

Silver Dome-shaped Coins from Persian-period Southern Palestine¹

HAIM GITLER OREN TAL PETER VAN ALFEN
Israel Museum, Jerusalem Tel Aviv University American Numismatic Society
gitler@imj.org.il orental@post.tau.ac.il vanalfen@numismatics.org

Abstract

The paper discusses a so far unknown group of peculiar Athenian-styled Palestinian coins. This group, which includes mainly “*drachms*” but some “*obols*” as well, was struck from worn obverse dies (i.e., dies damaged by prolonged use), which were then recut and repolished. As a result, the coins’ obverse in many cases is simply dome-shaped, with no traces of Athena’s head or helmet being recognizable. The coins’ distribution suggests that they circulated in the boundaries of what we define as Edom in the later part of the Persian period and might well have been the silver money mentioned in several of the Edomite ostraca.

THE NUMISMATIC EVIDENCE

In the production of ancient coins, the deterioration of the carved motif from wear was usually ameliorated by recutting the die or replacing it. However, during the late Persian period we find several exceptional examples of hoards of Palestinian coins which illustrate the gradual deformation of the coins’ designs as the result of the wear of the designs on the dies until those designs can barely be recognized (e.g., in the Ashkelon 1989 Hoard — mainly the deformation of the obverse motif — [Gitler 1996; *CH* 9.369; Gitler and Tal 2006a:56–59]; the Samaria Hoard [*CH* 9.413; Meshorer and Qedar 1991: Pls. 15–17:2–21 — especially Nos. 7–21; Pls. 19–22:37–65 — especially Nos. 42, 48, 57, 63, 65; Pls. 23–26:71–100 — especially Nos. 79, 81, 82, 86, 96, 98, 99, 100; Pls. 26–30:101–143 — especially Nos. 110, 112, 114, 116, 120, 124, 125, 128, 137]).

We have recently noted a group of Palestinian coins which show that in certain cases this unusual phenomenon was taken a step further. This relatively large number of peculiar Athenian-styled coins includes mainly “*drachms*” but some

1 This publication is supported by the Ancient Israel program of the Department of Archaeology and Ancient Near Eastern Cultures, Tel Aviv University. The photographs of the coins are by Pavel Shrago, Alan Roche and Clara Amit. The drawings were made by Pnina Arad. We are indebted to Jonathan Rosen for permission to publish coins from his collection.

“*obols*” as well.² They share the oddity of having been struck from worn (i.e., damaged by prolonged use), recut and repolished obverse dies. Thus the coins’ obverses in many cases are convex-shaped and no traces of Athena’s head or helmet are recognizable. The die used for striking the incused reverse, which depicts the Athenian owl, was usually less worn, yet in some cases one can barely identify the owl. It should be stressed that the above mentioned phenomenon of coins struck from worn, recut and repolished dies (see Cat. Nos. 12–59 and Table 4) differs from the well-known phenomenon of coins which are worn as a result of prolonged circulation, mistreatment or natural decay processes due to environmental depositions (see Cat. Nos. 1–11 and Tables 2–3). One can distinguish between the two phenomena by inspecting the coins from a side view (Figs. 1–2); coins struck from worn dies will show a round more-or-less central section with shallow margins (cf. side images and drawings of Cat. Nos. 39–41, 43, 47), whereas worn coins will show a plano-convex section (cf. side images and drawings of Cat. No. 1).

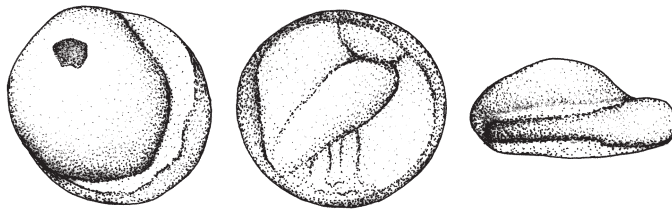


Fig. 1. Illustrative obverse, reverse and section depiction of dome-shaped coins (Cat. No. 42).



Fig. 2. Illustrative obverse, reverse and section depiction of worn coins (Cat. No. 1).

