same date recording the grant of freedom from taxation. There is little doubt that the older and more specific interpretation of Marsyas in the Forum as referring to possession of the *ius Italicum*, or at least the tax advantages accruing from it, is also valid.

There are several lists of provincial cities minting coins with Marsyas in the Forum, of which the most recent is that compiled by J. P. Small.¹⁹ She notes that Marsyas first appears during the reign of Hadrian, and then only on the coins of the Augustan colony of Cremma in Pisidia. Corinth should now be added to the list. It is worth drawing attention to the fact that Marsyas does not seem to have been used as a reverse type before the reign of Hadrian. It is possible that the allusion to the ancient statue in the Forum Romanum appealed to the emperor's antiquarian interests as well as to his wish to link the provincial cities of the empire more closely with Rome. In this respect, Marsyas, who was originally a Greek importation into Italy and who had a variety of other classical associations, would have been a very suitable symbol for the cities of the east, particularly in the archaizing atmosphere of the Second Sophistic.

¹⁹ See Kornemann, *RE* 4, 580–81; Paoli 1938 (above, n. 6), pp. 101–11; Veyne (above, n. 6), p. 93, n. 1; L. Robert, *Monnaies antiques en Troade*, *Hautes Études Numismatiques* 1 (Geneva and Paris, 1966); Small (above, n. 6), pp. 132–39, who also provides a chart showing the distribution and date of Roman provincial coins of Marsyas in the Forum.

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THE ROMAN BRONZE COINAGE IN BRITAIN AND MONETARY HISTORY FROM A.D. 293 TO 350

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Recent studies of the argentiferous bronze coinage of the tetrarchic and Constantinian periods have focused on the denominational value of the coinage and, drawing on the papyrological evidence, the relationship between monetary history and inflation during the fourth century.¹

¹ Denominational value, K. W. Harl, "Marks of Value on Tetrarchic Nummi and Diocletian's Monetary Policy," *Phoenix* 39 (1985), pp. 263–70; monetary history and inflation, R. S. Bagnall, *Currency and Inflation in Fourth Century Egypt* (Chico, 1985), hereafter Bagnall. Other works frequently cited include J. N. Barrandon and C. Brenot, "Analyse de monnaies de bronze (318–340) par activation neutronique à l'aide d'une source isotopique de Californium," *Les 'dévaluations' à Rome* (Rome, 1978), pp. 123–44, hereafter Barrandon and Brenot; P. Bastien, *Le Monnayage de l'atelier de Lyon de la réforme monétaire de Dioclétien à la fermeture temporaire de l'atelier en 316 (294–316)* (Wetteren, 1980), hereafter Bastien, *Dioclétien*; P. Bastien, *Le Monnayage de l'atelier de Lyon de la réouverture de l'atelier en 318 à la mort de Constantin (318–337)* (Wetteren, 1982), hereafter Bastien, *Réouverture*; P. Bastien, "Imitations of Roman Bronze Coins, A.D. 318–363," *ANSMN* 30 (1985), pp. 143–77, hereafter Bastien, "Imitations"; J.-P. Callu, "La Circulation monétaire de 313 à 348," *Actes du 8^e Congrès international de numismatique* (Paris/Basel, 1976), pp. 227–42, hereafter Callu; L. H. Cope, "The Metallurgical Analysis of Roman Imperial Silver and Aes Coinage," *Methods of Chemical and Metallurgical Investigation of*

Understanding of the circulation of the coinage has broadened through studies such as that of Depeyrot based on the Gallic evidence. Another area of vital interest is the problem of the imitations generated by the bronze coinage.²

One feature shared by both the Gallic and British evidence—though the phenomenon is not confined to those regions alone—long ago drew attention: Bruun and Bastien noticed that hoards containing the argenteriferous bronze coinage either terminate or commence with the **VICTORIAE LAETAE PRINCIPIS PERPETVI** issue, and the former scholar suggests the **VICTORIAE LAETAE** emission represented a new denomination. It remained for Callu to theorize that the new **VICTORIAE LAETAE** issue not only represented a new denomination, but was also accompanied by a massive demonetization of previous emissions. Other investigators have followed Bruun and Callu in viewing the **VICTORIAE LAETAE** coinage as a new denomination. In a recent study Bruun has associated breaks in the hoards from the Empire as a whole with successive weight, size, and silver reductions of the coinage which neatly illustrate Gresham's law.³

The purpose of this paper is to analyze the British evidence for the hoarding of the billon coinage from the late third century to the death

Ancient Coinage (London, 1972), pp. 3–47, hereafter Cope; M. Crawford, "Finance, Coinage and Money from the Severans to Constantine," *ANRW* 2, 2, pp. 560–93, hereafter Crawford; and G. Depeyrot, *Le numeraire gaulois du IV^e siecle*, *BAR* 127 (Oxford, 1982), hereafter Depeyrot.

² See Bastien, "Imitations." See also C. E. King, "The Woodeaton (Oxfordshire) Hoard and the Problem of Constantinian Imitations," *NC* 1978, pp. 38–65, and G. C. Boon, "Counterfeit Coins in Roman Britain," in *Coins and the Archaeologist*, eds. J. Casey and R. Reece, *BAR* 4 (Oxford, 1974), pp. 95–172.

³ **VICTORIAE LAETAE** coins a barrier: P. M. Bruun, *RIC* 7, p. 13, and P. Bastien and H. Huvelin, *Trouvaille de folles de la période constantinienne (307–317)* (Wetteren, 1969), p. 43. New denomination and demonetization: Callu, pp. 230, 232, 236, and 240. See also J. P. C. Kent, *Roman Coins* (London, 1978), p. 51; King (above, n. 2), p. 81, and "The Hambleden (Buck.) Hoard of Folles," *NC* 1980, p. 55. For a "universal revaluation" of the coinage in 317 or 318, see L. H. Cope and H. N. Billingham, "Chemical Analyses of Some Weight-Reduced Roman Folles Minted between A.D. 307 and 318," *Bulletin of the Historical Metallurgy Group*, vol. 3, no. 1 (1969), p. 30. Gresham's law: P. M. Bruun, "Quantitative Analysis of Hoarding in Periods of Coin Deterioration," *PACT* 5, pp. 355–64.

of Constans in 350, in the context of the theories outlined above. It now seems possible to define more closely the denominational value of the **VICTORIAE LAETAE** and associated **IOVI CONSERVATORI AVG(G)** pieces.⁴ In the Table, pp. 109–11, with Appendix, 62 British hoards composed of post-reform nummi from ca. 295 to 350 are presented in order to determine, among other things, if a pattern of deposition emerges to support the theory of demonetizations of earlier coinage in 318 and again in 348.

The tabulation presents the seriation of the British hoards from ca. 300 to 350. Seriation is the pattern which results from the arrangement of the hoard contents according to the date of deposition vertically and both successive coinage alterations and issues horizontally. The seriation offers a synoptic view of the hoarding and circulation of the argentiferous bronze coinage and can be analyzed in terms of successive modifications and hypothetical demonetizations of the nummus.

Nummus is the name hinted at in the papyrological and literary sources and assigned to the laureate billon coinage accompanying Diocletian's reforms. Virtually all coins (save for several short-lived series of unmarked nummi and fractions emanating from the London, Trier, Lyon, and Rome mints) bore a distinctive mint mark. One problem which will be examined in connection with the reform of 318 is that of the fractions. The nummus was supplemented by two bronze fractional pieces, although they were minted more sporadically and—in the west at least—in possibly less quantity than the nummus.⁵

⁴ Common in the east where it bore the reverse element **AVGG**, the **IOVI CONSERVATORI AVG** piece in the west was struck only at Trier and Arles: see *RIC* 7, p. 182, 210–12 (Trier), and p. 255, 196–97 (Arles). Neutron activation analysis of both western and eastern samples shows them to have essentially the same silver content as the **VICTORIAE LAETAE** pieces: see Barrandon and Brenot, pp. 130–31.

⁵ For the term nummus, see Bagnall, pp. 12–15; Callu, p. 233, n. 28; and Crawford, p. 580, n. 80. For a reference to the nummus in S. Hilarius, see *Psalm*. 128, 489, on which J.-P. Callu, "Denier et Nummus," in *Les 'dévaluations' à Rome 1* (Rome, 1978), p. 109. Reforms: see P. Bruun, "The Successive Monetary Reforms of Diocletian," *ANSMN* 24 (1979), pp. 133–34, who dates the initial issue of nummi at Heraclea to early 293 (absence of Caesars on the coinage). W. E. Metcalf, "From Greek to Latin Currency in Third-Century Egypt," in *Mélanges de Numismatique offerts à Pierre Bastien...*, eds. H. Huvelin, M. Christol, and G. Gautier (Wetteren, 1987), pp. 157–68, emphasizes the gradual nature of Diocletian's currency reform and argues that it was not introduced in the mint of Alexandria until 296. Rarity of emissions of fractions at

Whether the nummus belonged actually to a silver rather than bronze series designed to supplant the antoninianus (and aurelianus) is doubtful.⁶ What does seem clear is that as a consequence of a currency edict dated September 1, 301, the nummus was revalued upward from 12 1/2 to 25 denarii, and that as late as ca. 308–9 the nummus remained officially tarified at 25 denarii communes (d.c.). The denominational values of the nummus and associated fractions remain a matter of controversy. While some view the new medium (3 g) radiate piece as circulating at par with the aurelianus—which continues to appear in British hoards throughout the first half of the fourth century—Bagnall cautions that we do not know at what value the aurelianus was tarified, and doubts the equivalence of the radiate fractions and Aurelian's reformed billon pieces.⁷ Moreover estimates of the value of the

Trier during the first tetrarchy: Depeyrot, p. 20. For the large volume of nummi relative to that of fractions in the west, see T. V. Buttrey, review of *The Roman Imperial Coinage*, vol. 6, *from Diocletian's Reform (A.D. 294) to the Death of Maximus (A.D. 313)*, eds. Ch. V. Sutherland and R. A. C. Carson, *Gnomon* 41 (1969), p. 680.

⁶ Nummi a true "silver" denomination: Cope, p. 117, and Cope and Billingham (above, n. 3), p. 30, though the Diocletianic argenteus was at the Neronian standard, see M. F. Hendy, *Studies in the Byzantine Monetary Economy c. 300–1450* (Cambridge, 1985), p. 462.

⁷ Currency edict: K. T. Erim, J. Reynolds, and M. Crawford, "Diocletian's Currency Reform: A New Inscription," *JRS* 61 (1971), p. 173, fragment b, and Crawford, pp. 578–79. Revaluation of the nummus: Harl (above, n. 1), pp. 264–65, and Bagnall, p. 20. Lyon nummi (*RIC* 6, pp. 263–65, 286–303) bear the mark CI^H which signifies a coin tarified at 100 sesterces (= 25 d.c.), see Harl, p. 270, and Crawford, p. 588. The Lyon CI^H issue dates from late summer 308 to the beginning of 309 and has a face value of 25 d.c.: Bastien, *Dioclétien*, pp. 68–69 and 87–88. M. Crawford, "Ancient Devaluations: A General Theory," *Les 'dévaluations' à Rome* 1 (Rome, 1978), p. 153, implausibly hypothesizes the upward revaluation of the nummus from 20 to 25 denarii in 307. Equivalence of reformed radiate and aurelianus: Harl, p. 269, following J.-P. Callu, *La politique monétaire des empereurs romains de 238 à 311*, *BEFAR* 214 (Paris, 1969), p. 369; Crawford, p. 578, and Buttrey (above, n. 5), p. 680. The continued circulation of aureliani after 318 is evident in, for example, the Cranfield hoard, no. 50, 3 coins or 0.2 percent of the total and the Llanbethery hoard, no. 53, 6 coins or 0.7 percent of the total. Uncertain relationship of old and new coinage: Bagnall, p. 24, in noting that the aurelianus was heavier than the radiate piece and had some silver, though the new radiate coin did contain a minute (possibly accidental) amount of silver, see C. H. V. Sutherland and M. R. Harold, "The Silver Content of Diocletian's Early Post-Reform Copper Coins," *Archaeometry* 4 (1961), pp. 58–59.

nummus before 300 vary widely from the 5 d.c. of Harl to the 10 d.c. of Crawford and 12 1/2 d.c. of Hendy and Bagnall.⁸

Ten hoards in the survey (Market Stainton, Brooklands, Little Malvern, Fyfield, Winterbourne Earls, Northamptonshire, Chipperfield, Preshaw, Bromley, and Normandy) effectively closed in or before 307.⁹ This is the date of the first two reductions of the weight and module of the nummus. Although the face value of the coin apparently remained at 25 d.c., the nummus, struck originally at a 1/32 libra standard (8.5–10.5 g), settled down—some envisage successive steps—to a new standard of 1/40 libra (theoretical weight of 8.18 g) in April 307. Simultaneous with the decrease in the weight of the coin was a reduction in the module of the nummus. In November 307 the weight of the nummus dropped to 1/48 libra (theoretical weight of 6.8 g), and the module continued to decrease. Although the first and second reductions of the nummus do not seem to have affected the fineness of the coin in the west, the consequence of the reductions was a lowering of the intrinsic value of the nummus which, prior to the reductions, was not negligible at a nominal four percent silver content or ten scripula per libra alloy. It therefore comes as no surprise that individuals put a premium on pre-reduction nummi, withdrew them from circulation, and hoarded them.¹⁰

⁸ Harl (above, n. 1), p. 264; Crawford, p. 581; Hendy (above, n. 6), p. 485, table 15, and Bagnall, p. 24.

⁹ Table, 1–9 and 11. The Corbridge hoard, 10, contains too few nummi to make generalization meaningful. In addition to the accurately reconstructable hoards included in the Table, is the Evenley hoard, see R. S. Poole, *NC* 1854–55, pp. 38–48. As well as containing 705 antoniniani and aurelianiani, the hoard contains 2,448 nummi that mostly predate the first weight reduction of the nummus. The modest, if uncertain, number of coins postdating the reduction seem to date generally before the second reduction of November 307 (no coins of Constantine as Augustus).

¹⁰ For varying views on the first reduction sequence, see Depeyrot, pp. 15–16. New standard and reduction date: Bastien, *Dioclétien*, pp. 59 and 89. For a slightly elevated weight range of 9.0–10.5 or 9.5 g in the Balkan and eastern mints, as well as the range of the western mints, see *RIC* 6, p. 94. New theoretical weight: Depeyrot, p. 15. The module dropped from 25.5–26 mm to 25: Bastien, *Dioclétien*, pp. 63 and 86. New theoretical weight: L. H. Cope, “The Sequence of Issues in the Long T/F Series of Constantinian Folles Minted at Trier, A.D. 309–315,” *SM* 19 (1969), p. 60, and Depeyrot, pp. 15–16. For a new module of 23 mm, see P. Bastien “Some

The early deposition (ca. 300) of the Market Stainton hoard calls for special comment. It is legitimate to link the burial of this—and other hoards throughout the Empire—with a second coinage reform, initiated by Diocletian in ca. 299–300, which regulated the fineness of the nummi by imperial decree. Cope envisages a process in which the fineness of the nummus was not maintained at its initial level but began to decline precipitously in the western and central mints and somewhat less so in the eastern mints after the first reform. While the silver content of the eastern emissions continued to maintain a higher level (ca. 3.5 percent) after 300, the fineness in the western issues may have fallen as low as 1.5 percent by 300–302.¹¹ It is not difficult to deduce the principal cause of the four and eight-fold price increases mentioned in the preface to the edict on maximum prices of December 301.¹²

Several hoards reflect a reaction to the first and second reductions of the nummus and contain coins which postdate either the first or second reduction. In this category, for example, are the Northamptonshire and Preshaw hoards, Table, 6 and 8. Nevertheless the preponderance of nummi in each of these two hoards is of pre-reduction issues which comprise 74 percent and 80 percent, respectively, of their composition.¹³ The reduced nummi in both hoards only slightly postdate the

Comments on the Coinage of the London Mint, A.D. 297–213,” *NC* 1971, p. 157. Fineness unaffected in the west: Cope, “Sequence of Issues,” p. 62. Silver content: L. H. Cope, “The Argentiferous Bronze Alloys of the Large Tetrarchic Folles of A.D. 294–307,” *NC* 1968, p. 148, n. 2, and Sutherland and Harold (above, n. 7), pp. 57–58 (Rome nummi). After a hiatus in the later part of 307, the Antioch and Alexandria mints issued weight-reduced nummi in 308 at a drastically lowered fineness standard, falling from ten scripula of silver per libra to three; Cope and Billingham (above, n. 3), p. 30. Hoarding: see Bruun, “Quantitative Analysis” (above, n. 3), pp. 358 and 361.

¹¹ Second reform and fineness decline: Cope, “Argentiferous Bronze” (above, n. 10), p. 142. For an empire-wide break in the hoards of ca. 300, see Bruun (above, n. 3), pp. 356–57 and table 1, who seems to connect it with Diocletian’s monetary reform of 301. Silver content of eastern emissions: Cope, “Argentiferous Bronze,” pp. 117 and 142–43, and table 1 at pp. 126–29 (analyses of nummi minted at Thessalonica, Heraclea, Cyzicus, Antioch, and Alexandria). Western issues: Cope, “Argentiferous Bronze,” p. 143; Bastien, *Dioclétien*, p. 102, and Depeyrot, p. 2.

¹² *CIL* III, pp. 802–41 = *ILS* 642, praef. ll. 96–97, and see M. Giaccherio, *Edictum Diocletiani et Collegarum de pretiis rerum venalium* (Genoa, 1974), p. 136.

¹³ Northamptonshire: 57 pre-reduction vs. 18 reduced nummi; Preshaw: 238 unreduced vs. 47 reduced nummi.

first reduction of spring 307: the last of the reduced nummi in the Northamptonshire hoard dates generally from summer 307, while the latest issue in the Preshaw hoard, represented by one specimen, can be dated to the end of 308 or 309.¹⁴ In both cases these seem to be savings rather than emergency hoards.

A more informed judgement can be made about the type of the Wroxton Heath hoard deposited ca. 316.¹⁵ Sutherland notes that many pre-reduction nummi in the Wroxton Heath hoard still have the silver wash with which they were treated before issue, and show little wear. The peculiarity of the hoard suggests that its owner pulled heavy nummi out of circulation in response to the first reduction and at each of the ensuing reductions between late 307 and ca. 316, by which time the owner evidently completed his accumulation with whatever fourth reduction (i.e. post-313) coinage he had on hand, and on which he does not seem to have placed a premium. The Llangarren hoard, deposited ca. 327–28, possesses features similar to those of the Wroxton Heath hoard, namely a uniform lack of wear and a silver wash among apparently both pre- and post-reduction nummi.¹⁶ It also seems to represent a savings hoard, accumulated by successive additions from 307 to

¹⁴ Northamptonshire: the latest coins are 11 \overline{PLN} and one unmarked London piece of April–November 307 (*RIC* 6, pp. 128–30, and Depeyrot, p. 32); one $\overset{S}{P}\overset{A}{TR}$ issue of ca. spring 307 and $\overset{S}{P}\overset{C}{TR}$ coin of ca. summer 307 (*RIC* 6, pp. 210–11) and one $\overset{N}{PLC}$ issue of ca. spring 307 (*RIC* 6, p. 256). Preshaw: the latest issue represented is a $\overset{C}{PLC}\overset{H}{S}$ nummus; for the date of the coin, see Bastien, *Dioclétien*, pp. 68–69 and 87–88.

¹⁵ C. H. V. Sutherland, "A Hoard of Roman Folles from Wroxton Heath, near Banbury, Oxon.," *NC* 1954, pp. 62–67.

¹⁶ M. Stephenson, "Note on a Hoard of Late Roman Coins Found at Llangarren, Herefordshire," *NC* 1929, p. 335. Nevertheless the owner of the Llangarren hoard, like that of the Wroxton Heath, may simply have selected well-preserved coins, and disposed of worn ones over time; for this principle of selection—not necessarily guided by weight reductions—see A. S. Robertson, "Romano-British Coin Hoards; Their Numismatic, Archaeological and Historical Significance," in *Coins and the Archaeologist*, *BAR* 4 (Oxford, 1974), p. 19. Alternatively the appearance of the coins in both hoards may be due to their having circulated in sealed bags.

ca. 327–28, with an emphasis on pre-reduction and reduced nummi to 318.

It is difficult conversely to envisage the accumulation of the Llangarren hoard having begun as a response to the reform of 318. The seriation of the British hoards deposited 316–18 or later shows, as in Gaul, the effective disappearance from circulation of the heavier, pre-reduction nummi by 318.¹⁷ Similarly the known component of the Beaumont hoard, deposited ca. 323, contains a high proportion of pre-reduction nummi (80 = 36 percent), which suggests that its accumulation had begun well before 318.¹⁸

The nummus was subject to two further reductions before 318. In spring 310, the nummus fell to a weight standard of 1/72 libra (theoretical weight of 4.5 g), and its module was reduced to ca. 21–22 mm, an approximately 20 percent decrease from the original figure. Cope's analyses reveal an average silver content by weight of the nummus produced between spring 310 and 313 of 1.45 percent. In the fourth reduction of early 313 the nummus was adjusted to a weight standard of 1/96 libra (theoretical average of 3.36 g). The module of the fourth reduction issues ranged between 18–19.5 mm. The silver content remained relatively constant at 1.36 percent.¹⁹

¹⁷ Table, 13–17. Only the East Harnham hoard (15), deposited in 318, contains pre-reduction nummi (4 = 14.5 percent). The Little Orme hoard, deposited ca. 318–19, contains 5,032 coins impossible to seriate as they are described by type only; nevertheless the hoard seems to have largely consisted of 1/72 and 1/96 libra nummi in roughly equal proportions and only a handful of pre-reduction nummi: see W. S. Ogden, *Roman Bronze Coins Found on the Little Orme, North Wales* (London, 1913) and J.-P. Callu, *Inventaire des trésors de bronze constantiniens (313–348)* (Wetteren, 1981), p. 15, 5. Similar Gallic pattern: Depyrot, p. 159. Cf. the Novae (Moesia Inferior) hoard, closing 316–17, containing 117 nummi, all reduced: A. Kunisz, "Le trésor de Novae (Bulgarie) et la question des émissions balkaniques de Constantin I^{er} et de Licinius," in *Actes du 9^e congrès international de numismatique* (Wetteren, 1982), pp. 535–41.

¹⁸ No. 19. The known component represents only 17 percent of the original find and may not be an accurate sample, but has a mint distribution typical of early Constantinian hoards "with a strong Tetrarchic element": P. J. Casey, "A Further Component of the Beaumont Hoard, 1855," *CH* 4 (1978), 51. The London mint accounts for 48.6 percent of the Beaumont hoard's composition.

¹⁹ Third reduction date and weight standard: Bastien, *Dioclétien*, pp. 70–71. Theoretical weight: Depyrot, p. 16, and Cope, "Sequence of Issues" (above, n. 10), p. 60,

Although Bruun, depending on the hoard evidence from the Empire as a whole detects two *Schatzfundhorizonte*, one at the 1/72 libra reduction of 310 and another at the 1/96 in 313, these reductions do not appear to be reflected in the British hoarding pattern.²⁰ Furthermore it has been suggested that pre- and post-fourth reduction nummi possessed the same denominational value. This is a plausible hypothesis despite the fact that, although the fineness of the nummus did not change—remaining at a nominal four scripula of silver per libra—the intrinsic value of the coin fell by a third, as one libra of alloy now produced 96 instead of 72 coins.²¹ Nevertheless Cope hypothesized the deliberate reduction of the intrinsic value of the nummus of late 313 to exactly half of its value in early 309.²² Several hoards moreover in the seriation closing with the SOLI INVICTO COMITI coinage of 316–18 do illustrate the relatively quick disappearance of not only the heavy 1/32 libra nummi but also of the 1/48 libra coins from circulation in Britain.²³ The tendency of the heavier nummi to disappear from circulation is even more pronounced in Gaul where hoards constituted in response to the reform of 318 are composed in large part of coins issued between early 313 and 318.²⁴ In addition to the contribution made by

n. 6 (4.52 g). Actual weights vary: 58 London nummi of 310–13 weigh on average 4.32 g, while 32 contemporary Trier pieces have an average weight of 4.37 g, see King (above, n. 3), p. 52. Module: Bastien, *Dioclétien*, p. 70, suggests 21 mm; Cope, “Sequence of Issues” (above, n. 10), p. 63, notes a range of 21–22 mm. Silver content: Cope, pp. 34–35 (sample of 12 nummi from London, Trier, Aquileia, Ostia, and Siscia). Fourth reduction weight standard: Depeyrot, p. 49. New module: 19 mm (Bastien, *Dioclétien*, p. 73); ca. 19.5 mm (Cope, p. 34); 18–19 mm (King [above, n. 3], p. 54). Fourth reduction silver content: Cope, pp. 34–39 (sample of 31 nummi from London, Trier, Lyon, Ostia, Arles, Ticinium, Rome, Aquileia, Siscia, and one unidentifiable).

²⁰ Bruun (above, n. 3), p. 359.

²¹ D. W. Burge, “Bourton-on-the-Water (Gloucestershire) Hoard of Constantinian Folles,” *NC* 1973, p. 99, following Cope’s analyses. *Contra Callu*, p. 240, who supposes a post-fourth reduction value of 25 d.c.

²² Cope, “Sequence of Issues” (above, n. 10), p. 62.

²³ Table, 13–17. The tendency is pronounced in the Waddington (16) and Bourton-on-the-Water (17) hoards, where the 1/40 and 1/48 libra coins comprise 0.6 percent and 0.2 percent of the hoards’ contents.

²⁴ “Formant la quasi-totalité du lot de monnaies”: Depeyrot, p. 159.

individual hoarders toward the disappearance of the heavier nummi, there is the role played by imperial authorities in the recall, melting down, and restriking of previous emissions.²⁵

The possible recall and reminting of previous issues by the imperial moneymen on a substantial scale leads to one of the more intriguing problems in the late Roman bronze coinage, namely the observable break at 318 in both British and continental hoards. The seriation of the British hoards from the Wroxton Heath to the Hamble illustrates the phenomenon: hoards containing pieces issued before 318 tend to show few or no succeeding issues, while those composed primarily of the **VICTORIAE LAETAE** or later issues in general lack pre-reform coinage.²⁶

King has suggested that those hoards which contain a handful of coins minted after the official demonetization in 318 may indicate the unofficial circulation of officially demonetized coins.²⁷ A potential parallel to this situation may have occurred in the mid-fourth century. Bastien notes that overstrikes of the **FEL TEMP REPARATIO** fallen horseman type are a particularly British phenomenon and rare elsewhere.²⁸ Bastien connects the overstrikes with a law of Constantius II, promulgated on March 8, 354, which specified severe penalties for counterfeiting and recognized the legality of the half-maiorina **FEL TEMP REPARATIO** fallen horseman type alone.²⁹ It seems that British counterfeiters in the mid-350s were overstriking demonetized coinage which included not only the pecuniae maiorinae of the 348 reform and Magnentius's issues, but also the centenionales communes struck before 348.³⁰ Coins that were officially demonetized in 354 consequently seem to have remained in circulation into the later 350s in Britain.³¹ Such a

²⁵ Heavy nummi were "refondus" in 318: Callu, p. 231. For the recall, melting down, and restriking of the fourth century bronze coinage, in general, see Depyrot, pp. 20, 51, 53, 75–76, 108, 159–160, 166, 173–74, 185, 187, and 192.

²⁶ Table, 15–62 with some exceptions. For the phenomenon on an empire-wide basis, see Bruun (above, n. 3), pp. 359–60, and table 4.

²⁷ King (above, n. 3), p. 55.

²⁸ Bastien, "Imitations," p. 162.

²⁹ *Cod. Theod.* 9.23.1. For the date, see *PLRE* 1, p. 783.

³⁰ Bastien, "Imitations," p. 163, after J. W. E. Pearce, "Barbarous Overstrikes Found in Fourth-Century Hoards," *NC* 1939, pp. 282–83, and Kent in *RIC* 8, p. 65.

³¹ "Why did these overstrikes occur chiefly in Britain? Probably because a great number of the demonetized nummi were still in circulation in this part of the Empire": Bastien, "Imitations," p. 163.

state of affairs would certainly explain the composition of a hoard such as, for example, Hamble, deposited ca. 350, which contains not only a pre-tetrarchic radiate, but also five nummi minted between spring 307 and 318 (Table, 62). British overstrikes of 354 and later, in general, were a response to a severe shortage of coin caused by the demonetization of 354 and a means of producing desirable coinage from Constantinian undertypes.³²

Was the suggested demonetization of 318 accompanied by the introduction of a new denomination? Some identify the **VICTORIAE LAETAE**, **VIRTVS EXERCITVS** and succeeding issues as the centenionalis tariffed at 100 d.c. Depeyrot theorizes a doubling of the face value of the nummus and the introduction of a new series of fractions equal in value to the pre-reform nummus. Others view the new issue of 318 as a nummus retaining a nominal value of 25 d.c.³³ It may now be possible to demonstrate that the **VICTORIAE LAETAE** issues and later coinage did not represent a centenionalis, and that the likeliest face value of the reformed piece remained at 25 d.c.

The starting point in determining the nominal value of the **VICTORIAE LAETAE** pieces—and associated **IOVI CONSERVATORI AVGG** issues struck widely in Licinius's territories—must be the calculation of the intrinsic value of the new **VICTORIAE LAETAE** issue which Bruun and Kent identify as a revival of the 25 percent silver commemorative issue, a debased descendant of Diocletian's argenteus, struck at the mint of Trier in 313.³⁴ This value, as approximate as it may be, can

³² R. J. Brickstock, *Copies of the FEL TEMP REPARATIO Coinage in Great Britain*, BAR 176 (Oxford, 1987), pp. 4, 30, 37, 42–43, 47, 49, 60, and 62.

³³ Centenionalis: so Kent (above, n. 3), p. 51 and in *RIC* 8, p. 60; Bruun (above, n. 3), pp. 355–56, and in "Site Finds and Hoarding Behaviour," in *Essays Presented to Humphrey Sutherland*, eds. R. A. G. Carson and C. M. Kraay (London, 1978), p. 114; Bastien, "Imitations," p. 163, by implication, in referring to "'centenionales communes' . . . issued from 318 until 348," but see Bastien, *Réouverture*, pp. 64–65, for no denominational change in 318. Doubling of the Nummus's face value: Depeyrot, pp. 53 and 66, after Callu, pp. 239–40, who posits the upward revaluation in 318 of the nummus from 12 1/2 to 25 d.c. Nummus retains value of 25 d.c.: Harl (above, n. 1), p. 270; Bagnall, pp. 32–33.

³⁴ P. Bruun, "Nummi e centenionales. Nuovi punti di partenza della numismatica costantiniana," *AAN* 23–24 (1976–77), pp. 225–34 and Kent (above, n. 3),

then be compared with the intrinsic value of the nummus postdating the reduction of 313.

The reformed coin of 318 was apparently based on the original silver content of 10 scripula per libra. The average silver content by weight of the new piece was approximately 4 percent. The module of the new coin fell from the 18–19.5 mm range of 313–18 to vary between 16–17.5 mm, although with the introduction of the VIRTVS EXERCITVS coinage in 319–20, the module increased slightly to 18 mm. Bastien suggests that the reformed coinage was struck on the 1/96 libra standard of its predecessors, though a slight, progressive lightening of issues between 318 and 330 remains a possibility.³⁵ A convenient reference for our purposes is Bastien's figure of 3.01 g for the mean weight of 84 specimens of the VICTORIAE LAETAE issue minted at Lyon in 318 and bearing the mint mark ΛΞ .³⁶

A straightforward means of calculating the approximate intrinsic value of the Lyon VICTORIAE LAETAE piece with a mean weight of

pp. 49–51. For the coins of Trier struck in the names of Constantine, Maximin Daza, and Licinius, see also Barrandon and Brenot, p. 130, and C. E. King, "The Value of Hoards and Site Finds in Relation to Monetary Circulation in the Late Third and Early Fourth Centuries A.D.," *Studien zu Fundmünzen der Antike* 1 (Berlin, 1979), p. 81. For the date of the pseudo-argenteus, see J.-N. Barrandon, J.-P. Callu, and C. Brenot, "The Analysis of Constantinian Coins (A.D. 313–340) by Non-Destructive Californium 252 Activation Analysis," *Archaeometry* 19 (1977), pp. 177–80.

³⁵ Original silver content: Cope, p. 22. Silver content by weight: Bastien, *Réouverture*, p. 85, on the Gallo-British issues; for the Italo-Balkan and eastern mints, he suggests a content of 3 percent. Three VICTORIAE LAETAE pieces of London, Trier and Arles show a silver content of 3.70, 1.27, and 3.74 percent: Cope, pp. 38–39. Barrandon and Brenot, pp. 130–31, allege an average silver content of 4.20 percent for 23 VICTORIAE LAETAE and IOVI CONSERVATORI AVG coins of London, Lyon, and Arles. The silver content in the reformed eastern issues was slightly lower: Barrandon, Callu, and Brenot (above, n. 34), p. 183. Module: 17 mm is frequent in the reformed Lyon issue, and increases to 18 mm with the VOTA emission of 321, see Bastien, *Réouverture*, p. 101. For modules of 16–17.5 mm in London, Trier, and Arles VICTORIAE LAETAE pieces, and 18–19 mm in VIRTVS EXERCITVS and succeeding issues to 330, see Cope, pp. 38 and 40. The 1/96 libra standard: Bastien, *Réouverture*, p. 67. Lightening of issues: Depeyrot, p. 49, on the evidence of the Gallo-British emissions. Noteworthy are mint-to-mint variations of individual emissions: see Bastien, *Réouverture*, pp. 66–67, for some empire-wide comparative weights for the period 318–30.

³⁶ Bastien, *Réouverture*, pp. 30–31 and 75. Contra Depeyrot, p. 67, who less plausibly dates the emission to the end of 319.

3.01 g and possessing a silver content of ca. 4 percent is readily at hand. *P.Oxy* XLIII 3121, which Bagnall dates to 318, records the open market price of gold at 288 talents or 432,000 X. Assuming an official gold to silver ratio of 1 to 12, the intrinsic value of the $\overline{\text{VE}}$ emission would have stood at roughly 16 X. It is consequently difficult to imagine that the Roman government would have tariffed the **VICTORIAE LAETAE** and immediately succeeding issues at 100 d.c., and the price indices from Egypt for the period 320–24 certainly do not reveal the kind of inflationary impact that the empire-wide introduction of a new denomination with a nominal value 625 percent over its premium would have produced.³⁷

A determination of the approximate intrinsic value of the nummus produced between 313 and 318 may, in turn, suggest the motivation of the Roman government in issuing new coins throughout the empire with an elevated fineness, but which retained their previous nominal valuation of 25 d.c. Cope analyzed 31 of the 1/96 libra nummi, minted between 313 and 318, which have an average weight of 3.05 g and silver content of 1.36 percent. On the basis of the open market price of gold in ca. 318, the approximate intrinsic value of these coins in the year of the reform would have stood at roughly 8 X. In other words the value of the nummus in 313–18 was more or less where it stood after the currency edict of 301 when, on Bagnall's calculations, it possessed 8.8 X of precious metal.³⁸ The reform of 318 may thus be interpreted as an effort by the Roman government to enhance the fiduciary value of the nummus, i.e. narrow the difference between its tariffed value and premium.³⁹

The intrinsic worth of the reformed nummus was substantially greater than that of its predecessor. Thus Depeyrot's claim that the

³⁷ Date of papyrus and ratio: Bagnall, pp. 7, 20, 28 (date), and 60; for the ratio, see also Cope, "Diocletian's Price Edict and Second Coinage Reforms in the Light of Recent Discoveries," *NC* 1979, p. 222. Formula for calculating the intrinsic (precious metal) worth of the nummus: Bagnall, p. 7.

³⁸ Cope, pp. 34–39. Bagnall, p. 32, calculates an intrinsic value of 26.6 X for the nummus minted 312–18, but this figure rests on imprecise data. Nummus's value in 301: Bagnall, p. 31.

³⁹ So Bastien, *Réouverture*, p. 65, on the assumption of a pre- and post-reform nummus of 25 d.c.

hoarding of SOLI INVICTO coins after the reform reflects Gresham's law rests on the unfortunately undemonstrable assumption that the old nummus was valued at 12 1/2 d.c., and was to be assimilated to the new fractions of 1.70 g. Depeyrot sees the new fractions' role as limiting price rises resulting from a doubling of the face value of the nummus. If so, then it is odd that in 318–19 Trier was the only western mint to issue fractions in any appreciable quantity, while their production at London and Lyon is unknown.⁴⁰ Moreover raising the face value of the coinage seems generally to have been a response to rising prices, not to anticipation of rising prices in the early fourth century.

All the same, the precipitate, empire-wide hoarding in reaction to the reform of 318, while requiring an alternative explanation, does not conflict with the view that the pre-reform coinage was officially demonetized.⁴¹ The demonetized coinage would not have been without its uses: in both sanctioned and unsanctioned ones, the old coins may have represented a source of silver bullion for some owners.⁴² If however we accept the hypothesis of an official demonetization in 318 and suppose it involved an exchange of the older for the newer issues, then the evidence suggests the process was not smooth. The volume of new emissions seems to have dropped considerably from pre-reform levels, and it is precisely in the period immediately following the reform of 318 that

⁴⁰ Depeyrot: p. 160, Gresham's law; pp. 52–53 and 66, fractions' role and half-nummi of Trier minted at the end of 318–319; and p. 73, the rarity of post-reform fractions from Arles.

⁴¹ Depeyrot, p. 53, aptly describes a "vague de thésaurisations qui submergera l'Empire" which significantly continued after the reform of 318.

⁴² For imperial legislation against the illicit removal of silver from the bronze coinage, see *Cod. Theod.* 9.21.6 (12 Feb. 349), directed at the flaturarii. Depeyrot, p. 187, seems to have this activity in mind in suggesting that the government withdrawal of the SOLI INVICTO coinage from circulation "a été concurrencé par celui mené par les particuliers pour leur propre bénéfice." The government and private individuals possibly melted down the high silver content VICTORIAE and VIRTVS coins: King (above, n. 34), pp. 81–82, notes their rarity in hoards relative to earlier and later series. Relevant also is the evidence of the Woolaston hoard (Table, 40) which contains two nummi of 313–18 and 73 of 320–24, but no VICTORIAE LAETAE pieces, and which moreover contains metal blobs which G. C. Boon, "Part of a Constantinian Hoard from Wolaston, Glos. (1887-1888)," *NC* (1960), p. 270, suggests may be indications that coins in the hoard were melted down for their silver content.

imitations and overstrikes—both legal and illegal—appear in the west.⁴³ As in the mid-350s when overstrikes are related to an absence of new coin, so in the period after the reform of 318, overstrikes and imitations point to a shortage of new issues.⁴⁴ It is thus no accident that the 318–20 coinage shows the feeblest representation in British hoards. It is this shortage of new coinage which may very well be in large part responsible for the widespread hoarding of the old coinage in this period, and which may account for the unofficial circulation of the SOLI INVICTO and earlier emissions after the suggested demonetization of 318.

The average silver content of the reformed coinage soon began to decline, settling down to an average of 2 percent by 321 in the Gallo-British emissions and slightly higher elsewhere. This decline is not reflected in the British hoards, nor is Licinius's reduction of the nummus's face value from 25 to 12 1/2 d.c., a decrease which was exceeded by a drastic drop in the silver content per denarius of the new coin. Bagnall plausibly dates Licinius's XIII issues—which do not seem to have been reproduced in the west—to 324 and, though they appear in British hoards, their numbers are negligible.⁴⁵ It is probably in 324 as well that the nummus was retariffed and the centenionalis introduced

⁴³ Lowered volume of emissions: Depeyrot, pp. 51, 53, and 187 ("vide du stock monétaire" after the reform of 318). Overstrikes: Depeyrot, p. 53, and Brickstock (above, n. 32), p. 3. On the imitations, see Bastien, "Imitations."

⁴⁴ Overstrikes indicate that "le stock monétaire n'a pas été remis immédiatement en circulation" after the reform of 318: Depeyrot, p. 53. For the significance of imitations, see Bastien "Imitations," pp. 171–72, and Depeyrot, p. 174.