2 The use of denominational designations such as *drachms* and *obols* in Persian-period Palestinian coins is faulty. Based on epigraphic sources of the late Persian period the coins assigned these denominations most likely corresponded to the local quarter *sheqel* (*rb*⁴ [šql]) and 1/24 *sheqel* (Biblical *gera*) respectively, see Tal, Coin Denominations and Weight Standards in Fourth-Century BCE Palestine, this volume.

In the group of coins gathered for this article, it is logical to assume that once the original obverse die motif was worn beyond recognition, the die was not recut in order to reconstruct the original motif of Athena's head. Instead it was recut (as is evidenced from Cat. No. 46, where one can clearly see the nicks on the flattened surface of the obverse) and later repolished, eventually forming a concave indentation in the die. In the catalogue below we have arranged the coins in an order suggesting a development in three stages: In the first stage, the coins were struck from worn dies and irregular flans; in the second, the dies were recut and repolished resulting in coins with a relatively shallow dome-shaped obverse; and in the third (and final) stage, dies were deeply recut and repolished resulting in coins with a prominent dome-shaped obverse. However, we cannot exclude the possibility that some of these dome-shaped coins (e.g., Cat. Nos. 34–59) were not made from recut and repolished dies that had been in use before, but were intended to have this appearance from the start, as geographical or ethnical indicators. Since it is evident that this was an intentional method of production, we assume that the owl and especially the dome shape were accepted as recognized types for coins circulating in southern Palestine during the late Persian period. This specific method of production enabled the minters to adjust the dies to a smaller yet thicker flan of a higher average weight (see below). Because of the peculiarity of these coins, it is possible that they were issued for a certain purpose and circulated in a relatively restricted geographical region. A unique coin in the collection of Jonathan Rosen (Fig. 3) may support this observation. It is clear that the original coin belongs to the dome-shaped series as is apparent from its shape and weight (cf. Cat. Nos. 34–59). However, at a later stage when this specimen was still in circulation but probably in a different geographical region, its obverse seems to have been restruck with a normal Athena's head die. Since the obverse of this coin was plano-convex, the motif of Athena's head was impressed only over the elevated surface.



Fig. 3. 4.16 g, axis ↗. J. Rosen collection (2:1).

From a technological point of view, it has been suggested that in the hammer-striking process, most commonly employed in antiquity, the upper or reverse die (“punch”) wore down more rapidly than the lower or obverse die (“anvil”), as it received the full impact of the hammer blow, while the obverse die embedded in

the anvil was better protected (Hill 1922:30–32; Michaux-Van Der Mersch and Delamare [1987:11–12, notes 18–22 and pp. 15–32] describe the energy dissipation and the stress on the materials during the striking process). For this reason we find, particularly in Persian and Hellenistic coinages, relatively numerous reverse dies and comparatively fewer obverse dies (on the ratio of reverses to obverses dies see de Callatay 1997; 1999 and Faucher 2006:164–165). The coins under consideration here employed a different technique: the punch die was the “obverse” while the lower and better protected die was the “reverse” (for a similar phenomenon noted in the Ashkelon 1989 Hoard, see Gitler 1996).³

According to archaeological findspots, the geographical distribution of the coinage of Philistia is restricted mainly to southern Samaria, Judah, and the southern Palestinian coast (southern Sharon Plain and Philistia). The distribution according to reports from antiquities dealers is quite similar. Philistian coins have allegedly been found between Ramallah in the north, the Mediterranean coast in the west, Transjordan in the east, and the Beer Sheba and Arad valleys in the south. According to these sources, their main findspots are, on the one hand, Bethlehem and Hebron and, on the other, the southern coastal strip between Yavneh-Yam and Gaza (Gitler and Tal 2006a:49–51).

A large percentage of the coins discussed in this article were allegedly found in the southern Hebron hills and the Beer Sheba and Arad valleys; our northernmost documented find spot is a stray find from the northwestern slopes of Tel Mareshah (Cat. No. 9). Another coin is a surface find that was retrieved from the archaeological excavations carried out at Ḥorbat ‘Etri (Cat. No. 23; Eshel and Zissu 2006:826, No. 3; Gitler and Tal 2006a:53, Table 3.3, Fig. 3.19:3). The coins’ alleged distribution suggests that they circulated in the boundaries of what we define as Edom of the later part of the Persian period.⁴ We cannot exclude the

3 The use of a dome-shaped motif is also evident in Celtic coinage and has been noted by Dembski (2006). In this respect we would like to point out some specific examples. In the so-called “Crescent series” some dies were used until they were almost obliterated and on several coins the obverse looks completely polished (Sills 2003: Pl. 11:324). These gold *staters*, which were probably minted during the second century BCE, were found in northern Europe (France and Belgium) (Sills 2003:160–161). Another relevant series are the so-called “uniface” *staters* struck in the north of Gaul during the first century BCE (sometimes attributed to the Ambiani people). They have an obverse that looks like a polished dome and a clearly visible horse on the reverse. These gold *staters* are preceded by a very similar coin series but with a deformed man’s head on the obverse. Some coins clearly show the transition from the use of worn dies to the intentional use of dies without an image (Sills 2003:232 and especially Pl. 14:424–425).

4 On the possible existence of the Persian-period “Province of Edom,” see Lemaire 2006b:416–419. On the boundaries of Edom in the Persian-Hellenistic period from a historical geography point of view, see Edelman 1995:9–11; Bartlett 1999. On the material culture evidence, see Stern 2005. From an archaeological perspective the

possibility that these coins were issued by an Edomite mint, or alternatively another neighboring local mint. Only further evidence can clarify which of the two alternatives is to be preferred.

The average weight of the “*drachms*” in our sample is 3.99 g. This figure is lower than that of the Attic weight standard of the second half of the fifth century BCE which is roughly 4.3 g based on an ideal weight of 17.2 g for most of the *tetradrachms* (cf. Nicolet-Pierre 2000:41, Fig. 27; Elsen 2002:23). At the same time this figure is significantly higher than the average 3.58 g of the Philistian “*drachm*,” or that of the Samaritan “*drachm*,” 3.63 g (Gitler and Tal 2006a:315–328, *passim*). From a metrological perspective the Athenian-styled coins gathered here form an independent group. On the other hand, the average metal composition of the 270 Philistian issues analyzed in the course of Gitler and Tal’s work on the Philistian coinage is: Ag 94.3% and Cu 3.6% (Gitler and Tal 2006a:329–334, *passim*). The average metal composition of the “*drachms*” discussed in this study is: Ag 96.5% and Cu 2.9%. The silver content in both cases is basically the same. However, since the dome-shaped coins are of a higher weight their average amount of silver is considerably higher (by roughly 12%; see Table 1) — a fact that could hint at a production in Philistia for a different destination market.

Table 1. Differences in Weight Standards and Silver Content

Coin type	Average Weight	Average Silver Content	Amount of Silver
Philistian “ <i>drachm</i> ” / <i>rb’ šql</i>	3.58 g	94.3%	3.37 g
Dome-shaped “ <i>drachm</i> ” / <i>rb’ šql</i>	3.99 g	96.5%	3.85 g

An additional distinction between our group and the regular Philistian issues is that we did not record even one coin with a test cut, whereas this phenomenon is quite common among the coinage of Philistia (Gitler and Tal 2006a:312–313).

EDOMITE *šqln*?

Jusqu’à maintenant, aucun monnayage d’Idumée n’a été identifié mais il n’est pas impossible que certaines monnaies attribuées à

“Shephelah” (Negev mountains, the Hebron mountains and the southern — and large parts of the central — Judean foothills), whether forming part of a formal Achaemenid/Diadochi province or not, became an independent ethnic-territorial unit. This is Edom, or what is termed by Greek authors *Idoumaia*, and by Latin authors *Idumaea*.

Gaza aient été, de fait, frappées en Idumée. Alternativement les Iduméens pourraient avoir utilisé les monnaies frappées à Gaza. Espérons que de nouvelles trouvailles permettront bientôt de clarifier cet aspect de l'économie iduméenne. (Lemaire 2006a:419).

The coins discussed in this article may provide an answer to Lemaire's above wish. To summarize our observations thus far: the distinctive dome-shaped coinage circulated in Edom, has an average silver content parallel to that of the coinage of Philistia, yet of higher average weight, and consequently has a higher elemental silver value.