⁴⁵ Silver content declines: Bastien, *Réouverture*, p. 85. Barrandon and Brenot, p. 128, suggest a drop from 3.3 to 2.1 percent in the west. Licinius's reform: see *RIC* 7, p. 12; Crawford, pp. 588–89; Bastien, *Réouverture*, pp. 64–65; and Callu, "Denier et Nummus" (above, n. 6), p. 109. Licinius's new issues contained under 0.2 percent silver: Barrandon and Brenot, p. 128. *P.Oslo* 3.83 seems to refer to Licinius's devaluation: Bagnall, pp. 23 and 33, n. 18, and Callu (above, n. 7), p. 368, n. 4. Date of Licinius's new issues: Bagnall, p. 33. For a date of 321–24, see *RIC* 7, pp. 548, 607, 645, 681, (321–23), and 707, and Callu, pp. 235–40, while Crawford, p. 589, implausibly dates the reduction to 317. The Bishops' Wood hoard (Table, 49), deposited ca. 341, contains 21 XIII pieces or 0.1 percent of 17,550 coins. Other British hoards containing XIII nummi in minute quantities include the Woolaston (40), Blyth (35), Llanbethery (53), Quennevais (29), and East Coulston (51).

at a face value of 100 d.c., as Constantine attempted to deal with the inflation produced by Licinius's debased XIII issue. Interestingly enough the precious metal worth of the new "nummus centenionalis" seems to have been approximately equal—at roughly a third of face value—to that of the nummus in 301.⁴⁶

In 330 a new reform of the coinage occurred. Estimates of the new, reduced silver content of the coins vary from 1.00 to 1.85 percent. The module of the "nummus centenionalis" decreased to roughly 16 mm, and there was a substantial weight reduction. The new emissions of 330 seem to have represented a standard of 1/132 libra (theoretical weight of 2.48 g), with observed weights of 2.32 to 2.44 g.⁴⁷

Several hoards in the survey do suggest a more or less clear break at 330 as a consequence of the weight, module, and silver reductions of the nummus centenionalis. The relevant hoards display characteristics resembling those of hoards that generally commence or close in 318. In this category are the Warsop, Marlborough, Roche Abbey, Mendip, Winchester, Blyth, Kendal (?), Woodeaton, Llanbethery, and Womersley hoards, among others (30–36, 47, 53, and 58). These hoards generally include either a modest tail of post-330 issues or relatively few emissions earlier than 330.⁴⁸ A handful of hoards however, such as the

⁴⁶ Date and background of centenionalis: Bagnall, pp. 33–34, who calculates the premium of the new coin at 38.6 X; nummus's worth in 301: Bagnall (above, n. 38). The main denomination implied by *P. Oxy* XLIII 3121 is not the centenionalis tarified at 100 X, but the nummus of 25 d.c. (l. 10: τ]εωσ εις εικοσι πέντε Ἀττικὰς; restoration is that of Callu, p. 237, n. 48). Price rises in Egypt of the early 320s which Bagnall, p. 73, attributes to the putative 44 percent reduction of 318 probably reflect the silver content drop of 321.

⁴⁷ 1.00–1.85 percent: C. E. King, "The Appleford Hoard," *RBN* 123 (1977), p. 42, after L. H. Cope, "The Metallurgical Development of the Roman Imperial Coinage during the First Five Centuries A.D.," Ph. D. diss., Council of National Academic Awards, 1974, p. 223. Bastien, *Réouverture*, p. 85, suggests a range of 1.00 to 1.40 percent, and p. 101 for the new module. New weight standard: Bastien, *Réouverture*, pp. 67–68, and Depeyrot, p. 75, who suggests a theoretical weight of 2.47 g. The 744 nummi of 330–35 from Sufasar, Algeria, possess an average weight of 2.32 g: Callu, "Denier et Nummus" (above, n. 5), p. 111. Nummi of 330–35 from the Trier, Lyon, and Arles mints in the Woodeaton hoard weigh on average 2.44 g: King (above, n. 2), p. 42, who suggests a new weight standard of 1/120 libra.

⁴⁸ In the former category, see, e.g., the Mendip hoard (33) which contains nine pieces of 330–35 or 2.0 percent of the total; in the latter class, see, e.g., the Woodeaton (47) which includes 14 coins predating 330 or 0.9 percent of the total.

Langwith, Cranfield, and Appleford (48, 50, and 60), point to no decisive break as a consequence of the reform of 330: in them both pre- and post-330 coinage is well represented.

On the other hand, the owner of the Appleford hoard, closing ca. 348–50, clearly seems to have been aware of the difference in the intrinsic value of pre- and post-reform coinage, placing the two components (i.e. pre- and post-330 issues) of the hoard into separate jars. Thus as in the case of the first weight reduction of 307, in which pre- and post-reduction emissions evidently circulated at par, the pre-330 coins had an intrinsic worth superior to succeeding issues, but possessed an equivalent nominal value.⁴⁹

Both the Langwith and Cranfield hoards may be exceptions which prove the general rule. The later coins in the Cranfield hoard appear to be more worn; this peculiarity of the hoard, deposited ca. 341–42, hints at the possibility that this is a composite collection whose pre-330 component represents a savings hoard accumulated possibly as a response to the reduction of 330, and whose later portion represents an emergency hoard. The fact that nearly all of the coins catalogued in the Langwith hoard, deposited ca. 340 or later, are described as being in mint condition suggests that their accumulation began in or before 330 and that it is basically a savings hoard.⁵⁰

It must be admitted that the massive volume of emissions from 330 to 335 and apparently modest production of coins in the period 324–30 may partly account for the generally small numbers of pre-330 coins found in British hoards deposited after ca. 335. Nevertheless despite the probable bias in the sample caused by apparent variations of production and the role of the government in recalling and reminting previous issues, the observable break in the hoards at 330, while probably not the

⁴⁹ King (above, n. 47), pp. 41–42, explains the peculiar storage and differentiation of the hoard as the consequence of the different tariffing of the pre- and post-330 coinage and, more to the point, as the result of the silver and weight reduction of the coinage.

⁵⁰ Cranfield: P. V. Hill, "The Cranfield (Beds.) Hoard," *NC* 1946, p. 160. Langwith coins in mint condition: A. S. Robertson, "A Hoard of Constantinian Coins from Langwith, York," *NC* 1936, p. 243.

consequence of an official demonetization of previous issues, may be to a degree a manifestation of Gresham's law.⁵¹

At the beginning of 336 there occurred a further weight reduction of the centenionalis from 1/132 to a new standard of 1/196 libra (theoretical weight of 1.68 g). The silver content may have risen slightly to 1.4 or 1.5 percent, but this increase was more than offset by the weight reduction. The new weight reduction does not seem to have had repercussions in Britain to judge from the seriation. A relatively small number of coins representing the period 336–37 in the British hoards may be simply a reflection of both the large volume of 330–35 emissions and the brevity and modest production of the minting phase 336–37.⁵²

A more apparent break in the hoards is evident for the year 348, marked by the introduction of the **FEL TEMP REPARATIO** coinage. The reform involved the emission of three billon denominations, the largest of which, the aes 2 (large), had a silver content of ca. 2.5 percent, up considerably from the 0.5 percent of the nummus centenionalis predating 348.⁵³ The weight of the new aes 2 maiorina at 5.4 g represented an approximately 360 percent increase from the ca. 1.5 g of the nummus centenionalis.⁵⁴ Examination of the Moel Fenlli through Hamble hoards

⁵¹ Volume 330–35: Depeyrot, pp. 188–89, and for the modest volume of 324–30, pp. 51 and 188. The bad coinage of 330 and later certainly seems to have been recognized at the time as indicated by the Appleford hoard with the pre-330 issues in a separate jar.

⁵² New weight standard of 336: Bastien, *Réouverture*, p. 68. For a decline in the silver content in the west and a rise to often over 1.5 percent in the Italo-Balkan and eastern mints, see Bastien, *Réouverture*, p. 85. For a drop in the silver content at the western mints "or at least a slightly less well-maintained standard," see C. E. King, "The Alloy Content of Folles and Imitations from the Woodeaton Hoard," *PACT* 1 (1977), p. 94. On the other hand, Barrandon and Brenot (above, n. 1), p. 129, suggest a rise to 1.4 percent in the west which was offset by the weight reduction. Massive volumes: Depeyrot (above, n. 51). Depeyrot, p. 190, describes a "chute" of coinage produced with consequences in Britain for the period 336–37.

⁵³ On the reform in general, see J. P. C. Kent, "Fel. Temp. Reparatio," *NC* 1967, pp. 83–90, and Depeyrot, pp. 97–98 and 100. Aes 2 (large) silver content: King (above, n. 2), p. 44, after Cope's analyses. Depeyrot, p. 100, posits a silver range of 1.5–2.3 percent in the aes 2 (large).

⁵⁴ Weights of old and new coins: King (above, n. 47), p. 44, following Cope. For an average weight of 5.26 g for 750 specimens of the aes 2 (large) struck on a 1/60 libra standard, see *RIC* 8, p. 61. The successor of the nummus centenionalis seems to have

(54–62) points clearly to a break in 348, accentuated by the minute tail of FEL TEMP REPARATIO issues present in the Appleford, Halifax, and Hamble hoards.⁵⁵ A peculiar feature of a large number of coins in the Cranfield hoard is their deliberate defacement with some kind of tool, which Hill took to indicate a demonetization in 348.⁵⁶ Given the clear testimony of *C.Th.* 9.23.1, though, for a demonetization of all previous billon coinage in 354, the break at 348 in the hoards is rather, as Brickstock suggests, evidence that the reformed coinage of 348 and Magnentius's issues rendered the pre-348 coinage "undesirable and/or unusable," an observation for which the Cranfield hoard might offer some substantiation.⁵⁷

A conspicuous feature of the bronze coinage after the reform of 318 is the appearance of imitations, which first show up in Britain in the Canterbury hoard, buried ca. 323–24.⁵⁸ Imitations of this period are particularly common in the British and Gallic provinces.⁵⁹ Both Depeyrot and Bastien link the production of imitations with a lack of official coinage,⁶⁰ but differ in explaining the shortage. Depeyrot attributes the scarcity of official issue in Gaul to the role of the Trier mint as the main supplier to Britain after 325 and to a sharp drop in the volume

been the aes 3 of 2.42 g and 0.4 percent silver: Bagnall (above, n. 1), p. 41. Thus the aes 3 would seem to represent an improvement over the immediately preceding centennialis in terms of silver content per denarius. Bagnall has suggested that the hoard break at 348 is a manifestation of Gresham's law but if so, then it seems that it is only the 330–41 issues on which hoarders would have placed a premium.

⁵⁵ In the Appleford, Halifax, and Hamble hoards the FEL TEMP REPARATIO pieces represent 0.09, 0.7, and 0.02 percent, respectively.

⁵⁶ Hill (above, n. 50), p. 160, and see also King (above, n. 47), p. 44, and King (above, n. 2), p. 38, n. 2, following Callu for a putative demonetization in 348 (from the break in the hoards of that year).

⁵⁷ Brickstock (above, n. 33), p. 82, and p. 83 for a wave of hoarding in response to the demonetization of 354.

⁵⁸ Imitations comprise 0.9 percent of the hoard.

⁵⁹ Bastien, "Imitations," pp. 164–65, who also emphasizes their presence in the Danubian provinces. See also King (above, n. 47), pp. 47–51.

⁶⁰ Depeyrot, p. 174, and Bastien "Imitations," pp. 171–72. See also J.-P. Callu, "The Distribution and Role of the Bronze Coinage from 348–392," in *Imperial Revenue, Expenditure and Monetary Policy in the Fourth Century A.D.*, ed. C. E. King, BAR 76 (Oxford, 1980); p. 102.

of the Trier mint after the reduction of 336.⁶¹ Bastien suggests that there was "a long period of voluntary limitation in the western mints and especially those in Gaul."⁶² The underlying premise of Bastien's argument is that the Roman government, through the control of the volume of emissions, pursued a deflationary policy designed to cope with economic problems specific to the western empire and to arrest a rise in prices. On the other hand, Bagnall has demonstrated conclusively that price rises in the late empire are not reflective of the modern tenet that inflation results from too much money chasing too few goods, but rather are the direct effect of a deterioration in the precious metal content of the bronze coinage.⁶³

To sum up: the seriation of the British hoards reveals breaks that are compatible with the thesis of an official demonetization in 318 and unofficial supersession of older by newer coinage in 348–50. The conspicuous break in the hoards of 307 is clearly a manifestation of the desire to save nummi of elevated intrinsic value in relation to weight reduced issues. The apparent break in the hoards at 330 is probably a reflection of Gresham's law, with hoarders putting a premium on, or at least aware of, as in the case of the Appleford hoard, the higher intrinsic value of pre-330 coinage. A calculation of the intrinsic worth of the coinage preceding and succeeding the reform of 318 does not support the hypothesis which posits the introduction in that year of a coin tariffed at 100 d.c., but does buttress the view that the nummus—in the west at any rate—remained at 25 d.c. until 324. Finally the apparently continued circulation of centenionales communes well after the monetary reform and unofficial demonetization of 348 provides a plausible parallel to the evident circulation in Britain of officially demonetized nummi years after the reform of 318.⁶⁴

⁶¹ Depeyrot, p. 174

⁶² Bastien, *Réouverture*, p. 173.

⁶³ Bagnall, pp. 2, 31, and esp. 53–54.

⁶⁴ I would like to express my appreciation to the staff of the American Numismatic Society for their kind assistance in preparing this paper. To W. E. Metcalf I owe a particular debt of gratitude as it was he who first suggested the topic to me as his student in Roman numismatics at the ANS during fall 1980, and who encouraged me to develop the theme into an article. I would like to thank also C. E. King, R. S. Bagnall, and P. J. Casey for helpful criticism. Any remaining errors are the fault of the author.

SERiation OF TETRARCHIC AND CONSTANTINIAN HOARDS

<i>Period of Issue</i>	293	293-307	307-310	310-313	313-318	318-320	320-324	324-330	330-335	335-337	337-341	341-347	347-348	348-350
<i>Site, closed ca.</i>														
1. Market Stainton, 300		705												
2. Brooklands, 305		137												
3. Little Malvern, 306		300												
4. Fyfield, late 307	1	2,071	34											
5. Winterbourne Earls, late 307		27	5											
6. Northamptonshire, late 307		57	15											
7. Chipperfield, late 307		38	26											
8. Preshaw, 309		238	47											
9. Bromley, 310		209	83	4										
10. Corbridge, 310		3	4	1										
11. Normandy, 310		67	25	22										
12. Wroxton Heath, 316	3	32	26	56	19									
13. Rhos Abbey, 316			1		5									
14. Weymouth, 317-18				7	26									
15. East Harnham, 318		4	10	22	33									
16. Waddington, 318	10		18	1,837	1,093									
17. Bourton-on-the-Water, 318-19	2	4	3	110	152									
18. Hambleton, 322		80	57	3	1									
19. Beaumont, 323														
20. Canterbury, 323-24	1													
21. Bristol, 324	6		16	67	168									
22. Mickleham, 324					4									
23. Carnarvon-Segontium, 325	5				9									
24. Guilsfield, 326														
25. Llangarren, 327-28		448	135	1,293	826									

<i>Period of Issue</i>	293	293-307	307-310	310-313	313-318	318-320	320-324	324-330	330-335	335-337	337-341	347-348	348-350
<i>Site, closed ca.</i>													
26. Salisbury Plain, 328 ^a					60	1	1,505	282					
27. Brentford, 328						4	15	2					
28. Marlborough forest, 328													
29. Quennevais, Jersey, 325-30 ^b	5	2	57	113	113			6	1				
30. Warsop, 330-31				1		2	190	139	9				
31. Marlborough, 330-31						25	300	133	10				
32. Roche Abbey, Maltby, 332							23	21	11				
33. Mendip Hills, 332-33	1				12	1	222	168	9				
34. Winchester, 333					1	1	14	7	4				
35. Blyth, 333							2	2	90				
36. Kendal, 333 ^c					4		44	36	9				
37. Washington, 333-35							13	14	32				
38. Enfield, 335					1	7	74	22	139				
39. Silchester IV, 335		2							6				
40. Woolaston, 335 ^d													
41. Eynsham, 335-37	1				2		73	57	67				
42. Ogaf Yr Esgyrn, 337							13	10	7	1			
43. Silchester V., 337 ^e	1						7	7	1	1			
44. Bodlywydd, 337													
45. Catsgore II, 337													
46. Caister by Yarmouth, 337-38 ^f	3							1	42	12		2	4

^a A FEL TEMP REPARATIO piece is an intrusion and has been omitted.

^b GLORIA EXERCITVS and other, later pieces are probably intrusions and have been omitted.

^c There are 12 barbarous imitations of Tetricus I and II and two intrusive coins of Valens and Gratian which have been omitted.

^d Two VICTORIAE DD AVGGG NN pieces are probably intrusions and have been omitted.

^e The FEL TEMP REPARATIO may be an intrusion and has been omitted.

^f This hoard contains one "barbarous" coin of 324-30, seven "irregular" and four "barbarous" coins of 330-35, four "irregular" and four "barbarous" coins of 335-37, and one "barbarous" piece of 337-41.

	293	293-307	307-310	310-313	313-318	318-320	320-324	324-330	330-335	335-337	337-341	341-347	347-348	348-350
<i>Site, closed ca.</i>														
47. Woodeaton, 338-39 ^a	6			16	53	823	330	222	1,191	149	167			
48. Langwith, 340 ^b				8	1	45	18,14,125		342	1,065				
49. Bishop's Wood, 341 ^c		2			57	758	283	225	24	10				
50. Cranfield, 341-42	3					1		254	49	24				
51. East Coulston, 341-42								70	3	2				
52. Bancroft, 337-41	6			11		61	52	597	1	8				
53. Llanbethery, 342-43 ^d								25	5	5				
54. Moel Fenlli, 347-48								2	5	22				
55. Silchester VI, 348								173	132					
56. Bicester, 348 ^e								936	335	513				
57. Freston, 348	2							1,855	177	411				
58. Womersley, 348 ^f	1							1,904	423	754				
59. Chorleywood, 348								127	381	1,072				
60. Appleford, 348-50 ^g	16	3	4	3	9	47	1,312	300	1,067					5
61. Halifax, 348-50 ^h	1													7
62. Hamble, 350	1													4
<i>Total</i>	77	4,427	574	4,971	4,387	320	6,006	1,919	24,140	1,951	4,129	5,213	16	

^a Four radiates, one coin of 324-30, 80 pieces of 330-35, and nine of 335-37 are imitations.

^b Seven VICTORIAE DD AVGGG NN pieces are probably imitations and have been omitted.

^c Four VICTORIAE DD AVGGG NN pieces are probably intrusions and have been omitted.

^d One certain and one possible VICTORIAE DD AVGGG NN are probably intrusions and have been omitted.

^e Contains 132 pieces of 335-41.

^f Contains 13 pieces of 307-24.

^g Includes one piece of 342-43.

^h Contains 1,067 pieces of 330-48.

APPENDIX

The following list, arranged alphabetically and keyed to the Table, lists only those British hoards of the tetrarchic and Constantinian periods which are reconstructable with any degree of precision. For a complete list of all British hoards of the period, see Callu (above, n. 17), pp. 13–22, and see also C. H. V. Sutherland, *Coinage and Currency in Roman Britain* (Oxford, 1937), pp. 164–66.

- Appleford**, 60, C. E. King, "The Appleford Hoard," *RBN* 123 (1977), pp. 41–100.
- Bancroft**, 52, C. E. King, "The Bancroft Roman Villa (Milton Keynes) Hoard," *CH* 6 (1981), pp. 40–49.
- Beaumont**, 19, P. J. Casey, "A Further Component of the Beaumont Hoard, 1855," *CH* 4 (1978), pp. 50–55.
- Bicester**, 56, C. E., King, "The Bicester (Oxon.) Hoard of Folles A.D. 317–348," *Coin Hoards from Roman Britain*, vol. 2, ed. A. M. Burnett, British Museum Occasional Paper 31 (London, 1981), pp. 77–106.
- Bishop's Wood**, 49, M. E. Bagnall-Oakeley, "A Hoard of Roman Coins Found at Bishop's Wood, Ross-on-Wye," *NC* 1896, pp. 209–37.
- Blyth**, 35, R. A. G. Carson, "A Constantinian Hoard from Blyth (Notts.)," *NC* 1947, pp. 179–80.
- Bodlywydd**, 44, E. Davies, *The Prehistoric and Roman Remains of Denbighshire* (Cardiff, 1929), pp. 208–10.
- Bourton-on-the-Water**, 17, D. W. Burge, "Bourton-on-the-Water (Gloucestershire) Hoard of Constantinian Folles," *NC* 1973, pp. 98–125.
- Brentford**, 27, P. J. Casey, "A Hoard of Constantinian Reduced Folles from Brentford, Middlesex," *NC* 1972, pp. 141–43.
- Bristol**, 21, J. Evans, "On a Hoard of Roman Coins Principally of the London Mint," *NC* 1885, pp. 118–27.
- Bromley**, 9, R. A. G. Carson and J. P. C. Kent, "Constantinian Hoards and Other Studies in the Later Roman Bronze Coinage," *NC* 1956, pp. 83–161.

- Brooklands**, 2, G. F. Hill, "Two Hoards of Roman Coins," *NC* 1908, pp. 208–15.
- Caister by Yarmouth**, 46, A. S. Robertson, "A Find of Constantinian Coins from Caister by Yarmouth," *NC* 1936, pp. 164–68.
- Canterbury**, 20, R. A. G., Carson, "The Canterbury Hoard," *NC* 1957, pp. 249–57.
- Catsgore II**, 45, "Catsgore, Somerset, England, 1972," *CH* 4 (1978), p. 42, 165.
- Chipperfield**, 7, R. A. G. Carson, "Chipperfield (Herts.) Treasure Trove," *NC* (1974), pp. 182–84.
- Chorleywood**, 59, R. A. G. Carson et al., "The Hamble (1968) and Chorleywood (1977) Hoards, and the Gallic Coinage of A.D. 330–335: 2,494 Billon to A.D. 348–9 and 4,358 Billon to A.D. 348," *Recent Coin Hoards from Roman Britain* (London, 1979), pp. 26–40.
- Corbridge**, 10, H. H. E. Craster, "On the Coins," *Archaeologia Aeliana*, ser. 3, vol. 12 (Newcastle upon Tyne, 1915), pp. 248–49.
- Cranfield**, 50, P. V. Hill, "The Cranfield (Beds.) Hoard," *NC* 1946, pp. 159–62.
- East Coulston**, 51, H. St. George Grey, "A Hoard of Roman Coins Found at Baynton, Wilts.," *The Wiltshire Archaeological and Natural History Magazine* 35 (1907–8), pp. 132–45.
- East Harnham**, 15, C. H. V. Sutherland, "A Hoard of Roman Coins from East Harnham, Wilts.," *NC* 1938, pp. 128–29, and "On a Hoard of Roman Coins from East Harnham, Salisbury," *Wiltshire Archaeological and Natural History Magazine* 48 (1937), pp. 48–52.
- Enfield**, 38, J. P. C. Kent, "Enfield, London Road, 1976," *CH* 3 (1977), pp. 78–79.
- Eynsham**, 41, C. H. V. Sutherland, "A Roman Hoard from Eynsham, Oxon.," *NC* 1936, pp. 251–53.
- Freston**, 57, E. Owles, N. Smedley, and H. Webb, "A Hoard of Constantinian Coins from Freston, Suffolk," *NC* 1972, pp. 145–57.
- Fyfield**, 4, E. T. Leeds, *A Hoard of Roman Folles from Diocletian's Reform (A.D. 296) to Constantine Caesar Found at Fyfield, Berks.* (Oxford, 1946).
- Guilsfield**, 24, B. H. St. J. O'Neill, "The Guilsfield Coin Hoard, 1935," *Bulletin of the Board of Celtic Studies* 8 (1937), pp. 255–70, and "The Guilsfield Hoard of 1935: Addendum," *BBCS*, pp. 81–82.

- Halifax**, 61, A. M. Woodward, "A Hoard of Roman Coins from Halifax," *Yorkshire Archaeological Journal* 23 (1914-15), pp. 444-51.
- Hamble**, 62, R. A. G. Carson et al., "The Hamble (1968) and Chorleywood (1977) Hoards, and the Gallic Coinage of A.D. 330-335: 2,494 Billon to A.D. 348-9 and 4,358 Billon to A.D. 348," *Recent Coin Hoards from Roman Britain*, British Museum Occasional Papers 5 (London, 1979), pp. 26-40.
- Hambleden**, 18, C. E. King, "The Hambleden (Bucks.) Hoard of Folles," *NC* 1980, pp. 48-63.
- Kendal** (?), 36, D. C. A. Shotter, "A Hoard of Roman Coins in Kendal Museum," *Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society* 78 (1978), pp. 29-35.
- Langwith**, 48, A. S. Robertson, "A Hoard of Constantinian Coins from Langwith, York.," *NC* 1936, pp. 235-44.
- Little Malvern**, 3, W. S. W. Vaux, "On a Discovery of Roman Coins at Little Malvern," *NC* 1848-49, pp. 19-39.
- Llanbethery**, 53, G. C. Boon, "A Constantinian Hoard from Llanbethery, near Barry, Co. Glamorgan," *NC* 1960, pp. 253-65.
- Llangarren**, 25, M. Stephenson, "Roman Coins from Llangarren," *NC* 1929, pp. 334-35, and R. A. G. Carson and J. P. C. Kent, "Constantinian Hoards and Other Studies in the Later Roman Bronze Coinage," *NC* 1956, pp. 83-161.
- Market Stainton**, 1, A. S. Robertson, "An Unpublished Hoard of Folles from Market-Stainton, Lines.," *Grantham Public Library and Museum, 17th Annual Report (1938-1939)*, pp. 14-16.
- Marlborough**, 31, C. Soames, "Roman Coins Found near Marlborough," *NC* 1980, pp. 282-84.
- Marlborough-Forest**, 28, H. L. Tovey, "Discovery of Coins of Constantine of the London Mint," *NC* 1849-50, pp. 64-66.
- Mendip Hills**, 33, J. Evans, "On a Hoard of Roman Coins Found in the Mendip Hills," *NC* 1866, pp. 157-69.
- Mickleham**, 22, "Mickleham, Surrey, Britain, 1971," *CH* 2 (1976), pp. 73-74, 293.
- Moel Fenlli**, 54, G. Lloyd-Morgan, "Moel Fenlli Hoard, Llanferres, July 1816," *CH* 4 (1978), pp. 42 and 59-61, 167.

- Normandy**, 11, M. Stephenson, "A Hoard of Roman Coins Found at Normandy, near Ash.," *Surrey Archaeological Collections* 29 (1916), pp. 49-58.
- Northamptonshire**, 6, I. G. P. Murray, "A Northamptonshire Find," *NCirc* 87 (1974), pp. 194-95.
- Ogof yr Esgyrn**, 42, "Ogof yr Esgyrn, Glyntawe, Powys, Wales, 1972," *CH* 3 (1977), p. 67, 201.
- Preshaw**, 8, R. A. G. Carson and J. P. C. Kent, "Constantinian Hoards and Other Studies in the Later Roman Bronze Coinage," *NC* 1956, pp. 83-161.
- Quennevais**, 29, R. W. Higginbottom, "The Quennevais (Jersey) Roman Hoard," *Coin Hoards from Roman Britain*, vol. 2, ed. A. M. Burnett (London, 1981), pp. 69-74.
- Rhos Abbey**, 13, E. Davies, *The Prehistoric and Roman Remains of Denbighshire* (Cardiff, 1929), pp. 198-99.
- Roche Abbey**, 32, A. M. Burnett and C. Millar, "Roche Abbey, Maltby, South Yorkshire Treasure Trove," *Coin Hoards from Roman Britain*, vol. 2, ed. A. M. Burnett (London, 1981), pp. 75-76.
- Salisbury Plain**, 26, C. Roach Smith, "Roman Coins Found on Salisbury Plain," *NC* 1869, pp. 47-53.
- Segontium**, 23, R. E. M. Wheeler, "The Segontium Excavations, 1922," *ACb* 77 (1922), pp. 293 and 315-17.
- Silchester IV, V, VI**, 39, 43, 55, G. C. Boon, "Hoards of Roman Coins Found at Silchester. Hoard IV (1892)," *NC* 1960, pp. 247-48, 248-49, and 249-51.
- Waddington**, 16, R. A. G. Carson et al., "The Waddington Treasure Trove (1976): 2,958 'Folles' to A.D. 318," *Recent Coin Hoards from Roman Britain*, vol. 2, ed. A. M. Burnett (London, 1981), pp. 26-40.
- Warsop**, 30, R. F. Bland and R. A. G. Carson, "Warsop (Notts.) Treasure Trove of Constantinian Folles," *NC* 1974, pp. 53-64.
- Washington**, 37, M. Savage, "A Fourth-Century Coin Hoard from Washington (Tyne and Wear)," *Archaeologia Aeliana*, ser. 5, vol. 6 (Newcastle upon Tyne, 1978) pp. 166-167.
- Weymouth**, 14, A. S. Robertson, "A Find of Roman Coins from Weymouth, Dorset," *NC* 1949, pp. 252-53.
- Winchester**, 34, H. Mattingly, "A Small Roman Hoard from Winchester," *NC* 1946, pp. 152-53.

- Winterbourne Earls, 5**, A. S. Robertson, "Two Hoards of Roman Coins from Wiltshire, 1, a Hoard of Folles from Winterbourne Earls, Wiltshire," *NC* 1949, pp. 245–48.
- Womersley, 58**, E. Pirie, "A Constantinian Coin Hoard from Womersley W. R.," *Yorkshire Archaeological Journal* 42 (1967–70), pp. 127–29.
- Woodeaton, 47**, C. E. King, "The Woodeaton (Oxfordshire) Hoard and the Problem of Constantinian Imitations, A.D. 330–41," *NC* 1978, pp. 38–65.
- Woolaston, 40**, G. C. Boon, "Part of a Constantinian Hoard from Woolaston, Gos. (1887–8)," *NC* 1960, pp. 267–70.
- Wroxton Heath, 12**, C. H. V. Sutherland, "A Hoard of Roman Folles from Wroxton Heath, near Banbury, Oxon.," *NC* 1954, pp. 62–67.

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A SĀSĀNIAN MONARCH, HIS QUEEN, CROWN PRINCE, AND DEITIES: THE COINAGE OF WAHRĀM II

(PLATE 10)

JAMSHEED K. CHOKSY

The majority of the silver drahm and gold dēnār coins issued by the Sāsānian king of kings Wahrām II (*wlḥlʾn*, Warahrān), who ruled between A.D. 276–93, bear more than one bust on the obverse. The most common obverse type (Plate 10, 1), features three busts, two facing right and one facing left. Another obverse type (Plate 10, 2) bears two busts, one in right profile and the other in left profile. A third type (Plate 10, 3) has two busts both turned right. By contrast, single portraits of the ruler (Plate 10, 4) are comparatively rare. The identification of these three obverse busts has long been a cornerstone of Sāsānian numismatics, history, and art history. The present study reconsiders and modifies the accepted identifications and questions the historical conclusions that have been deduced from them.¹ This study also investigates the identities of the two standing figures depicted on the reverses of Wahrām's drahm and dēnārs. Two types of reverse motifs

¹ It is a pleasure to thank Michael L. Bates, Ian A. Carradice, and Nancy M. Waggoner for their assistance with the coinage. I am grateful to Richard N. Frye for his suggestions on gestures and royal iconography. The research was conducted in 1987 on a grant for the ANS Graduate Seminar in Numismatics.

were minted, one depicting two figures bearing staves and flanking a fire altar with heads turned away from the altar (Plate 10, 2), and a second with two figures turned toward the altar (Plate 10, 1).

The identities of the individuals depicted on the obverses of Wahrām II's coinage were first discussed by Andreas Mordtmann, who concluded that the main bust on the obverse of each coin represented the monarch himself, facing right. Mordtmann suggested that the secondary bust, behind that of the king, portrayed the queen who also faces right. The tertiary bust which faces the king and queen was in the opinion of that scholar, a portrait of the crown prince or heir apparent who was often depicted with a diadem in hand.³ Mordtmann's identifications were echoed by William Valentine without any discussion of their validity.³ Furdoonjee Paruk also accepted the identify of the busts and added that the erect figures on the reverses of these coins depicted the king to the left and his queen to the right of a fire altar.⁴ Paruck concluded that Wahrām had sought to present the most important personages of his immediate family—the queen and crown prince—together with himself on the coinage.

The identity of the obverse busts, although accepted by numismatists, remained unsupported until Robert Göbl attempted to demonstrate that the obverses of these coins represented bust groups modeled on a Roman pattern which dated to the dynasty founded by the emperor Lucius Septimius Severus (146-211).⁵ Claiming that these group portraits represented the "dynastic idea," Göbl identified the figure on the right of the obverse fields as the depiction of a series of four crown princes. In support of his conclusions, Göbl claimed that a rock relief scene at Naqsh-e Rostam, in which Wahrām is presented together with three princes, matched the coinage in the depiction of

³ Andreas D. Mordtmann, "Zur Pehlevi-Münzkunde IV," *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 34 (1880), pp. 34-39.

³ William H. Valentine, *Sassanian Coins* (London, 1921), p. 41.

⁴ Furdoonjee D. J. Paruk, *Sāsānian Coins* (Bombay, 1924; rpt. 1976), pp. 328-34, pls. 125-60.

⁵ Robert Göbl, "Sasanidische Münzstudien II: Römische und sasanidische Büstengruppen," *MÖNG* 7, 10 (1952), pp. 133-35. See also Robert Göbl, *Sassanian Numismatics* (Brunswick, 1971), pp. 43-45.

princes. In addition, Göbl compared Wahrām's coinage with rare issues from the reign of Ardashīr I (ruled 224–40) whose obverses bear the portraits of the founder of the Sāsānian dynasty and his crown prince Shāpūr (later Shāpūr I, ruled 240–72).⁶ Göbl, however, differed with Mordtmann, Valentine, and Paruck in regard to the identification of the figures on the reverses of these coins. Because the figure to the right of the fire altar often bears a diadem, Göbl concluded that such reverses (Plate 10, 1) represent investiture scenes in which Wahrām II, to the left of the altar, was shown receiving a diadem from a deity. Numismatists, historians, and art historians agree that this divinity was probably Anāhitā, a goddess who was revered as the patron deity of the Sāsānian dynasty.⁷

Michael Mitchiner followed Göbl in identifying the various group portraits as those of the king, queen, and heir, the king and heir, and the king and queen respectively (Plate 10, 1–3).⁸ But he concluded, without stating any reasons, that the figures on the reverses of the coins depicted attendants. Next, Vladimir Lukonin accepted Göbl's identifications, attempted to reconstruct the chronology of royal succession, and even utilized the coin portraits to determine the identity of individuals depicted on rock reliefs and silver vessels.⁹ Later, David Sellwood, Philip Whitting, and Richard Williams postulated, on the basis of the commonly accepted obverse identifications, that Wahrām paid great attention to the status of his wife or wives and sons in court protocol.¹⁰ According to these scholars it was this preoccupation with status and protocol that led to the depiction of the queens and princes on Wahrām II's coinage and rock reliefs. Thus, from an unsupported identification made in 1880 by Mordtmann and subsequently elaborated by Göbl,

⁶ Robert Göbl, "Sasanian Coins," *The Cambridge History of Iran*, vol. 3, 2, ed. E. Yarshater (Cambridge, Eng., 1983), pp. 326–27, pl. 25, 7.

⁷ Göbl (above, n. 6), p. 328; Carol Bier, "Anāhitā in the Arts," *Encyclopaedia Iranica*, ed. E. Yarshater, vol. 1, 9 (London, 1985), pp. 1009–11.

⁸ Michael Mitchiner, *Oriental Coins and Their Values: The Ancient and Classical World 600 B.C.–A.D. 650* (London, 1978), p. 155, pls. 846–51.

⁹ Vladimir G. Lukonin, *Iran v III Veke* (Moscow, 1979), pp. 115–18.

¹⁰ David Sellwood, Philip Whitting, and Richard Williams, *An Introduction to Sasanian Coins* (London, 1985), pp. 85–89.

conclusions have been reached on the nature of dynastic succession and court protocol in third century Iran.

THE KING OF KINGS

As Valentine, Paruck, Göbl, and others have repeatedly demonstrated, there can be no doubt that the main bust on the left of the obverse fields of these coins was intended to represent the ruling monarch Wahrām II. This bust corresponds closely in facial and crown features with that on issues which bear only the king's portrait on the obverse (cf. Plate 10, 1 and 4). Wahrām was also named in the obverse legends on these coins in accordance with established Sāsānian royal protocol *mzdysn bgy wlh'n MLK'n MLK' 'yl'n MNW ctry MN yzd'n*, "The Mazdean lord Wahrām, king of kings of Iran, whose lineage [is] from the gods." Further, comparison of the crown and facial features of the monarch's bust on the obverse with those of the figure to the left of the fire altar on the reverse reveals that the monarch was depicted on the reverse of his coinage standing beside his regnal fire (cf. obverses and reverses of Plate 10, 1–4). Indeed, this regnal fire bears the king's name, as documented by the reverse legend *NWR' ZY wlh'n*, "The fire of Wahrām."

Usually the monarch appears to the left of the fire altar, most often with his back toward it (Plate 10, 2–4), but occasionally he faces the fire (Plate 10, 1).¹¹ Indeed, there is a direct correlation between the two types of reverse motifs and the bust scenes on the obverses. Only if the obverse bust of the king is offered a diadem by the tertiary bust on the right of the obverse field does the figure of the monarch face the altar on the reverse (cf. Plate 10, 1 and 2). In all these obverse and reverse depictions, Wahrām was shown crowned with a diadem bearing a sphere or disk. This royal crown always has a pair of wings, believed to represent an eagle or royal falcon—the seventh incarnation of the Zoroastrian god of victory *Vərəθraγna* (Wahrām)—attached to it: "The lord-

¹¹ On one drachm, however, Wahrām was portrayed to the right of the fire altar. Occasionally, two images of the monarch were engraved, flanking each side of the altar. See Göbl, *Sasanian Numismatics* (above, n. 5), pl. 4, 59 and 64.

created *Vərəθraγna* approached a seventh time, hastening in the form of an eagle, seizing from below, ripping from above, the swiftest of birds, the fastest of those who fly forth."¹² The presence of these wings reinforces the identification of the main bust on the left of the obverse field and the figure on the left of the reverse field as the Sāsānian king of kings Wahrām II who bore the name of his patron deity. Further evidence for the identification of this monarch is provided by the rock reliefs at Barm-e Dilak, Bishapur, Guyum, Naqsh-e Bahram, Naqsh-e Rostam, and Sar Mashhad all of which depict the monarch exactly as he was portrayed on the imperial coinage.¹³ The close parallels between the depictions on the rock reliefs and the coin portrait reveal that the king's image had to be reproduced in accordance with an established portrait. It is likely that other members of the royal family also had standardized images of themselves which were reproduced when necessary.

¹² *Wahrām Yašt*, "Hymn to *Vərəθraγna*" (*Yašt* 14), l. 19. Text in Karl F. Geldner, ed., *Avesta: The Sacred Books of the Parsis*, 3 vols. (Stuttgart, 1886–95; rpt. Delhi, 1982). On the term *vārəγna* "eagle, royal falcon," see further B. H. Stricker, "Vārəγna the Falcon," *Indo-Iranian Journal* 7, 4 (1964), pp. 310–17; and A. Shapur Shahbazi, "On *vārəγna* the Royal Falcon," *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 134, 2 (1984), pp. 314–17. For the identification of Sāsānian crown symbols consult K. Erdmann, "Die Entwicklung der sāsānidischen Krone," *Ars Islamica* 15–16 (1951), pp. 87–123.

¹³ See L. Vanden Berghe, *Archéologie de l'Irān Ancien* (Leiden, 1959), pls. 29a–b, 30a, 73a–b, 74a, 82a, and 83. Peter Calmeyer and Heinz Gaube, "Eine edlere Frau als sie habe ich nie gesehen," *Papers in Honour of Professor Mary Boyce*, *Acta Iranica* 24 (Leiden, 1985), pp. 43–49, also mentioned by Prods O. Skjærvø, "Kirdir's Vision: Translation and Analysis," *Archaeologische Mitteilungen aus Iran* 16 (1983), p. 302. Calmeyer and Gaube propose that the relief at Sar Mashhad depicts a prince (*šahryār*) protecting the Zoroastrian priest Kirdīr by slaying a lion and is an allusion to Kirdīr's vision of heaven and hell. Although Kirdīr is depicted in this relief, the individual who slays the lion wears the crown of Wahrām II and can be none other than king of kings himself. Further, the female in this relief does not match the description of Kirdīr's *dēn* or personification of good deeds, but resembles Shāpūrduxtag the queen of queens who was depicted on the coinage. Thus, it would be reasonable to conclude that the Sar Mashhad relief was meant to serve as a depiction of Wahrām II's valor rather than as a scene from Kirdīr's eschatological journey.

THE QUEEN OF QUEENS

The figure represented by the bust second from the left on the obverses of this coinage has been identified by most scholars of Sāsānian numismatics as a queen or a succession of queens who held Wahrām's favor.¹⁴ Close examination of this bust discloses that it was meant to represent a single individual, since the feminine facial characteristics of the bust were constant through the entire coinage. The crown worn by this female figure has four variants: a bonnet hemmed with an undulating ribbon, rosettes, or pearls (Plate 10, 3), a bonnet with a boar's head (Plate 10, 1), a bonnet with a griffin's head (Plate 10, 5), and a bonnet with a horse's head (Plate 10, 6). These depictions reveal that the royal bonnet with variations such as undulating rosettes or the depictions of animal heads attached to it must have been the headdress of the chief queen. The identification of the portrait as that of the chief queen is confirmed by one coin type which bears the ancillary legend *šhypwhrdwhtky MLKT'n MLKT'*, "Shāpūrduxtag, queen of queens."¹⁵ The legend must refer to the female bust, facing right, on the left of the obverse field. This bust, thus, was meant to represent Shāpūrduxtag, the chief queen of Wahrām II and the daughter of Shāpūr the king of Mesene.¹⁶ Additional evidence is provided by rock reliefs at Barm-e

¹⁴ For an example of the ambiguity as to whether the bust(s) represents one queen or several, see Göbl, *Sasanian Numismatics* (above, n. 5), p. 44, where the terms "queen" and "queens" are both used in this context. However, Lukonin (above, n. 9) pp. 116–17, identifies the portraits as those of only one queen.

¹⁵ Lukonin (above, n. 9), pp. 44 and 116; and A. Shapur Shahbazi, "Studies in Sasanian Prosopography," *Archaeologische Mitteilungen aus Iran* 16 (1983), p. 266.

¹⁶ Shāpūrduxtag was mentioned in the inscription of Shāpūr I on the Ka'ba of Zoroaster at Naqsh-e Rostam (l. 21), Richard N. Frye, *The History of Ancient Iran* (Munich, 1984), pp. 371–73, see also p. 304. The title *MLKT'n MLKT'* was used in Shāpūr I's inscription for Dēnag the sister and wife of Ardashīr I (l. 23), and for Āduranāhīd the daughter and wife of Shāpūr I (l. 18). Further, Dēnag, the queen of queens, may be identified on an amethyst seal in the Hermitage museum which bears a woman's bust together with an inscription which reads: *dynky ZY MLKT'n MLKT' mhysty PWN tny *š'ps' n*, "Dēnag, queen of queens, who [am] the mistress over the persons [in] the harem." See Andrei Y. Borisov and Vladimir G. Lukonin, *Sasanidskie Gemmy* (Leningrad, 1963), p. 48; Prudence O. Harper and Pieter Meyers,

Dilak and Sar Mashhad. Both reliefs depict Wahrām II with his queen of queens who resembles the busts on the coins where she wears the hemmed bonnet.¹⁷ Further, her rank is clearly stated in an accompanying inscription at Barm-e Dilak. Once again, the correlation between the coin busts and the rock relief figures indicates that official portraits were utilized.

The iconography of the boar-headed and horse-headed bonnets reinforces the conclusion that the wearer was the queen of queens because, like the wings on Wahrām's crown, these features functioned as symbolic representations of the Zoroastrian god of victory *Vərəθraϥna*. According to the *Wahrām Yašt*, the horse and boar are said to be the third and fifth incarnations of this ancient Iranian god: "the lord-created *Vərəθraϥna* approached a third time, hastening in the form of a white, beautiful horse with yellow ears..." and "the lord-created *Vərəθraϥna* approached a fifth time, hastening in the form of a ferocious wild boar with sharp teeth, with sharp tusks, a boar that kills with one blow, unapproachable when angry..."¹⁸ The griffin, combining the characteristics of a lion, which was regarded as a symbol of sovereignty, and an eagle or royal falcon, the bird whose form the god *Vərəθraϥna* takes in his seventh incarnation, reaffirms the symbolic and marital interconnections between the queen, her monarch, and his god.¹⁹ The eagle was also a form assumed by the royal glory or *xvarənah* (*xwarrah*) which was believed to be bestowed by the gods upon the chosen ruler.²⁰ This royal glory was represented by the diadem of sovereignty in the dynastic art of the Sāsānians. The above evidence clearly demonstrates that there need be no ambiguity regarding the female figure on the obverse left of Wahrām II's coins—only one female was

Silver Vessels of the Sasanian Period, vol. 1 (New York, 1981), pp. 34–35; and Vladimir G. Lukonin, "Political, Social and Administrative Institutions, Taxes and Trade," *The Cambridge History of Iran*, vol. 3, 2, ed. E. Yarshater (Cambridge, Eng., 1983), p. 712.

¹⁷ Photographs of the reliefs are reproduced in Lukonin (above, n. 9), pp. 27 and 111, pls. 9, 10, and 20; and Vanden Berghe (above, n. 13), pl. 74a.

¹⁸ *Wahrām Yašt* (*Yašt* 14, above, n. 12), ll. 9 and 15.

¹⁹ *Wahrām Yašt* (*Yašt* 14), l. 19, mentions the incarnation as an eagle. See also above, n. 12.

²⁰ *Zamyād Yašt* (*Yašt* 19), ll. 35–36 and 38.

depicted, Shāpūrduxtāg, the queen of queens. There is, however, no correlation between this bust and the figure on the right side of the reverse field; the crowns do not match and, although the figure on the reverse often represents a female personage, the facial features are not similar. Consequently, Paruck's identification of the figure to the right of the fire altar as the queen cannot be accepted and an alternate identification must be proposed.

THE MINOR BUSTS AND THE REVERSE FIGURE

When the facial features of the tertiary busts, on the right side of the obverse field of Wahrām II's coins, are examined carefully it becomes clear that they represent three individuals. The depictions of these three individuals were generally constant throughout the entire coinage, and represented a youth crowned with a Median bonnet (Plate 10, 11), a young female crowned with eagle-headed and beaver-headed bonnets and extending a diadem (Plate 10, 1, 5, 6, and 7), and a male who was crowned with horse, eagle, and boar-headed bonnets (Plate 10, 2). There are, of course, minor variations between issues as would be expected for the work of different die engravers who probably worked at separate mints.²¹ Examination of the specimens in the American Numismatic Society's cabinet, together with those published by Paruck, Göbl, Mitchiner, and Mochiri revealed that the obverse and reverse types were not restricted to issues from a few linked dies.²²

²¹ Although the recording of mint names on Sāsānian coins does not appear to have been firmly established until the reign of Wahrām V (ruled 421–39), there is evidence that a few mints did exist in strategic regions of the empire from the early days of the dynasty. See Göbl, *Sasanian Numismatics* (above, n. 5), pp. 22–23; and Göbl (above, n. 6), pp. 331–32. Of course, the Sāsānians would have inherited the mint system founded by the Seleucids and expanded by the Arsacids. See Edward T. Newell, *The Coinage of the Eastern Seleucid Mints*, ANSNS 1 (New York, 1938); and David Sellwood, "Parthian Coins," *The Cambridge History of Iran*, vol. 3, 1, ed. E. Yarshater (Cambridge, Eng., 1983), pp. 279–98 and 316.

²² Because of the absence of mint names it is difficult at present to assign the die linked coins to specific mints. The only published collection not already referred to is that in Malek I. Mochiri, *Étude de Numismatique Iranienne sous les Sassanides et Arabe-Sassanides*, vol. 2, 2nd ed. (Tehran, 1977; rpt. 1983).

Variations in style indicate that the types were engraved by more than one die cutter and issued at multiple mint sites—although the names of these sites were not recorded on the coins.

The Crown Prince

As mentioned at the beginning of this study, first Mordtmann and then Göbl proposed that all variants of the tertiary busts be identified as the portrait of a crown prince or a series of crown princes. However, unlike the cases of the king and queen, there are no inscriptions on the coins identifying the bust as that of the heir apparent Wahrām (later Wahrām III). Further, there are no corroboratory statements in the Middle Iranian inscriptions and codices or later Arabic sources that Wahrām II so honored his heir(s). There is also no extant evidence that Wahrām's predecessors on the throne had established a precedent of depicting, in royal iconography, a crown prince wielding the diadem of sovereignty while his father was still on the throne. Nor is there any indication that Wahrām's successors continued such a practice.

It is essential to note that no data exists which suggests that Sāsānian princes wore the variety of crowns represented on these coins. Contrary to Göbl's claims, the bonnets worn by the princes depicted on Wahrām II's rock relief at Naqsh-e Rostam do not correlate with the crowns of the tertiary bust on the imperial coinage.²³ Nor do the princes and courtiers from whom the king receives the bent forefinger gesture of deference on the relief at Naqsh-e Bahram wear anything other than the Median or royal bonnet.²⁴ Additionally, the headdress worn by the crown prince Shāpūr on certain coins issued by Ardashīr I (Plate 10, 10) and on Ardashīr's investiture relief at Naqsh-e Rajab is the Median bonnet.²⁵ Likewise, Shāpur I's rock relief at Naqsh-e Rajab depicts his sons, including the crown prince Hormizd, with Median bonnets.²⁶

²³ For Göbl's argument see *Sasanian Numismatics* (above, n. 5), pp. 44–45. However, compare Plate 10, 1–2, 5, and 6–7, with Vanden Berghe (above, n. 13), pl. 29a.

²⁴ See Vanden Berghe (above, n. 13), pls. 82, a–b.

²⁵ Vanden Berghe (above, n. 13), pl. 25b; Lukonin (above, n. 9), pp. 105–6, and pl. 1.

²⁶ Vanden Berghe (above, n. 13), pl. 26b; Lukonin (above, n. 9), p. 106, and pls. 2–3.

Further, the amethyst seal of Wahrām the king of Kerman, a son of Shāpūr I (and the future Wahrām I), bears a bust of this prince crowned with the Median bonnet.²⁷

The evidence from portraits of the crown princes Shāpūr, Hormizd, and Wahrām, together with the depictions of princes on Wahrām II's own rock reliefs establishes that the sons of each Sāsānian monarch, including the heir apparent, wore the Median bonnet as a headdress.²⁸ This conclusion is confirmed by a coin issued during Wahrām II's reign. The coin in question bears the bust of king Wahrām at left on the obverse and the smaller bust of the crown prince wearing the Median bonnet—but without a diadem in hand—on the right (Plate 10, 11).²⁹ The reverse of this coin bears the relief of two figures, the king on left and a Zoroastrian priest or Magus on the right with their backs turned to a fire altar. It is clear that only this particular issue of coins bears a depiction of the crown prince on the obverse. As a result, it is necessary to abandon Göbl's hypothesis on multiple heirs to the throne, each of whom possessed a unique crown, and his theory that the principle of dynastic succession was reflected on the Wahrām II's coinage. Likewise, there is no evidence to support the claim by Sellwood, Whitting, and Williams that Wahrām greatly emphasized the status of his wives and sons by depicting the royal family on the imperial coinage.

Anāhitā

When the facial features of the tertiary female bust are examined, it becomes clear that they match those of the figure standing to the right of the fire altar on the reverse of each coin (Plate 10, 1 and 5-7). The crowns worn by the bust on the obverse and the figure on the reverse always correlate and are of two types: an eagle-headed crown (Plate 10, 1, 5, and 7) and a beaver-head crown (Plate 10, 6), with occasional variations such as the decoration of a pearl on the eagle or beaver.³⁰

²⁷ See Harper and Meyers (above, n. 16), p. 29.

²⁸ Rank among the princes was indicated by insignia on the bonnets. See Lukonin (above, n. 9), p. 106.

²⁹ This issue closely duplicates the imperial portrait of king and crown prince established on the coins of Ardashīr I (Plate 10, 10).

³⁰ For an example of such a variation see Göbl, *Sasanian Numismatics* (above, n. 5), pl. 4, 68.

Whenever the obverse bust was depicted extending a diadem in her right hand to the monarch, this event was replicated on the reverse (Plate 10, 1 and 5-7). The available evidence thus indicates that the bust on the right side of the obverse field and the erect figure on the corresponding side of the reverse field of Wahrām II's silver and gold coinage were intended to represent the same female personage who was not the monarch's spouse.

In the attempt to elucidate the identity of this figure, two other iconographic features of the coin images must be noted: bestowal of sovereignty, and gestures of reverence. A brief analysis of the iconographic valence ascribed to diadems by the Sāsānians is necessary at this point. Two types of diadems or rings were depicted on Sāsānian coins, rock reliefs, and silver vessels: a diadem which bears two ribbons, and a plain or unribboned diadem. The iconography of these two diadems was mutually exclusive. The plain diadem is first attested in Iran on a rock relief near Sar-e Pul, dating from ca. 2100-2000 B.C., which commemorates the triumph of Anubanini, leader of the Lullubi tribes. A goddess, identifiable as Inanna, leads kneeling captives into Anubanini's presence while extending a plain diadem to the victor.³¹ Darius I's (ruled 522-486 B.C.) victory relief at Behistun, which echoes the Sar-e Pul scene, shows the Achaemenid monarch receiving a plain diadem from the winged figure which probably symbolized the creator deity Ahura Mazdā (Ohrmazd).³² Two reliefs from the Parthian (Arsacid) period bear images of plain diadems. One, a rock relief at Tang-e Sarvak, presents a Parthian ruler reclining on a couch with diadem in hand.³³ The second image, etched on a stela from Susa and

³¹ Vanden Berghe (above, n. 13), pl. 125c.

³² See Ilya Gershevitch, ed., *The Cambridge History of Iran*, vol. 2 (Cambridge, Eng., 1985), pls. 34-35. Much discussion has been generated by scholars regarding the identity of the winged figure in Achaemenid art. The Near Eastern and Egyptian precedents which the Achaemenids were heirs to, together with the contexts in which the Achaemenian motif was utilized, favor the conclusion that the figure does indeed represent Ahura Mazdā. See Pierre Lecoq, "Un problème de religion achéménide: Ahura Mazda ou Xvarnah?" *Orientalia J. Duchesne-Guillemin Emerito Oblata*, *Acta Iranica* 23 (Leiden, 1984), pp. 301-26, with an extensive bibliography on other interpretations.

³³ See Daniel Schlumberger, "Parthian Art," *The Cambridge History of Iran*, vol. 3, 2, ed. E. Yarshater (Cambridge, Eng., 1983), p. 1043, with pl. 74a; and Vanden Berghe (above, n. 13), pl. 88a.

dated A.D. 215, depicts Artabanus V (Ārdawān, ruled ca. 213-24) granting a plain diadem to Khwasak, the satrap of Susa.³⁴ Sāsānian monarchs replicated the iconography of the plain diadem. Ardashīr I was shown receiving such a diadem on a rock relief at Salmas in Azerbaijan, while Shāpūr I is offered a similar diadem in his victory relief at Bishapur.³⁵ As the above examples illustrate, the plain or unribboned diadem was usually associated with victory in battle, feats of valor, and courtly life. It was the diadem of victory, an iconographic symbol inherited by the Sāsānians from their royal predecessors.

On the other hand, the beribboned diadem was introduced into Iranian iconography by the Parthians, and propagated on their coinage. The reverse motifs of Parthian drachmas and tetradrachmas often depict a Tyche presenting a beribboned diadem to the enthroned monarch.³⁶ The Sāsānians assimilated this symbolic investiture of monarchs by the gods. Ardashīr I was shown receiving beribboned diadems from Ahura Mazdā on rock reliefs at Naqsh-e Rostam, Naqsh-e Rostam, and Firuzabad.³⁷ Shāpūr I accepts a beribboned diadem from Ahura Mazdā on a relief at Naqsh-e Rostam, and another from a winged figure (modeled on the Parthian coin images of Nike) at Bishapur.³⁸ Indeed, the Greek codex which records the life of the prophet Mani mentions Shāpūr's coronation: "... the year in which the Persian king Dari-Ardashīr conquered the city of Hatra, and in which king Shāpūr, his son, donned the greatest diadem..."³⁹ Likewise, Wahrām II receives beribboned diadems on his coins (Plate 10, 1 and 5-7). Later Sāsānian monarchs continued this iconography. Ardashīr II (ruled

³⁴ Schlumberger (above, n. 33), p. 1042, with pl. 67.

³⁵ Photographs in Walther Hinz, *Altiranische Fund und Forschungen* (Berlin, 1969), pl. 69; and Vanden Berghe (above, n. 13), pls. 150a; 78a, c, and d.

³⁶ Sellwood (above, n. 21), pls. 6, 1; 7, 9; 8, 1; 9, 1, 3, 6, 8-9; and Malcolm A. R. Colledge, *Parthian Art* (Ithaca, 1977), pp. 167-68, pl. 38. The reverse fields of early Parthian coins occasionally bear the image of Nike presenting a beribboned diadem. See Sellwood (above, n. 21), pl. 1, 15; 2, 3-4. By the first century A.D., however, it was a Tyche who was usually depicted bestowing the beribboned diadem. The transition from "victory" to "fortune" reflects modification of the hellenic diadem of victory into the Iranian diadem of divinely granted fortune.

³⁷ See Vanden Berghe (above, n. 13), pl. 25b; 28c; 70b.

³⁸ Vanden Berghe (above, n. 13), pls. 27 and 77b.

³⁹ A. Henrichs and L. Koenen, "Ein griechischer Mani-Codex," *Zeitschrift für Papyrologie und Epigraphik* 5 (1970), p. 120.

379–83) was portrayed accepting a beribboned diadem from Ahura Mazdā on the rock relief commissioned by this king at Taq-e Bostan, while Xusrō II (ruled 591–628) receives similar diadems on reliefs in the grotto at the same site.⁴⁰ In all these depictions, the beribboned diadem is never associated with victory, but is presented by a deity to the king of kings. Therefore, although based on a hellenic prototype—the wreath of victory—the beribboned diadem became the Iranian symbol of legitimate sovereignty or royal glory (*kavaēm xvarənah*) which was bestowed by the gods upon the king of kings.⁴¹

On the coinage of Wahrām II, not only was the female being shown in the process of extending the beribboned diadem of sovereignty to the king of kings, but, in addition, on the reverse of these coins the monarch has either raised his right hand with the palm turned toward the holder of the diadem (Plate 10, 6), or else made a gesture toward her with his bent right forefinger (Plate 10, 1, 5, and 7). The raised right hand and the bent forefinger both served as gestures of reverence to deities in the ancient Near East and Iran. As noted by Richard Frye, the raised right hand gesture was assimilated by the Iranians from their Near Eastern neighbors, and Darius I was depicted on the Behistun relief performing this form of veneration to the winged figure, symbolizing Ahura Mazdā, who extends the plain diadem of victory to the Achaemenid ruler.⁴²

The Sāsānian king of kings Hormizd I (ruled 272–73) was depicted on the reverses of some of his drachms with raised right hand, the palm turned outward, in the presence of the god Mithra (Mihir, Plate 10, 8). Mithra can be identified by his crown which bears rays and hence parallels the crown worn by this god on the investiture relief of Ardashīr II at Taq-e Bostan.⁴³ The scene on this drachm of king Hormizd with raised

⁴⁰ Vanden Berghe (above, n. 13), pl. 127a; and Shinji Fukai and Kiyoharu Horiuchi, *Taq-i-Bustan*, vol. 1, Tokyo University Iraq-Iran Archaeological Expedition Report 10 (Tokyo, 1969), pls. 5 and 27.

⁴¹ Consequently, Martha L. Carter's hypothesis that beribboned diadems symbolize "the bestowal of heavenly victory upon heroes" is inaccurate. See Martha L. Carter, "Trifunctional Pharos," *Studia Iranica* 15, 1 (1986), p. 93. The plain diadem symbolized victory in Iranian iconography.

⁴² Richard N. Frye, "Gestures of Deference to Royalty in Ancient Iran," *Iranica Antiqua* 10 (1972), pp. 103–5, discusses the Near Eastern and Egyptian background of these gestures. Also see n. 32 above.

⁴³ See Vanden Berghe (above, n. 13), pl. 127a.

right hand standing to the left of a fire altar and Mithra extending the beribboned diadem of sovereignty from the right side of the altar, directly parallels the scene on the reverse of many of Wahrām II's silver and gold coins; only the figure to the right of the altar is a different deity (cf. Plate 10, 6 and 8). Similar coins were also minted by Sāsānian princes who served as rulers of the Kushāns. For example, the reverse type of a *dēnār* issued by one such provincial governor, Hormizd, king of the Kushāns, at the mint of Marw (*mlwy*) bears the image of the governor with raised hand in the presence of Mithra.⁴⁴

The equestrian investiture scene on a rock relief commissioned by Ardashīr I at Naqsh-e Rostam portrayed the founder of the Sāsānian dynasty making the bent forefinger gesture of reverence to the deity Ahura Mazdā who extends the diadem of sovereignty to the king.⁴⁵ Accompanying inscriptions identify both the god and the king. Likewise, Hormizd, king of the Kushāns and a Sāsānian prince, was depicted on the reverse of a copper coin from the mint of Herat (*hlywy*) with bent forefinger standing in the presence of Ahura Mazdā and a small altar.⁴⁶ The accompanying inscription helps identify the deity who was referred to as the *bwlz'wndy yzty*, "exalted god." Other copper coins minted by this prince at unnamed mints replicate this motif (Plate 10, 9). The gesture of the bent forefinger attained multiple symbolic valence during the Sāsānian period. Consequently, it was depicted on coins and rock reliefs in two contexts during the first century of Sāsānian rule: employed by the king of kings and his subjects as a sign of reverence for the gods and the diadems of sovereignty and victory, and by princes and courtiers as a mark of submission to the king of kings. The raised right hand, however, was reserved by the Sāsānians exclusively as a gesture of worship for deities.

Since the female figure on the right side of the obverse and reverse fields of Wahrām's coinage extends a diadem and receives the two

⁴⁴ See Christopher J. Brunner, "The Chronology of the Sāsānian Kušānshāhs," *ANSMN* 19 (1974), p. 151, and pl. 11.

⁴⁵ Vanden Berghe (above, n. 13), pl. 28c.

⁴⁶ See Brunner (above, n. 44), pp. 148–49, and pl. 23, 8. Unfortunately confusion occurs in Brunner's article because the coin described on p. 151, pl. 23, 8, is copper, not gold. Further, there is no evidence that the Kushānshāhs were Sāsānian crown princes; they were merely members of the royal family.

gestures of reverence, she must have been the anthropomorphic representation of a goddess. Identification of this goddess is possible from the following features: she is erect, high girded with prominent breasts, and wears a pleated garment (Plate 10, 1 and 5–7); she wears four-sided earrings (Plate 10, 1) and a neckpace (Plate 10, 1, 5, and 7); the diadem of her crown has a prominent rim (Plate 10, 5–6), and is adorned with ribbons (Plate 10, 1 and 6–7). The physical attributes of this deity match those of only one ancient Iranian goddess, Anāhitā (Anāhīd), whose cult was widespread under the Achaemenians and Sāsānians. This goddess incorporated, by the Sāsānian era, not only the Avestan water deity Arədvī Sūrā Anāhitā but also the ancient west Iranian goddess *Anāhiti, the personification of Venus, who had previously been fused with the great Mesopotamian deity Ishtar.⁴⁷ Anāhitā even took over the attributes of Aši, the Avestan goddess of fortune. Thus as goddess of victory and kingship (*Anāhiti), of water and fertility (Anāhitā), and even fortune (Aši), Arədvī Sūrā Anāhitā could bestow kingship upon individuals whom she favored. The *Ābān Yašt*, modified prior to the Sāsānian period to include the expansion of Anāhitā's divine role, describes her as follows:

Arədvī Sūrā Anāhitā who is always to be seen in the form of a beautiful, very strong maiden, fair of body, high girded, erect, of noble origin, of noble lineage, dressed in a valuable much-pleated golden garment. . . . displaying her four-sided golden earrings, Arədvī Sūrā Anāhitā of noble birth, always wears a necklace around her beautiful neck. She girds herself around the waist in order that [her] breasts are well shaped and swell out. Upon [her head] Arədvī Sūrā Anāhitā wears a beautiful, well-made, golden diadem, with a hundred stars, eight-sided, made like the body of a chariot, adorned with ribbons, [and]

⁴⁷ This goddess's cult is described by Mary Boyce, "Ardwīšūr Anāhīd," *Encyclopaedia Iranica*, vol. 1, 9, pp. 1003–5; and Marie Louise Chaumont, "Anāhīd: The Cult and Its Diffusion," *Encyclopaedia Iranica*, vol. 1, 9, pp. 1006–9. The triple association of Ishtar, *Anāhiti, and Arədvī Sūrā Anāhitā is described by Mary Boyce, "The Lady and the Scribe: Some further Reflections on Anāhīt and Tr," *A Green Leaf: Papers in Honour of Professor Jes P. Asmussen*, Acta Iranica 28 (Leiden, 1988), pp. 277–82.

with a prominent rim. Arədvī Sūrā Anāhitā wears beaver robes...⁴⁸

There are, of course, variations between the Avestan depiction of Anāhitā and her depiction on the imperial coinage. The eight-sided star-spangled crown was replaced with either a beaver-headed crown (Plate 10, 6) or an eagle-headed crown (Plate 10, 1). This variation is not surprising because it is unlikely that the Sāsānian rulers, the Zoroastrian priests, and the die engravers fully comprehended the language of the *Yašt*.⁴⁹ It is more likely that the popular descriptions of this goddess's incarnate form, preserved in oral religious traditions and folk poetry, were utilized in creating the coin images. The beaver would have been prominently associated with Anāhitā because of her role as a water goddess; the coin portraits maintained this symbolic association by placing a beaver-headed crown upon her head. Similarly, the eagle would have been connected to her function as a bestower of kingship.⁵⁰ In addition, as noted earlier, the eagle was linked to the royal glory or *xvarənah* which ensured legitimacy of rule. Hence, its insertion on Anāhitā's bonnet in Wahrām's coinage was symbolically valid. Consequently, A. Shapur Shahbazi's argument that Sāsānian representations of Anāhitā would have carefully maintained every detail of her Avestan description is implausible.⁵¹

Shahbazi has raised another objection to the identification of Anāhitā figures in Sāsānian art and iconography. Basing his analysis on the rock relief commissioned by king Narseh (ruled 293–302) at Naqsh-e Rostam where the king and a woman jointly wield the beribboned diadem, Shahbazi has accurately argued that the female figure cannot be a

⁴⁸ *Ābān Yašt* (*Yašt* 5), ll. 126–29.

⁴⁹ Robert C. Zaehner, *The Dawn and Twilight of Zoroastrianism* (London, 1961), p. 27, discusses the failure of Middle Iranian speakers to comprehend several passages of the *Avesta*.

⁵⁰ Robert Göbl, "Investitur im sasanidischen Iran und ihre numismatische Bezeugung," *Wiener Zeitschrift für die Kunde des Morgenlandes* 56 (1960), pp. 36–51; and L. Trümpelmann, "Šāpūr mit der Adlerkopfkappe," *Archaeologische Mitteilungen aus Iran* 4 (1971), pp. 173–85. Anāhitā's role in bestowing kingship is attested in the *Avesta*. See *Ābān Yašt* (*Yašt* 5), ll. 21–23, 25–27, 45–47, in which she grants rule to Haošyaəha, Yima Xšaəta, Kavi Usa, and others.

⁵¹ Shahbazi (above, n. 15), pp. 261–62.

portrait of the water goddess because her left hand is hidden inside an elongate sewn sleeve.⁵² Shahbazi correctly identified the woman as Narseh's queen who was named Shāpūrduxtag II. The elongate sewn sleeve was indeed a sign of deference to the king of kings even in Wahrām II's era as is attested by his queen on his rock reliefs at Barm-e Dilak and Sar Mashhad. However, on the reverse of Wahrām's coins Anāhitā's left hand was not enclosed by a long sewn sleeve, but was placed at her waist just as Mithra's was on Hormizd I's investiture coins (Plate 10, 1 and 5–8). Further, unlike queen Shāpūrduxtag II on Narseh's rock relief, Anāhitā does not share the diadem with the monarch; she alone wields it, and confers it upon Wahrām. Therefore, although Shahbazi's conclusion is valid for the rock relief of Narseh, it cannot be applied to the image on Wahrām II's coins. As a result it is safe to conclude that the female figure on the right side of the obverse field and the right side of the reverse field of the imperial coinage of this king was meant to represent the Zoroastrian goddess Anāhitā. On the obverses of these coins she fulfills her role as bestower of kingship by investing Wahrām II with the beribboned diadem of sovereignty (Plate 10, 1 and 5–7). On the reverse, the goddess either confers the beribboned diadem of sovereignty (Plate 10, 5) or the plain diadem of victory (Plate 10, 1 and 6–7) upon the king of kings.

Vərəθrayna

The identity of the male figure whose bust bears horse, eagle, and boar-headed crowns now must be deciphered.⁵³ This individual was portrayed as a mature, young man (Plate 10, 2), not a tender youth as was the crown prince (Plate 10, 11). As discussed earlier in this study, the horse, eagle, and boar were incarnations of the Zoroastrian god of victory *Vərəθrayna*.⁵⁴ According to the *Yašt* dedicated to this deity, *Vərəθrayna* could also take the form of a heroic young man: "The lord-

⁵² Shahbazi (above, n. 15), pp. 262–63, with pls. 24–25.

⁵³ Göbl, *Sasanian Numismatics* (above, n. 5), pl. 4, 55–56, 63–64, provides photographs of coins with this bust wearing the complete range of crowns.

⁵⁴ Above, pp. 120–21 and 123.

created *Vərəθrayna* approached a tenth time, hastening in the form of a handsome, intelligent, Mazda-created hero."⁵⁵

The incarnations listed in the *Avesta* thus correlate closely with the coin image: the bust represented the deity in his incarnation as a hero, and the crowns symbolized three other important forms he could assume. In addition, the motif of an eagle or royal falcon linked *Vərəθrayna* to the royal glory which also assumed this form.⁵⁶ Further evidence that the eagle served as an iconographic symbol of this god is found in a series of gold coins issued by the Kushān ruler Kaniška I who probably ruled during the first century A.D. The reverse fields of this issue bear the erect image of *Vərəθrayna* (ΟΡΛΑΓΝΟ—Orlayno) wearing a crown that bears an eagle.⁵⁷ Likewise, the god was associated through name with the monarch on the obverse and the regnal fire on the reverse of each coin. Finally, a bust engraved in a medallion on the Sāsānian silver cup discovered at Sargveshi in Georgia must have been intended to depict *Vərəθrayna* and not the crown prince, because king Wahrām II was shown paying reverence with a bent forefinger to the god who may be identified by the horse-headed crown which he wears. Additionally, *Vərəθrayna* extends a plain diadem. Indeed, the bust in the medallion closely resembles the busts of *Vərəθrayna* on the coins.⁵⁸

In summary, the present study has demonstrated that the obverse fields of Wahrām II's imperial coins bore the busts of (a) Wahrām II, the king of kings of Iran, (b) Shāpūrduxtag, the queen of queens, and (c) either Wahrām the crown prince, the goddess Anāhitā, or the god *Vərəθrayna*. The crown prince was always depicted wearing a Median bonnet, Anāhitā with an eagle or beaver-headed crown and a beribboned diadem, and *Vərəθrayna* wearing a horse, eagle, or boar-headed

⁵⁵ *Wahrām Yašt* (*Yašt* 14), l. 27.

⁵⁶ Above, p. 123.

⁵⁷ Robert Göbl, *Münzprägung des Kušānreiches* (Vienna, 1984), p. 44, pl. 8, 63.

⁵⁸ See Lukonin (above, n. 9), pl. 23. Lukonin's conclusions, p. 115, and those of Shahbazi (above, n. 15), p. 265, cannot be valid for these reasons. See further, Prudence O. Harper, "Sasanian Medallion Bowls with Human Busts," *Near Eastern Numismatics, Iconography, Epigraphy and History: Studies in Honour of George C. Miles*, ed. D. K. Kouymjian (Beirut, 1974), pp. 61–81. The duplicate image of the king gestures not at the queen but, indirectly, at the god.

crown. The reverse fields of these coins were of two types (a) the monarch and a priest, or occasionally dual images of the monarch, flanking the regnal fire, and (b) the king paying reverence to Anāhitā while receiving the beribboned diadem of sovereignty or the plain diadem of victory from her across the regnal fire. There is no numismatic evidence that Wahrām II propagated a dynastic principle of succession by depiction of his family on the coinage. The iconography of Wahrām II's coinage represented manifestations of the symbolics of power.⁵⁹ Claims to legitimate rule were transmitted throughout the empire by manipulation of divine images that Iranians could apprehend in both religious and secular terms.

⁵⁹ An interesting general discussion on the symbolism of royal authority is offered by Clifford Geertz, "Centers, Kings, and Charisma: Reflections on the Symbolics of Power," *Local Knowledge: Further Essays in Interpretive Anthropology* (New York, 1983), pp. 121–46.

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**A HYBRID IMITATION OF
EARLY MUSLIM COINAGE STRUCK IN
SIJISTAN BY ABŪ BARDHĀ'A**

(PLATES 11–14)

STUART D. SEARS

In 1981, M. Iradj Mochiri published a unique drahm from Sijistan in an article entitled, "A Pahlavi Forerunner of the Umayyad Reformed Coinage."¹ The drahm, which belonged in the now dispersed Foroughi collection, is wholly unusual since it combines a Sasanian style obverse with a reformed style reverse (Plate 11, 1, size approximate). The obverse shows the familiar bust of a Sasanian monarch (either Khusraw II or Yazdigard III) with an Arabic legend in the margin—as known on other Sasanian style coins of Sijistan with the date 66 H., A.D. 685. However, instead of the image of a fire altar flanked by two attendants which is typical of Sasanian style reverses, the drahm has, like 'Abd al-Mālik's reformed coinage, a declaration of Islamic faith filling the reverse field in a linear legend. In addition, its version of the shahāda is nearly identical to that which first appears on experimental issues of Damascus from 72 to 74, 691 to 94, and experimental coins of Iraq from 76 to 78, 695 to 98, and is quite similar to the shahāda which

¹ M. Iradj Mochiri, "A Pahlavi Forerunner of the Umayyad Reformed Coinage," *Journal of the Royal Asiatic Society*, 1981, no. 2, pp. 168–72 (hereafter, Mochiri). It is also mentioned in his controversial book on Muslim coinage, *Arab-Sasanian Civil War Coinage*, translated by Jean Louis Avril and Françoise Graves (1987), p. 57.

is known on dirhems from 79, 698/9, onward. The use of Pahlavi for these legends, however, proves unique among extant coinage of early Islam. Because the Foroughi drahm bears the date 72, which coincides with the first coinage experiments of 'Abd al-Mālik, the drahm does not appear to be an imitation but, rather, a separate prototype for the reformed coinage. Moreover, if this date is authentic, the coin would suggest that 'Abd al-Mālik was an imitator or innovator working in parallel with the Sijistan mint. Although Mochiri accepted the authenticity of the date 72 and, for this reason, described the coin as a forerunner of the reformed coinage, a combination of historical and numismatic evidence persuades me to suggest that the drahm is, instead, a hybrid imitation of Sasanian style, experimental, and reformed coinages—not a forerunner of the latter coinages. In fact because it was struck sometime between 79 and 81, 698 and 700—not in the legend's year of 72, 691—the drahm does not challenge in any way the innovation of 'Abd al-Mālik's coin reforms.

After their conquest of the Near East, Muslims produced coinages which closely imitated the Sasanian and Byzantine coins then circulating. In fact, the same mints used by the Sasanians and the Byzantines were employed by the early Muslims to mint the new imitation coinages. In Iran and Iraq, Sasanian style drachms were struck which kept the bust of a bejeweled Sasanian monarch on the obverse and the image of a fire altar flanked by two attendants on the reverse (Plate 11, 2). In Egypt and, at a later date, Syria,² Byzantine style coins were minted which kept the images of Byzantine emperors and large crosses on the obverses and reverses. Initially, at least, the obverse margins of these Sasanian style and Byzantine style coins carry terse Arabic legends such as *bism allah*, "in the name of God." The Arabic legends are but token marks of the new Muslim authority behind the coinage.

Although the legends and iconography of these coins change in significant ways over the first 50 years that they were minted, during the

² That official Muslim coinage did not begin in Syria until the reign of 'Abd al-Mālik is persuasively argued by Michael L. Bates in "The 'Arab-Byzantine' Bronze Coinage of Syria: An Innovation by 'Abd al-Mālik," *A Colloquium in Memory of George Carpenter Miles* (New York, 1976), pp. 16-27, and "History, Geography, and Numismatics in the First Century of Islamic Coinage," *SNR* 65 (1986), pp. 231-62.

reign of 'Abd al-Mālik, for the first time, the iconography was modified and, subsequently, drastically altered. Between 72 and 77, 'Abd al-Mālik experimented with different coinage types before introducing a genuinely Islamic coinage in Damascus. His experimental issues are marked by radical innovations in legend and iconography. The reformed coinage which he eventually adopted, however, avoids the use of icons completely. Instead linear Arabic legends on the obverse and reverse boldly profess important articles of Islamic faith. Reformed gold coinage was introduced in 77 followed by reformed silver coinage in 79. The reformed silver coinage, known as dirhems,³ was introduced at most Muslim mints outside of Damascus in 79, the same year it appeared in Damascus. In the short span of 'Abd al-Mālik's reign, Islamic coinage in the Near East was transformed from highly imitative to a unique iconoclastic and Islamic medium.

Reformed coinage, nevertheless, did not reach the far eastern province of Sijistan until 90 and, after its introduction in this province, did not succeed in fully replacing local Sasanian style coinage for approximately a century. Sijistan was one of the last provinces of the Umayyad caliphate to strike reformed coinage. In addition, even after the late introduction of reformed coinage in this province, Sasanian style coinage continued to be minted intermittently. When the Umayyads discontinued the production of dirhems at provincial mints between 102 and 127 for instance, the Sijistan mint discretely struck imitations of earlier Sasanian style drahms as is evidenced by the large number of Sasanian style imitations from this province during the late Umayyad period. Possibly, some of these imitations were struck during the early 'Abbāsid period since no reformed coinage seems to be extant for Sijistan between 130 and 165. In any case, even when the mint in Zarang did produce reformed coinage after 165 H., A.D. 781/2, Sasanian style imitations continued to be minted in Zabulistan, a region which

³ Although most scholars refer to Sasanian style and reformed coinage indiscriminately as dirhems, I would like to establish here an important distinction between the two coinages, best represented by the terms drahms and dirhems. Sasanian style coinage is better suited to the term drahm since it is basically a continuation of Sasanian coinage from late antiquity. See Michael L. Bates, "Arab-Sasanian Coins," *Encyclopedia Iranica*, ed. Ehsan Yarshater (New York, 1987), pp. 225–29.

was, administratively, part of eastern Sijistan. Sasanian style coinage survived there until the end of the second century.⁴

Sijistan was not an important center of Umayyad minting, and reformed coinage was not struck in Sijistan until 90, so the appearance of a Sijistan drahm in 72 (bearing reverse legends that resemble those of the reformed coinage of 'Abd al-Mālik as well as other innovative issues of Damascus and Iraq) is suspect. Although the reading of the legend and the date on the Foroughi drahm is irrefutable, the reverse legends are incongruous with those known on Sijistan coinage at this date and seem unreasonably early for those of a coin series which was only introduced in this province much later. For this reason, the authenticity of the legend and date on this drahm must be challenged judiciously.

OBVERSE

The obverse of the Foroughi drahm strongly resembles the Sasanian style coinage of a Zubairid governor of Sijistan, 'Abd al-'Azīz b. 'Abdallāh, minted in 66. (Plate 11, 3).⁵ As expected for Sasanian style coinage, the bust of a Sasanian monarch appears in the obverse field bearing an elaborate crown of crescents, stars, and other Magian symbols. The monarch, moreover, has pearl earrings and wears three pearl necklaces

⁴ The claim that the Zabulistan issues were actually minted in Zabulistan and not in Zarang has been subject to some controversy because the Zabulistan coins all bear the mint mark SK, used also by Zarang, the capital of Sijistan. A. D. H. Bivar first tentatively ascribed the origin of these coins to Zabulistan in his article, "Fresh Evidence on the 'Sijistan Barbarous' Series of the Arab-Sasanian Dirhems," *Journal of the Numismatic Society of India* 30 (1968), pp. 152–57. Over the years, S. Album has supported this conclusion as indicated in his price lists. My own research, yet to be published, indicates that the coins in question were struck at a weight standard different from that used in Zarang, offering corroborative evidence to support the attribution of eastern Sijistan rather than Zarang.

⁵ I am aware of the existence of six specimens although others almost certainly exist. John Walker lists three specimens, *A Catalogue of the Muhammadan Coins in the British Museum: A Catalogue of Arab-Sassanian Coins* (London, 1941), pp. 96–97, 192, Cam. 7, and Ox. 6 (hereafter, Walker). In addition, one appears in S. Seropian, *Galerie Antiker Kunst* 5, Dec. 1987, 147. One also exists in the collection of W. B. Warden (Plate 11, 3) as well as one in the collection of A. U. Rahman.

over his robe with a ribbon over his right shoulder. The legend *bism allāh al'azīz*, "in the name of God, the glorious," which appears in the second and third quadrants of the margin matches exactly earlier known obverses of 'Abd al-'Azīz b. 'Abdallāh in 66, as does the rest of the legend. Certain elements on the obverse, however, are not known on his other obverses. The breast ornament of the monarch, for instance, is in the shape of a rosette in a ring (●) instead of the expected pendant of three pearls (∴). The obverse field, moreover, is enclosed by two pontillate chains surrounded by the unusual decorations of fleurons and crescent (☾) at 3:00, 6:00, and 9:00. Margin decorations on most Sasanian style coinage and on all extant issues of 'Abd al-'Azīz b. 'Abdallāh consist only of stars and crescents (☾). Finally, the Arabic letters *A B* appear in the first quadrant of the margin. The letters are not known on any other issues from Sijistan.

Mochiri's reading of the Pahlavi and Arabic legends of this drahm, with which I concur, is given below. For the Pahlavi, he gives first facsimile, then transliteration, transcription, and translation.

To ruler's l.		To ruler's r.	
𐭮𐭲𐭮	GDH	𐭮𐭲𐭮𐭲𐭮𐭲𐭮	'pdwl' cyc y
𐭮𐭲𐭮𐭲𐭮	'pzwt'	𐭮𐭲𐭮𐭲𐭮𐭲𐭮	'pdwl' Y 'myl'n
	xwarrah		'abdul-'azīz I
	abzūd		'abdallāh I 'āmirān
	increase of glory		'Abdul-'Azīz b. 'Abdallāh b. 'Āmir

Margin

first quadrant	ا ب	A B	[initials]
second quadrant	بسم الله	bism allāh	in the name of God
third quadrant	العزيز	al-'azīz	the glorious

REVERSE

The reverse of the Foroughi drahm resembles a hodgepodge of different Muslim coinages of this period. Like Sasanian and Sasanian style coinage, its field is enclosed by three pontillate chains with decorations in the margins at 3:00, 6:00, and 12:00. These margin decorations of fleurons and crescents, instead of stars and crescents, are unusual for a Sasanian style reverse. Like the reformed coinage (Plate 11, 4), the field does not carry icons, in particular, the fire altar flanked by two attendants. The reverse, moreover, is filled with linear legends, like reformed coinage, declaring belief in Islam in addition to giving the mint and the date. The wording of these legends resembles that on experimental issues of 'Abd al-Mālik and al-Hajjāj b. Yūsuf, and the linear style is characteristic of reformed coinage. The legends, however, are in Pahlavi. Although the use of an Islamic catechism is attested on many different kinds of Muslim coinage, the use of Pahlavi in the writing of Islamic legends is without parallel anywhere. The reverse, then is unique. The legends are given below. The last word apparently was abbreviated on the Foroughi drahm due to lack of space. Brackets indicate where the legend was restored by Mochiri.