What was the purpose, then, of minting these 'uniface' coins? What function(s) or audience(s) might they have served? The reuse and even abuse of the dies used to produce these coins is suggestive of economic exigencies. We can imagine that the need of keeping pace with the new, widening demand for coinage in a region that previously had none of its own, dictated that shortcuts be taken in coin production either by pushing die use to the absolute limits, or by eschewing cut dies entirely, as might be the case with the coins of group 3 (Cat. Nos. 34–59). While our knowledge of the contexts (economic, social or otherwise) of the introduction of coined money in the Levant in general, and in specific regions like Edom, is rather limited, we can nevertheless posit interpretations of these coins that move beyond the narrowly economic. For example, might the lack of an obverse type be related to the Edomite cult? If these coins served as temple payments the appearance of a foreign deity (Athena) on the coinage might have been most unwelcome. We might also seek an explanation between the poles of the socio-religious and the economic, in so far as social and economic traditionalism might have influenced the unique aspects of these coins. We know that *Hacksilber* circulated alongside coins in fourth-century BCE Palestine, as it had for centuries before (Gitler 2006). Since our dome-shaped coins resemble the dumpy flans found in *Hacksilber* hoards (e.g., Gitler 2006: Pl. 1:6) it may have helped to ease the acceptance of this new form of money to those who were reluctant to use it. Without further evidence all of our explanations here remain speculative, but it would be difficult to imagine that there was no special reason behind the dome-shaped aspect in the production of these coins.

The picture of the monetary context of the coins discussed in this article is enhanced by the epigraphic material found in Edom bearing monetary implications (above, n. 2). To sum up the relevant discussion, abbreviated denominational terms related to the apparent word for silver money (*ksp* and *ksp'*) are noted in several of the Edomite ostraca allegedly discovered at Khirbet el-Qom, and in one of the Aramaic ostraca discovered at Tel Arad. These suggest to Tal (this volume) a vivid monetary economy in fourth century BCE Edom. The basic weight standard was the *sheqel*, divided into four quarters (*rb'n*), and a quarter in turn was equal to six *ma'ehs* (*m'h* / *m'n*). The structure of this denominational system

parallels that in use in Attica, much like the design of the coins is parallel to those produced in Athens: there was a basic unit, the Athenian *tetradrachm* (related to the *sheqel*). This was equal to four *drachms* (“quarter”), which in turn were equal to six *obols* (*ma‘ehs*). However suggestive these parallels might be, we cannot be certain that the Athenian system had any direct influence on that in Edom, despite the Athenian-inspired coinage, especially since the standard weight of both the *sheqel* and the Attic *tetradrachm* differed. In fact, until now we had no material evidence for examining the weight of the Edomite *sheqel*, since no fourth-century BCE Edomite coins (nor weights) have been identified.

SUGGESTED CHRONOLOGY

Based on the many archaeological finds of the Persian period relating to regional administration, Stern suggested that the provincial government of Palestine at that time became functional largely during the latter part of the Persian period (Stern 2001:580–582). For the inland regions of southern Palestine this view was recently corroborated through study of the finds of Level I at Lachish, from the renewed excavations there directed by Ussishkin. It became clear that Tufnell’s “substantial architectural remains” of Level I should be down-dated by about 50 years (Fantalkin and Tal 2004). In a subsequent study, Fantalkin and Tal (2006) argued for a reorganization of the southern frontier of the Fifth Satrapy by means of “new” provincial boundaries, in about 400 BCE. At that time, newly independent Egypt embarked upon monumental building activities in a number of southern Palestinian administrative and military sites. No longer a part of the Persian Empire or subject to Achaemenid rule, southern Palestine became Egypt’s frontier with the Persian Empire. It is thus suggested that only after this date may one look for established boundaries defining the province of Edom — and consequently of Samaria, Yehud and Philistia as provinces of the imperial Persian southern border). It would therefore be no coincidence that the symbols of autonomy, such as the coins of Jerusalem (*yhd*) and Samaria (*šmryn*) and standardized Aramaic stamped seal impressions on local storage jar handles, do not appear (in all probability) before the fourth century BCE.⁵ The same holds true for the few thousand