𐭩𐭮𐭥𐭮𐭥

dw hpt't
dō haftād
seventy-two

𐭮𐭥𐭮𐭥𐭮𐭥𐭮𐭥
𐭮𐭥𐭮𐭥𐭮𐭥𐭮𐭥𐭮𐭥
𐭮𐭥𐭮𐭥𐭮𐭥𐭮𐭥𐭮𐭥

yzdt'-y BR''LH
'HRN yzdt' L'yT'
mhmyt' ptgmbI Y yz[dt']
yazd-ew bē oy
any yazd nēst
Muhammad paygāambar I yaz[d]
one God, but he
another god does not exist
Muhammad [is] the messenger of God
sk
(abbreviation for Sijistan)*

* This represents the Arabic name for the province. In Middle Persian, it is Sakastan while, in Modern Persian, it is Sistan.

The obverse legend mentions in Pahlavi 'Abd al-'Azīz b. 'Abdallāh, and then teases his name with the Arabic legend, *bism allāh al-'azīz*, "in the name of God, the glorious." 'Abd al-'Azīz b. 'Abdallāh was governor of Sijistan from 66 to approximately 72, 685 to 692, so that the purport of the obverse plus reverse date is that the drahm was struck in the last year of his rule.⁷ Indeed, the Arabic legends in the lower right and left quadrants of the obverse match exactly the Arabic legends known from earlier drahm of his dated 66.

The legends on the reverse, moreover, seem to establish a certain contemporaneity between the Foroughi drahm and Sasanian style issues known elsewhere in the Near East during the seventies. Indeed, the reverse legends of the Foroughi coin resemble the obverse margin legends of experimental silver issues struck between 72 and 74 in Damascus by 'Abd al-Mālik (Plate 11, 5)⁸ and innovative coinage minted between 76 and 78 in Bishapur, Ardishir Khurra, and Isfahan by al-Hajjāj b. Yūsuf (Plate 11, 6).⁹ In Pahlavi, the legends on the

⁷ The dates of the governorship of 'Abd al-'Azīz b. 'Abdallāh are somewhat uncertain. The *Ta'rīkh-e Sīstān* claims that he had arrived in Sijistan and had begun campaigning against the Zunbils at the time when the caliph Marwān b. al-Hakam died in 65. On the other hand, coinage is extant from 66 with not only his name but the names of other individuals, suggesting that he might not have arrived until the middle of that year. In any case, he fled Sijistan after the Marwānid conquest of Iraq in 72 although the exact date may be disputed. The *Ta'rīkh-e Sīstān* mentions only that he was no longer in Sijistan in 74 when the Marwānid governor 'Abdallāh b. Umayya arrived. However, since Umayyad coinage exists for Sijistan from 73 with the name of this governor's superior, it seems that 'Abd al-'Azīz must have clearly left by 73. Moreover, al-Ya'qūbī claims that 'Abdallāh b. 'Adī al-Hāritha preceded 'Abdallāh b. Umayya to Sijistan and, thus, must have preceded the minting of the Umayyad coinage which bears the name of Umayya b. 'Abdallāh, the father of 'Abdallāh b. Umayya and chief governor of the province. Consequently, 'Abd al-'Azīz b. 'Abdallāh probably did not remain in Sijistan much beyond 72. See *Ta'rīkh-e Sīstān*, ed. M. Bahār (Tehran, 1935), pp. 105–6 (hereafter, *Ta'rīkh-e Sīstān*); Ahmad b. Abī Ya'qūb al-Ya'qūbī, *Kitāb al-buldān* (Najaf, 1957), p. 46; Walker, p. 107; C. E. Bosworth, *Sistan under the Arabs from the Islamic Conquest to the Rise of the Saffarids* (Rome, 1968), pp. 51–52 (hereafter, Bosworth).

⁸ Walker, pp. 23–25.

⁹ Walker, pp. 118–21. Raoul Curiel, "Monnaies Arabo-Sasanides," *Revue Numismatique* 1967, pp. 103–16. In addition, an unpublished specimen from Isfahan (Jayy) dated 77 is in the collection of M. I. Mochiri. Finally, the collection of W. B. Warden

Foroughi drahm consist of a statement of the oneness of God, *yazd-ew bē oy any yazd nēst*, “one God, but he, another god does not exist,” and a statement of Muhammad’s messengership, *muhammad paygāmbār ʔ yazd*, “Muhammad (is) the messenger of God.” These legends differ slightly from those on experimental silver issues of ‘Abd al-Mālik and al-Hajjāj which read *lā illāh illā allāh waḥdahu, muḥammad rasūl allāh*, “there is no god but God alone, Muhammad is the messenger of God. Such specifically Muslim declarations of faith are unknown in Arabic epigraphy until the period of the second *fitna*, the civil war that began with the death of Mu‘āwiya. The similarity of the two versions strongly suggests that one of these legends is a translation of the other.

In addition, the Foroughi drahm seems closely related to the reformed silver coinage of ‘Abd al-Mālik which first appears in 79.¹⁰ The similarity is not based so much on the wording of the shahāda as in the use of a linear reverse legend that supplants the use of iconography. While the Foroughi drahm does not bear a statement equivalent to *lā sharīk lahu*, “He has no partner,” which is a part of the declaration of faith on some of ‘Abd al-Mālik’s dirhems, its shahāda, nevertheless, appears as a linear inscription filling the reverse field just as the shahāda appears on the reformed silver coinage. The shahāda on ‘Abd al-Mālik’s experimental coinage and al-Hajjāj’s innovative issues, both generally Sasanian style, occurs as a disjointed or curvilinear legend in the obverse margin. While Islam condemned the veneration or worship of icons, specific objections to numismatic iconography can not be documented until ‘Abd al-Mālik’s coinage reforms. Indeed, his reformed coinage was the first coinage in the Near East to avoid completely the use of pictorial representations. Consequently, given the tenacity with which Sasanian style coinage endured in the Near East with its representations of Sasanian monarchs and fire altars, and the fact that the Foroughi drahm documents a deliberate attempt to accommodate Muslim objections to numismatic iconography in the same ways as ‘Abd

includes Bishapur 77 H. (2 specimens) and 78, and Ardishir Khurra 77 (Plate 11, 6) and 78.

¹⁰ John Walker, *A Catalogue of the Muhammadan Coins in the British Museum: A Catalogue of Arab-Byzantine Coinage* (London, 1956), pp. 124–25, 135, 143, 165–66, 169–70, 173, 175, 179, and 185.

al-Mālik's reformed coinage did, the reverse of the Foroughi drahm must be related to reformed coinage either as a prototype, an imitation of a common prototype, or a direct imitation. If the date 72 is accepted as authentic, then the Foroughi drahm could have provided the prototype for 'Abd al-Mālik's reformed coinage or imitated a prototype common to both.

Mochiri was content to accept the drahm for what it plausibly purports to be, a Pahlavi forerunner of the reformed coinage. He conjectured that 'Abd al-'Azīz b. 'Abdallāh "may have wished to keep abreast of monetary developments in the capital (Damascus) and to make a conciliatory gesture toward his Zoroastrian subjects." Consequently, he struck a familiar Sasanian style obverse but used an innovative reverse design carrying Pahlavi legends similar to those first appearing on experimental issues in Syria at this time.¹¹ This view places the drahm at the vanguard of 'Abd al-Mālik's coinage reforms.

Close examination of historical and numismatic sources, however, challenges outright the hypothesis that the Foroughi drahm is either a prototype of reformed coinage or an imitation of a prototype common to both. Consideration of the possibility of the exchange of prototypes, such as through coordination of mint policy or general circulation, and the possibility of the influence of a common prototype demonstrates the groundlessness of these tentative explanations. As a result, the Foroughi drahm can only represent an imitation of the Sasanian style and reformed coinage and, therefore, can only have been struck after the general introduction of reformed coinage in the east in 79.

The Umayyad caliph 'Abd al-Mālik, for instance, is not likely to have coordinated his mint policies with 'Abd al-'Azīz b. 'Abdallāh under any circumstances. Because 'Abd al-Mālik was Umayyad and 'Abd al-'Azīz b. 'Abdallāh was a Zubairid governor, the two men represented opposing camps in the second *fitna* which divided the Muslim community during this period. 'Abd al-Mālik, an Umayyad descended from the Marwānid branch of the family, came to power in 65, oversaw the victory of his forces against those of 'Abdallāh b. al-Zubair in Iraq in 72, and then destroyed the rival caliph in his Arabian refuge in 73. He

¹¹ Mochiri, p. 171.

was the archenemy of the Zubairids. ‘Abd al-‘Azīz b. ‘Abdallāh, on the other hand, was a partisan of the Zubairids. The Zubairid governor of Iraq, Hārith b. ‘Abdallāh b. Abū Rabī‘a al-Makhzūmī, appointed him governor of Sijistan in 65.¹³ Although ‘Abd al-Mālik’s general al-Hajjāj conquered Iraq and Iran in 72, there is no evidence that ‘Abd al-‘Azīz b. ‘Abdallāh defected to the Umayyad regime. When ‘Abd al-Mālik’s first governor of Sijistan arrived in the province in 73, ‘Abd al-‘Azīz b. ‘Abdallāh had already fled.¹³ Therefore, as implacable enemies, ‘Abd al-Mālik and ‘Abd al-‘Azīz b. ‘Abdallāh would hardly have cooperated in their mint policies.

In addition, it is highly improbable that the Foroughi drahm would have arrived in Damascus through non-official channels such as general circulation. In the first place, the great distance between Damascus and Sijistan would have rendered the exchange of coins by such casual means in such a short period extremely unlikely. In addition, even if some specimens of the Sijistan coinage did reach Damascus in this short time, one would have to explain why none of the many mints between Damascus and Zarang chose to strike anything similar to the Foroughi drahm until the general introduction of reformed coinage in the east in 79. Issues of al-Hajjāj b. Yūsuf, which appear between 76 and 78 with a shahāda resembling that of the Foroughi drahm seem to imitate the coin legends of Damascus more closely than those of Zarang. The Sijistan mint, consequently, does not seem to have provided the prototype for reformed coinage even through the nonofficial route of general circulation.

For similar reasons, the Foroughi drahm and reformed coinage could not have imitated a common prototype. Indeed, it is impossible to posit the existence of a common prototype when none is extant and no trace of its influence can be found among the great number of mints operating in Iraq and Iran at this time. Extant Bishapur issues of ‘Abd al-Mālik b. ‘Abdallāh dated 65–67 bear the then unusual legend *muhammad rasūl allāh*, “Muhammad is the messenger of God.”¹⁴ This legend was, in fact,

¹³ *Ta’rīkh-e Sīstān*, p. 105.

¹³ *Ta’rīkh-e Sīstān*, p. 108. The date has been corrected by one year on the basis of numismatic evidence (above, n. 7).

¹⁴ Walker, p. 97, Sch. 5. The collection of W. B. Warden has a specimen from 66 as well as two of 67.

imitated by the governor of Basra and Bishapur, Khālid b. ‘Abdallāh, shortly after the Umayyad conquest of Iraq from the Zubairids.¹⁵ However, the legend is neither a very complete version of the shahāda as it is known on the Foroughi drahm and reformed coinage nor is it engraved in the unique linear style of the Foroughi drahm and reformed coinage. Consequently, with no other evidence, it does not seem possible that the Foroughi drahm and the reformed coinage shared a prototype.

In sum, the appearance of nearly the same inscription, linearly presented, at two mints so widely separated and under the control of hostile parties throws strong doubt on the authenticity of the date of the unique Foroughi coin. The inscriptions on the Foroughi drahm are in themselves evidence that the drahm was not struck in 72 but sometime after the use of the shahāda in linear legends had become general in the east, that is, during or after 79. The solution to the close relationship between these coins must lie in the use of ‘Abd al-Mālik’s coinage by the Sijistan mint as a prototype for the Foroughi drahm after the advent of the caliph’s coinage reforms. The striking of both a pseudo-patronymic and a pseudo-date has obscured the coin’s correct attribution.

If the historical record and a preliminary examination of legends leaves any room for question, other evidence independently challenges the attribution of this coin to ‘Abd al-‘Azīz b. ‘Abdallāh and completely undermines the authenticity of its date. In particular, anomalies in an obverse margin legend, the iconography, and the die axis of the Foroughi drahm argue strongly that someone other than ‘Abd al-‘Azīz b. ‘Abdallāh struck this coin during or after 79.

The obverse margin legend **A B** struck in the first quadrant of the Foroughi drahm, raises doubts over the attribution of this issue to ‘Abd al-‘Azīz b. ‘Abdallāh. The Sijistan issue of 75 belonging to the governor ‘Abdallāh b. Umayya presents the only analogous legend on coinage of this period, bearing a Pahlavi **P** in the same quadrant (Plate 11, 7).¹⁶

¹⁵ Walker, 213–15.

¹⁶ One can be found in George C. Miles, “Two Unpublished Arab-Sassanian Dirhems of ‘Abdallāh b. Umayyah,” *ANSMN* 14 (1968), pp. 155–57, Plate 33. This same coin can also be found in Heinz Gaube, *Arabosasanidische Numismatik, Handbucher der Mittelasiatischen Numismatik*, vol. 2 (Würzburg, 1972), 22 (hereafter, Gaube). Another specimen appeared in Sotheby’s, 14–15 Nov. 1984, 289, and, subse-

The *P* on the issue of 75 is an abbreviation of 'Abdallāh b. Umayya taken as the most distinctive letter in the Pahlavi writing of 'Abdallāh, *apdula*.¹⁷ For this reason, the letters *A B* should represent distinct letters, if not initials, in the name of the governor who struck the Foroughi drahm. Since an 'alif is found nowhere in the name 'Abd al-'Azīz b. 'Abdallāh, the abbreviation *A B* cannot possibly refer to 'Abd al-'Azīz b. 'Abdallāh. Consequently while the abbreviation *A B* does not immediately provide an alternate solution for the authentic minter of this strange issue, it fundamentally questions any attribution to 'Abd al-'Azīz b. 'Abdallāh.

Evidence drawn from the iconography of the Foroughi drahm specifically challenges the authenticity of the date 72, arguing for a dating of 79 or later. The breast ornament of the Sasanian monarch on the obverse provides the first evidence of the late issue of this coin. As mentioned above, the breast ornament is in the form of a rosette in a ring instead of the customary pendant of three pearls. The rosette in a ring does not appear on Sasanian style coinage until shortly before the second *fitna*. Even then, it is confined almost exclusively to certain Iraqi and western Iranian mints such as Ardishir Khurra, Basra, and Bishapur.¹⁸ It occurs more rarely at mints such as BH, Balkh, Darabgird, Istakhr, and Yazd.¹⁹ Besides the Foroughi drahm, the breast ornament of a rosette in a ring is not known on any other specimens of Sijistan coinage from this period or earlier. Breast ornaments on Sijistan drahms, for the most part, remain a pendant of three pearls

quently, in S. Album's list 55, 154. It is presently in the collection of W. B. Warden. In addition, I know of three unpublished specimens: one is in the collection of W. B. Warden, one in the collection of M. I. Mochiri and one in the collection of A. U. Rahman. For one of Warden's specimen's see Plate 11, 7.

¹⁷ This form of abbreviation, that is, taking a letter from the name other than the initial, is common in *hadith* works. Al-Bukhārī, for instance, is abbreviated in many of these books as *kh* while al-Nasā'ī as *s*.

¹⁸ Walker, pp. 58–59, 97–99, 113–14, and 119–20.

¹⁹ Walker read BH as Bihkobadh, p. 55; it is, however, controversial, see Gaube, p. 89. Walker: Balkh, p. 54; Darabgird, p. 113; Istakhr, p. 71; Yazd, pp. 72 and 113. Although Walker read this last as ZR, Zarang, it is now known to be YZ which represents Yazd, not Zarang, see Gaube, p. 105.

from the time of the province's conquest in 31 until 85, the year of the last authentically dated Sasanian style issue.²⁰ One rare specimen with the date 48 bears a pendant of three pearls and a small ring: ❖ (Plate 11, 8).²¹ In addition, an issue of Talha b. 'Abdallāh dated 66 shows a smooth ring around the uppermost of three pearls: .❖ (Plate 11, 9).²² However, these rare variations of the pendant of three pearls fall short of a rosette in a ring. Only late Umayyad and early 'Abbāsīd Sasanian style issues, which were minted intermittently from 79 (at the earliest) until the end of the second century, show considerable variations in this detail. Frequently, the breast ornament on these late imitations appears as a doughnut, as a facsimile of a rosette in a ring, or as a pendant of two or three pearls variously arranged. On many coins, it is omitted altogether. Moreover, as will be discussed below, even the issue of Talha b. 'Abdallāh may be suspected as a late imitation for reasons that do not only include its unusual breast ornament.

The unusual form of the margin decorations on the obverse and reverse also undermines the authenticity of the Foroughi drahm's date and, indeed, sets the true date of its minting corresponding to or later than 79. Instead of crescents surrounding stars, the margin decorations appear as crescents surrounding fleurons. The authentically dated drahms of this province do not display fleurons in their margins until the coinage of 'Ubaidallāh b. Abū Bakra dated 79, so that the appearance of fleurons on the Foroughi drahm can be added to previous evidence to further challenge the authenticity of the date 72. It would seem that the Foroughi drahm could only have been struck at the end of 79 or later when fleurons became a marginal motif for Sasanian style coinage in Sijistan.

The coinage of 'Ubaidallāh b. Abū Bakra documents important iconographical changes on Sijistan coinage during 79 (Plates 12–14,

²⁰ Heinz Gaube, "Der Spätestebisher bekannte Arabosasanidsche Dirhem," *SM* 22 (1972), pp. 57–59, 86.

²¹ This drahm was in the stock of S. Album in the fall of 1987 (Plate 11, 8, size approximate).

²² Walker, p. 96. A second specimen can be found in W. B. Warden's collection (Plate 12, 9).

10–25).²³ Although Sijistan coinage before this date is remarkably consistent in displaying important iconographical details of its Sasanian style prototype, the issues of this governor reveal the sudden deterioration or transformation of these features. For instance, the ornament of a star and a crescent appearing to the right of the monarch's crown and a pellet placed below the **B** of the Arabic legend *bism allāh* vary significantly on the obverse. The crown ornament appears on some coins as the familiar star and crescent while, on others, as two crescents or one crescent. Similarly, the pellet placed below the **B** of the legend *bism allāh* alternately appears or does not appear. The reverses prove even more erratic in their iconography. Pellets either appear or do not appear on the attendant to the left of the fire altar while stars, crescents, and pellets are found very irregularly on the two sides of the altar. On both obverses and reverses, moreover, the margin decorations are often transformed from patterns of crescents and stars into patterns of crescents and fleurons.

That the appearance of fleurons on this coinage is authentic and not the work of a clever imitator at some later date can be shown by patterns of obverse-reverse combinations as well as die links within the issue. On a number of specimens from this issue, for instance, obverses bearing fleurons occur with reverses carrying stars in the margin, and reverses bearing fleurons are found with obverses bearing stars in the margin. Consequently, specimens bearing mixed obverse-reverse combinations of stars and fleurons for margin decorations and specimens bearing only fleurons for margin decorations do not seem to be later imitations. Moreover, since die links can be established between other disparate obverse and reverse types,²⁴ such as those with unusual

²³ This issue has numerous extant specimens. One can be found in Walker, p. 110. Ten were in the stock of S. Album in the fall of 1987 (Plates 12–13: 10, 12–18, 20, and 23, sizes approximate). Another is published S. Seropian, *Galerie Antiker Kunst* 6, Jan. 1988, 81. Three are in the collection of W. B. Warden (Plates 13–14: 21, 24–25). Two are in the A. N. S. collection, 1973.244.68 and 1973.244.67 (Plates 12–13: 11 and 22). Two are in the collection of M. Malek. One was in the possession of W. Spengler in the spring of 1988 (Plate 13, 19, size approximate). One is in the collection of M. I. Mochiri and one is in the collection of A. U. Rahman. Others certainly exist.

²⁴ For example, the obverse of a reverse with only a pellet on the left attendant (Plate 12, 14) is die linked to the obverse of a reverse with no pellet on attendant

crown ornaments on the obverse or missing stars and crescents on the reverse, the differences in the iconography of this coinage do not appear to be anomalous. While fleurons were probably introduced toward the end of the minting of this issue, they simply represent the most noticeable evidence of a continuous iconographical transformation apparent throughout this coinage. Although the mint seems to have restored margin decorations of only crescents and stars between 82 and 85, fleurons, in general, appear more regularly on Sasanian style coinage after 79 until they become the hallmark of late Umayyad and early 'Abbāsīd imitations in Sijistan.

That the Foroughi drahm was not struck before 79 is supported by the unusual position of its die axis. With a die axis of 12:30, the Foroughi coin is anomalous among Sasanian style coinage in Sijistan. Sasanian style drahms minted in Sijistan from the time of conquest until 79 have a die axis of approximately 3:00 two-thirds to three-quarters of the time. This incidence reflects the legacy of Sasanian mint practice which almost always struck drahms with a 3:00 die axis, occasionally a 9:00 die axis, and very rarely one at 6:00 or 12:00. Die axes before 79, however, never fall haphazardly about the clock.

The extraordinary issues of 'Ubaidallāh b. Abū Bakra document the erosion of a standard die axis just as they attest to the erosion of standard Sasanian style iconography in 79. Of fifteen specimens examined bearing margin decorations of crescents and stars and, therefore, probably representing the earliest examples of this date, all have die axes within one hour of 3:00 and 9:00. On the other hand, of four specimens bearing obverses or reverses with margin decorations of crescents and fleurons and, therefore, consisting of the later specimens of this date, the somewhat random collection of 10:30, 6:30, 4:30, and 3:30 is found. The disuse of a standard die axis, consequently, seems to have accompanied the deterioration and transformation of Sasanian style iconography at the Sijistan mint during this year.

(Plate 12, 10). In addition, the obverse of a reverse with a pellet on the left attendant (Plate 12, 16) is die linked to the obverse of a truly unusual reverse bearing no pellet on the left attendant as well as no star and crescent on the two sides of the fire altar (Plate 13, 18).

Although coinage from 80 to 85 is too rare to analyze conclusively, randomness of die axes, indeed, seems characteristic of all late Sasanian style imitations of Sijistan. Late imitations consist of all pseudo-dates and facsimile dates minted during or after 79. These coins, in general, imitate earlier Sasanian style coinage. Because the Foroughi drahm shows a die axis of 12:30 and, thus, resembles late imitations with their unusual die axes, the drahm also appears to be a late imitation. In this case, the drahm's date of 72 must be characterized as a pseudo-date, further supporting the case for its having been struck during or after 79.

Since Sijistan coinage occasionally attests to the use of pseudo-names and pseudo-dates, the Foroughi drahm must, indeed, represent one more example. Pseudo-names on Sijistan coinage usually have the names of the Sasanian monarchs Yazdigard and Khusraw and, in at least one case, the name of a former Sijistan governor. For instance, coinage with the pseudo-date 20 Y.E., minted under Muslim suzerainty between the conquest of Sijistan in 31 and 45 bears the name Yazdigard. Similarly, coinage bearing the dates 45 and 48, certain issues with the dates 64 and 66, and virtually all late Umayyad and early 'Abbāsīd imitations minted after 79 carry the name of Khusraw in their legends. Pseudo-names, however, exist for at least one Sijistan governor. The already mentioned issue of Talha b. 'Abdallāh, bearing an unusual breast ornament on its obverse, is dated 66, two years after the date of Talha's death. Because the unusual breast ornament on its obverse is not known to earlier issues of Talha b. 'Abdallāh, the name on this issue probably does not represent the use of an old obverse die in 66 but, rather, indicates the use of a new die with a pseudo-name. Since unusual breast ornaments are characteristic of later imitations and since many different names are already attested on coinage of 66 the date may also be false and, thus, the issue may have been struck much later than 66. In sum, because pseudo-names are found on many different issues of Sijistan coinage under many different circumstances, the use of a pseudo-name on the Foroughi drahm does not prove surprising.

The use of pseudo-dates is not unusual for Sijistan coinage. For instance, the first issues after the Muslim conquest of Sijistan, struck between 31 and 45, maintain the pseudo-date 20 Y.E., 31/2 H., a Sasan-

ian regnal date corresponding to the year of the conquest.²⁵ Although these coins bear the pseudo-name of Yazdigard, the pseudo-date is easily identified since approximately one-sixth of all extant Sijistan Sasanian style coinage bears this date. Except for a questionable specimen of 37,²⁶ no other dated issues are known until 45 H. Indeed, since the Muslims conquered this province by treaty and did not control it for more than a portion of the year in which it was conquered, no more than a small fraction of this numerous coinage could possibly have been minted in the year 20 Y.E. Similarly, coinage dated 48 H. can be suspected as representing a pseudo-date in certain cases. Because it is a large issue (it is attested with two different obverse and two different reverse types) and no other dated issues are known until 56 H., the issue was almost certainly struck beyond the year 48. The next issue, dated 56, gives incontrovertable evidence of the use of a pseudo-date. While specimens of this coinage naming 'Ubaidallāh b. Ziyād may actually have been struck in 56, drahms with the name of Salm b. Ziyād must have been struck after 56 since Salm b. Ziyād did not exercise any authority in Sijistan until, at the earliest, 60.

Among late imitations, the pseudo-date of 45 is well known (Plate 14, 26–31).²⁷ Like the Foroughi drahm, coins with this inauthentic date

²⁵ Stuart D. Sears, "Sasanian Style Drahms from the Muslim Conquest of Sijistan," *Oriental Numismatic Society Newsletter* 112 (1988), pp. 6–7.

²⁶ Walker, p. 15, 21.

²⁷ This pseudo-date occurs in a number of different obverse and reverse types. One obverse type bears only the legend *bism allah rabbi* in the second and third quadrants and has no pellets and no star or crescent around the crown. Similarly its reverse has no crescent, star, or pellets next to the fire altar. The only specimen known to me of this kind belongs to A. U. Rahman. A second obverse type has a pellet on either side of the monarch's crown in the margin but lacks a crescent and stars around the crown. Its reverse also lacks a crescent, stars, and pellets next to the altar. The only published specimen that I am aware of for this variety is S. Seropian, *Galerie Antiker Kunst* 5, Dec. 1987, 148. In addition, one specimen may be found in the collection of W. B. Warden (Plate 14, 26) and one in the collection of M. Malek. Moreover, two were in the possession of S. Album in the autumn of 1987 (Plate 14, 27–28, sizes are approximate) while one other was in the possession of W. Spengler in the spring of 1988 (Plate 14, 29, size approximate). The last specimen has an especially crude date. That it belongs with this group of issues is easily determined by examination of the pattern of pellets in the obverse margin. A third obverse type is attested without any crescent, pellets, or stars but instead with the Pahlavi letters *dwm* in the first

have anomalous margin decorations of crescents surrounding fleurons instead of crescents surrounding stars. Moreover, where a sample of even a few of them can be found, the incidence of their die axes is random. In addition, they bear the anachronistic margin legend *bism allāh rabbī*, "in the name of God, my lord," which, in Sijistan, does not seem to have replaced the older legend *bism allāh*, "in the name of God," until 48. Finally, these late imitations often lack many important iconographical details (such as pellets, stars, and crescents) and the epigraphy of the dating is extremely crude.

Beside the Foroughi drahm, another rare hybrid issue of Sasanian style and reformed coinage exists bearing both a pseudo-name and a pseudo-date (see Plate 14, 32).²⁸ For the most part, this issue is indistinguishable from regular Sasanian style drahms. On the obverse, it has the bust of a Sasanian monarch with the name Khusraw while, on the reverse, it has a fire altar flanked by two attendants. Yet, due to iconographical irregularities, an anachronous margin legend, and the familiar pseudo-date 45, the coin betrays the late date of its minting. Moreover, because its reverse contains a fourth concentric pontillate chain near the rim such as is characteristic of reformed coinage, the coin suggests an actual date of minting of 79 or later.²⁹ The mix of Sasanian style and reformed elements on this coin, like the Foroughi drahm, documents the unusual coinage which the Sijistan mint could and did produce, using pseudo-names and pseudo-dates rather than actual names and actual dates.

As an imitation dated to 79 or later, the Foroughi drahm probably was not struck at a time when either regular Sasanian style coinage or

quadrant. Its reverse, similarly, has no crescent, star, or pellets next to the fire altar. It has been published more frequently. See Walker, *Arab-Sassanian*, p. 18, Th. 2, and S. Seropian, *Galerie Antiker Kunst* 4, Jan. 1987, 73 and 74. In addition, the A.N.S. collection has one specimen, A.N.S. 1973.244.66 (Plate 14, 30), and S. Album had one in stock in 1987 (Plate 14, 31, size approximate). Still another variety of this pseudo-date is described below (Plate 14, 32).

²⁸ The only specimen which I have examined is in the collection of W. B. Warden (Plate 14, 32). A second one exists in the collection of M. Malek.

²⁹ A bizarre Sasanian style issue from Merv, dated 68, with the pseudo-name Salm b. Ziyad is in the collection of W. B. Warden. It has a fourth concentric circle on the reverse. Uncertainty surrounds the authenticity of its date, and it may be a later imitation.

reformed coinage was being minted at the Sijistan mint. Although the record of the two coinages in Sijistan is not always complete, some sort of time frame may, nevertheless, be established. Regular Sasanian style drahms after 79, for instance, are very rare. Specimens are only attested for the years 82, 83, and 85.³⁰ In addition, an extant specimen bearing a facsimile date—not intended to be read—but the patronymic of ‘Abd al-Rahmān b. Muhammad b. al-Ash‘āth may be posited for around 84.³¹ Because this Sasanian style coinage is exceedingly rare and, possibly, the result of unique circumstances, its testimony will not be judged as adequate until it is examined in conjunction with historical sources. The reformed coinage of Sijistan, on the other hand, provides a very reliable record. It is attested for every year between 90 and 102. Since the writing of Pahlavi on Sijistan coinage quickly disappears with the introduction of dirhams bearing only Arabic, the issues of reformed coinage set an upper limit for the time frame in which the Foroughi drahm could have been struck, that is, 90. Because obverse and reverse legends, iconographical anomalies, and an irregular die axis have already established a date of 79 as the earliest possible terminus, the minting of the Foroughi drahm can now be placed securely within the interval of 79 to 90 H., A.D. 698 to 709.

Close examination of numismatic and literary evidence for the period of 79 to 90, however, helps establish beyond any doubt that the actual minter of this issue was Abū Bardhā‘a and the actual date of minting was sometime between 79 and 81. The Foroughi drahm, with the letters **A B** cannot have been minted by the governor and then rebel ‘Abd al-

³⁰ M. I. Mochiri has a specimen each for the years 82 and 83. See *Etudes de Numismatique Iranienne sous les Sassanides et Arabes-Sassanides 2* (Tehran and London), 406 and 407. Also, Gaube (above, n. 20), pp. 57–59.

³¹ The only specimen known to me is in the ANS collection, 1972.169.168. Because coinage of Ibn al-Ash‘āth already exists for 82 and 83, the possible years of for its issue are 80, 81, and 84. However, the coin is cruder than the issues of 82 and 83 and severely debased. According to specific gravity analysis, the specimen shows approximately 58 percent fineness while most Sasanian style coinage of Sijistan maintains a fineness of approximately 88 percent. The coin then seems to indicate a shortage of silver at the mint. Since the fabric of Sasanian style coinage generally deteriorates over time and Ibn al-Ash‘āth was not short of funds when he arrived in Sijistan and would not have been forced to mint a debased coinage, the latest of these years, around 84, seems most plausible.

Rahmān b. Muhammad b. al-Ash'āth al-Kindī, nor during the period following the Umayyad reconquest of Sijistan. Yet it must have preceded the introduction of reformed coinage. The interval of approximately 79 to 81 is, by default, the only possible date for the minting of this coin. Literary and numismatic evidence, however, more than substantiate this attribution, identifying both the governor and his motives for issuing this strange issue.

The period corresponding to Ibn al-Ash'āth's rule in Sijistan, approximately 80 to 85, proves highly unlikely as a date for the minting of the Foroughi drahm.³² In the first place, it is inconceivable that the mint would have dared to strike a pseudo-patronymic on Sijistan coinage when Ibn al-Ash'āth's immense personal power found the quick loyalty of so many Sijistanis eager to fight the Zunbīls and cowed both local notables and the Zunbīls. According to one account, the local population gathered to meet the new governor and quickly volunteered to fight in his army against the Zunbīls.³³ Local notables such as 'Abdallāh b. 'Āmir, moreover, went into hiding on the arrival of this powerful governor until they could ascertain his benevolent intentions toward them.³⁴ Even the Zunbīls showed deference to the power of this leader, returning hostages taken from the expedition of 'Ubaidallāh b. Abū Bakra and promising to pay tribute at the old rate.³⁵

³² There are discrepancies in the chronology of Ibn al-Ash'āth's rebellion and the events leading up to it in traditional Arabic sources. Julius Wellhausen has identified two main chronologies: one sets Ibn al-Ash'āth's arrival in Sijistan in 80, his rebellion in 81, and his death in 84, while the other gives dates that are one year later than those, see J. Wellhausen, *The Arab Kingdom and Its Fall*, trans. M. G. Weir (Calcutta, 1927). In addition, the *Ta'rikh-e Sīstān*, pp. 112–13, gives the date of Ibn al-Ash'āth's arrival as 82, almost certainly a confused date like other dates in this chronicle. C. E. Bosworth discusses this problem generally but, inadvertently, gives the date 79 for this governor's entrance into Sijistan, while he gives 80 as the date of his appointment as governor. See Bosworth (above, n. 7), pp. 55, 57. Without embarking on a critical study of these chronologies, it suffices to say that these dates are approximate.

³³ Muhammad b. Jarīr Abū Ja'far al-Tabarī, *Ta'rikh al-Tabarī*, vol. 6 (Cairo, 1988), pp. 326–28. Bosworth, p. 57.

³⁴ *Ta'rikh-e Sīstān*, pp. 112–13.

³⁵ Al-Tabarī, pp. 326–28.

Next, no explanation can be given for the use of a pseudo-date on this coin when coinage of Ibn al-Ash'āth reveals the regular use of dates or, at least, the use of barbarous dates instead of pseudo-dates. Coinage extant for 82 and 83, for instance, bears authentic dates. Moreover, a third issue of Ibn al-Ash'āth, struck with a barbarous date and which I have attributed to around 84, suggests that his mint preferred to use barbarous dates on other occasions instead of pseudo-dates. The pseudo-date of the Foroughi drahm, consequently, seems somewhat anomalous among the coinage of Ibn al-Ash'āth.

In addition, the conscious effort of Ibn al-Ash'āth to restore Sasanian style iconography on his coinage contrasts with the corrupt iconography of the Foroughi drahm with margin decorations of crescents and fleurons instead of crescents and stars. Although irregular iconography is attested on coinage of 79, the few specimens extant for Ibn al-Ash'āth which are mentioned above demonstrate complete fidelity to their Sasanian prototype. In particular, they bear only stars in the margin rather than fleurons. The Foroughi drahm, consequently, is dissimilar to this coinage.

Finally, Ibn al-Ash'āth seems to have deliberately avoided the introduction of reformed coinage in Sijistan and to have interrupted its minting in other provinces in defiance of Umayyad authority. Indeed, Sasanian style coinage with his patronymic is known from other mints in the east where reformed coinage would otherwise have been minted.³⁶ Therefore, no explanation can be offered for the use of a reformed style reverse such as is found on the Foroughi drahm.

The possibility that one of Ibn al-Ash'āth's lieutenants had this coin struck in 84 or 85 also seems remote. If the lieutenant sought to dissociate himself from the losing side of a rebellion, it hardly seems plausible that he would adopt a pseudo-patronymic of a former Zubairid governor upon the imminent arrival of hostile Umayyad armies. Moreover, no explanation could be offered for his choice of Pahlavi, instead of Arabic, on the reverse or for his choice of matching a Sasan-

³⁶ For the mint of Darabgird, for instance, reformed coinage exists for the year 80 yet a Sasanian style coin which was struck in 70 Y.E. (82 H.) is attested with the name of 'Abd al-'Aziz b. 'Abdallāh. See Walker, pp. 117, and Walker (above, n. 10), p. 139.

ian style obverse with a reformed style reverse. Indeed, the recalcitrant lieutenant of Ibn al-Ash'ath in Zarang, on the basis of a single crude specimen of Ibn al-Ash'ath's coinage, seems more likely to have continued minting Sasanian style drahms in the name of Ibn al-Ash'ath but without a legible date and, thus, to have tried to avoid the responsibility of his treason. In sum, the literary and numismatic record challenges the attribution of the Foroughi drahm to the rule of Ibn al-Ash'ath, corresponding approximately to the period of 80 to 85.

The interval of 85 to 90, the period of the re-establishment of Umayyad rule in Sijistan, also does not provide a plausible time frame within which the Foroughi drahm might have been struck. Although the Sijistan mint probably struck coinage surreptitiously during this period and probably used pseudo-names and pseudo-dates, little more than speculative explanations can be offered for most of the anomalies on the Foroughi coin under these circumstances. In addition, some anomalies such as the governor's name abbreviation *A B* and the extremely fine fabric of the coin contradict what is known from literary and numismatic evidence.

Although most mints in Iraq and Iran were closed between 83 and 90, the Sijistan mint seems to have remained open due to both Ibn al-Ash'ath's revolt and the chaos which followed the Umayyad reconquest of the province. Ibn al-Ash'ath's revolt, indeed, interrupted the links between Sijistan and other provinces. Consequently, when the directive was issued for the closure of all mints in the east in 83 or 84, the Sijistan mint was unaffected and continued striking regular Sasanian style coinage until the arrival of the Umayyads in 85. A drahm belonging to the Umayyad conqueror of the province, 'Ammāra b. Tamīm, is, in fact, extant for 85.³⁷ Following the Umayyad conquest, however, a rapid succession of governors (approximately ten governors between 85 and 94)³⁸ seems to have provided only faltering leadership for this province so that the mint was probably left to its own devices. By striking imitations with pseudo-names and pseudo-dates the mint may possibly have escaped the notice of central authority and, as a result,

³⁷ Gaube, pp. 57–59.

³⁸ *Ta'rīkh-e Sīstān*, pp. 118–21. Ahmad b. Abī Ya'qūb al-Ya'qūbī, *Kitāb al-buldān* (Najaf, 1957), pp. 46–47.

never received a specific order from Iraq for its closure. Certainly, many imitations can be suspected as having been struck in this period.

The Sijistan mint, then, might have experimented at this time with some combination of Sasanian style and reformed prototypes. The choice of the pseudo-name of 'Abd al-'Azīz b. 'Abdallāh could have resulted from his great popularity in Sijistan. The *Ta'rīkh-e Sīstān*, for instance, claims that 'Abd al-'Azīz was very popular.³⁹ Any distinctions between Umayyad and Zubairid were probably unimportant to people in a frontier province like Sijistan. In addition, the translation of the shahāda of the reformed coinage from Arabic into Pahlavi might be explained as a simple adaptation of reformed legends, suitable for a province which may not have had many Arabs. These speculations, though plausible, nevertheless, do not greatly clarify the enigma of the Foroughi drahm.

On the other hand, many anomalies on the Foroughi drahm not only remain wholly unexplained by this tentative attribution but contradict many of its assumptions. For instance, peculiarities in the wording of the shahāda prove more similar to legends on experimental coinage of 'Abd al-Mālik and al-Hajjāj than they do to reformed coinage. Moreover, the obverse legend abbreviation *A B* does not match any of the names of the governors from this period, nor do any other combinations that these unpointed letters might suggest. In addition, the extremely fine fabric of the Foroughi drahm contrasts with all other late imitations known as well as the somewhat crude issue of 'Ammāra b. Tamīm dated 85 and the crude last issue of Ibn al-Ash'āth struck around 84. Indeed, the fabric alone argues for an earlier attribution than 85 to 90. Finally, it is difficult to imagine why the Sijistan mint would take such care to conceal its activities by minting Sasanian style imitations and then produce a conspicuous mongrel coin which would certainly have caught the attention of anyone who came across it. Indeed, it is unlikely that anyone reading its legends at that time would have been fooled by the mint date 72 on the reverse; they could easily have deduced for themselves that the legends were anachronistic and that the coin was a recent imitation. For these reasons, the Foroughi

³⁹ *Ta'rīkh-e Sīstān*, p. 105.

drahm is not likely to have been struck between 85 and 90 H., A.D. 704–9.

The Foroughi drahm can only be attributed to the period of 79 to 80, following the defeat of 'Ubaidallāh b. Abū Bakra by the Zunbīls yet preceding the arrival of Ibn al-Ash'āth in Sijistan. Although this conclusion can already be drawn from the implausibility of the periods of 80 to 85 and 85 to 90 as time frames for the minting of the Foroughi drahm, literary and numismatic evidence argue independently for this attribution, justifying the peculiarities of this coin. Ultimately, the Foroughi drahm represents the desperate propaganda of a besieged Umayyad governor, Abū Bardhā'a, who briefly succeeded his father 'Ubaidallāh b. Abū Bakra from 79 to perhaps 81 after the massive defeat of Muslim forces by the Zunbīls. In selecting the patronymic of 'Abd al-'Azīz b. 'Abdallāh, Abū Bardhā'a attempted to win support for a discredited government by exploiting the memory of a local hero. Even though 'Abd al-'Azīz b. 'Abdallāh was a Zubairid governor, he had prevailed over the persistent enemy of Sijistan, the Zunbīls. In minting a reformed style reverse, Abū Bardhā'a attempted to imitate the Islamic propaganda of 'Abd al-Mālik's reformed coinage and thus place Islam on the side of the provincial government as well. The Foroughi drahm, then, documents the effort of a shrewd provincial governor to manipulate the political and religious sympathies of a far eastern province.

The historical background of Sijistan in terms of its conflict with the Zunbīl's and the development of its coinage helps explain Abū Bardhā'a's decision to strike the Foroughi drahm. Sijistan, no doubt, faced unique problems along its frontier which, after the defeat of 'Ubaidallāh b. Abū Bakra in 79, undermined the very underpinnings of Umayyad authority in this province. At the same time, as the extent and the manner of 'Abd al-Mālik's coin reforms were becoming known in Sijistan, official attitudes toward local coinage changed. In this climate, Abū Bardhā'a responded to the pressures he faced, in part, by minting a unique hybrid coin intended to propagandize in support of Muslim rule and his government.

The Zunbīls, rulers of a group of Hephthalite tribes in eastern Sijistan, had long proven to be formidable foes for Sijistan governors. Although the earliest Muslim campaigns frequently managed to conquer as far as

Kabul, they retained little effective control of Zabulistan. Shortly before the second *fitna*, a Zunbīl rebellion resulted in the death of the governor Yazīd b. Ziyād and the capture of his army commander Abū 'Ubaida.⁴⁰ The governor Talha b. 'Abdallāh, shortly after, in 62, was dismissed from office when he paid a ransom of 500,000 dirhams to the Zunbīls,⁴¹ who generally remained independent of the Muslim government.

The arrival of 'Abd al-'Azīz b. 'Abdallāh in 66 greatly strengthened Muslim rule in Sijistan.⁴² After the death of Talha b. 'Abdallāh in 64, the provincial army had refused to recognize Umayyad authority and divided Sijistan up among the various factions within the army. In addition, some areas such as Zarang and Baskar were not ruled by any of these military factions but ruled themselves independently. According to the *Ta'rīkh-e Sīstān*, 'Abd al-'Azīz came and united the province under his rule. Most particularly, he healed the divisions within Talha's army and re-organized it to fight the Zunbīls who, at that time, were rebelling in the east of the Sijistan. In the campaign that followed, 'Abd al-'Azīz army destroyed the Zunbīl's and conquered as far as Kabul.⁴³

Umayyad governors after the second *fitna*, nevertheless, were not able to build upon this success. 'Abdallāh b. Umayya, who was governor ca. 73 to 75, for instance, was forced to give the Zunbīls 300,000 dirhams for a safe passage out of Zabulistan after a failed campaign.⁴⁴ No Umayyad governor after the second *fitna* ever subdued the Zunbīls completely.

The crowning blow to Umayyad efforts along this frontier, however, came with the disastrous defeat of 'Ubaidallāh b. Abū Bakra in 79.⁴⁵

⁴⁰ *Ta'rīkh-e Sīstān*, pp. 100–110; Bosworth, p. 44.

⁴¹ *Ta'rīkh-e Sīstān*, pp. 101–3; Bosworth, p. 45.

⁴² *Ta'rīkh-e Sīstān*, pp. 105–6; Bosworth, p. 45.

⁴³ *Ta'rīkh-e Sīstān*, pp. 105–6; Bosworth, pp. 45–46.

⁴⁴ The *Ta'rīkh-e Sīstān*, p. 108, has a somewhat confused account whereby 'Abdallāh b. Umayya paid over 2,000,000 to the Zunbīls. Al-Balādhuri gives a more logical account in which only 300,00 dirhems were paid to the Zunbīls; see Abu al-Hasan al-Balādhuri, *Futūḥ al-buldān* (Beirut, 1983), p. 386; Bosworth, p. 51.

⁴⁵ The *Ta'rīkh-e Sīstān*, pp. 110–12, has a convoluted account where the *jaish al-fanā* are reported to have perished in a battle against the Khawārij; Bosworth, pp. 53–55.

After securing his seat of government in Zarang in 78, 'Ubaidallāh b. Abū Bakra put his son Abū Bardhā'a in charge of tax collection and set off on a campaign against the Zunbils in the east. However, after advancing far into Zabulistan with little resistance, 'Ubaidallāh b. Abū Bakra found himself and his army trapped. Faced with little choice, he left hostages with the Zunbils and promised to pay them 700,000 dirhams upon his return to Zarang in exchange for a safe passage out of Zabulistan. However, when he reached Bust, most of his soldiers had already succumbed to hunger and cold. Only a small remnant survived. In view of the utter devastation of this army, 'Ubaidallāh b. Abū Bakra's forces were ignominiously known thereafter as *Jaish al-fanā*, "The Army of Destruction." 'Ubaidallāh b. Abū Bakra, himself, died shortly afterwards in Bust, a broken man.

The aftermath of 'Ubaidallāh b. Abū Bakra's debacle had lasting consequences for Sijistan. The overwhelming defeat of the Muslims not only destroyed a potent Muslim army but sowed a great deal of bitterness among its survivors toward their superiors. C. E. Bosworth has cited the poetry of one member of this campaign, A'shā Hamdān, who reviles the memory of 'Ubaidallāh b. Abū Bakra.

How did you look after these men, these twenty thousand,
with their mailed horses and their panoply of weapons,

A picked force chosen by the Amir for their firmness in
battle, a force of magnanimous souls, sent from the two
garrison cities (sc. Basra and Kufa)?

You were given command over them and appointed their
Amir, yet you have brought them to destruction whilst war is
still fiercely blazing!⁴⁶

The last line of this poem, moreover, attacks 'Ubaidallāh b. Abū Bakra's son, Abū Bardhā'a, who, although he had not accompanied the expedition, assumed control of the army after his father's death.

As for the wretched Abū Bardhā'a, about whom you talked
at length amongst us, he is viler than a beardless eunuch!⁴⁷

⁴⁶ Bosworth, p. 55; *The Diwan of al-A'shā'*, ed. R. Geyer (London, 1928), pp. 317-18.

⁴⁷ Bosworth, p. 56; *Diwan* (above, n. 44), pp. 317-18.

With morale sagging in this frontier province, al-Hajjāj asked 'Abd al-Mālik for reinforcements from Egypt. When reinforcements were not forthcoming, he outfitted a great army under the direction of 'Abd al-Rahmān b. Muhammad b. al-Ash'āth al-Kindī and sent it to the beleaguered province.

In the meantime, provincial authority in Sijistan seems to have rested tenuously in the hands of Abū Bardhā'a. Tainted by the failure of his father, Abu Bardhā'a could only maintain his authority with great difficulty. Al-Hajjāj, for instance, is reported to have ordered al-Muhallab b. Abī Sufra, the governor of Khurasan, to take charge of Sijistan until a new governor could be dispatched. Al-Muhallab, in turn, sent Wakr b. Bakr b. Wā'il to the province as his deputy. Only after Wakr b. Bakr b. Wā'il received a gift of 300,000 dirhams from Abū Bardhā'a, however, was Abū Bardhā'a able to retain control of Sijistan.⁴⁸ The *Ta'rīkh-e Sīstān*, in a variant version of this event, claims that Abū Bardhā'a sent for help to Muhallab b. Abī Sufra and that only then Wakr b. Bakr b. Wā'il came to Sijistan.⁴⁹ In both accounts, Abū Bardhā'a's actions reflect the insecurity of his position. In addition, the *Ta'rīkh-e Sīstān* relates that 'Abdallāh b. 'Āmir, a prominent notable of Sijistan whose father had been one of the great Muslim generals of the east, ensured public order in Sijistan rather than Abū Bardhā'a.⁵⁰ Because of the severity of the Muslim defeat and accusations that the provincial government was responsible, Abū Bardhā'a appears to have had great difficulty governing.

Analysis of early Sasanian style coinage in Sijistan indicates that there was an increasing interest by the government in the use of coinage for political propaganda. Although the very first issues minted shortly after the conquest are close facsimiles of their Sasanian prototypes including legends, subsequent issues depart from such unthinking imitation. In 45, for instance, the name in the legend was changed from Yazdigard to Khusrawand and the date was set according to the Islamic calendar. These simple initial changes were followed in 56 by introduction in the legend of the name of a supra-governor, that is a

⁴⁸ Al-Ya'qūbī (above, n. 7), pp. 46–48; Bosworth, p. 57.

⁴⁹ *Ta'rīkh-e Sīstān*, p. 113; Bosworth, p. 56.

⁵⁰ *Ta'rīkh-e Sīstān*, p. 113.

governor who ruled Sijistan from Iraq or Khurasan while appointing a subordinate to the province. Shortly afterwards, in 64, the name of a local governor, Talha b. 'Abdallāh, is attested. In addition, during the second *fitna*, Arabic marginal legends began to make obvious references to the name of the governor. For instance, the Arabic marginal legend, *talha lillāh*, "Talha belongs to God," on the same issue of 64, clearly refers to Talha b. 'Abdallāh.⁵¹ In view of these changes over the course of approximately the first 50 years of minting in Sijistan, governors established their awareness of the function that coinage might serve in declaring the legitimacy of their rule. Moreover, while previous Sasanian style coinage revealed growing interest in the use of coinage for political statements, the issues of 79 show for the first time dissatisfaction with the essential prototype of Sasanian style coinage. Although the chaos following 'Ubaidallāh b. Abū Bakra's defeat in 79 may have been sufficient to prevent the introduction of reformed coinage in Sijistan, the deliberate omission and transformation of stars, crescents, and pellets on the obverses and reverses of 'Ubaidallāh b. Abū Bakra's coinage can only reflect the mint's awareness of the introduction of reformed coinage in the east at this time as well as its sympathy for the specific prohibitions conveyed by reformed coinage against numismatic icons. Since reformed coinage was being struck as far east as Khurasan in this year, it is difficult to imagine that Sijistan did not know about its introduction. A representative of the Khurasan government, Wakr b. Bakr b. Wā'il, arrived in Sijistan at about this time and would certainly have brought news of 'Abd al-Mālik's coin reforms. Moreover, the Sijistan issue of 79 indicates cognizance of these reforms. The meticulous tampering with clearly religious and political icons such as stars, crescents, and pellets as well as the singular transformation of stars in the margins into the somewhat iconographically neutral fleurons strongly resembles 'Abd al-Mālik's first experimental coinage where he, too, removed or disfigured important political and religious iconography on Sasanian style and Byzantine style coinage in Damascus between 72 and 74. Consequently, the mint most certainly had to have

⁵¹ Two specimens can be found in Walker, pp. 95–96; the A.N.S. collection has one, 1971.316.1302; M. Malek, M. I. Mochiri, A. U. Rahman, and W. B. Warden each have one; one was also in the stock of S. Album in the fall of 1987.

known what was afoot in 79 in other mints in the east. In addition, the tampering with iconography indicates more than knowledge of the approximate prototype of reformed coinage. Indeed, the transformation and manipulation of iconographical detail points to an understanding and sympathy on the part of the mint for the ideology behind 'Abd al-Mālik's coin reforms as well as an enthusiasm to emulate these reforms. Consequently, without instructions to strike reformed coinage, the Sijistan mint experimented with its Sasanian style coinage of 79 influenced by the iconoclastic principles of the new coinage.

The Foroughi drahm which succeeded the issue of 79 reflects the combination of pressures facing local government in the wake of 'Ubaidallāh b. Abū Bakra's defeat in Zabulistan and numismatic innovation permeating Sijistan through the general introduction of reformed coinage in the east. Those features of the Foroughi drahm which may have proven anomalous to coinage of earlier and subsequent periods concur with the peculiar mix of politics, ideology, and innovation at this important juncture in Sijistan history.

The use of the obverse prototype of 'Abd al-'Azīz b. 'Abdallāh on the Foroughi drahm, for instance, reveals the insecurity of Abū Bardhā'a's government. While it is difficult to know exactly which groups in Sijistan would have objected to the use of Abū Bardhā'a's name on local coinage, the dissident group or groups probably included the army since the army was no doubt paid in this coinage and had the most reason to object to the name of a scion of 'Ubaidallāh b. Abū Bakra appearing on it. Indeed, while Sijistan armies had always tended to chafe under Umayyad authority, the debacle of 'Ubaidallāh b. Abū Bakra in 79 may have brought the army to the brink of rebellion. Since Abū Bardhā'a found himself tainted by the failures of his father, he may have found it necessary to forego some of the prerogatives of an Umayyad governor and to replace his name on local coinage with that of a more popular leader for the sake of public peace.

Although Abū Bardhā'a's name does not appear in the legend of the Foroughi coin, the initials of his kunya, *A B*, are found in the first quadrant of the obverse margin. This issue, consequently, can be identified as belonging to Abū Bardhā'a, not to other potentates in Sijistan during this period such as Wakī' b. Bakr b. Wā'il or 'Abdallāh b. 'Āmir.

The reformed style reverse of the Foroughi drahm logically succeeds the mint's somewhat experimental issue of 79. Although the mint imitated the linear style of reformed legends, it seems to have translated the *shahāda* in its Pahlavi legends from earlier experimental issues of Syria and Iraq rather than from reformed coinage. In fact, because 'Ubaidallāh b. Abū Bakra arrived in Sijistan in 78, well after the minting of these experimental issues yet one year before the general introduction of reformed coinage in the east, and because he led a force of 20,000 soldiers from Basra and Kufa probably carrying some coinage from Iraq to Sijistan, the Sijistan mint no doubt was aware of the experimental issues of 'Abd al-Mālik or al-Hajjāj. So the mint more closely imitated the legends on the experimental coinage of 'Abd al Mālik and al-Hajjāj than it did the legends of reformed coinage. Consequently, while the Sijistan mint was generally aware of the purpose and the design of reformed coinage, it struck a reformed style reverse with incomplete information about the reformed prototype. A pseudo-date of 72 was adopted to match the pseudo-patronymic of 'Abd al-'Azīz b. 'Abdallāh on the obverse.

Specific iconographical irregularities on the obverse of the Foroughi drahm concur for the most part with the unusual iconography noted on the issue of 79 which must have only just preceded this coin. The breast ornament of a rosette in a ring, for instance, does not seem so unusual in light of the variations of a crown ornament on the previous issue. Margin decorations of crescents and fleurons, moreover, are attested on the preceding coinage as well as the Foroughi drahm.

Similarly, the fabric of the coin argues for an attribution to about this period. As far as Sijistan's Sasanian style coinage can be judged, the Foroughi drahm is among the very best specimens. While the Sasanian style coinage generally becomes more crude in fabric with each issue, this drahm provides an example of outstanding workmanship. Although differences between die cutters and inconsistency in mint supervision may account for some variation in the fabric of specific coins, no mistake can ever be made between regular Sasanian style coinage and late imitations on the whole. Consequently, because the Foroughi drahm attests to high standards for its die cutting, it could not easily be placed after 85 when most late imitations were struck. Instead, the unusual coin belongs to the period of 79 to 81 when regular

Sasanian style coinage was ending but die cutting was still qualitatively reasonable.

The die axis of the Foroughi drahm, similarly, agrees with the coinage of this period. As noted above, the issue of 79 documents the gradual disuse of the former standard die axis of 3:00. The 12:30 die axis of the Foroughi coin, consequently, may reflect the random selection of die axes which was practiced in Sijistan at the end of 79 and after.

The Foroughi drahm, consequently, can be firmly established as belonging to the short rule of Abū Bardhā'a from 79 to perhaps 81. The coin, no doubt, is part of a transitional issue between Sasanian style coinage and reformed coinage although the revolt of Ibn al-Ash'āth postponed the introduction of reformed coinage in Sijistan until 90. In this context, the peculiarities of this coin document the vagaries of political life in this province as well as the enthusiastic, albeit unorthodox, response which 'Abd al-Malik's coinage reforms generated in some quarters.

In conclusion, some remarks may be made about the relative success or failure of Abū Bardhā'a's unique coinage. The Foroughi coin, no doubt, represents propaganda of the ruling regime. The close juxtapositioning of military and religious symbols leaves little doubt as to the origin of this mind set or the intentions of its authors. Because the Zunbīls had repeatedly defeated Umayyad governors over the course of the preceding 20 years and, especially, had nearly annihilated Muslim forces in 79, Abū Bardhā'a desperately attempted to harden the resolve of his subjects and sustain his army with the inspiration of a military hero and the righteousness of a sectarian Islam. While Ibn al-Ash'āth certainly invoked the name of Islam in announcing his campaign against the Zunbīls a year or two later,⁵³ the Foroughi drahm documents an earlier version of this propaganda. On this earlier version, religious and political symbols are more easily placed next to each other. Iconoclasm and the extent to which it might be carried were not yet clear to Abū Bardhā'a or the mint.

The translation of these legends from Arabic to Pahlavi indicates that the intended audience of the propaganda was primarily Persian, not Arab. The Persians may have included native Sijistanis, although not

⁵³ Al-Tabari (above, n. 31), pp. 327–28.

necessarily. Persian converts to Islam from elsewhere in the east often joined the provincial army in its campaigns against the Zunbils. Moreover, because the ranks of the Sijistan army were usually swollen with local Persian recruits no matter what forces were brought from Iraq, the propaganda was probably intended for both the army and the local population from which the recruits were drawn. The legends, then, were intended to legitimate the rule of Abū Bardhā'a among Persians in the army and at large. In addition, Abū Bardhā'a may have wished to vex a triumphant enemy, the Zunbils. While Hephthalite is different from Middle Persian, Middle Persian may have functioned as a lingua franca in Sijistan, understood by both Persian and Hephthalite in a capacity not yet achieved by Arabic. Whatever the precise nuances of Abū Bardhā'a's choice of Middle Persian over Arabic, it is significant that one of the most distinctive characteristics of reformed coinage, the use of Arabic legends, is not attested in this transitional issue.

Abū Bardhā'a, in any case, managed to reap some success in his endeavors. According to one source, he launched a punitive expedition against the Zunbils which restored payment of tribute by them to the Muslims.⁵³ The coinage should be seen as one aspect of the war effort which illustrates a dimension of this campaign not known from literary sources. Moreover, it appears that al-Hajjāj never discovered the potentially treasonous use of 'Abd al-'Azīz b. 'Abdallāh's name on local coinage since shortly thereafter he appointed Abū Bardhā'a governor of Kirman.⁵⁴ Abū Bardhā'a's unique coinage, then, seems to have served its purpose admirably well in conjunction with his other policies.

The legacy of this coinage, however, is a different story. Because reformed style imitations are virtually non-extant for this province and because the Sijistan mint seems to have minted almost exclusively Sasanian style imitations when it did strike coinage on its own after this time, the design of the Foroughi drahm must not have proved generally popular in Sijistan. Probably the continuance of Sasanian style coinage after this period reflects the province's long-standing familiarity with

⁵³ *Ta'rīkh-e Sīstān*, pp. 111–12.

⁵⁴ Ahmed b. Yahya al-Balādhuri, *Anonyme arabische Chronik*, vol. 9, pp. 317–18; Bosworth, p. 57.

the traditional Sasanian prototype as a medium of exchange, and preference for that prototype inhibited changing the appearance of a trusted financial instrument. Reformed coinage, with its removal of the Sasanian monarch on the obverse and fire altar flanked by attendants on the reverse was, perhaps, too radical an innovation and apparently met with indifference in Sijistan despite the initial enthusiasm of Abū Bardha'a.⁵⁵

⁵⁵ This article is the result of work begun at the ANS Graduate Seminar of 1987 as an investigation of the early Muslim mint of Sijistan. I would like to acknowledge my gratitude to the American Numismatic Society for this opportunity. I am also in great debt to those collectors who have made their collections available to me including Stephen Album, Mehdi Malek, M. Iradj Mochiri, Aman Ur Rahman, William Spengler, and William B. Warden. Moreover, at various stages in the preparation of this article, I have been aided by the criticisms and comments by Michael Bates and William B. Warden as well as, to a lesser extent, a great number of other scholars. In addition, Richard Frye has assisted me in the reading of the Pahlavi. I offer them my gratitude, although I assume sole responsibility for any errors or deficiencies which might be found in this article.

THE MINT OF HĀRŪNĀBĀD AND AL-HĀRŪNIYYA, 168–171 H.

(PLATE 15)

MICHAEL BONNER

The coinage of Hārūnābād and al-Hārūniyya, which begins in 168/785 and ends in 171/788, presents several puzzles.¹ Do these two names indicate a single mint? Does the mint name al-Hārūniyya correspond to the fortress town of that name, described by the Arab geographers as lying in the Syrian *thughūr*? If so, why is this series of coins clearly identified as belonging to the province of Armenia? Numismatists have long been aware of these problems.² No one, however, has

¹ For the bibliographical abbreviations used in this essay and catalogue, see below, pp. 191–93. I thank Dr. Michael Bates, Curator of Islamic Coins, the American Numismatic Society; Prof. Michael Cook of Princeton University; Dr. Marie H. Martin, Editor, the American Numismatic Society; Dr. N. D. Nicol; Obermuseumsrat Dr. H. Simon, Staatliche Museen zu Berlin; Mr. Joseph Cribb, Department of Coins and Medals, the British Museum; and Dr. Bengt Hoven, Kung. Myntkabinettet, Stockholm. For a discussion of the title which occurs in issues 11–13 of this Catalogue and for further remarks on the historical context of these coins, see my “Al-Khalifa al-Marḍī: The Accession of Hārūn al-Rashīd,” *Journal of the American Oriental Society* 108 (1988), pp. 79–91.

² The most important discussions of this coinage are to be found in: Fraehn, *Recensio*, *115, *116, and *123; Stickel, *Handbuch*, pp. 66–67, 80–84, and 86–90; Tiesenhäusen, 1051, 1077, 1090, 1093, 1099, 1117, and 1142–43; Kochtel, pp. 20–25 (Vasmer); Vasmer, *Chronologie*, pp. 19 ff.; Zambaur, p. 263; Miles, *RIC*, 233 (pp. 60–61); Artuk, *Den.*, pp. 79–81 and 89–90; the list of coins of Arab Armenia in Mushegian, “Vypusk”; Nicol, *diss.*, pp. 97–101 and 306–24; and al-‘Ushsh, *Umm Hajara*, pp. 79–82, 85–87, and 102–3.

yet attempted to impose order on this complicated coinage and to place it in its historical context.

Throughout the reign of al-Mahdī, coins of Armenia (Armīniya) were struck by the Muslim authorities of that province (see the Table below) with no indication of the exact mint location on dirhams, although the copper fulūs often have the name of the town as well as the province (compare items 1–4 with 5–6, for example). However, it is generally assumed that the dirhams of the province Armīniya were struck at Dabīl (Dwīn), while those of the sub-province Arrān (which always came under the rule of the Arab governor of Armenia) were struck at Bardha'a (Partaw).

ARMENIA, ARRĀN, AND AZERBAIJAN
IN THE REIGN OF AL-MAHDĪ, 158–69 (775–85)

<i>Item</i>	<i>Mint</i>	<i>Sovereign</i>	<i>Governor or Official*</i>	<i>Reference</i>
1. Æ 158	Bardha'a		al-Ḥasan	T. 2766
2. Æ 159	Dabīl		Yazīd b. Usayd	Mush. 30–33
3. Æ 159	Bardha'a		Yazīd b. Usayd	T. 887
4. Æ 159	al-Bāb		Yazīd b. Usayd	Pakh. p. 73
5. Ɱ 161	Armīniya	al-Mahdī		T. 910
6. Ɱ 162	Armīniya	al-Mahdī		T. 925
7. Æ 163	Bardha'a		Yazīd b. Usayd	T. 2769
8. Ɱ 165	Armīniya	al-Mahdī		Pakh. p. 76
9. Ɱ 166	Arrān	al-Mahdī		B. 783
10. Ɱ 166	Armīniya	al-Mahdī		B. 787
11. Ɱ 166	Ādharbayjān	al-Mahdī	Nuṣayr*	T. 925
12. Ɱ 167	Armīniya	al-Mahdī	Nuṣayr*	M. 269
13. Ɱ 167	Armīniya	al-Mahdī	Ibn Khuraym	T. 1027
14. Ɱ 167	Ādharbayjān	al-Mahdī	Nuṣayr*	T. 1028
15. Ɱ 168	Arrān	al-Mahdī	Ibn Khuraym	T. 2774
16. Ɱ 168	Armīniya	al-Mahdī	Ibn Khuraym	T. 1050
17. Ɱ 168	Armīniya	al-Mahdī	Ḥasan*	T. 1051
	Hārūnābād	Hārūn		
18. Ɱ 169	Ādharbayjān	al-Mahdī	Nuṣayr*	T. 1063, 1064
19. Ɱ 169	Arrān	al-Mahdī	Rawḥ	T. 1065
20. Ɱ 169	Armīniya	al-Mahdī	Ḥasan*	T. 1076
	Hārūnābād	Hārūn		
21. Ɱ 169	Armīniya	al-Mahdī	Khuzayma	P. 737
	al-Hārūniyya	Hārūn		

The mint of Hārūnābād leaps abruptly into history with Table item 17, Catalogue issue 1, 168 H. This rare coin appears to be identical to the far more abundant issue 2, 169 H., in all respects except the date.³

No medieval literary source ever mentions a place called Hārūnābād. The Persian ending of the name would argue for a location in Iran or (as some have thought) in Kurdistan.⁴ However, the word *Armīniya* is clear on the reverse field. This double indication of the mint (Hārūnābād and Armīniya) is in itself something of a rarity.⁵

Several numismatists have identified the Ḥasan of issues 1 and 2 as the famous al-Ḥasan ibn Qaḥṭaba, who was governor of Armenia in the last years of the reign of al-Manṣūr (154–58).⁶ However, no source, Arabic or Armenian, mentions this al-Ḥasan as governor in 168–69. Furthermore, the absence of the definite article in the name Ḥasan must be accounted for.⁷

A more probable connection can be made with a Ḥasan (again without the definite article) who appears on dirhams of Madīnat al-Salām issued in the beginning of the reign of Hārūn al-Rashīd in 170. Fraehn thought that this Baghdad Ḥasan was a mintmaster (“praefecti rei monetariae nomen esse”).⁸ Whatever Ḥasan’s function was, we may easily imagine a bureaucrat in a place named after Hārūn taking a position in the central government when that prince assumed supreme rule.

³ Tiesenhhausen, 1051; Stickel, “Ueber einige muhammedanische Münzen,” *ZDMG* 9 (1855), p. 251; and C. J. Tornberg, “Die jüngsten Ausgrabungen arabischen Geldes in Schweden,” *ZDMG* 22 (1868), p. 286.

⁴ E.g., Fraehn, *Recensio*, p. 6; Codrington, p. 195. Zambaur, p. 263, wrongly gives the impression that Yāqūt has a section on Hārūnābād. Le Strange, *Lands of the Eastern Caliphate* (Cambridge, 1930), p. 192, mentions a modern-day village named Hārūnābād in Jibāl, occupying the site of medieval Zubaydiyya. Cf. al-‘Ushsh, *Umm Ḥajara*, p. 80.

⁵ Stickel, *ZDMG* 9 (1851), p. 251; *Kochtel*, pp. 23–24 (Vasmer).

⁶ Fraehn, *Recensio*, p. *7, noted simply “Praefecti Arm. nomen?” Tiesenhhausen, 1051, suggested the identification with al-Ḥasan ibn Qaḥṭaba. See Artuk, p. 55, 203; Artuk, *Den.*, pp. 68–69, 298; Artuk et al., *V. Türk Tarih Kongresi* (Ankara, 1960), p. 216. Various positions are summarized by al-‘Ushsh, *Umm Ḥajara*, pp. 81–82.

⁷ As noted at Tiesenhhausen, 1051, and Lane-Poole, *Khed.*, 393 (p. 456). The coins struck in al-Ḥasan ibn Qaḥṭaba’s name from the years 154 through 158 are clearly marked al-Ḥasan.

⁸ Tiesenhhausen, 1051, citing Fraehn, *Mus. quond. Sprewitz* and ms. XI. Neither Tiesenhhausen nor Fraehn connected this Ḥasan with the Hārūnābād Ḥasan of 168–69.

The mint name *Hārūnābād* stops in 169, and is apparently replaced in that same year by the name *al-Hārūniyya*, issue 3, the one name merely replacing the other. The peculiarity of the double indication of the mint in issues 1–3 makes this conclusion unavoidable. Nonetheless, many numismatists have thought that these were two separate places.⁹

Issue 2a would provide a smooth transition from *Hārūnābād* to *al-Hārūniyya*, because it is purportedly a *Hārūnābād* coin with the name of the governor *Khuzayma*, which also appears on *al-Hārūniyya* coins, issues 3–6. However, issue 2a seems to be a bibliographical hybrid created by the great *Tiesenhausen* (see *Catalogue*), which subsequent scholarship (especially Soviet) has incorporated into the series of Armenian coinage for this period.¹⁰ It must be ruled out as a link between the two mint names.

We must also rule out die links as a means of proving that *Hārūnābād* and *al-Hārūniyya* were one and the same place. Different obverse and reverse dies were used for each of these issues, a fact made obvious by the change in the annulet pattern on the obverses of issues 2 and 3.¹¹

Nonetheless, it is difficult to maintain that *Hārūnābād* and *al-Hārūniyya* were different places. As already stated, issues 1–3 all bear the name of the province *Armīniya*. No mint other than *Hārūnābād* and *al-Hārūniyya* issued coins of Armenia from 169 through 172.¹² The available specimens of issues 2 and 3 are also remarkably similar in epigraphical style. It must be concluded that the names *Hārūnābād* and *al-Hārūniyya* do refer to one place, and we must proceed to ask where *Hārūnābād/al-Hārūniyya* was located.

Medieval Arab geographical tradition identifies a town called *al-Hārūniyya*, located in the Syrian *thughūr* between *Mar'ash* and *'Ayn Zarba*, to the east of the middle *Jayḥān* (*Pyramos*). "It owes its name to *Hārūn al-Rashīd* who founded it in 183/799 when he was organizing

⁹ *Stickel, Handbuch*, pp. 66–67; *Codrington*, p. 195; *Kochtel*, pp. 24–25 (*Vasmer*).

¹⁰ E.g., *Vasmer, Chronologie*, p. 28, n. 28; *Mushegian*, "Vypusk," no. 34 in list.

¹¹ There are three die linked coins of issue 2 in the ANS collection, all from the *Yaouriyya* hoard.

¹² Cf. *Zambaur, Münzprägungen*, p. 263. This continuity of the name *Armīniya* tends to discredit the arguments of *Stickel, Handbuch*, pp. 66–67.

the defence of the frontier." In the fourth/tenth century it was taken by the Byzantines, then retaken and rebuilt by Sayf al-Dawla. Afterwards the Crusaders captured it, and it became annexed to Little Armenia.¹³

Cilicia at the end of the second/eighth century is, of course, never described as Little Armenia, and it is startling to find the silver mint (and therefore the administrative capital?) of Armenia situated so far to the south. This has led many numismatists to declare the Arab geographers irrelevant to the problem, or simply wrong, and to place al-Hārūniyya far to the north and to the east of the Syrian *thughūr*.¹⁴ In addition, the foundation date of 183 (found in Balādhurī, Hamadhānī, and Yāqūt) is too late for this coinage.

This latter problem can be disposed of fairly easily. Balādhurī's *Futūḥ* gives an alternative tradition, without isnād: "It is also said that [Hārūn] built [al-Hārūniyya] during the caliphate of al-Mahdī, and that it was completed afterwards during his own caliphate."¹⁵ This alternative tradition provides a plausible, though long, period in which to place the foundation of al-Hārūniyya (or Hārūnābād).¹⁶ It is well attested that Hārūn, then an adolescent, played an important part in the wars with Byzantium during the reign of his father al-Mahdī. He led campaigns in 163 and 165, both of which took place partly in the Syrian *thughūr*.¹⁷ His activities in this area are mentioned in some detail in Balādhurī's *Futūḥ*.¹⁸

¹³ T. H. Weir, *EI*³ 3, pp. 234–35, with references.

¹⁴ This has been the consensus in this century, ever since Vasmer declared al-Hārūniyya to be synonymous with Dabīl or some other Armenian locale, *Kochtel*, pp. 24–25. E.g., Zambaur, p. 263; S. Album, "Price List No. 15," August 1979, 230. Scholars in the nineteenth century were more inclined to cede al-Hārūniyya to the Syrian *thughūr*, e.g., Fraehn, *Recensio*, p. 6; Stickel, *Handbuch*, p. 80; Tornberg (above, n. 3), p. 287; O. Blau, "Nachlese orientalischer Münzen," *NZ* 6–7 (1874–75), p. 19.

¹⁵ Balādhurī, *Futūḥ*, p. 171, *wa-yuqālu*, whereas the tradition which gives the foundation date of 183 is armed with the isnād of al-Wāqidī—Ibn Sa'd—al-Wāsiṭī. This same tradition is repeated in Hamadhānī, p. 113, on the authority of al-Wāqidī.

¹⁶ Note the two dates (162 and 171) given for the founding of Ṭarsūs, Balādhurī, *Futūḥ*, p. 169.

¹⁷ Ṭabarī, ser. 3, pp. 497–98, 504–05.

¹⁸ Balādhurī, *Futūḥ*, pp. 168 and 192.

The early 'Abbāsids liked to name towns after themselves. The mint name al-Muḥammadiyya first appears on coins of al-Rayy in 148, with al-Mahdī as heir apparent.¹⁹ Al-Mahdiyya of North Africa begins to issue coins in 152.²⁰ It is also reported that al-Mahdī, after restoring al-Ḥadath in 162 or 163, intended to rename that town as al-Muḥammadiyya or al-Mahdiyya.²¹ The name al-Hārūniyya (though not, of course, Hārūnābād) would fit easily into this pattern. It is tempting to think that Hārūn founded this town during his campaigns of 163 and 165; but it might also be the case that it first arose late in al-Mahdī's reign, somehow marking an advance in Hārūn's position in his competition over the succession with his older brother Mūsā.

What happened in 168 which might have forced the mint of Armenia to move southward? We may detect two distinct sources of trouble in that year for the 'Abbāsīd authorities in the northwestern frontier region.

First of all, the Arabic sources tell us that in Ramadān 168 (17 March –15 April 785), the Byzantines violated the truce, which at that point had been in effect for three years. Caught by surprise, the Arabs responded in that year with a small expedition (*sariyya*).²² Fighting continued into 169 (that is, into the summer, the usual campaigning season); Ṭabarī tells us little about it, but clearly states that al-Ḥadath was taken by the enemy.²³

¹⁹ Miles, *NHR*, p. 31.

²⁰ Zambaur, p. 251: "Die arabischen Annalisten und Geographen behaupten, daß diese Stadt nach dem Fatimiden-khalifen 'Ubaidallāh al-Mahdī bennant worden sei, der sie i.J. 303 mit Mauern versehen liess; doch die Münzen beweisen klar, daß sie nach dem Abbasiden al-Mahdī gennant wurde." There is, however, a gap in the coinage from 189 until 310.

²¹ Balādhurī, *Futūḥ*, p. 190; Ṭabarī, ser. 3, p. 499, under the year 163, where al-Mahdī accompanies Hārūn to the frontier: *wa-shayya'a al-Mahdī ibnahu Hārūn ḥattā qaṭa'a al-darb wa-balagha Jayḥān wa'rtāda al-madīna allatī tusammā al-Mahdiyya wa-wadda'a Hārūn 'alā nahr Jayḥān*. This account is not incompatible with Balādhurī, *Futūḥ*, p. 190 (*pace* Moscati, "Studi," p. 313), because the date which Balādhurī first cites (161) does not apply to all of the long series of events which he describes at that point, ending with the death of al-Mahdī (in 169).

²² 'Alī ibn Sulaymān was then then governor of al-Jazīra and Qinnasrīn. Ṭabarī, ser. 3, p. 521; Ya'qūbī, vol. 2, p. 486; Moscati, "Studi," p. 318. He sent Yazīd ibn Badr ibn al-Baṭṭāl on this expedition.

²³ Ṭabarī, ser. 3, p. 568; Moscati, "Le califat," pp. 14–15.

The Muslim year has three months after Ramaḍān. Accordingly, there were three months in 168 in which a new mint might have begun to operate in the Syrian *thughūr*, presumably in order to supply the needs of this new concentration of soldiers. The fact that issue 1 is scarce, whereas issue 2 is relatively plentiful (the two being identical except for the date) would indicate that the new mint did not open until the very end of 168, and then continued its production into the following year.

In Balādhurī we find a fuller picture of the events surrounding the Byzantine attacks of 168–69 in the Syro-Jazīran *thughūr*. The frontier fortress town of al-Ḥadath (a day's march from al-Hārūniyya) was restored and fortified by 'Alī ibn Sulaymān, governor of al-Jazīra and Qinnasrīn, who directed operations against the Byzantines in 168. Al-Mahdī died when work on al-Ḥadath had neared completion.

[Al-Mahdī's] son Mūsā al-Hādī succeeded to the caliphate. Mūsā dismissed 'Alī ibn Sulaymān, and appointed Muḥammad ibn Ibrāhīm ibn Muḥammad ibn 'Alī governor of al-Jazīra and Qinnasrīn. 'Alī ibn Sulaymān had completed the construction of the town of al-Ḥadath, and Muḥammad assigned to it a levy of soldiers (*wa-faraḡa lahā Muḥammad farḡan*) from al-Shām, al-Jazīra and Khurāsān, granting them stipends (*al-'aḡā'*) of 40 dinars. He also granted them houses (*wa-aḡḡa'ahum al-masākin*) and gave each man 300 dirhams. Al-Ḥadath was completed in 169.

Abū 'l-Khaṭṭāb said that 'Alī ibn Sulaymān assigned 4,000 soldiers to al-Ḥadath, and settled them in the town. He transferred 2,000 men there from Malaṭya, Shimshāṭ, Sumaysāṭ, Kaysūm, Dulūk and Ra'bān. Al-Wāqidī said that when the town of al-Ḥadath was built, the winter was severe, with heavy snowfall and rainfall. The town's buildings had not been constructed sturdily enough, and did not provide protection. The town therefore became filled with cracks, and fell apart. The Romans then descended upon the town, while the garrison and the other inhabitants scattered. News of this reached Mūsā, and he sent a contingent (*wa-qaṭa'a ba'than*) with al-Musayyib ibn Zuhayr, a contingent with Rawḥ ibn Ḥātim, and a contin-

gent with Ḥamza ibn Mālik. However, he died before they were sent out. Thereupon al-Rashīd assumed the caliphate, and gave orders that the city should be rebuilt, fortified and supplied, and that its troops should be granted dwelling places and tracts of land (*wa-iqtā' muqātilatihā al-masākin*).²⁴

The new army's financial requirements were thus quite considerable. It seems possible that the mint of Hārūnābād would have been set up in 168 to meet those requirements. The date of these events (168–69) fits the Hārūnābād coins perfectly.

Perhaps the most important piece of information provided by Balādhurī concerns the presence of Rawḥ ibn Ḥātim at al-Ḥadath with a contingent of soldiers. Both Arabic and Armenian sources describe Rawḥ as governor of Armenia at this time. His name appears on coins of Arrān and Azerbaijan in this period (168–69).²⁵ Rawḥ soon afterward became governor of Ifrīqiya, replacing his own brother who had died there. Rawḥ's own replacement in Armenia in 169 was Khuzayma ibn Khāzim, well known from these coins (see Catalogue) and from written sources. But Rawḥ's presence in the Syro-Jazīran *thughūr* at this critical time (168–69) makes the transfer of the Armenian mint to Cilicia seem more probable.

Even though Rawḥ was present in the region of al-Ḥadath and Cilian al-Hārūniyya during these military operation, Balādhurī says that 'Alī ibn Sulaymān, the governor of al-Jazīra and Qinnasrīn, was in charge of operations in 168 as well as of the defense of al-Ḥadath. How could such a governor strike coins in the name of a province not his own (that is, Armenia)? Furthermore, it might seem strange that a major provincial mint should be set up so near a marauding enemy. Richard Vasmer found these arguments overwhelming, and proceeded to locate

²⁴ Balādhurī, *Futūḥ*, pp. 190–91. It has been stated that *farḍ* here refers to mercenaries. The word can mean "paid soldiers"; Balādhurī is perhaps referring to regular *murtaziqa*. See E. Kubbel', "O nekotorykh chertakh voennoi sistemy khalifata Omāiīadov," *Palestinskii Sbornik* 4 (1959), p. 120.

²⁵ Balādhurī, *Futūḥ*, p. 210; Lewond, p. 144; Vasmer, *Chronologie*, p. 25. For the coins see the Table (above). Obviously Rawḥ could not have been in all these provinces at once, but once the dies were authorized coins must have been minted in his name during his absence.

al-Hārūniyya in the north, suggesting that it might be identical with Dabīl itself.²⁶

However, Vasmer did not take into account the presence of Rawḥ ibn Ḥātim in the Syro-Jazīra frontier region during this time. And from this passage in Balādhurī, it might be inferred that 'Alī fell into disgrace; further, that Rawḥ may even have replaced him for a while, in some fashion.