5 On the chronology of the Persian period coins, see Ariel 2002:287–294 (with further references). On the Aramaic stamped seal impressions, see Ariel and Shoham (2000), where Persian types are differentiated from Hellenistic counterparts on the basis of contexts, comparisons and paleography. Following Fantalkin and Tal (2006:180–181), Lipschits and Vanderhooft (2007; see also Vanderhooft and Lipschits 2007), argue that the *yhd* stamp impressions went through a fundamental change in the form, style, paleography and orthography at the end of the fifth or the beginning of the fourth century BCE. The new system, pointing to a simplification or consolidation of previous practices, persisted through the first half of the second century, when it underwent additional modification during the Hasmonean period.

Edomite ostraca that allegedly come from the site of Khirbet el-Qom (Lemaire 1996; 2002; 2006a; Eph'al and Naveh 1996, all with further bibliography), and the many dozens of ostraca that came from Tel Arad (Naveh 1981) and Tel Beer Sheba (Naveh 1973; 1979). What one can observe here is a heightened level of Achaemenid control and investment in local affairs that most probably included fixed and securely garrisoned frontier boundaries, and unprecedented construction at many sites in southern Palestine (Fantalkin and Tal 2006; see also Lipschits 2006). We are thus suggesting that it was in this context that Edom developed a coined money economy. Once southern Palestine experienced this significant transformation in its political organization, and a higher level of direct imperial involvement in local administration, economic change was soon to follow. Based on the evidence at hand, it seems likely that these Edomite coins played a role in the economic makeover of southern Palestine.

CATALOGUE⁶

The coins are silver, and are reproduced in Pls. 5–11 in 2:1 scale and in Pl. 12 in 3:1 scale.

Worn Philistian "Drachms" / rb' šqln

1–6.

Obv. Helmeted Athena r. (*worn*).

Rev. Owl r., head facing; in upper r. field, olive spray; on r.: AΘE. Incuse.

(1) ←, 3.48 g (IM 26150); (2) ←, 4.29 g (IM 26151); (3) ←, 3.81 g (JR 10); (4) ←, 3.97 g (JR 1); (5) ↘, 3.56 g, test cut (JR 33); (6) ←, 3.51 g (JR 50).

Reference: Gitler and Tal 2006a: Coin types VII–X, *passim*.

7–8.

Obv. Helmeted Athena r. (*worn*).

Rev. Owl l. head facing; in upper r. field olive spray; on r. traces of legend: AΘE. Incuse.

(7) ↗, 2.26 g (IM 26152); (8) →, 4.01 g (IM 26153).

Reference: Gitler and Tal 2006a: Coin type VII.2HD (previously unrecorded denomination [= VII.2D]).

⁶ *Abbreviations for Coin Collections:* IM – Israel Museum, Jerusalem; K – Eretz Israel Museum, Tel Aviv; ANS – American Numismatic Society, New York; IAA – Israel Antiquities Authority; JR – Jonathan Rosen Collection (long-term loan at the Israel Museum); PC – Private Collection; Samaria hoard (Meshorer and Qedar 1991).