In addition, 'Alī did not hold a position superior to that of Rawḥ; and even if he had done so, he would still have been unable to strike coins in his own name and in the name of his own provinces. For the fact is that al-Jazīra and Qinnasrīn, the provinces under 'Alī's control, produced no or next to no coinage during the early 'Abbāsīd years. Armenia, on the other hand, had been a productive mint for decades (though with some interruptions). The Armenian silver mines which al-Mahdī had opened in 162 must have added to this productivity.²⁷

Now it is clear how coins of Armenia could have been struck in the *thughūr al-Shām* starting late in 168. After the fall of al-Ḥadath, 'Alī ibn Sulaymān was dismissed as commander and as governor of al-Jazīra and Qinnasrīn. New troops were sent to the area, under new commanders, including Rawḥ ibn Ḥātim. The situation required striking of coins; and since Armenia then had an active mint, whereas al-Jazīra and Qinnasrīn had none, the Armenian mint took over this duty. This site of Hārūnābād may have served as administrative headquarters for the governor of Armenia, Rawḥ ibn Ḥātim. Rawḥ's name does not appear on the coins of Hārūnābād, but neither does the name of any governor.²⁸

The 'Abbāsīd authorities faced a second problem in the northwestern provinces in 168–69, this one in Armenia itself. The Armenian historian Lewond tells of a persecution occurring in 785 (168/9 H.). In that year al-Hādī sent a governor named Khazm (this is the Khuzayma ibn Khāzim of the coins) who proceeded to persecute the Armenian faithful,

²⁶ *Kochtel*, p. 24 (Vasmer).

²⁷ Lewond, p. 140; Pakhomov, vol. 1, p. 75.

²⁸ As shown above, the Ḥasan of issues 1 and 2 was almost certainly not a governor. Khuzayma's name does not appear until issue 3.

including three Armenian princes, one of whom apostatized, while the others were tortured and killed.²⁹ These coins prove beyond any doubt that Khuzayma (issues 3–6) began his governorship under al-Mahdī, and not al-Hādī. Lewond's chronology is all slightly wrong for these years.³⁰

However, al-Ya'qūbī, the best Arabic source for Armenia in this period, confirms a picture of large-scale turbulence beginning in 168. "And when al-Rashīd appointed Khuzayma ibn Khāzim al-Tamīmī over Armenia, [Khuzayma] stayed there for a year and two months, subduing the country, setting it in order, and reducing it to obedience."³¹ Like Lewond, Ya'qūbī appears to have his chronology wrong. The coins show that Khuzayma took office in the reign of al-Mahdī. However, it should be remembered that since 163 Hārūn had been (at least in name) governor or viceroy of "the Maghrib, Azerbaijan and Armenia."³² Hārūn (or perhaps more likely, Yaḥyā ibn Khālid ibn Barmak) may have chosen Khuzayma for this post during the caliphate of al-Mahdī.

Lewond describes Khuzayma as residing in Dwīn (Dabīl); and there is no indication from any source that Khuzayma governed from, or resided in, the area of Cilician al-Hārūniyya. However, Lewond was more interested in gory details about this monster, whose name in Armenian (*Khazm*) means "war, battle"³³ than in matters of chronology and the precise whereabouts of governors. In any case, even if Khuzayma did reside in the north (at Dabīl or Bardha'a), these disturbances in Armenia coincided with the renewal of hostilities on the Byzantine frontier, precisely at the time of the Hārūnābād and al-Hārū-

²⁹ Lewond, pp. 144–45; Moscati, "Le califat," pp. 16–17.

³⁰ Stickel, *Handbuch*, pp. 81–82; Vasmer, *Chronologie*, p. 28, n. 28; Pakhomov, vol. 2, pp. 82–83. Moscati, "Le califat," p. 16, is unaware of the coins and of Vasmer's *Chronologie*.

³¹ Ya'qūbī, vol. 2, pp. 515–16; J. Marquart, *Osteuropäische und ostasiatische Streifzüge* (Leipzig, 1903), pp. 453–54.

³² Ṭabarī, ser. 3, p. 500. At Lewond, pp. 143–44, Hārūn makes decisions and gives orders (concerning the persecution of Armenians) by himself, and then together with his father al-Mahdī.

³³ Lewond, tr. Chahnazarian, p. 156 (translator's note).

niyya coinage. The combination of these two pressures may have forced the mint (if not the provincial government) to remain in the south for three years, once it had moved there.

Finally, why were these coins first struck with the Persian name Hārūnābād? Only one explanation comes to mind. Balādhurī describes a great deal of activity in the *thughūr* during the reigns of al-Mahdī and al-Rashīd. Towns were restored, fortifications built, and garrisons of troops imported. Among the various kinds of troops, Khurāsānīs seem to have been the most important and the most numerous.³⁴ Indeed, the arrival of Khurāsānīs coming to take part in the jihād remained a constantly recurring event in the *thughūr* until the days of the Byzantine reconquest, as noted by Ibn Nubāta.³⁵ As virtual foreigners, and with their special consciousness of being the mainstay of the ‘Abbāsīd dynasty, these Khurāsānīs may have used their own language in naming their new castles and citadels. Furthermore, as in the example of al-Muḥammadiyya/al-Rayy,³⁶ the name on a coin, in certain cases, refers only to a part of a town.

The al-Hārūniyya of the coins was indeed the site known to the geographers. This does not mean that Ṭarsūs, al-Ḥadath, al-Maṣṣīsa, or even al-Hārūniyya itself were considered part of Armenia prior to 170. The frontier towns were under the command of the governor of al-Jazīra and Qinnasrīn in 168. It seems, rather, that the entire region, including the *thughūr al-Jazīra wa'l-Shām*, was then less differentiated, rather like the great Byzantine theme of the *Armeniakōn* with which the early Muslim warriors found themselves face to face.³⁷

³⁴ Balādhurī, *Futūḥ*, pp. 162, 166, and 168–69. Vicious, bloodthirsty Khurāsānīs appear at Lewond, p. 134; cf. J. Laurent, *L'Arménie entre Byzance et l'Islam depuis la conquête arabe jusqu'en 886* (Paris, 1919), p. 155, n. 6; R. Grousset, *Histoire de l'Arménie des origines à 1071* (Paris, 1947, repr. 1973), p. 324.

³⁵ Ibn Nubāta (Beirut), pp. 202–7; M. Canard, *Sayf al Daula. Recueil de textes relatifs à l'émir Sayf al Daula le Ḥamdānide* (Algiers, 1934), pp. 167–73.

³⁶ Miles, *NHR*, p. 31. “In the strict sense al-Muḥammadiyya applied only to the inner city situated at the base of the citadel hill.”

³⁷ See now M. Bates, “The Dirham Mint of the Northern Provinces of the Umayyad Caliphate,” *Armenian Numismatic Journal* 15 (1989), pp. 89–111.

CATALOGUE

George Miles noted the “bewildering number of issues at this mint during the three years of its existence.”³⁸ Sixteen distinct issues have been identified here. All are silver dirhams, with the exception of issue 5, a copper fals. All coins have the obverse legend *Lā ilāha illā / 'llāhu waḥdahu / lā sharīka lahu* (“There is no god but / God alone / with no associate”). The reverse margin inscription of all the dirhams is derived from Qur’ān 9:33, as is usual for coins of this period. The catalogue therefore includes only the following, for each issue: 1) date and mint; 2) reverse field legend, with translation; 3) obverse margin (giving mint and date), with translation; 4) annulet pattern; and 5) sources, in approximate chronological order, but beginning with Tiesenhausen’s *Monety vostochnago Khalifata* (when applicable), this still being the principal reference work for early ‘Abbāsīd coins, and ending with the collection of the American Numismatic Society.

1. 168 Hārūnābād

Armīniya

the caliph al-Mahdī

at the command of Hārūn

son of the commander of the faithful

Ḥasan

ارمنية

الخليفة المهدي

مما امر به هرون

بن امير المؤمنين

حسن

بسم الله ضرب هذا الدرهم بهرون اباد سنة ثمان وستين ومئة

In the name of God. This dirham was struck in Hārūnābād in the year 168.

Annulets: 000 000 000

Tiesenhausen, 1051; J. G. Stickel, “Ueber einige muhammedanische Münzen,” *ZDMG* 9 (1855), p. 251; C. J. Tornberg, “Die jüngsten Ausgrabungen arabischen Geldes in Schweden,” *ZDMG* 22 (1868), p. 286; *BMC* 9, 132 m (Plate 15, 1). Stickel described the lettering as “sehr klein und fein, etwas nach links geneigt.”

³⁸ Miles, *RIC*, p. 60.

2. 169 Hārūnābād

Armīniya

the caliph al-Mahdī

at the command of Hārūn

son of the commander of the faithful

Ḥasan

ارمينية
الخليفة المهدي
مما امر به هرون
بن امير المؤمنين
حسن

بسم الله ضرب هذا الدرهم بهرون اباد سنة تسع وستين ومئة
In the name of God. This dirham was struck in Hārūnābād in the year
169.

Annulets: 000 000 000

Tiesenhaussen, 1076, referring to several publications which are unavailable, namely: C. M. Fraehn, *Leipzig Lit. Zeit.* (1822), p. 1034, 130; *Catalogue de la coll. de Sprewitz*, 83 bis; *Museum quon. Sprew.*, 105; and *Mus. num. rost.* fol. 30, recto, 11, a. Also in: Fraehn, *Recensio*, p. *7, *116; *BMC* 9, 132n; Lane-Poole, *Khed.*, 393 = Nicol, *Eg. Lib.*, 818; Lane-Poole, *SPC*, p. 112 (40), 319; Paris, 735 and 736; Ismail, 421; Artuk, 203; Artuk, *V. Türk Tarih Kongresi* (Ankara 1960), p. 216; Artuk, *Den.*, 298; ANS 1921.999.57, 1972.79.588, 1972.170.686, 1972.170.687, 1972.170.688, 1972.170.689, 1972.170.690 (Plate 15, 2); Princeton University Museum 1002.1.197.

Nicol, diss., p. 320, refers to a Hārūnābād coin of 167, listed in I. L. Dzhilagania, *Monetnie klady Gruzii* (Tbilisi, 1974). This coin is likely to belong to this issue (with the date of 169) because: 1) there is no indication anywhere else of Hārūnābād coins for 167; 2) issue 1 probably began *late* in 168; 3) *tis'* can easily be confused with *sab'* in Kufic.

2a. 169 Hārūnābād (with Khuzayma ibn Khāzim named as governor)

Tiesenhausen, 1077, lists a “dirham of Hārūnābād” (“Garunabadskii dirgem togo zhe goda” [= 169]) and gives three references.

1) Stickel, *Handbuch*, pp. 81–82, which clearly refers to issue 4 below.
2) Fraehn *Numi kufici ex variis museis selecti* (St. Petersburg, 1823), p. 51, where Fraehn discusses a coin issued during Khuzayma’s second governorship of Armenia, in 189, and gives no confirmation of the existence of the coin which is identified here as issue 2a. Tiesenhausen’s sources are therefore reduced to:

3) Fraehn, ms. X, fol. 71, recto, and XI, 62–63, now utterly inaccessible. Tiesenhausen understands Fraehn as referring precisely to this issue 2a (“zaklyuchaetsya sleduyushchaya zametka po povodu etoi monety”) and quotes at length from these unedited manuscripts. However, nothing in the sections cited refers to Hārūnābād as a mint name. Fraehn discussed Khuzayma’s career in Armenia, Baghdad, etc., saying, “Choseimam nostrum a. 169 Ciliciae praefuisse ex hoc numo intelligimus” [from this coin we learn that our Khuzayma was governor of Cilicia in 169]. This could equally well be said of issue 3. It therefore appears to be the case that either Fraehn or Tiesenhausen mistakenly attributed the mint name Hārūnābād to a coin belonging to issue 3 (al-Hārūniyya). Confirmation of this may be found in the fact that issue 3 is lacking altogether in the *Monety vostochnago Khalifata*.

3. 169 al-Hārūniyya

Armīniya

the caliph al-Mahdī

at the command of Hārūn

son of the commander of the faithful

Khuzayma

ارمينية
الخليفة المهدي
مما امر به هرون
بن امير المومنين
خزيمة

بسم الله ضرب هذا الدرهم بالهرونية سنة تسع وستين ومئة

In the name of God. This dirham was struck in al-Hārūniyya in the year 169.

annulets: O oo O oo O oo

BMC 1, 133; Paris, 737; *Kochtel*, p. 20; S. Album, unpublished notes on collection of Ashmolean Museum; ANS 1972.79.589 (Plate 15, 3).

4. 169 al-Hārūniyya

Khuzayma

the caliph al-Hādī

at the command of Hārūn

son of the commander of the faithful

Ibn Khāzim

خزيمة
الخليفة الهادي
مما امر به هرون
بن امير المومنين
بن خازم
بسم الله ضرب هذا الدرهم بالهرونية سنة تسع وستين ومئة

بسم الله ضرب هذا الدرهم بالهرونية سنة تسع وستين ومئة

In the name of God. This dirham was struck in al-Hārūniyya in the year 169.

Annulets: o^oo oo o^oo oo o^oo oo

Tiesenhausen, 1088, citing Fraehn ms. XI, p. 64 (unavailable); Fraehn, *Nova supplementa*, I, 119, a (p. 12); Stickel, *Handbuch*, XCIV (pp. 81–82); *BMC* 1, 138; Lane-Poole, *Khed.*, 396 = Nicol, *Eg. Lib.*, 823; Lane-Poole, *SPC*, p. 112 (40), 319; Berlin, 926; Østrup, 292; Ahmed Ziya Bey, 2223; Artuk, 214; W. Qazzāz, *Sumer* 20 (1964), p. 282, 9042; Artuk, *Den.*, 343; *CNS* 1.2 Butte 38. Stora Velinga I, 243 (p. 233); Al-'Ushsh, *Qatar*, 1575–77 (p. 363). ANS 1917.215.392, 1972.79.590 (Plate 15, 4), 1972.170.692.

4a. 169 al-Hārūniyya

ANS 1972.170.691 (Plate 15, 4a). The obverse of this coin corresponds to issue 4, while the reverse belongs to issue 11. It is therefore a mule, struck between dies belonging to different issues and different years. Cf. Lane-Poole, *SPC*, p. 112 (40), 320, a Hārūniyya coin of 170 with a reverse corresponding to coins of Armenia dated 161 (al-Mahdr).

5. Æ Fals. 169 al-Hārūniyya

Obverse field:

there is no god but

God alone

with no associate

لا اله الا
الله وحده
لا شريك له

Obverse margin:

بسم الله ضرب هذا الفلّس بالهرونية سنة تسع وستين ومئة

In the name of God. This fals was struck in al-Hārūniyya in the year 169.

Reverse field:

the caliph

Muḥammad

is the messenger

of God

al-Hādī

الخليفة
محمد
رسول
الله
الهادي

Reverse margin:

مما امر به الامير خزيمة بن خازم عز الله نصره

At the command of the amir Khuzayma b. Khāzim, God strengthen his victory.

Tiesenhausen, 1093, citing Fraehn, ms. XI; "Seconde lettre de M. le Général J. de Bartholomaei à M. F. Soret," *RBN* 1861, p. 27; *ANS* 1959.165.36 (Plate 15, 5.36); 1959.165.37 (Plate 15, 5.37).

Engraver's error, 'azza for a'azza, clearly legible.

6. 169 al-Hārūniyya

Khuzayma
Muḥammad is the messenger
of God, God's blessing upon him
and peace
the caliph Mūsā
ibn Khāzim

خزيمة
محمد رسول
الله صلى الله عليه
وسلم
الخليفة موسى
بن خازم
بسم الله ضرب هذا الدرهم بالهرونية سنة تسع وستين ومئة

Tiesenhausen, 1089, citing Nesselman, "Kufische Münzen," *Preussische Provinzial-Blätter*, andere Folge, Vol. VI (LII), Heft 6 (1854), p. 404 = Nesselman, *Die orientalischen Münzen*, 104. This coin bears a different inscription from issue 4. Nesselman recognized how unusual it was: "Alle mir bekannten Münzen al-Hādī's aus Harunija vom Jahre 169... weichen wesentlich von der Vorliegenden ab."

The coin which Nesselmann described belonged to the Akademische Münzcabinet in Königsberg. In a private communication, Obermuseumsrat Dr. H. Simon, of the Staatliche Museen zu Berlin, has informed me that he does not know what became of the Königsberg collection. We must therefore consider this coin as lost.

7. 169 al-Hārūniyya

at the command of Yazīd
Muḥammad is the messenger
of God, God's blessing upon him
and peace; the caliph al-Hādī
ibn Mazyad

مما امر يزيد
محمد رسول
الله صلى الله عليه
وسلم الخليفة الهادي
بن مزيد
بسم الله ضرب هذا الدرهم بالهرونية سنة تسع وستين ومئة

In the name of God. This dirham was struck in al-Hārūniyya in the year 169.

Annulets as issue 4 according to N. D. Nicol.

Tiesenhäusen, 1090, citing Fraehn ms. XI, p. 60 (unavailable); Stickel, *Handbuch*, p. 80 (XCIII), with illustration; Qazzāz, *Sumer* 20 (1964), p. 282, 8455.

8. 170 al-Hārūniyya

at the command of Yazīd
Muḥammad is the messenger
of God, God's blessing upon him
and peace; the caliph al-Hādī
ibn Mazyad

مما امر يزيد
محمد رسول
الله صلى الله عليه
وسلم الخليفة الهادي
بن مزيد
بسم الله ضرب هذا الدرهم

بسم الله ضرب هذا الدرهم بالهرونية سنة سبعين ومئة

In the name of God. This dirham was struck in al-Hārūniyya in the year 170.

Annulets: O ooo O ooo O ooo

BMC 1, 140 (Plate 15, 8); Ahmed Ziya Bey, 224; S. Album, notes on Ashmolean.

9. 170 al-Hārūniyya

Yūsuf
Muḥammad is the messenger
of God, God's blessing upon him
and peace; the caliph al-Hādī

يوسف
محمد رسول
الله صلى الله عليه
وسلم الخليفة الهادي

ح
بسم الله ضرب هذا الدرهم بالهرونية سنة سبعين ومئة
In the name of God. This dirham was struck in al-Hārūniyya in the year 170.

Paris, 744; Markov 321; *CNS* 1.2 Storo Velinge, I, p. 233, 233; *ANS* 1972.170.693 (Plate 15, 9).

10. 170 al-Hārūniyya

Ibrāhīm
Muḥammad is the messenger of God

ابراهيم
محمد رسول الله

the caliph al-Hādī
at the command of Hārūn
son of the commander of the faithful
Jarīr

الخليفة الهادي
مما امر به هرون
بن امير المؤمنين
جرير

بسم الله ضرب هذا الدرهم بالهرونية سنة سبعين ومئة
In the name of God. This dirham was struck in al-Hārūniyya in the
year 170.

Annulets: O oo O oo O oo

Tiesenhhausen, 1099; Fraehn, *Recensio*, p. *8, *123; Stickel, *Handbuch*, p. 86 (C); *BMC* 1, 139; Paris, 743; Berlin, 928–29; Tornberg, *Numi kufici*, 129; Østrup, 291; Markov, 322; Artuk, 215; Artuk, *Den.*, 344; Qazzāz, *Sumer* 20 (1964), p. 282, 8832; S. Album, “Pricelist No. 15” (August 1979), 230; al-‘Ushsh, *Umm Ḥajara*, pp. 85–87, 372; al-‘Ushsh, *Qaṭar*, p. 364, 1578–79; ANS 1917.215.393, 1959.165.38, 1972.79.591 (Plate 15, 10), 1972.79.592. On the names Ibrāhīm and Jarīr, see al-‘Ushsh, *Umm Ḥajara*, pp. 86–87.

11. 170 al-Hārūniyya

Jarīr
Muḥammad is the messenger of God
the caliph al-Mardī
at the command of Hārūn
commander of the faithful

جرير
محمد رسول الله
الخليفة المرضي
مما امر به هرون
امير المؤمنين

بسم الله ضرب هذا الدرهم بالهرونية سنة سبعين ومئة
In the name of God. This dirham was struck in al-Hārūniyya in the
year 170.

Annulets: O oo O oo O oo

Tiesenhhausen, 1118; Berlin, 1240; Artuk, 252 = Artuk, *Den.*, 380; Miles, *RIC*, 233 (pp. 60–61) = ANS (Wood Coll.); ANS 17.216.217 (Plate 15, 11); Bonner, “Al-Khalifa al-Mardī,” p. 80.

12. 170 al-Hārūniyya

Rajā'
Muḥammad is the messenger
of God, God's blessing

رحا
محمد رسول
الله صلى الله

upon him and peace;
the caliph al-Mardī

عليه وسلم
الخليفة المرضى

ح س

بسم الله ضرب هذا الدرهم بالهرونية سنة سبعين ومئة
In the name of God. This dirham was struck in al-Hārūniyya in the
year 170.

Annulets: O oo O oo O oo

Tiesenhausen, 1117, quoting Fraehn, *Sammlung kleiner Abhandlungen*, and ms. 38, fol. 65, both unavailable. Fraehn, *Recensio*, p. *11, *133; *BMC* 1, 230 (Plate 15, 12); Lane-Poole, *Khed.*, 397 = Nicol, *Eg. Lib.*, 1084; Berlin 1241–42; Dorn, 183; *CNS* 1.2 Bjerne, 8 (p. 82); Qazzāz, *Sumer* 20 (1964), pp. 278–79 (8510); Artuk, *Den.*, 381; Bonner, “Al-Khalīfa al-Mardī” pp. 80–1. On possible meanings of the letters ح س (in issues 12–14), see Stikel, *Handbuch*, p. 90; al-‘Ushsh, *Umm Hājara*, p. 102.

13. 171 al-Hārūniyya

Rajā’
Muḥammad is the messenger
of God, God’s blessing
upon him and peace;
the caliph al-Mardī

رحا
محمد رسول
الله صلى الله
عليه وسلم
الخليفة المرضى

ح س

بسم الله ضرب هذا الدرهم بالهرونية سنة احدى وسبعين ومئة
In the name of God. This dirham was struck in al-Hārūniyya in the
year 171.

Annulets: O oo O oo O oo

Tiesenhausen, 1142, quoting Fraehn, *Bull. scient.*, I, 100 (unavailable); Fraehn, *Recensio*, *133 (p. *11); Stichel, *Handbuch*, pp. 86–87 (CI); *BMC* 1, 231; Berlin, 1243; Dorn, 193; Tornberg, 136; Bonner, “Al-Khalīfa al-Mardī,” p. 81.

14. 171 al-Hārūniyya

Rajā’
Muḥammad is the messenger

رحا
محمد رسول

of God, God's blessing
upon him and peace;
the caliph al-Rashīd

الله صلى الله
عليه وسلم
الخليفة الرشيد

ح س
بسم الله ضرب هذا الدرهم بالهرونية سنة احدى وسبعين ومئة
In the name of God. This dirham was struck in al-Hārūniyya in the
year 171.

Annulets: O O O O O

Stickel, *Handbuch*, p. 90, CII; al-'Ushsh, *Umm Ḥajara*, p. 102 (407).

14a. 171 al-Hārūniyya

Fraehn, *Nov. suppl.*, 133a (p. 12), is a Hārūniyya coin dated 170, with a reverse legend corresponding to that of issue 14. Fraehn wrote that this coin bears the same legend as *Recensio*, 133, which belongs to issue 13 (see above), except that it has the title *al-Rashīd* instead of *al-Marḡī*. It is therefore likely to be a coin of issue 14 struck with an old obverse die.

15. 171 al-Hārūniyya

Yazīd
Muḥammad is the messenger
of God, God's blessing
upon him and peace;
the caliph al-Rashīd
ibn Mazyad

يزيد
محمد رسول
الله صلى الله
عليه وسلم
الخليفة الرشيد

بن مزيد
بسم الله ضرب هذا الدرهم بالهرونية سنة احدى وسبعين ومئة
In the name of God. This dirham was struck in al-Hārūniyya in the
year 171.

Annulets: O oo O oo O oo

One specimen known, ANS 1972.79.593 (Plate 15, 15).

16. 171 al-Hārūniyya

Ḥārith
Muḥammad is the messenger of God

حارث
محمد رسول الله

the caliph al-Rashīd
at the command of Muḥammad
son of the commander of the faithful

ال خليفة الرشيد
مما امر به محمد
بن امير المؤمنين

ص

بسم الله ضرب هذا الدرهم سنة احدى وسبعين ومئة

In the name of God. This dirham was struck in al-Hārūniyya in the year 171.

Annulets: O oo O oo O oo

Paris, 851; ANS 1966.126.30 (Plate 15, 16). Lavoix read *Rajā'* instead of *Hārith*. However, it is likely that he misread this name, being aware of issues 12–14. N. D. Nicol confirms that Paris 851 resembles the ANS coin in all respects. The name *Hārith* and the letter *ṣād* also appear on coins of al-Muḥammadiyya dated 172 (Miles, *NHR*, p. 55; BMC 191; Lane-Poole, *Khed.*, 467). Muḥammad ibn amīr al-mu'minīn, the future al-Amīn, appears here as heir apparent.

ABBREVIATIONS

Ahmed Ziya Bey: Ahmed Ziya Bey, *Catalogue of Islamic Coins* (Istanbul, 1910).

ANS: Collection of the American Numismatic Society.

Artuk: I. and C. Artuk, *İstanbul Arkeoloji Müzeleri Teşhirdeki İslami sikkeler kataloğu*, vol. 1 (Istanbul, 1970).

Artuk, *Den.*: I. Artuk, *Denizbaci Definesi* (Ankara, 1966).

Berlin: H. Nützel, *Königliche Museen zu Berlin: Katalog der orientalischen Münzen*, vol. 1 (Berlin, 1898).

BMC: S. Lane-Poole, *Catalogue of Oriental Coins in the British Museum* (London, 1875–90).

Balādhurī, *Futūḥ*: Aḥmad ibn Jarīr al-Balādhurī, *Kitāb futūḥ al-buldān*, ed. M. J. de Goeje (Leiden, 1866).

Bonner, "Al-Khalīfa al-Mardī": M. Bonner, "Al-Khalīfa al-Mardī: The Accession of Hārūn al-Rashīd, *Journal of the American Oriental Society* 108 (1988), pp. 79–91.

CNS: *Corpus nummorum saeculorum IX–XI qui in Suecia reperti sunt* (Stockholm 1975–).

- Codrington: O. Codrington, *A Manual of Musalman Numismatics* (London, 1904).
- Dorn: B. Dorn, *Institut des Langues Orientales, 2: Inventaire des monnaies des Khalifes orientaux* (St. Petersburg, 1877).
- EP²: The Encyclopaedia of Islam*, 2nd ed.
- Fraehn, *Nova Suppl.*: C. M. Fraehn, *Nova supplementa. Opusculorum postumorum pars prima* edidit B. Dorn (St. Petersburg, 1855).
- Fraehn, *Recensio*: C. M. Fraehn, *Recensio numorum muhammedanorum* (St. Petersburg, 1826).
- Ismail*: P. Casanova, *Inventaire sommaire de la collection des monnaies musulmanes de S. A. la Princesse Ismail* (Paris, 1896).
- Istanbul: Ismāʿīl Ghālib, *Maskūkāt-i qadīme istāmiyeh qataloghī* (Istanbul, 1312 [1894/5]).
- Kochtel*: W. Anderson, *Der Khalifenmünzenfund von Kochtel, mit Beiträgen von Richard Vasmer* (Dorpat, 1926).
- Lane-Poole, *Khed.*: S. Lane-Poole, *Catalogue of the Collection of Arabic Coins Preserved in the Khedivial Library at Cairo* (London, 1897).
- Lane-Poole, *SPC*: S. Lane-Poole, *Some Private Collections of Muhammedan Coins and Other Essays in Oriental Numismatics* (London, 1892).
- Lewond*: *History of Lewond, the Eminent Vardapet of the Armenians*, tr. Z. Arzoumanian (Philadelphia, 1982). See also Ghévond, *Histoire des guerres et des conquêtes des Arabes en Arménie*, tr. G. V. Chahnazarian (Paris, 1856).
- Markov: A. Markov, *Inventarnii katalog musulʼmanskikh monet Imperatorskago Ermitazha* (St. Petersburg, 1896).
- Miles, *NHR*: G. C. Miles, *A Numismatic History of Rayy* (New York, 1938).
- Miles, *RIC*: G. C. Miles, *Rare Islamic Coins* (New York, 1950).
- Moscatti, “Le califat”: S. Moscatti, “Le califat dʼal-Hādī,” *Studia Orientalia* 13:4 (Helsinki, 1946).
- Moscatti, “Studi”: S. Moscatti, “Studi storici sul califfato di al-Mahdī,” *Orientalia* 14 (1945), pp. 300–354.
- Mushegian, “Vypusk”: Kh. A. Mushegian, “Vypusk abbasidskikh monet v khalifskoi oblasti ‘Armenia’ v VII–X vv,” *Akad. Nauk Armyanskoi SSR Istoriko-filologicheskii Zhurnal* 4 (1973), pp. 143 ff. In Armenian, with Russian summary.

NC: Numismatic Chronicle.

Nesselmann: G. H. F. Nesselmann, *Die orientalischen Münzen des Akademischen Münzcabinet in Königsberg* (Leipzig, 1858).

Nicol, diss.: N. D. Nicol, ““Abbāsid Provincial Administration A.H. 132–218 (A.D. 750–833),” Ph. D. diss., University of Washington, 1979.

Nicol, *Eg. Lib.*: N. D. Nicol et al., *Catalog of the Islamic Coins, Weights, Dies and Medals in the Egyptian National Library, Cairo* (Malibu, 1982).

NZ: Numismatische Zeitschrift.

Østrup: J. Østrup, *Catalogue des monnaies arabes et turques du Cabinet Royal des Médailles du Musée National de Copenhague* (Copenhagen, 1938).

Paris: H. Lavoix, *Catalogue des monnaies musulmanes de la Bibliothèque Nationale 1, Khalifes orientaux* (Paris, 1887).

Pakhomov: E. Pakhomov, *Monety Azerbaidzhana* (Baku, 1959–63).

RBN: Revue Belge de Numismatique et de Sigillographie.

Stickel: J. G. Stickel, *Handbuch zur morgenländischen Münzkunde. Das Großherzogliche Orientalische Münzcabinet zu Jena* (Leipzig, 1845).

Ṭabarī: Abū Jaʿfar Muḥammad ibn Jarīr al-Ṭabarī, *Taʿrīkh al-rusul waʿl-mulūk*, ed. M. J. de Goeje et al. (Leiden, 1879–1901).

Tiesenhausen: W. Tiesenhausen, [Tisengauzen, V.], *Monety vostochnago Khalifata* (St. Petersburg, 1873).

Tornberg: C. J. Tornberg, *Numi cufici Regii Numophylacii Holmiensis* (Uppsala, 1848).

Al-ʿUshsh, *Umm Ḥajara*: M. Al-ʿUshsh, *Kanz Umm Ḥajara al-fiqḥī* (Damascus, 1972).

Al-ʿUshsh, *Qaṭar*: M. Al-ʿUshsh, *Al-Nuqūd al-ʿarabiyya al-islāmiyya al-maḥfūza ft mathaf Qaṭar al-waṭanī* (Qatar, 1984).

Vasmer, *Chronologie*: R. Vasmer [Fasmer], *Chronologie der arabischen Statthalter von Armenien unter den Abbasiden, von al-Saffach bis zur Krönung Aschots I., 750–887* (Vienna, 1933).

Yaʿqūbī: Aḥmad ibn Abī Yaʿqūb ibn Wāḍih al-Yaʿqūbī, *Taʿrīkh*, ed. M. Th. Houtsma (Leiden, 1883).

Zambaur: E. von Zambaur, *Die Münzprägungen des Islams*, ed. P. Jaekel (Wiesbaden, 1968).

ZDMG: Zeitschrift der Deutschen Morgenländischen Gesellschaft.

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NEW JERSEY REVERSE J, A BIENNIAL DIE

(PLATES 16–17)

MICHAEL HODDER

The standard listing of the varieties of New Jersey coppers is Edward Maris's *The Coins of New Jersey*, 1881. Maris's catalogue has been reprinted several times: the 1974 Quarterman reprint, which included Walter Breen's observations on the coinage, is the most useful today. Several new varieties have been discovered since Maris wrote and are listed in William T. Anton, Jr.'s essay on New Jersey coppers.¹

Among the numerous varieties are several which are important to the series for historical reasons. These are the biennial die groups, so-called by Edward Barnsley, reverse dies which were married to obverse dies bearing different dates.² For example, New Jersey reverse die C was paired with obverses dated 1786 and 1787, creating the 1786 7–C and 8 1/2–C, and 1787 6–C varieties. The known biennial die pairings include reverses C, J, L, S, T, U, and b with obverses dated 1786 and 1787; and f, g, r, and u with obverses dated 1787 and 1788.

¹ W. T. Anton, Jr., "A Modern Survey of the Copper Coinage of New Jersey," *The Colonial Newsletter* 14, 2 (July 1975), pp. 503–8. The author wishes to acknowledge the cooperation of the following, who read this manuscript and made invaluable suggestions: William T. Anton, Jr., Q. David Bowers, Walter Breen, Philip L. Mossman, M. D., Andrew W. Pollock III, Jeff Rock, and James C. Spilman.

² Edward Barnsley, "Biennial Pairings of Connecticut Obverses," *The Colonial Newsletter* 7, 2 (April 1968), pp. 8–9.

There are several possible explanations for the combining of some reverse dies with obverses of different dates. The most obvious answer comes from the economies of minting, a die not worn out should continue in use. Since the reverse did not bear a date there was no reason not to continue its use over a period of years, for as long as it lasted. Alternatively, it is possible that coins dated 1786, 1787, or 1788 that share the same reverse die might all have been struck in 1786—those dated later being simply post-dated, meant for circulation when the appropriate calendar year arrived. The corollary to this explanation of biennialism might also be true, namely, that they were struck in the last year of their pairing and were back-dated.

This article is a study of one of these biennial dies, reverse J. This reverse was chosen for three reasons. First, it is known on coins dated 1786 and 1787, the former year being the first in which New Jersey coppers were coined and the latter being the height of the coinage (more than half of the obverse dies known are dated 1787 while one-third are dated 1786 and one-fifth bear the 1788 date). Second, reverse J was paired with ten different obverses, giving it the largest number of biennial pairings in the series (reverse L had the second largest number of pairings, with eight different obverses). And third, this reverse die suffered injuries early in its life which grew progressively larger the more it was used. Examination of the progressive states of this die may allow the reconstruction of its relative chronology, may suggest its absolute chronology, and thus answer the questions about biennialism posed above.

Two methodological approaches are possible. In the first place, the surest way of analyzing reverse J and its pairings, to establish their *relative* chronology, is through the evidence of the progressive injuries to the die.³ Clearly, a combination in which the reverse state is earlier than that found on another J variety must have been struck earlier, regardless of what the obverse date may proclaim. An important part

³ This assumes, of course, the existence of only one reverse die J. The morphology of reverse J is consistent with the existence of only one reverse J. Further, I have found no convincing evidence for the use of hubs to create the New Jersey dies; however, no study has yet been undertaken that will conclusively answer this question.

of this procedure involves the careful observation of the various obverse die states known on all other reverse combinations with obverses also married to J. Since the obverse die in the New Jersey series carried the date, this procedure may suggest the *absolute* chronology of the J family of dies.

The second approach, statistical analysis of the metrology of reverse J die pairings, may be helpful in establishing norms for the individual varieties within the J series, and may show adherence or lack of same to the statutory weight standard for the coinage, 6 pennyweight 6 grains per copper (equivalent to 150 grains) set by the New Jersey legislature in June, 1786. This approach augments the first. It is known, for example, that the weights of 1785 bust right and 1786 mailed bust left Connecticut coppers show their coiners tried somewhat to adhere to the statutory standard of 144 grains per copper, while the majority of the 1787 and 1788 Connecticut coppers show a clear disregard for the statutory weight requirement. It is possible that some J varieties may vary significantly from their legal weights, and this, together with other evidence, may suggest conclusions about their places in the chronologies.

Reverse J is one of the medium shield reverse dies, neither as broad as reverse M nor as narrow as I. Including the outline, the shield is 21.4 mm high and 15.5 mm wide, nicely filling the central space and showing a skilled appreciation for placement on the part of its sinker. The same hand that cut J must have been responsible for reverses L and T. The die itself was about 30 mm in diameter, since on the widest planchet varieties, 17-J, 34-J, and 35-J, the die fills the flan without extra metal showing at the borders; varieties 15-J, 18-J, and 37-J, on 27 mm planchets, appear tight on their flans and do not show a full circle of denticles around the edge.⁴ Reverse J was used in combination

⁴ Everett T. Sipsey, "New Facts and Ideas on the State Coinages," *The Colonial Newsletter* 5, 5 (October 1964), p. 68, was inaccurate when he said that "... any large planchet New Jersey coin having a diameter of about 29 or 30 millimeters can be attributed to Mould's cutting press," especially as 64-t is known on both large and small diameter planchets. In his unpublished manuscript "James Jarvis and the Fugio Coppers," Damon Douglas measured 34 specimens of 62-q, finding their diameter range to be 30.2-31.6 mm. The lower figure is very close to the high end of the range exhibited by the specimens of 16-J, 17-J, 34-J, and 35-J studied for this paper. If we conclude that Mould's cutting press was responsible for all New Jersey coppers whose diameter is greater than 29 or 30 mm, then we would be forced to

with 10 obverse dies: 13, 14, 15, 16, 17, and 18 are dated 1786; 34, 35, 36, and 37 are dated 1787.⁵

TABLE 1

Physical Characteristics

<i>Variety</i>	<i>N^a</i>	<i>Mean Weight</i>	<i>Die Axis^b</i>	<i>Diameter</i>
13-J ^c	8	145.4	170-360°	28.0-29.0
14-J	20	149.4	170-360	27.5-29.0
15-J	12	145.7	175-360	27.0-28.0
16-J	9	145.1	160-360	27.3-30.0
17-J ^d	4	145.3	160-165	28.5-30.0
18-J	11	142.1	180-190	27.0-28.5
34-J	17	143.7	155-175	28.3-30.0
35-J	4	126.0	180-235	29.2-30.0
36-J	5	132.7	150-160	27.1-28.0
37-J	10	145.2	160-180	27.0-28.5
<i>Total</i>	100			

^a Of the 121 specimens of the reverse J family in this study, 21 were overstrikes and have not been included in the metrological analyses or the tabular descriptions. They have been studied to determine their die states, however.

^b Die axes range from 160° to 360° and may conceal bimodality.

^c Less than two dozen examples of 13-J and 16-J are thought to survive, while about a dozen each of 35-J and 36-J are thought to survive.

^d Seven of the eleven examples of 17-J examined for this study were struck over Connecticut coins; ten of the twenty-seven 34-J and four of the eight 35-J specimens were struck over various host coins.

decide that one of Mould's most important roles in the coining of New Jersey coppers was as a supplier of finished planchets to Goadsby, Cox, and later, Ogden. Much more study of the sizes of New Jersey coppers is needed before diameter observations become really meaningful.

⁵ Coins are cited by collection, abbreviated in some tables by letter: B, Bareford, Stacks, 3-4 May 1984; C, Cole, Bowers and Merena, 23-25 Jan. 1986; D, Douglas, Stacks, 27-28 June 1975; G, Garrett, Bowers and Ruddy, 1-2 Oct. 1980; J, Johnson, Bowers and Merena, 26-28 Jan. 1989; MS, Mann and Smedley, Bowers and Merena, 13-14 Sept. 1988; N, Norweb, Bowers and Merena, 12-13 Oct. 1987; O, Oechsner, Stacks, 8-9 Sept. 1988; P, Picker, Stacks, 24 Oct. 1984; S, Sherr, Bowers and Merena, 19-21 June 1984; Sp, Spiro, Hans Schulman, 18-19 Mar. 1955; and T, Taylor, Bowers and Merena, 26-28 Mar. 1987. Institutions cited are the ANS, American Numismatic Society; CSL, Connecticut State Library; NJHS, New Jersey Historical Society; and SI, Smithsonian Institution.

REVERSE DIE STATES

In its earliest die state reverse J is perfect, without signs of damage or wear of any kind (Plate 17, 1). Slightly later, but still early in its working life, J shows a crescent shaped injury within the shield which extends from the base of the far right vertical stripe where it touches the shield edge, diagonally upwards across the shield, reaching the top of the far left vertical stripe (Plate 17, 2). This injury was caused by the die clashing, probably with obverse 34 (which itself shows a break over the date and sinking near that point early in its own life). This injury progressively grew more extreme, engaging the upper right third of the shield design below the horizontal stripes, ultimately obscuring the detail on that part of the die. The earliest stage of its development I have seen is a specimen of 14-J, Taylor 2165; a near terminal state can be seen on a 35-J, Taylor 2209.

At an early stage of its life, following the appearance of the clash mark in the shield, reverse J developed a thin break which extends from the right edge of the shield below the left foot of M in UNUM to the right foot of that letter (Plate 17, 3). At first a hairline break resembling a fishhook, the break thickens but without changing its shape or direction. The appearance of this break marks the third distinctly different state of the die.

After reverse J appears to have been used for about half of its working life, the die began sinking at the position of the final star in the legend, at first only slightly but later engaging an area on the die encompassing the star and its neighboring surface (Plate 17, 4). The sinking on this point of the die seems to have developed rapidly, as intermediate stages in the die's failure there are not frequently seen. The failure over the final star is found only in combination with an advanced stage of failure within the shield.

The diagonal die injury within the pales of the shield, the break from the right shield edge to M of UNUM, and the ultimate die failure over the final star were progressive and so allow the reconstruction of the die's relative chronology. There are five broadly defined states: the perfect state, which shows no signs of die clash in the shield; an early intermediate state, which exhibits the diagonal clash mark but no break

to **M**; a later intermediate state, following the appearance of the break to **M**; a late state, in which the die clash has caused the die to sink heavily in the shield; and the latest state, which shows additional die sinking over the final star in the legend (Plate 17, 5).

TABLE 2

Examples of Reverse Die Condition

<i>Date and Variety^a</i>	<i>State 1 Perfect^b</i>	<i>State 2 Early Intermediate</i>	<i>State 3 Later Intermediate</i>	<i>State 4 Late</i>	<i>State 5 Latest</i>
1786: 13-J	Sp 1447 G 1398	B 108 T 2164 S 3140 D 62	CSL NJHS		
14-J	B 109 MS 3081 N 1315 G 1399 C 1202 O 1247 S 3141 S 3142 CSL SI NJHS NJHS	T 2165 NJHS NJHS			
15-J		G 1400 T 2166 CSL NJHS			
16-J		P 187 S 3148	B 116 MS 3080 NJHS	D 47 T 2171 O 1251	
17-J			C 1209 S 3150 P 188	S 3151 T 2174	N 1320 NJHS SI
18-J	B 122 P 191	N 1324 T 2179	MS 3083	O 1255	

	Sp 1463	G 1410			
	N 1325	NJHS			
1787: 34-J	G 1429	MS 3091	MS 3089	O 1275	CSL
	J 33		MS 3090	S 3185	CSL
			T 2206	NJHS	
			S 3186		
			CSL		
			NJHS		
			NJHS		
35-J				T 2209	S 3188
				NJHS	
36-J			G 1432	S 3189	T 2210
					NJHS
37-J			T 2211		C 1223
			S 3190		SI
					SI
<i>Total: 79</i>	<i>20</i>	<i>18</i>	<i>19</i>	<i>12</i>	<i>11</i>

^a Only 79 of the 121 specimens of the J reverse family were sharp enough to determine their die states with the degree of confidence necessary for this analysis.

^b None of the 34-J specimens seen in states 1 or 2 were overstrikes. Reverse J combinations struck over host coins do not appear until state 3.

Using Table 2, an emission sequence for the reverse J family can be constructed.⁶ The majority of 14-J, nearly half of 18-J, and some quantity of 13-J and 34-J were struck first, while reverse J was in a perfect state. Then, the die clashed, most likely with obverse 34, and developed the light clash mark in the shield seen on the early intermediate state of the die. In this new state the 14-J remainder was struck as well as more than half of 13-J, all of 15-J, part of 16-J, most of the remaining 18-J, and some additional 34-J. Then, the die developed the short break from the right shield edge to M of UNUM seen in the later intermediate state. The rest of 13-J was run off, together with half

⁶ Neither Anton (above, n. 1) nor W. Breen, *Walter Breen's Complete Encyclopedia of U.S. and Colonial Coins* (New York 1988), pp. 78-87, have attempted to construct such a sequence by amassing the material; other proposed emission sequences have been based on limited documentary evidence and the equivocal discussion of stylistic differences.

the remaining 16-J, about one-third of the 17-J (the majority struck over 1787 Connecticut), the majority of 34-J, and some 36-J and 37-J. At this point in its life reverse J either clashed again in the same place, or the earlier injury now caused the die to begin failing, as the clash mark became pronounced and began obscuring detail in the upper right portion of the shield. This corresponds to the late state of the die. The remainder of 16-J was then struck, along with about one-third of the remaining 17-J, many 34-J, most 35-J, and a further quantity of 36-J. The injury then increased, with further sinking of the die on the shield and the related failure over the final star in the legend, corresponding to the latest state of the die. At that point, the end of the die's working life, the remaining 17-J, 34-J, 35-J, and 36-J were struck, followed by the coinage of the majority of 37-J. The die then was retired.

The die emission sequence proposed above does not suggest an orderly progression of new obverse dies replacing older, worn out ones. Rather, it suggests that the coiners used whatever dies were at hand, and that several obverse dies bearing different dates were ready for use at any one time. In other words, there is no evidence that a new die was cut only to replace an older, unusable one, or that the date on the obverse bore any necessary correlation to the actual date of striking. Consequently, the die emission sequence given is disorderly and complex and honors no obvious absolute chronology.

This has rough analogues in other series. Hilt noted a related practice in the first United States Mint, concluding that the coiners of the time had a number of different dies to chose from on any one day, including both old and new ones.⁷ For example, the half dime reverse of 1829 Valentine-1 was used later with the obverses of 1830 V-2, 1831 V-2, and 1832 V-3; the reverse of 1830 V-1 was also used later with the obverse of 1832 V-1. In large cents, the same reverse die was employed for the proof only issues of 1845 Newcomb-18, 1846 N-22, and 1847 N-42; similarly, the reverse of 1856 N-5 was later used to strike 1857

⁷ R. P. Hilt II, *Die Varieties of Early United States Coins* (Omaha, 1980), pp. 5-7. It should be stressed that the dies which Hilt described and which were used interchangeably were reverses.

N-3. It is interesting, although probably not significant, that some of these sharings spanned a two year period. In one famous case, that of the 14 stars 1804 quarter eagle, the reverse die was also used to coin the 14 stars 1804 dime. Here we see not only the reuse of a die, but its application in an entirely different series.⁸

It should be emphasized that the reuse of obverse and/or reverse New Jersey dies which created back-dated combinations does not necessarily impute criminality or chicanery to the coiners. In large part such reuse simply underscores the value of their labor and materials. Dies with some life left in them were not discarded because the calendar year no longer corresponded to the obverse date. While temporal asymmetry is forbidden to modern mints, it does not appear to have been an anathema to the New Jersey coiners. If the New Jersey treasury department of the time ever inspected the coppers deposited by the coiners as their seigniorage payments to the state, the die emission sequence suggests that the temporal asymmetry failed to offend the officials charged with fiscal oversight of the coinage.

OBVERSE DIE STATES

Seven of the ten obverse dies married to reverse J were also paired with other New Jersey reverses, which in turn were combined with other obverses bearing different dates. The relative chronologies of these seven obverses may therefore be determined with some certainty. Since reverse J was a biennial die, it may be instructive to see if anything may be learned from its obverse partners that may help in reconstructing both a relative and an absolute chronology for the J family of dies.

13 and 14, 1786. These two obverses (Plate 16) are known in combination with no other reverse than J. Both obverses are found in perfect

⁸ These examples are all reuses of undated reverse dies. Backdating of obverses also appears to have been practised. In a private communication to the author, Walter Breen emphasized that "The Philadelphia Mint made *many* documentably back-dated dollars, half dollars, and half dimes in 1795 dated 1794; many cents and half cents in spring 1796 dated 1795; many cents in 1797-98 dated 1796; many cents in 1800 dated 1798 and 1799; some half cents in 1799 and 1800 dated 1797."

condition. Norweb 1314, 13-J; Garrett 1399, 14-J; and Oechsner 1247, also a 14-J, show obvious bulges on the obverse, evidence of sinking and incipient failure; in fact, 14-J is found with a diagonal obverse bulge more often than not.

15, 1786. Obverse 15 (Plate 16) is known in combination with four reverse dies, J, L, T, and U. The die is most commonly found with a hairline break through the tops of EA of CAESAREA which continues on to reach the singletree and then extends to engage the date.⁹ Later, the die began to sink at its left periphery. A die emission sequence can be reconstructed for obverse 15: perfect state, 15-T;¹⁰ broken, 15-J,¹¹ 15-T,¹² 15-U;¹³ die sinking at right: 15-L,¹⁴ 15-T,¹⁵ 15-U.

The combination 15-U is instructive as reverse U also was used with obverse 33 of 1787 and so is a biennial in its own right. In combination with obverse 33 reverse U is usually perfect, although a few are known with a rectangular break in the shield, about two-thirds down from the peak. In combination with obverse 15, reverse U is usually found in its broken state.¹⁶ These observations indicate that most 15-U dated 1786 were struck after most 33-U dated 1787. Therefore, the overwhelming majority of 15-U must have been back-dated; and some portion of the mintage of 15-U struck from the perfect reverse is likely to be contemporaneous with those 33-U also struck before the reverse broke. Since most of the 15-U specimens seen with the broken reverse were in the same, later, obverse state as ordinarily seen on 15-J (following the die's break from EA to date), while others were in the perfect obverse state, earlier than 15-J, it is logical to conclude that most 15-J were struck contemporaneously with or later than those 15-U coined from the broken reverse, making them coeval with 33-U in its broken reverse state,

⁹ Taylor 2166-69, Norweb 1317-18, Garrett 1400-1402.

¹⁰ Specimens in this state include Garrett 1402 and Sherr 3143.

¹¹ Taylor 2166, Garrett 1400, Sherr 3143.

¹² Norweb 1318, Taylor 2168, Picker 186.

¹³ Taylor 2169, Sherr 3146-47, Stack's FPL, June 1979, 66.

¹⁴ New Jersey Historical Society.

¹⁵ Sherr 3145.

¹⁶ Sherr 3146-47; Taylor 2169-70; Oechsner 1250; NJHS; and ANS, for example.

later than 33-U in its perfect reverse state, and therefore also back-dated.¹⁷

16, 1786. This obverse (Plate 16) is known in combination with four reverses: J, L, d, and S. In combination with reverse L, 16 usually shows a pronounced rim break over RE and a break from the horse's muzzle into the field, giving rise to the "protruding tongue" nickname for the variety. The early state without the break is also known in combination with L.¹⁸ Combination 16-J is known with and without the obverse rim break, but most commonly in the latter state. When used with reverses d and S obverse 16 is found without the breaks.¹⁹ The emission sequence for obverse 16 appears to be: 16-J/d/S/L, 16-J/L.

The Anton collection 16-d, struck over a French copper of 1723, is reminiscent of the Garrett 17-b struck over a Louis XV sol of 1774, and shows that its coiners used some circulating coins as planchets for some 16-d coins; in general, overstrikes are rare on 1786 New Jersey coppers. The use of circulated, underweight, or devalued coins (i.e., coppers discredited in trade because of their notoriously low weights) as planchets is more typical of New Jersey coppers coined near the end of the coinage contract and afterward, 1788-90, than of those dated in the first year of the contract, 1786. The presence of this overstrike on a combination early in the emission sequence of obverse 16 suggests that the obverse 16 family includes products datable to the later phases of the striking of New Jersey coppers.

17, 1786. Obverse 17 (Plate 16) is known in combination with three reverse dies, J, K, and b. Along with the 1787 dated variety 56-n, obverse 17 in its various incarnations is the most common New Jersey

¹⁷ An on-going study of all the New Jersey biennial dies suggests that reverses T and L exhibit no obvious signs of progressive breaks on which to fix their relative chronologies.

¹⁸ Douglas 69.

¹⁹ There are only four known surviving examples of 16-d. Of these, one in the William T. Anton, Jr., collection was struck over a 1723-Q Louis XV copper and shows no sign of the obverse breaks. The specimen in the NJHS also shows no sign of the breaks. Combination 16-S was first published by Stanley Sherr and Norman Pullen in *The Colonial Newsletter* 15, 2 (May 1976), p. 554; now in the Pullen collection, this coin was struck from the perfect obverse die.

copper found struck over a host coin: 17–J and 17–K are usually struck over 1787 Connecticut coppers, while 17–b is found over a variety of undertypes including 1787 Connecticuts, counterfeit Irish halfpence, and even a 1774 copper sol of Louis XV.²⁰ Edward Barnsley reported a 40–b struck over a 1780 French sol;²¹ it would seem that 17–b and 40–b were contemporaries, possibly from the same mint. New Netherlands Coin Company 56, 27–28 June 1962, 51, contained a 17–b struck over a 1788 Connecticut copper. Reverse b, a biennial die itself, shows no features that would allow the reconstruction of its relative chronology. The earliest state of obverse 17 seems to be found most often when in combination with reverse K. Obverse 17 began sinking in the right field, from muzzle to rim opposite, fairly early in its life. Specimens seen of 17–J and 17–b are in about the same obverse state.²² Due to the large number of overstrikes no accurate die emission sequence can be reconstructed for obverse 17, since so much detail is obscured by the undertypes. However, it appears likely that 17–K was struck in quantity first, followed by the contemporaneous use of reverses K, J, and b.

18, 1786. Obverse 18 (Plate 16) is also known in four different marriages, with reverses J, L, M, and N. The die quickly developed a vertical series of breaks, from the horse's muzzle down to its barrel, which linked together to inspire the "bridle" nickname for the die. The perfect state, without trace of the bridle break, is known on specimens of 18–M, as are early stages of the development of the bridle break (Plate 16).²³ The other marriages, 18–J, 18–L, and 18–N, are usually found with a late state of the break, a fully developed bridle. Of the four combinations with obverse 18 only J and L are biennial dies, the latter through its marriage with obverse 38. Variety 38–L, however, is unique and I have not been able to examine that piece to determine its die states. The die emission sequence for obverse 18 appears to be 18–M, 18–M/J/L/N.

²⁰ Garrett 1408.

²¹ "Foreign Undertypes of Overstruck Coppers," *The Colonial Newsletter* 5, 1 (August 1963), p. 2.

²² Taylor 2174, 2177–78; Picker 188; Norweb 1320, 1322–23.

²³ Perfect, Bareford 124; early stages, Norweb 1327 and Garrett 1411.

34, 1787. Obverse 34 (Plate 17) is known in combination with reverses J and V. Both marriages are found overstruck on 1787 Connecticut; 34-V is, surprisingly, also known over other 34-Js!²⁴ In both combinations this die is sometimes perfect and sometimes heavily broken from rim to date to plough handle, with an additional break from rim to singletree. Reverse V is known in no other combination and cannot help in establishing a relative chronology for its obverse partner. The die emission sequence for obverse 34 appears to be 34-J/V, die breaks, 34-J/V.

35, 1787. Like 34, obverse 35 (Plate 17) is known in two combinations, with reverses J and W. Variety 35-J is found overstruck on counterfeit British halfpence; one is known over a Constellatio Nova host.²⁵ Married to reverse J obverse 35 is found in three distinct die states. The early state may be seen on Picker 209, while an intermediate state of die failure may be found on Sherr 3188. The final state, with pronounced sinking across the face of the die, appears on Taylor 2209. That coin, struck over a Constellatio Nova, is important since, as Breen pointed out, the use of Constellatio Novas as hosts for New Jerseys can probably be dated to after June 1787, when the Novas became discredited and so were attractive candidates for recoinage.²⁶ Only four specimens of 35-W are known but as reverse W is not found in combination with any other obverse die its study cannot help in establishing a relative chronology for reverse J. The die emission sequence for obverse 35 appears to be 35-W/J, 35-J.

36, 1787. Obverse 36 (Plate 17) is the third die in the reverse J series known married to no other reverse. Of the five specimens seen, one

²⁴ Picker 207 and Taylor 2207, for example. The former was overstruck on a 34-J which in turn had been struck over a 1788 Vermont Ryder-16. No satisfactory explanation for this has been suggested thus far. There is no obvious reason why some 34-Js were overstruck by 34-Vs, and what the coiners gained by this practice is unclear.

²⁵ Picker 209; Taylor 2209. The identity of this undertype has been questioned by some.

²⁶ W. Breen, "The 'New York' IMMUNIS: A Mystery Unravelled," *The Colonial Newsletter* 18, 1 (April 1979), p. 672.

showed a severely buckled obverse die.²⁷ This obverse appears to have failed very early in its life, accounting for the rarity of the variety today. Of the five 36-J specimens examined, three showed die rust in the upper obverse field in the same stage of development. Two were either too worn or misstruck to see sufficient detail there. Obverse 36 may well have been first used some time after it was cut.

37, 1787. Obverse 37 (Plate 17) is found in four combinations, with reverses J, X, Y, and f. Reverse f is also a biennial die, married to another 1787 obverse, 48, as well as to a pair of 1788 obverses, 49 and 50. Obverse 37 is another of the nicknamed dies, called the "goiter" variety from the large lump-like break usually seen beneath the horse's muzzle. An additional break, beneath the plough handles, is also usually present.²⁸ The die emission sequence for obverse 37 appears to be 37-J/X/f/Y, with all being roughly contemporaneous.

Reverse f, one of obverse 37's biennial marriages, developed a break in the right part of the shield which, in its late stage, runs from the horizontal stripes down about two-thirds the length of the vertical stripes. The perfect state of this reverse is found on varieties 49-f and 50-f; early stages of the break on variety 48-f; and the latest stage, with the break full, on some 48-f and most 37-f varieties.²⁹ It is clear, therefore, that 37-f, dated 1787, was struck after 49-f and 50-f, both dated 1788, and so was a back-dated variety. In this connection, it is interesting to note that the majority of the variety 48-g, dated 1787, appears to have been struck after all of variety 51-g, dated 1788, had been coined.³⁰ This observation about obverse 48 strengthens the

²⁷ Garrett 1430. That specimen, later Sherr 3189, was misidentified in the former catalogue as a 35-J; it is really a 36-J. Similarly, Garrett 1431, later Taylor 2209, was called a 36-J in the former sale but is really a 35-J.

²⁸ Taylor 2211-13 are specimens of 37-J, 37-Y, and 37-f, and each showed the goiter in about the same stage of development.

²⁹ Perfect: 49-f (Taylor 2236, Bareford 176, Garrett 1447, Sherr 3223, Douglas 135); 50-f (Norweb 1355, Picker 234, Garrett 1448, Sherr 3224, Oechsner 1290-91, Douglas 137). Early state of the break: 48-f (Norweb 1352, Bareford 174, Sherr 3216-18, Douglas 126). Full break: 37-f (Taylor 2213, Garrett 1433, Sherr 3193, Spiro 1512-13, Bareford 154, Oechsner 1278, NJHS); 48-f (Taylor 2234).

³⁰ This observation has been made before; see the cataloguer's comments in the Douglas sale, lot 130, for example, and Maris, p. 13.

conclusion that 48-f was back-dated, and lends further credence to the statement that 37-f was also back-dated.

Obverse 37 usually shows a pronounced goiter break beneath the horse's muzzle, as well as a die cud below the plow beam. These breaks are seen in exactly the same stage of development on all obverse 37 combinations, including 37-J. There is one 37-f, however, that shows the cud below the plow beam in an earlier stage than seen on any 37-J examined.³¹ These observations suggest that some part of the mintage of 37-J may have been contemporaneous with 37-f and another portion later. Since we know that 37-f dated 1787 was struck after 49-f and 50-f dated 1788 and had to have been back-dated, then the portion of the mintage of 37-J that is coeval with or later than 37-f also had to have been back-dated.

CHRONOLOGY BASED ON OBTVERSE AND REVERSE DIE STATES

The above discussion of the emission sequences allows us to establish the beginnings of an absolute chronology for reverse J.

13-J and 14-J, 1786. Neither of these obverse dies is known in combination with any other reverse, so comparative die state analysis cannot help to determine their absolute chronology. The die emission sequence proposed above suggests that 14-J was the first variety struck in large quantities using reverse J, and that the majority of 13-J followed shortly after the reverse die had clashed for the first time. Table 2 clearly shows an overwhelming representation of 14-J in the perfect state, while 13-J and 14-J combined represent nearly 40 percent of the total early intermediate specimens seen. The presence of three 1787 dated specimens in the perfect and early intermediate states columns (34-J) shows that reverse J varieties bearing two different obverse dates

³¹ Taylor 2213, ex Garrett 1433, has a faint cud below the plow beam, very unlike the strong break usually seen there. As this specimen is sharp and well struck, the absence of a pronounced break under the plow beam indicates this was an early strike, earlier than any other 37-J examined.

were being coined simultaneously early in the life of the die, a portion of one of which (34-J) was itself probably back-dated. Further, the appearance of four 15-J specimens in the early intermediate reverse state, each of which was in the late state of the obverse die, shows that the 13-J and 14-J specimens in this state were contemporaneous with a variety which was in turn contemporaneous with the late state of reverse U on 1787 obverse 33 and earlier than the majority of 33-U specimens struck before reverse U broke. Finally, the presence of three 13-Js in the later intermediate state together with ten 1787 dated specimens and three 17-J examples, two of which were overstruck on 1787 Connecticut coppers, strongly suggests that a part, at least, of the mintage of 13-J was back-dated. Taken together, these observations suggest that all 13-J and 14-J were back-dated and not struck in 1786 as their obverses proclaim. Further, they suggest that any 1786 dated J combination in the perfect or early intermediate states is also a back-dated one, and that any in the later intermediate state is almost certainly back-dated. **15-J, 1786.** Since the late state of reverse U is customarily found on obverse 15 dated 1786 and obverse 33 dated 1787 is usually in its early state, it is safe to say that most 15-U were struck before and some contemporaneously with 33-U, and so were back-dated. Further, most 15-J are found with a late state of the obverse break while most 15-U are not, which strongly suggests that the former were struck after the later, which were mostly struck after 33-U of 1787. No 15-J specimen appeared in the perfect state in Table 2, so all examined pieces were struck just after the die had clashed. This combination is found exclusively in the early intermediate state, where four were seen in the same state as one 34-J example, dated 1787 but possibly itself back-dated, together with specimens of 13-J and 14-J, themselves probably back-dated. It appears more than likely that 15-J in its entirety was a back-dated variety.

16-J, 1786. Two 16-J specimens are in the early intermediate reverse state, together with specimens of 13-J and 14-J (which appear to have been back-dated), 15-J (which was certainly back-dated), and one 34-J (dated 1787, probably back-dated). Three specimens are in the later intermediate state, in company with ten 1787 varieties and two 17-J, struck over 1787 Connecticut. A further three 16-J specimens are in the late state of the reverse die, contemporaneous with specimens of

34-J, 35-J, and 36-J, all dated 1787. It is probable that 16-J was backdated. The overstruck 16-d described above, in the same obverse state as many 16-J and earlier than others, suggests that some 16-d were products of the final years of coining New Jersey coppers (1788-90) and that some 16-J, particularly those with the broken obverse and late reverse, were also products of the final days of the coinage.

17-J, 1786. There is no question that 17-J was back-dated. Not only does the presence of a large number of overstrikes on 1787 dated host coins suggest this, but comparative die analysis further supports the statement.³² In all its combinations obverse 17 is known over host coins dated 1787; at least one, a 17-b, is known over a 1788 Connecticut copper. Further, since 17-J and 17-b are found in the same obverse state, and since reverse b is found in the same state with obverse 17 as seen on obverses 38 and 40 of 1787, then it is possible that its use with some of the former was contemporaneous with its use with some of the latter. In Table 2, specimens of 17-J appear in the late intermediate, late, and latest states columns, commingled with 1787 dated varieties and with others which were back-dated, particularly 15-J. The proposed emission sequence places the majority of 17-J after the die had clashed and the break from shield edge to M had developed, with some struck in the latest state; none has been seen in the perfect or early intermediate states.

18-J, 1786. Variety 18-J is almost always found with a pronounced obverse bridle break as are the other three 18 marriages, so comparative analysis of the obverse states cannot help in placing 18-J relative to the others except to say that, combined with reverse J, obverse 18 was near the end of its useful life. In Table 2 about half of the reverses of 18-J specimens are found in the perfect state, mixed with two other varieties which were probably back-dated (13-J and 14-J) and one dated 1787 but possibly back-dated, as well (34-J). A similar quantity is found in the early intermediate state, in company with one 1786 dated variety which was certainly back-dated (15-J), three others which the evidence

³² Seven of the eleven 17-J specimens examined were overstruck on 1787 Connecticut coppers.

suggests were also back-dated (13-J, 14-J, and 16-J), and one dated 1787 but itself possibly back-dated (34-J). One specimen of 18-J appears in the later intermediate state, along with three 1787 dated varieties (34-J, 36-J, and 37-J) and three 1786 dated 17-J, two of which were struck over 1787 Connecticut hosts. Another appears in the late state, together with three 1787 dated varieties (34-J, 35-J, and 36-J), one 1786 dated one which was most likely itself back-dated (16-J), and two 1786 dated 17-J both struck over 1787 Connecticut. It appears that about half of the 18-J variety was contemporaneous with varieties either dated 1787 or struck over 1787 hosts, while the other half was contemporaneous with the earliest varieties of reverse J struck (13-J and 14-J).

34-J, 1787. Combination 34-J was one of the earliest varieties in the J family to be struck, as it is known in the perfect reverse state seen on the majority of 14-J, some 13-J, and about half of 18-J. It is also known in the latest state of reverse J, in common with the 1787 dated 35-J, 36-J, and 37-J varieties. Combination 34-J appears to have been struck over the life of reverse J, with the majority coined in the later intermediate and late states of that die.

About one-third of the specimens examined were struck over another coin, the majority being over 1787 Connecticut but including one over a Nova Eborac (undertype variety unclear) and another over a 1785 Connecticut.³³ Two 34-Js are known overstruck by 34-V.³⁴ Neither 34-J in the perfect reverse state was an overstrike. Of the seven in the later intermediate state, four were overstruck on 1787 Connecticut copper hosts, but none of the three in the late state was an overstrike. Both the specimens in the latest state were overstrikes, on the usual Connecticut undertype. The coiners of 34-J utilized both fresh planchets as

³³ ANS and Sherr 3185 (undertype Miller 1785 4.1-F.4, Henry C. Miller, "The State Coinage of Connecticut," *AJN* 53, 1 [1919], pp. 1-62.), respectively.

³⁴ Taylor 2207 and Picker 207. This latter is said to have been over a 34-J, which in turn was said to be over a 1788 Vermont, RR-16 (John M. Richardson, "The Copper Coins of Vermont," *Num* 60 (1947), pp. 331-54, and Hillyer Ryder, "The Colonial Coins of Vermont," *AJN* 53, 1 [1919], pp. 63-67). If this attribution is correct then at least one 34-J dated 1787 can be said to have been back-dated. Unfortunately, the die states of the 34-J undertype cannot be determined from the accompanying plate.

well as host coins for the variety, but with no clear chronological pattern to either practice. Interestingly, no overstruck J varieties were found in either the perfect or early intermediate states of the die, and overstrikes were seen only in the later intermediate through latest states. This suggests that the J reverse coiners turned more and more to using other coppers as their planchet stock, and that this practise characterizes the later stages of the die's life.

Seven specimens of 34-J were found to be in the later intermediate state of reverse J, in company with two 37-Js, which may have been back-dated. Two others were in the latest state of the reverse die, together with three examples of 37-J. In this regard, it is interesting to note that Picker 207 was a 34-V struck over a 34-J, which in turn had been struck over a 1788 RR-16 Vermont copper.³⁵ It is very likely that a portion of 34-J, probably the overstruck and late and latest states specimens, were back-dated.

35-J, 1787. All specimens of this combination appear in the late or latest states of reverse J, so combination 35-J was among the last of the J family struck. Four of the eight examined were overstruck on host coins. Obverse 35 was first used in combination with reverse W, where it is known in virtually perfect condition.³⁶ The die then sank across its center and 35-J was coined. Only one other combination of 35-J is known and reverse W was married to no other obverse. Only three specimens of 35-J were well enough preserved to determine their states; these were in the late and latest states, accompanied by five 34-J pieces and three 37-J specimens which, as discussed earlier, may also have been back-dated. A portion, too, of 35-J appears to have been back-dated.

36-J, 1787. Combination 36-J appears most frequently in the late and latest states of the reverse die, although one was seen in the later intermediate state. Clearly, although a beginning was made with obverse 36 halfway through the life of the reverse, the fact that a majority of the specimens fell into the later two states shows that it was one of the last varieties of the J family to be coined. Unlike 34-J or 35-J, this combi-

³⁵ Above, n. 34.

³⁶ NJHS = Maris plate 35-w

nation is never found overstruck.³⁷ Obverse 36 is known in combination with reverse J only and was first used contemporaneously with the overstruck 17-J and 34-J varieties. Since 36-J is found in the same states as specimens of 34-J, 35-J, and 37-J, portions of which may have been back-dated, it is possible that some of the mintage of 36-J was also back-dated.

37-J, 1787. The majority of 37-J appears to be products of the end of reverse J's life. None of the ten specimens examined was an overstrike.

From the obverse die state evidence offered earlier, it appears that combination 37-f was back-dated; at least one 37-f examined was in an earlier state than any 37-J. It is more than likely that at least a portion of the mintage of 37-J was back-dated to 1787. How large a part is unknown, since too few studies of this sort have been carried out on New Jersey coppers. Nevertheless, it can be shown now that some 37-J was back-dated, and it may be that the entire mintage of this variety was struck later than its obverse date would have us believe. A study of reverse f may suggest how much of 37-J was back-dated to 1787.

Comparative die state analysis has shown a strong likelihood that all reverse J combinations dated 1786 were back-dated. The die emission sequence reconstructed for reverse J clearly shows varieties dated 1787 in earlier states of the die than others dated 1786. Two varieties dated 1786, 15-J and 17-J, were seen in the early and later intermediate through latest states of the die, yet it can be shown now that all of the latter and at least a portion (if not all, as well) of the former were back-dated. Although comparative die state analysis cannot help in determining the absolute chronologies of 13-J and 14-J, the die emission sequence places these combinations in company with 1787 dated varieties and 1786 dated ones known to have been back-dated. Further, specimens of both can be shown to be in later states of the die than others dated 1787. The same may be said for the remaining 1786 dated reverse J combinations, 16-J and 18-J. In the case of the former, specimens of 16-J are found in later states than other reverse J varieties

³⁷ The sole specimen I have seen that may show traces of an undertype is Garret 1430, but the evidence of this specimen is inconclusive given its condition and the state of the reverse die, which was heavily sunken.

dated 1787 and in company with still others dated 1787. The evidence of one 16-d, struck over a worn French copper of 1723 but in an earlier obverse state than the majority of 16-J seen, hints that it was a product of the final years of the New Jersey series (1788-90) and that some portion of 16-J may have been also. Combination 18-J is found in all but the latest states of the reverse, in some cases in the same state, in others in a later state, than back-dated or 1787 dated varieties.

Combination 34-J was struck over the life of the reverse, being found in the perfect through latest states of the die. Nearly 30 percent of the specimens seen were overstrikes, usually on 1787 dated Connecticut coppers.³⁸ This variety itself served as a host for other overstrikes, typically 34-V. One was overstruck on a 1788 dated Vermont copper.

Fifty percent of the 35-J specimens seen were also overstrikes, again, usually on 1787 Connecticut hosts. Excepting 34-J only, the other three 1787 dated reverse J combinations were products of the latest stages of the die's life. The presence of the majority of the overstrikes in this family on specimens from the latest states of the die is evidence that later coiners, 1788-90, used worn or devalued coppers taken from circulation or perhaps bought their planchets wholesale from other mints and distributors.³⁹

³⁸ Connecticut undertypes are not always identifiable. Miller 1785, 4.1-F.4 (above, n. 33) is the only undertype reliably known to the author.

³⁹ Despite the general devaluation of copper coins, New Jersey coppers passed at two to the penny in New York City in September 1789 (*Gazette of the United States*, Sept. 5, 1789) because the original contract governing their rates stipulated that they be received in payment for New Jersey dues at 15 to the shilling, or 83 and a third cents per hundred, until and unless Congress altered their valuation. This favorable rate remained in effect through the first half of 1790. During the second sitting of the Fourteenth General Assembly of New Jersey, May 18 to June 12, 1790, the Assembly heard a committee report recommending suspension of the state's obligation to accept New Jersey coppers at the rate stipulated in the original contract of 1786. One of the reasons given was the large number of overstruck coppers in circulation masquerading as official New Jersey coins. The committee recommended further that stiffer penalties be levied against counterfeiters and that their identities be made known. The committee's recommendation regarding suspension appears to have been adopted by the General Assembly, although specific notice of its adoption does not appear in the records.

MENSURATION OF THE REVERSE J FAMILY

While the *relative* chronology of the J family can be satisfactorily established from comparative die state analysis, the *absolute* chronology will always remain somewhat elusive. Analysis of the die axis and planchet diameter ranges presented in Table 3 may offer other ways of suggesting the chronologies of the J family. These sorts of data are, unfortunately, rarely recorded, either in auction catalogues or by institutional curators. However, from the data recorded below some interesting observations emerge.

TABLE 3

Die Axes and Diameters

Variety ^a	N ^b	Axis	N	Diameter
13-J	5	170-360°	4	28.0-29.0 mm
14-J	11	170-360	10	27.5-29.0
15-J	6	175-360	5	27.0-28.0
16-J	5	160-360	3	27.3-30.0
17-J	4	160-165	3	28.5-30.0
18-J	6	180-190	5	27.0-28.5
34-J	17	155-175	17	28.3-30.0
35-J	3	180-235	2	29.2-30.0
36-J	2	150-160	2	27.1-28.0
37-J	4	160-180	3	27.0-28.5

^a The data do not include overstruck coins.

^b The differences in numbers between this Table and Table 1 are due to the availability of coins for measurement. The paucity of the data is apparent.

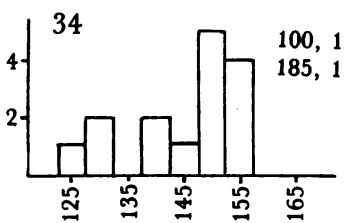
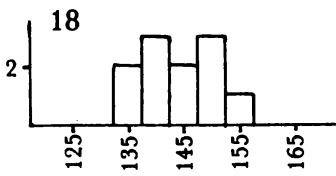
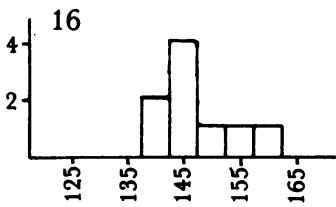
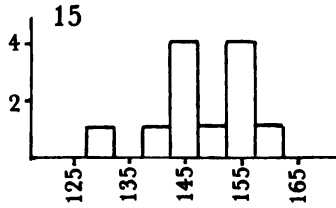
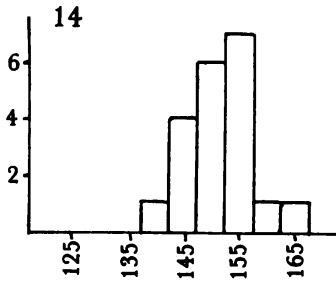
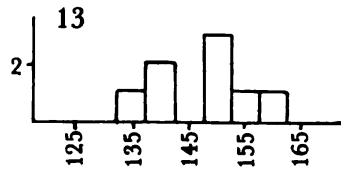
There appears to be a sharp die orientation distinction among the reverse J combinations. Varieties 13-J, 14-J, 15-J, and 16-J were aligned both "medallic" and "coin turn," their axes oriented from 160° to 360°. None of the others were so aligned, including two varieties dated 1786 (17-J and 18-J) and all the 1787 dated combinations (34-J, 35-J, 36-J, and 37-J): these groups show a remarkable symmetry, even given the limited number of coins observed. In five out of the six

groups, the axis range is no more than 20° away from perfect coin turn, and in three no more than 10°. Only one variety, 35-J, showed a range greater than 30°. It is not surprising to find 17-J within this second group, composed primarily of varieties struck late in the history of the New Jersey coinage, since 17-J is typically found overstruck on 1787 Connecticut coppers. It is interesting to find 18-J in the second group, however, further suggesting that 18-J properly belongs among the back-dated issues of the J family.

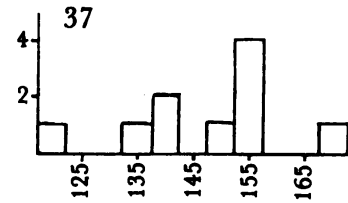
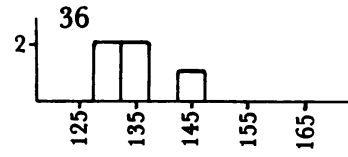
The diameters in Table 3 can be summarized in three ranges: small diameter planchet stock, from 27.0–28.5 mm; medium diameter stock, with a range of 28.6–29.0 mm; and large diameter stock, from 29.1 to 30.0 mm. In the first category are some 13-J, some 14-J, all 15-J, some 16-J, all 18-J, and all 36-J and 37-J varieties measured. In the second are some 13-J, some 14-J, some 16-J, some 17-J, and some 34-J. The third category contains some 16-J, some 17-J, and all 35-J specimens measured, together with some 34-J. More research is needed on the planchet stock used for New Jersey coppers and many more measurements are required before diameter ranges for New Jersey coppers become discriminatory data. This said, the presence of both 1786 and 1787 dated varieties in all three categories may prove to be significant. The fact that the large diameter category contains four J reverse varieties, two dated 1787 plus two back-dated 1786 varieties, may be significant.⁴⁰

The die emission sequence, comparative die state analyses, and technical observations about the J family of dies clearly indicate their relative chronology and point the way to their absolute chronology. It appears certain that all 1786 dated reverse J combinations were struck contemporaneously with others dated 1787, and that some of the mintage of the 1787 dated coins were struck after that date.

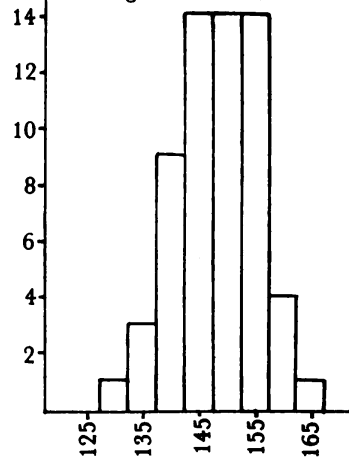
⁴⁰ Damon Douglas observed an average expansion of diameter of 1.07 mm on double struck Fugio coppers. While this figure cannot be taken as indicative of the expansion of flans of 28.0–29.0 mm coppers of the 1787–88 period, he was correct when he concluded “. . . it seems clear that the expansion of diameter from each striking was substantial.” See Douglas, p. 64A (annotated archival material at the Colonial Newsletter Foundation).



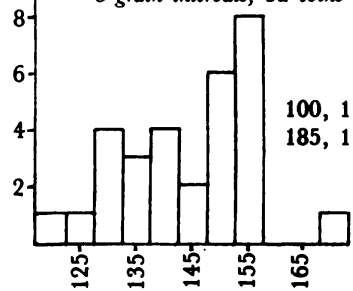
J Family Weights by Obverse Die
5-grain intervals, 92 coins



Weights of 1786 Dated Js
5-grain intervals, 60 coins



Weights of 1787 Dated Js
5-grain intervals, 32 coins



METROLOGY OF THE REVERSE J FAMILY

The descriptive analysis of the biennial reverse J family has provided some chronological answers. It now remains to analyze the metrological evidence presented by the coins to find supportive data. It is possible that statistically measurable differences among specimens sharing reverse J will reflect the die emission sequence reconstructed through descriptive analysis.

TABLE 4

Metrology

<i>Variety^a</i>	<i>N</i>	<i>Mean Weight</i>	<i>Standard Deviation^b</i>	<i>Median Weight^c</i>	<i>Lowest Weight</i>	<i>Highest Weight</i>
13-J	8	145.4	7.7	146.5	134.0	157.6
14-J	20	149.4	5.4	149.6	138.3	162.6
15-J	12	145.7	7.9	144.2	129.1	157.8
16-J	9	145.1	6.2	144.4	135.8	158.4
17-J	4	145.3	3.5	148.9	139.7	149.1
18-J	11	142.1	5.6	140.5	133.3	151.1
34-J	17	143.7	16.7	146.4	97.9	182.3
35-J	4	126.0	19.1	129.5	99.8	145.3
36-J	5	132.7	6.4	130.4	127.4	144.8
37-J	10	145.2	13.4	148.8	115.5	167.4

^a No overstruck specimens have been included.

^b The first standard deviation is the range in which 68.27 percent of the weights fall. Therefore, the smaller the standard deviation the more uniform the planchet weights.

^c The median weights are those that are exactly in the middle of the range between the lowest and highest. In a symmetrically distributed sample (i.e., one whose histogram displays a perfect bell curve) the mean and median weights will be identical; in a non-symmetrically distributed sample (i.e., one whose histogram displays significant skew in one direction or another) the mean and median weights will not be identical.

The results of the statistical analyses below can only be considered preliminary, as they are based on a sample of only 100 specimens. For some varieties the sample size is too small to be really statistically useful, while for others it is acceptable for analysis. In the former category are 13-J, 16-J, 17-J, 35-J, and 36-J. However, some of these

varieties are quite rare. For example 36-J has a surviving population of about a dozen so a sample size of five represents over 40 percent of the known specimens. Similarly, the sample size for 35-J represents 33 percent of the known specimens; that for 16-J, 45 percent; and that for 13-J, 40 percent of the known survivors. Finally, while there are probably several hundred specimens of 17-J surviving, the overwhelming majority are overstrikes on other coins (probably on the order of seven out of every ten) and so this variety is not included in this analysis: many more observations are needed of non-overstruck 17-J coins before any metrological analysis of this variety becomes meaningful.

The mean weights (in grains) shown in Table 4 above are sample-specific and tell us little about the weights of the original population of each variety struck. Table 4 also lists the median weights for each sample and the first standard deviation figure for the mean weight. For accuracy, the lowest and highest observed weights for each variety are also listed.

Standard statistical applications deal with symmetrically distributed samples, those whose histograms display a bell-shaped curve. Applying the principle of cumulative distribution it is possible to derive within acceptable limits of confidence the theoretical weight range of the original population of coins struck, by expanding the first standard deviation to include the second in the analysis. The histograms of the J family show, however, that they are not symmetrical: rather, they are distinctly skewed.

Asymmetrical distributions can be "normalized," brought into a normal, symmetrical pattern, by applying the central limit theorem when the sample size is 30 specimens or more. For some varieties of New Jersey coppers, those whose rarities suggest a surviving population of over 200 coins but whose histograms are asymmetrical, the central limit theorem is applicable. In the case of the reverse J family, however, in which fully half of the varieties have estimated surviving populations of under 30 specimens, applying this statistical tool is impossible.

ANALYSIS OF THE METROLOGY OF THE REVERSE J FAMILY

Given the limitations noted above, there are several other statistical tools that may be applied to the metrology of the reverse J family.

While these may not directly suggest the theoretical mean or the weight range of the original population of each variety in this family, they do, nonetheless, suggest parameters that help in discovering broad patterns among the family members that confirm observations made by comparative die analysis.

TABLE 5

Statistical Observations

Variety ^a	Modal Range ^b	Mid-Quartile Average ^c	Standard Error of the Mean ^d	Pearson's Coefficient of Skewness ^e	Pearson's Coefficient of Variation ^f
13-J	145-150	144.6	2.9	-0.4	5.2%
14-J	145-155	148.9	1.2	-0.1	3.6
15-J	140-145 ^g	146.8	2.4	+0.6	5.4
16-J	140-145	143.9	2.2	+0.3	4.2
18-J	135-140	143.8	1.8	+0.8	3.9
34-J	145-150	146.0	4.2	-0.5	11.6
36-J	125-135	130.5	3.2	+1.1	4.8
37-J	150-155	145.8	4.5	-0.8	9.2

^a The sample sizes for 17-J and 35-J were too small to allow for any statistically significant analysis.

^b Weights were recorded in 5 grain intervals; the modal range is the weight interval with the most specimens recorded.

^c The mid-quartile average is obtained by dividing the full range of weights into four parts with the same number of coins and averaging the middle two. In other words, it measures the mean of the middle 50 percent of the observations. In an asymmetrical distribution the midquartile range is a more reliable measurement of the central tendency of the distribution than is the mean. Excepting 36-J, the mid-quartile averages of the other seven varieties listed suggest that the coiners were employing planchets rated at 48 to the pound of copper, rather than the legally required 46 and two-thirds to the pound.

^d The standard error of the mean is an estimate from the variability and size of the sample of the variability of a distribution of sample means. That is, it gives the estimated standard deviation of the means of a large series of samples if they could have been taken. A small standard error indicates that samples of the size measured would have means that would be very close to one another's. The figure is obtained by dividing the observed standard deviation by the square root of the sample size.

^e Pearson's coefficient of skewness returns a measurement of the degree of skew observed in a sample distribution. The figure is obtained by subtracting the median

from the mean weight, multiplying that amount by 3, and then dividing the result by the standard deviation. The amount of skew is expressed as the range ± 3 , negatively skewed distributions being indicated by negative numbers, and vice versa. For the weights presented in this paper, negatively skewed numbers indicate those groups whose weight distributions fall mainly below the statutory 150 grain standard while positively skewed ones show weights tending to exceed the statutory standard.

[†] Pearson's coefficient of variation measures the comparative dispersion among different samples. The figure is expressed as a percentage of dispersion from the mean and is obtained by dividing the standard deviation by the mean, the result being multiplied by 100 to achieve the percentage.

[°] The histogram for 15-J shows bi-modality, the second mode being the interval 150-55 grains.

As may be seen, apart from 18-J and 36-J the modal range of all other varieties is within 5 grains of the statutory requirements.⁴¹ Two varieties, 15-J and 16-J, show modal ranges whose high ends are just 5 grains below the statutory requirement; two others, 13-J and 34-J, have modal ranges whose high ends are anchored on the statutory weight; while a further two, 14-J and 37-J, have modal ranges whose high ends are 5 grains above the legal requirement. Only 18-J and 36-J show modal ranges whose high ends are 10 grains or more below the statutory weight.

⁴¹ Weight loss due to circulation has not been factored into these analyses, since the original, as struck weights of circulated specimens are unknown. The Paris Mint recorded weight losses for nineteenth century gold 20 and 5 franc pieces of 1 mg per year for coins in average circulation, 2 mg per year for coins in active circulation. This is the only documented survey of the effects of weight loss due to circulation known to me. The weights of 10 uncirculated New Jersey coppers (many with original mint color) from nine different die combinations show the probable as struck weights to fall within observed weight ranges for their varieties:

<i>Variety</i>	<i>Uncirculated Weight</i>	<i>Observed Range</i>
14-J	153.0	138.3-162.6
18-M	153.5 and 155.6	131.1-167.1
21-O	155.5	128.7-170.2
23-R	150.2	116.5-160.6
48-g	143.9	129.9-166.5
54-k	129.3	92.6-156.0
62-q	135.1	126.1-153.7
63-q	144.6	130.9-154.2
63-s	143.0	129.7-159.6

The data in Table 5 suggest that the largest number of specimens of all but two varieties of the reverse J family in circulation in the late 1780s and early 1790s would have been of full or nearly full statutory weight. This includes issues dated 1786 and 1787. Surprisingly, although the sample sizes of 17-J and 35-J were too small for analysis, stripped of the overstrikes their modal ranges were 145-50 and 135-40 grains, respectively. The former was only 5 grains lower than the statutory weight, while the latter's 10 grain shortfall was probably still within the remedy allowed the coiners. These observations suggest that overstriking was not necessarily done to defraud the public, but rather was an expedient measure either to increase the coiners' profit margins or to obtain a supply of planchet stock when fresh flans were otherwise unobtainable. Those issues containing the largest number of coins not of full statutory weights also include 1786 and 1787 dated varieties. This latter, low weight group includes 18-J, one of the first of the J family produced. It is not surprising to find 36-J with a low modal weight since, as the die emission sequence proposed above suggests, it was among the last of the J family of dies to be struck. It is unexpected, but confirmatory of the suggested absolute chronology to be proposed later, to find 34-J and 37-J in the full weight modal group, since some quantity of these two were also among the last of the J family of dies to be struck. In sum, the modal ranges disclose two groups in the J family. The first is composed of varieties of which the majority were of good weight and dated in both biennial years, 1786 and 1787. This includes 13-J, 14-J, 15-J, 16-J, 34-J, and 37-J. The second group is composed of varieties whose modal weights are below the statutory requirement. This group also includes 1786 and 1787 dated varieties, 18-J and 36-J.

Except for 36-J, all other measurements show the mid-quartile average to be within 7.6 grains of the statutory requirement set for the coinage, or ± 5 percent. Since the mid-quartile average is really only the mean weight of the middle 50 percent of the specimens, these figures largely confirm the suggestions offered by the modal range observations, namely, that most reverse J coins in circulation during the last decade or so of the eighteenth century were of good weight. The low measurements seen for 36-J correspond to its low modal range observations. That the mid-quartile average for 18-J suggests a variety of

similar weight characteristics to all other J varieties save 36-J underscores the fact that the modal range only measures the interval containing the largest number of specimens observed. The modal range itself cannot suggest the weight range of the majority of the original population.

The two groups discovered by analysis of the modal ranges of the J family are largely confirmed by examination of the mid-quartile averages. The first includes all varieties except 36-J and consists of combinations the majority of whose weights fall comfortably within 6 percent of the statutory requirements for the coinage as a whole. While the remedy allowed the coiners is unknown, it is probably safe to say that a figure around 5 percent would not have been unreasonable given the technology of the times. In fact, the standard deviation of the mid-quartile average noted above, ± 5 percent, suggests this figure.⁴² The second group in the J family contains only 36-J, whose mid-quartile average is 19.5 grains below the statutory requirement, or nearly 13 percent lower than set by law. The absence of 18-J from this second group is surprising, since variety 18-J appeared in company with 36-J in the second, low weight, modal range group. Its absence here is explainable, in part, by the high degree of positive skewness observed in the histogram of its weights.

The standard error of the mean is a \pm attribute of the observed mean weight of each variety in the J family. Its application is hypothetical, since it is an estimate of the standard deviation from a hypothetical mean discovered from several samples of a population. In other words, if many samples could have been taken from each variety instead of just one as here, then the standard error of the mean would closely approximate the standard deviation from the mean of all the samples taken.

Its usefulness for this study is in conjunction with the measures of Pearson's coefficients of skewness and variation as indicators of the central tendency of the weights of each variety observed. Applied to numismatic metrology, these three indicators suggest how closely the

⁴² The remedy allowed the coiners of the 1773 Virginia halfpence, struck at the Tower Mint, was 3 1/3 percent, 1 percent higher than allowed on the homeland copper coinage. A remedy 2 percent higher for a coinage struck in a less sophisticated colonial mint does not appear unreasonable.

mint or mints striking an issue controlled the weights of their products. Since it has become almost axiomatic in the study of state coppers of the Confederation period that the longer a coinage was struck the more the weight standard declined, a comparison of the results of these three measures with the tentative die emission sequence proposed for reverse J might support this observation, if declining weights and greater dispersion around a mean can be taken as indicators of absolute chronology.⁴³

TABLE 6

Ranking by Quartile Range

	<i>Standard Error of the Mean</i>	<i>Pearson's Coefficient of Skewness</i>	<i>Pearson's Coefficient of Variation</i>
<i>1st Quartile</i>	14-J, 1.2	14-J, - 0.1	14-J, 3.6%
	18-J, 1.8	16-J, + 0.3	18-J, 3.9
	16-J, 2.2		16-J, 4.2
			36-J, 4.8
			13-J, 5.2
			15-J, 5.4
<i>2nd Quartile</i>	15-J, 2.4	13-J, - 0.4	
	13-J, 2.9	34-J, - 0.5	
	36-J, 3.2	15-J, + 0.6	
	34-J, 4.2		
<i>3rd Quartile</i>	37-J, 4.5		37-J, 9.2
		37-J, - 0.8	
		18-J, + 0.8	
<i>4th Quartile</i>		36-J, + 1.1	34-J, 11.6

⁴³ The one notable exception to this "axiom" is, of course, the copper half-cents and cents of Massachusetts, whose weights remained faithful to the statutory requirements throughout the two-year span of the coinage. There are several reasons for the stability of Massachusetts' copper coinage, which are unique to its historical context.

The figures for the standard error of the mean and Pearson's coefficients of skewness and variation were divided into quartiles based on the total range of the results from zero. The first quartile contained varieties whose standard errors of the mean and coefficients of skewness and variation were smaller than those in the second, and so on. In other words, varieties in the first quartile of each measurement had weights that showed greater tendencies to cluster around one weight interval than those in the second quartile, etc. In the case of the coefficient of skewness the figures are \pm attributes of deviance from a norm of 0, or no skewness, as seen in data describing a perfect bell curve; in this test results of -0.3 to $+0.3$ mark the boundaries of the first quartile, -0.6 to -0.3 and $+0.3$ to $+0.6$ the second, and so on.

Comparison of the figures in Table 6 with the relative emission sequence for the reverse J family is highly instructive. If greater variation in weights is indicative of the later years of the New Jersey series, when whatever state supervision originally may have existed (through receipt of seigniorage payments) was non-existent (ie., after the term of the contract had expired, 1788–90), then Table 6 should show varieties back-dated from that period in the highest quartiles, where the greatest variances lie. Varieties back-dated from 1787 and 1788, struck while the contract was still in force and seigniorage was still being paid by the authors of the J family of dies, should be found in the lowest quartiles, where the lowest variances lie. The figures in Table 6 largely show these equivalences to hold true.

The die emission sequence proposed earlier suggests that 13–J, 14–J, and 15–J were the first varieties struck, followed by 18–J and about one half of the 16–Js struck (this includes the earliest states of the die, perfect and early intermediate). Table 6 places these varieties in the first or second quartiles, with the lowest degree of variance from their mean weights and the least degree of skew in their histograms. The exception, 18–J, shows a higher degree of skew than the others, but is in the first quartile in two of the three measurements recorded. Variety 13–J is found in the second quartile for both the standard error of the mean and Pearson's coefficient of skewness; it may be that these figures are reflective of the quantity of 13–J struck towards the middle of the life of the reverse (later intermediate state, ca. 1788–90). Variety 14–J is found in the first quartile for each measurement, which accords with

its place in the die emission sequence, which proposes that the large majority of 14-J was struck during the earliest state of reverse J. Variety 15-J is found twice in the second quartile, once in the first. The die emission sequence suggests that the majority (if not all) of 15-J was struck in the second state of the die. Variety 16-J is found only in the first quartile in Table 6; the die emission sequence places part of the 16-J struck in state 2 of the reverse, while the remainder was struck later, in states 3 and 4. The sample of 16-J studied was about equally divided among these three die states. The failure of Table 6 to reflect the quantity of 16-J struck after the die had failed, probably datable to the 1788-90 period, is indicative of the limitations of this sort of metrological analysis.

Variety 18-J is anomalous, for the die emission sequence proposes that most 18-J were struck in the earliest stages of the reverse die's life while Table 6 shows 18-J to be among the most skewed of all the J family. The explanation for this anomaly, as well as the low modal weight recorded for the sample of 18-J, may lie in the small size of the sample. It will be remembered, however, that 18-J fell into the second die alignment group discovered in the J family, which contained all the 1787 dated varieties. In many respects 18-J is a chimerical variety, sharing some characteristics of the earlier, full weight group and others with the later, low weight one. It is quite probable that these figures reflect two distinct strikings of 18-J, the first early, ca. 1787-88, and the second later, ca. 1788-90.

Variety 34-J was found in all states of the reverse; in Table 6 it is found twice in the second and once in the fourth quartile. Combination 36-J was found in the middle and final two states of the reverse die; in Table 6 it is seen in the first, second, and fourth quartiles. Its coefficient of skew was the second greatest of any of the J varieties, however, and its standard error of the mean was near the upper boundary of the second quartile. Variety 37-J was the last of the J family struck. Table 6 places 37-J in the third quartile of each measurement. The appearances of 1787 dated varieties in the lowest quartiles may reflect those portions of 34-J, 35-J, 36-J back-dated from 1788-90.

If the five different states of reverse J are analyzed in the same way each of the ten different combinations have been, then the measurements should exhibit gradually larger dispersions of weights from the

means if the epigrammatic generalization "later dates mean wider weights" is to hold true.

TABLE 7

Weights, Axes, and Diameters by Die Condition

	1	2	3	4 ^a	5
Number ^b	20	18	18	12	11
Mean	147.4	144.8	142.3	143.3	134.9
Median	150.8	144.0	144.8	141.5	137.1
Std. Dev.	7.9	7.8	12.3	18.5	15.3
Highest Wgt.	157.6	158.4	161.5	182.3	151.6
Lowest Wgt.	133.3	129.1	115.5	115.2	97.9
Variance	5.4	5.4	8.6	12.9	11.3
Skewness	-1.3	+0.3	-0.6	+0.3	-0.4
Error of Mean	1.9	1.8	2.9	5.6	4.6
Axis Range	155-190	155-360	155-185	160-235	150-165
Diam. Range	27.0-29.0	27.0-29.2	27.3-29.1	290.0-29.2	27.1-30.0

^a Diameter and die axis data for states 4 and 5 are extremely limited. The figures given above, which in both cases imply close control over planchet widths and die orientations, are suggestive only.

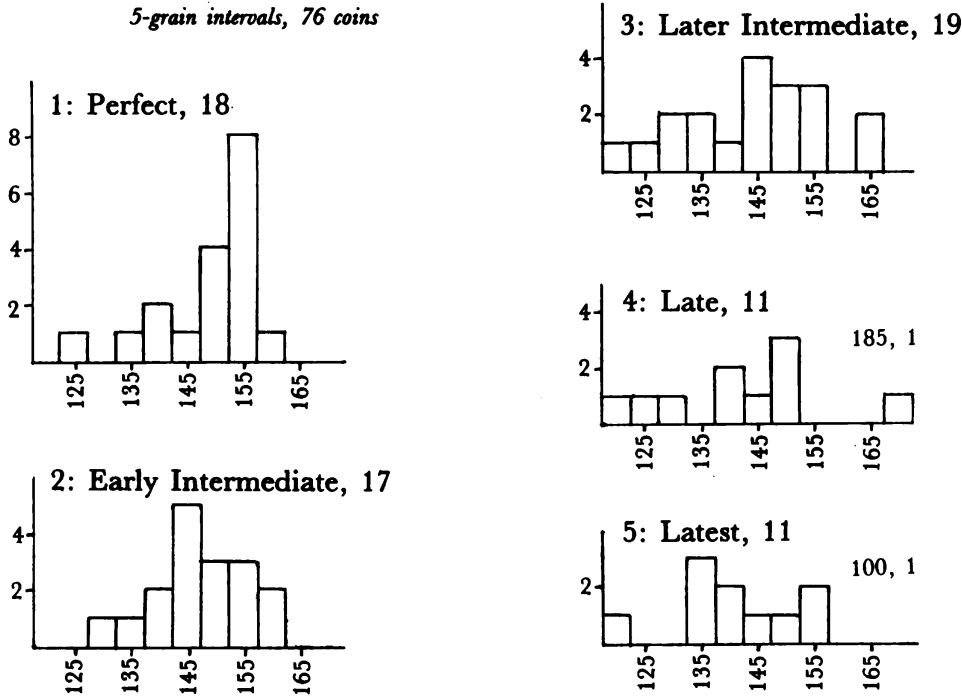
^b No observations taken from overstrikes have been included.

It can be seen that the later states of reverse J do exhibit a much greater dispersion around their means than do the earlier states. The increase in the standard deviation figures from the earliest states (1 and 2) to the later ones (3, 4, and 5) are dramatic in their confirmation of the hypothesis that later states should demonstrate such deviation. A gradual decline in both mean and median weights can be detected in the above figures as well. The decline is slow over states 1 through 4, the mean of the latter being no more than 6.7 grains below the statutory weight for the coinage. The decline is sudden when state 5 is reached, however, and there the mean weight is 15.1 grains below statutory requirements, almost certainly beyond the coiners' legal remedy.

A similar relaxation of control may be seen in the weight ranges given for each state. The highest weights show some overall consistency from state 1 to state 5, although the heaviest coin in state 4 is remarkably heavy. The lowest weights exhibit a steady decline to a remarkably low

97.9 grains in the latest state. Pearson's coefficients of variation and skewness as well as the standard error of the mean largely mirror the wider dispersions so dramatically shown by the standard deviations for each state.

Weights by State of J
5-grain intervals, 76 coins



Bearing in mind the qualification of note b, the diameter ranges suggest that the coiners of reverse J may have gradually increased the diameters of their planchets in the latest two states of the die. The diameters of specimens in states 1 through 3 display a fairly consistent range, the low side anchored around 27.0 mm and the high side around 29.0 mm. In states 4 and 5, however, the smallest diameters tend to be around 29.0 mm while the highest are found around 30.0 mm.

Die axis ranges are less unequivocal in their testimony, however. Ranges in states 1 and 3 are very close, showing that their coiners attempted, successfully, to maintain a consistent "coin turn" to their products. With the limited data in mind, preliminary observations of the axis ranges of states 4 and 5 also suggest a similar concern. The axis

range for state 2, however, is much broader. Many more die axis measurements are needed before confidence can be placed in their evidence.

DATING AND ATTRIBUTING REVERSE J AND ITS FAMILY

Given the link between greater variance from a mean and later stages in the history of a coinage, the *relative* chronology established by the die emission sequence is largely confirmed by the metrology of the J family. However, as in the case of 18-J, for example, while metrology offers some assistance in establishing the *absolute* chronology, fixing it with a satisfactory degree of confidence requires more than metrology alone can offer.

Only one other comprehensive attempt at dating the reverse J family of dies has so far been published.⁴⁴ Walter Breen divided the J family into two groups. The first, including all the 1786 dated varieties, he ascribed to the Goadsby and Cox partnership operating at Rahway Mills during the period November 1786 to late 1787. The second, containing all the 1787 dated varieties except 37-J, he ascribed to Matthias Ogden and Gilbert Rindell, operating at Elizabethtown during the period February through June 1788. Variety 37-J was distinguished from the other 1787 dated combinations and was ascribed to Matthias Ogden alone, at an unnamed minting site.

Breen's dating scheme apparently was based upon two pieces of evidence. The first is the obvious stylistic differences between the appearance of the horse's head on the J family coinage. The 1786 dated varieties have heads with a broad, softly curved turn-in below the muzzle, before the start of the barrel. The 1787 dated varieties, on the other hand, have very sharp, abrupt turn-ins. The differences between the two styles are unmistakable. Second, Breen relied upon the historical record, primarily the accounts of seigniorage payments to the New Jersey state treasury recorded by Treasurer Mott for his initial and

⁴⁴ Breen (above, n. 6), pp. 80 and 83-84. See also Anton (above, n. 1), pp. 487-513: Anton's essay did not include a comprehensive dating scheme for all varieties of the J family, however.

terminal dates of November 1786 and June 1788 for the striking of the J family of dies.⁴⁵

Stylistic differences in a coinage can confirm the evidence of other, more solid, numismatic observations but by themselves are often the most unreliable data upon which to rely. The ten obverses found married to reverse J are very different from each other; the sole semi-unifying distinction among them being the obvious one of the different styles of the horse's heads on the coins from the 1786 and 1787 dated dies. For example, four 1786 dated dies, 14, 15, 16, and 17, had straight plough beams and one, 13, had a slight upturn in the beam at its end as on 36, dated 1787, while another, 18, had the strong upward curve found on coins from three 1787 dated dies, 34, 35, and 37. Only one die, 17, had knobs on the ends of the plough handles while all the others had squared off handles. Two obverses, 34 and 35, have sprigs beneath the horse's head; the others do not. Only one die, 17, ended the obverse legend with a stop. These are just the most obvious dissimilarities among the obverses of the J family. It has proven impossible to discern any additional broad stylistic similarities that create discrete groups in the J family other than those two already described. The significance of those, however, fades when compared to the numerous dissimilarities among the J family obverses. Many hands must have been employed in creating the obverse dies, probably over a period of some one or two years.

Breen's initial date for the 1786 dated coinage is simply the date of the Supplement Act passed by the New Jersey Assembly, which divorced Goadsby's and Cox's share of the New Jersey coinage contract from Walter Mould's portion and empowered the former to begin striking. The terminal date he proposed is the month following the last recorded seigniorage payment to the New Jersey treasurer. Of the two dates, the first is the more credible, since coinage could not have legally begun until after the passage of the Supplemental Act of November 22, 1786. Relying upon the second for a terminus post quem assumes that

⁴⁵ Walter Breen first examined the "Sundry Receipts Book" kept by the treasurer to the State of New Jersey, James Mott, and published these accounts in "Mintage Figures for the New Jersey Coinage," *The Colonial Newsletter* 9, 1 (March 1970), pp. 295-97.

all J varieties were struck during the term of the contract and none afterward. Such an assumption is not based upon the historical record, since none exists that details when particular varieties were coined.⁴⁶ In the absence of literary evidence the coins themselves become our only guide to their dating and comparative die state analysis suggests that some varieties of the J family may be dated to the period following the termination of the contract.

The proposed die emission sequence supported by the metrological evidence of the coins themselves shows that dating the J family of dies is an exercise that cannot yield precisely drawn starting and ending dates for each variety. Some obverse varieties with 1786 and 1787 dates were struck over the life of reverse J and were themselves probably back-dated from a later period. Others appear in widely differing die states, suggesting that after an initial coinage those dies were not used in combination again until some period of time had passed. Still others have the characteristics of coins struck without the careful attention to a single weight standard discoverable in others, yet in reverse die states identical to those whose metrology shows such care.

One clear conclusion can be drawn, however. All of the 1786 dated reverse J varieties were back-dated, and portions of varying size of 1787 dated ones were also back-dated from 1788–90. Die state 1, which includes the majority of 14–J, some quantity of 13–J, nearly half of 18–J, and some 34–J can be dated to the period 1787–88. State 2, containing all of the remainder of 14–J, nearly half of the remaining 18–J, most of 13–J, all 15–J, about one-third of 16–J, and some further 34–J, can be dated to 1787–88 as well. The quantity of 34–J which appeared in state 2 may have been struck later, however, in 1788–90, and this observation should be factored into the dating of this state. State 3 includes about one-third of 17–J, most 34–J, and some 36–J.

⁴⁶ The record of Albion Cox vs. Thomas Goadsby in the New Jersey Chancery Court, dated June 7, 1788, orders that either of the two "... will perfect and complete the same [i.e., their part of the original contract for coining New Jersey coppers]. . . ." This seems to imply that as of June 1788 their two-thirds share of the contracted number of coppers had not yet been coined. The salient details of the case record were transcribed by R. H. Williamson and published as "Case Record Albion Cox vs. Thomas Goadsby . . ." *The Colonial Newsletter* 19, 3 (December 1980), pp. 740–46.

These varieties appear to have been coined in 1788–90. States 4 and 5, the latest, can be dated to 1788–90; these include the remainders of varieties coined earlier, and all 35–J.

HISTORICAL DOCUMENTATION: MINTS AND COINERS

In response to their petition of May 23, 1786, the Tenth General Assembly of New Jersey empowered Walter Mould, Thomas Goadsby, and Albion Cox to operate a coinage franchise; the enabling act was passed on June 1 of that year. Under the terms of the enablement, the three partners were required to post a £10,000 surety bond and to produce the total amount of coppers authorized (about 3 million coins) within two years of the licence date. Additionally, they were to make quarterly payments to the treasurer of New Jersey, which were to represent the state's seigniorage of 10 percent.

By the fall of 1786 the partners had found suitable quarters for their operation, a grist and sawmill in Rahway, New Jersey, leased from one of the members of the New Jersey committee who had originally recommended their petition, Daniel Marsh. Surety for their payment of the leasehold was made by Matthias Ogden, a representative to the New Jersey Assembly.

At this point, however, the partners had a falling out. Goadsby and Cox petitioned the Assembly for relief from the original enablement, claiming that Mould would not join them in posting his share of the surety bond originally required of them all. The Assembly, not surprisingly, allowed their relief and divided the contract into two parts. Goadsby and Cox were to coin two-thirds of the total allowed, Mould the other third, but if Mould were unable to fulfill his part then his third would revert to Goadsby and Cox. In their petition for relief, Goadsby and Cox stated that they had established a "rolling mill, furnaces, cutting and coining presses" and had on hand copper ore and unwrought copper sufficient for their needs.

The Assembly passed the Supplemental Act on November 22, 1786. After this date coining could begin legally, since Goadsby and Cox had already posted their portion of the necessary surety bond and only Mould's failure to find his share of it had delayed coining. Prior to

November 22, of course, coining would have been illegal (although not impossible) since the surety requirement of the enabling act of June 1 had not been met.

It is unlikely that the 46 New Jersey die combinations dated 1786 were struck over the 39 days between November 22 and December 31, 1786; this would represent 34 percent of the total number of known New Jersey die combinations! It is likely that dies were cut and ready for use before November 22, waiting only for Mould's part of the surety bond to be posted. Goadsby and Cox delivered their first quarterly payment to the New Jersey treasurer on March 16, 1787, in the amount of £36/12/9 or nearly 11,000 coppers. This figure represented the state's seigniorage of 10 percent of the total coined, so Goadsby and Cox may be presumed to have struck some 110,000 pieces between November 22, 1786, and March 16, 1787. Walter Mould did not successfully post his own surety bond until January 19, 1787, and his first delivery of the required quarterly payment to the treasurer was not made until May 8, 1787, so it was legally impossible for him to coin in 1786 and his mint was probably not striking coppers until February or March of the following year.

Goadsby's and Cox's minimum production rate can be estimated from their seigniorage payment of March 16, 1787. Assuming that no work was done on Sundays, there were about 100 "coining days" between November 22, 1786, and March 16, 1787. If their mint operated on a 12 hour day, as the early U.S. mint at Philadelphia did, then at a minimum they struck 92 coins per hour or about 1 1/2 per minute, a rather slow production rate. If the operation was more an ad hoc one, coining on some days but not on others, then the hourly rate would have been higher.

Goadsby and Cox made further payments to the treasurer on April 5 and 6, representing the second and third quarterly sums due the state of New Jersey for its seigniorage, but no further ones until October 4, 1787. In the interval they, too, had had a falling out. Cox spent time in debtor's prison in the middle of 1787 and Goadsby, with the assistance of John Harper, continued minting New Jersey coppers. The hiatus in payments to the treasurer from April to October of 1787 reflects these unsettled conditions at Rahway. When Cox gained his release from prison he found himself unwelcome by his old partner and was forced to

get a writ of replevin against Goadsby, issued January 29, 1788. Possession of the mint and its tools and equipment remained legally in doubt until June 7, 1788, when they were placed in the custody of Matthias Ogden, who had posted surety for the original leasehold on the Rahway premises nearly two years earlier.

Both William T. Anton, Jr., and Walter Breen have offered suggestions about the probable mint locations responsible for the reverse J family of dies. Breen's suggestions have already been outlined.⁴⁷ Anton postulated that combinations 13-J, 14-J, 15-J, 16-J and 17-J were struck at Elizabethtown, together with 34-J, 35-J, and 36-J; to Rahway he ascribed 18-J and 37-J. Like Breen's, Anton's attribution scheme was based primarily upon stylistic similarities and visual identification of punch linkages among dies.

When compared to the historical evidence, the emission sequence reconstructed for the reverse J family and the suggestions about the absolute chronology of the family require a different, somewhat more complex, mint attribution scheme than has been proposed before. The earliest varieties, corresponding to those found in states 1 and 2 of the reverse, were struck either by the Goadsby and Cox partnership at Rahway Mills in the first half of 1787, or by Goadsby alone at Rahway in 1787, during Cox's incarceration in debtor's prison. These include most 13-J; all 14-J and 15-J; about one-third of 16-J; most of 18-J; and some 34-J. From January 29, 1788 (following Albion Cox's award of replevin and his attempt to repossess some of the Goadsby-Cox partnership coining tools) to June 7 of that year, coinage must have been on a very reduced scale, if, indeed, coining operations were possible at all, pending resolution of Cox's suit against Goadsby and Goadsby's counter-suit against Cox. On June 7, 1788, in a complicated decision at equity, the New Jersey Chancery Court awarded the tools taken by Cox in January to Matthias Ogden, to be held in trust by Ogden for the satisfactory fulfillment of the coinage contract. Legal ownership of the tools was to be settled between Goadsby and Cox and, failing their settlement, were to be sold.⁴⁸

⁴⁷ Above, n. 6.

⁴⁸ Above, n. 46.

Two weeks later Treasurer Mott recorded a seigniorage payment amounting to slightly more than 11,000 coppers; the name of the agent making the payment was not recorded. The final payment, which he recorded under the heading of the original Rahway partnership, was made two weeks later, on July 3, 1788. Amounting to just over 17,000 coppers, the payment was made by one Gilbert Rindell, an associate of Ogden's. Further, in 1794 Ogden's widow sold "one coining press" to the United States Mint at Philadelphia.

It appears that reverse J varieties in states 3 to 5 were coined by Matthias Ogden at Elizabethtown, as Walter Breen suggested, but over a period that extended beyond the life of the original contract, into 1789 and even 1790. The New Jersey Assembly did not begin debating the revocation of the original legal value of New Jersey coppers for payment of state dues until the second quarter of 1790. At that time, May and June 1790, the coppers were legally rated at 15 to the shilling in all payments to the state. In New York City they passed at two to the penny in September 1789, the only state copper coinage not drastically devalued following the panic of 1789.⁴⁹ According to the committee report to the New Jersey General Assembly, Connecticut coppers could be bought at 45 to the shilling, overstruck by New Jersey types, and passed in the state at 15 to the shilling, for a profit of 200 percent. There were good economic reasons for continuing to coin New Jersey coppers beyond the contract term.

Some perplexing questions posed by the J family cannot yet be answered and must await further study. More metrological and mensural data are needed to adequately explain the "hybrid" nature of 18-J, which appears under different measuring techniques to exhibit some characteristics of both major groups discovered in the J family. More

⁴⁹ In the September 5, 1789, edition of the *Gazette of the United States*, it was reported that "... coppers with the New Jersey stamp are now current at two for a penny." The report continues "It is to be hoped that the mint masters will be so moderate as not to glut the market." This tantalizing statement suggests that New Jersey coppers were being struck at that date! The exchange rate for New Jersey coppers given in the *Gazette* is confirmed by a traveller's diary entry of September 17, 1789, which notes that "... only the Jersey coinage are current . . .," at a rate equivalent to 52 cents per hundred coppers, i.e., higher than the rate set by the New Jersey legislature three years earlier. See Douglas, *James Jarvis*, p. 45.

specimens of 37-J need to be examined to explain the "robustness" of this variety, clearly one of the last of the family struck yet of full weight and closely controlled die orientation. An even more important question still unanswered is the problem of overstrikes in the J family. If we assume that relaxed quality control typifies the later stages of the coining of state coppers, then the fact that some 17-J, 34-J, and 35-J are found both on host and virgin planchets requires an explanation. It would appear more than probable that Matthias Ogden had access to fresh planchets for his operation at the least; it may even be that his mint was more than just the single screw press described for us by an old lady removed by nearly three generations from the memory she recalled.

In conclusion, this paper has been an attempt at applying the disciplines of comparative die analysis and metrology to the study of New Jersey copper coinage of 1786-88. No other comparative die studies of New Jersey coppers have yet been published, yet this is a methodology that can correct and amplify prior studies of the coinage. Further, the metrology of state coppers of the Confederation period has not been studied as intensively as it deserves. The biennial dies in the New Jersey series offer a fertile field for this sort of two-tiered analysis.⁵⁰

⁵⁰ This paper has been the first in a series of studies of the biennial die pairings in the New Jersey series. It is expected that the somewhat roughly drawn metrological techniques applied here will be refined in later work. The author hopes that other students of the state coppers issued during the Confederation period will apply similar methodologies and he anticipates that they will improve upon his own application of them.

BOOK REVIEWS

With the next issue, the *American Journal of Numismatics* will begin to publish reviews of book-length numismatic works. This decision, taken by the Council of the American Numismatic Society in connection with the retitling of the series, reflects the desire to make the journal more broadly representative of the discipline, as well as to signal substantive contributions to the literature of the discipline. This section of the *AJN* is a response to a need not now met in this country.

Authors and publishers are invited to provide copies of works to be considered for inclusion. Books for review, as well as suggestions for appropriate reviewers, should be addressed to :

William E. Metcalf, Book Review Editor
American Journal of Numismatics
Broadway at 155th Street
New York, NY 10032 U.S.A.

PLATES



The Case for Issus

Plate 2



12



14



15



13



16



17



18



19



20



21



22



The Case for Issus



3x



1



2.1



2.3



3x



2x



2.4



2.5



2.6

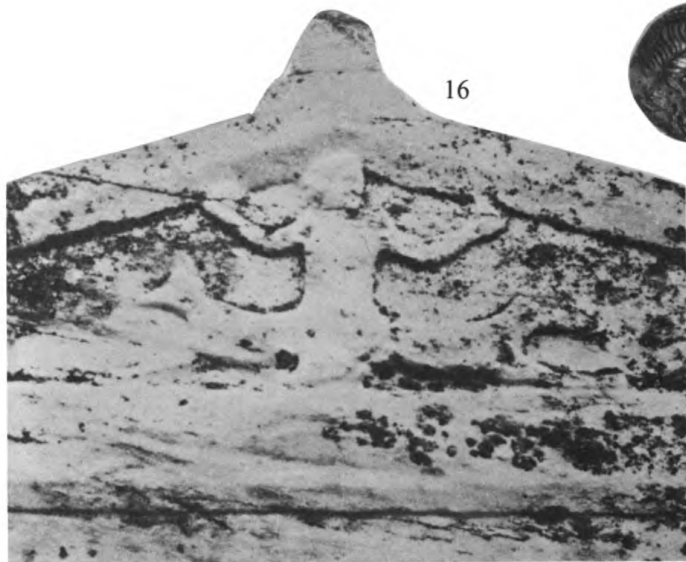


Philip II

Plate 4



Denarii of M. Plaetorius Cestianus



16



17



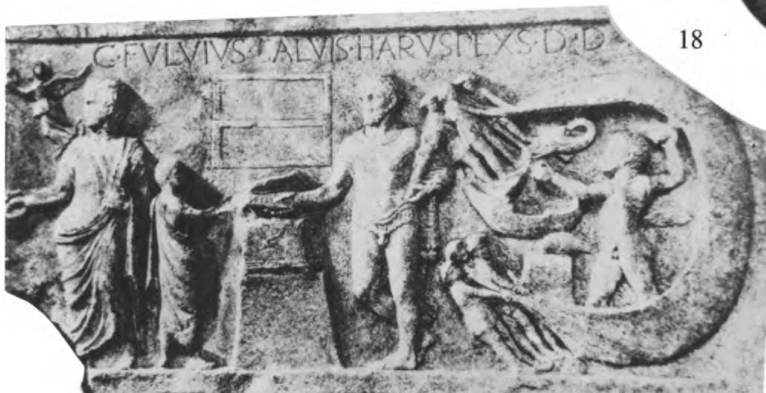
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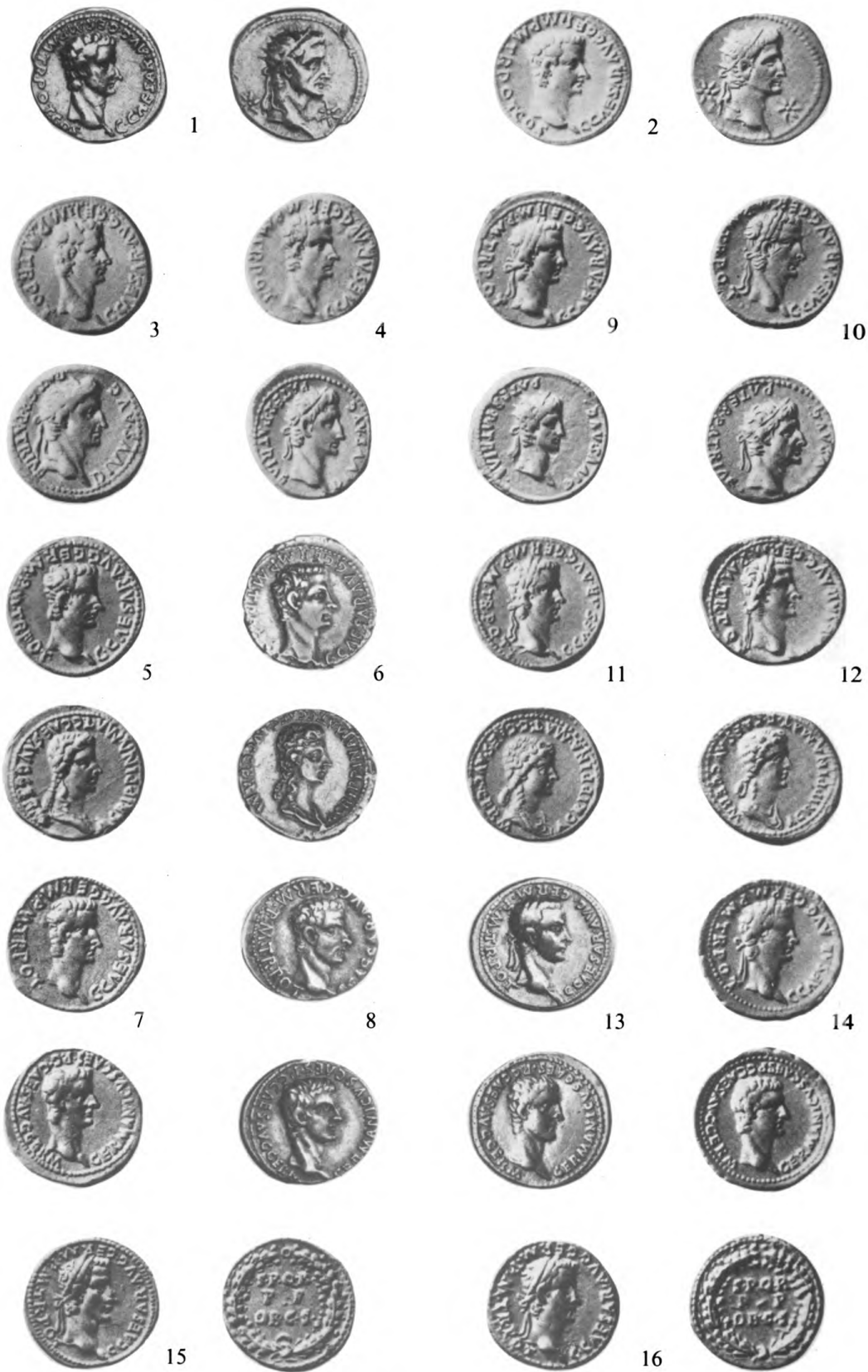
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22

Denarii of M. Plaetorius Cestianus

Plate 6



Rome and Lugdunum



17



18



19



20



22



21



23



24



25



26



27



Rome and Lugdunum

Plate 8



28



29



30



31



32



33



34



35



36



37



Rome and Lugdunum



1



2x



2



3



4



5



Galba and the Sullan Capitolium

Plate 10



1



2



3



4



5



6



7



9



8



10



11



Wahram II



A Pahlavi Imitation

Plate 12



9



10



11



12



13



14



15



16



A Pahlavi Imitation



17



18



19



20



21



22



23



24



A Pahlavi Imitation

Plate 14



25



26



27



28



29



30



31



32



A Pahlavi Imitation



Hārūnābād and Al-Hārūniyya

Plate 16



13J



17J



14J



18J



15J



18M



16J



18M



16L



New Jersey Reverse J



34J



1



35J



2



36J



3



37J



4



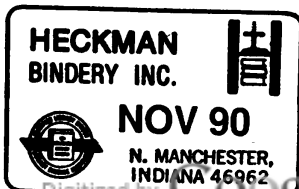
5



New Jersey Reverse J



3 0000 003 260 282



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