*“Drachms” / rb‘ šqln Struck from Worn Dies***9–11.** (Transitional stage?)*Obv.* Helmeted Athena r. (*worn*).*Rev.* Owl r. head facing; in upper l. field olive spray; on r. traces: AΘE. Incuse.**(9)** ←, 3.82 g, worn reverse (PC); **(10)** ↗, 4.13 g (IAA 101004); **(11)** 4.15 g (JR 19).*Reference:* Gitler and Tal 2006a: Coin types VII–X, *passim*.*Comments:* The motifs on both the obverse and reverse of these samples are still recognizable but the flans are not regular.*“Drachms” / rb‘ šqln Struck from Worn, Recut and Repolished Dies
Relatively shallow dome-shaped motif***12–20.** (oblong flans)*Obv.* Relatively shallow dome-shaped motif.*Rev.* Owl r. head facing; in upper l. field olive spray and crescent; on r.: AΘE. Incuse.**(12)** 4.11 g (JR 21); **(13)** 4.15 g (IM 14593); **(14)** 4.04 g (JR 27); **(15)** 4.15 g (JR 5); **(16)** 4.21 g (IM 26154); **(17)** 4.19 g (JR 34); **(18)** 3.66 g (IM 26155); **(19)** 3.7 g (ANS 1998.134.7); **(20)** 4.06 g (K 720.94).**21–33.** (relatively round flans)Same as **12–20**.**(21)** 2.79 g (JR 32); **(22)** 4.11 g (JR 3); **(23)** 3.67 g (JR 29); **(24)** 4.13 g (IM 26156); **(25)** 4.05 g (JR 7); **(26)** 3.99 g (JR 9); **(27)** 4.01 g (IM 26157); **(28)** 3.97 g (JR 30); **(29)** 3.48 g (K 26932); **(30)** 4.01 g (K 719.94); **(31)** 4.14 g (IM 26158); **(32)** 3.15 g (JR 25); **(33)** 4.15 g (IM 26159).*Prominent dome-shaped motif***34–59.***Obv.* Prominent dome-shaped motif.*Rev.* Owl r. head facing; in upper l. field olive spray and crescent; on r.: AΘE. Incuse.**(34)** 3.26 g (JR 20); **(35)** 4.11 g (JR 11); **(36)** 3.16 g (JR 12); **(37)** 4.26 g (JR 18); **(38)** 4.16 g (JR 28); **(39)** 4.18 g (JR 4); **(40)** 4.05 g (JR 8); **(41)** 4.26 g (PC); **(42)** 4.2 g (IM 26160); **(43)** 3.95 g (ANS 1944.100); **(44)** 4.19 g (ANS 1944.134.4); **(45)** 3.86 g, die flaw on the reverse (JR 13); **(46)** 4.17 g, die flaw on the reverse (JR 16); **(47)** 4.07 g, die flaw on the reverse (JR 22); **(48)** 3.49 g (ANS 1998.134.10); **(49)** 4.32 g (ANS 1998.134.2); **(50)** 3.98 g (IM 26161); **(51)** 4.13 g (JR 2); **(52)** 4.12 g (JR 24); **(53)** 3.83 g (ANS 1998.134.9); **(54)** 4.01 g (JR 26); **(55)** 4.08 g (JR 6); **(56)** 3.64 g (ANS 1998.134.8); **(57)** 3.83 g (JR 14); **(58)** 4.16 g (JR 17); **(59)** 3.93 g (JR 23).

Comments: Cat. Nos. **34–39** were struck from the same reverse die. Cat. Nos. **40–41** were struck from the same reverse die.⁷

“Obols” / ma‘ehs Struck from Worn, Recut and Repolished Dies

60–71.

Obv. Dome-shaped motif.

Rev. Owl r. head facing; in upper l. field olive spray; r.: AΘE. Incuse.

(**60**) 0.98 g (IM 14568); (**61**) 0.8 g (IM 14569); (**62**) 0.79 g (JR 39); (**63**) 0.79 g (IM 78); (**64**) 0.67 g (JR 42); (**65**) 0.74 g (IM 79); (**66**) 0.72 g (JR 35); (**67**) 0.76 g (IM 76); (**68**) 0.69 g (JR 41); (**69**) 0.75 g (JR 38); (**70**) 0.63 g (JR 36); (**71**) 0.53 g (JR 37).

Comments: Cat. Nos. **60–61** are part of the Samaria hoard: Meshorer and Qedar 1991:80, Nos. 333–334.

APPENDIX: XRF ANALYSIS⁸

Forty-five coins were analyzed by means of XRF analysis (see Tables 2–4). For a description of the XRF analysis and past analyses on Persian-period and Early Hellenistic Palestinian coins, see Gitler and Tal (2006a:329–334; 2006b:57–60) and Gitler and Lorber (2006:19–25).

For XRF analysis of these coins a benchtop model EX-310LC (Jordan Valley Semiconductors) was used (Tables 2–4). For Cu-based alloys at the voltage on the Rh tube 35 kV and with additional filter from pure Al on the detector window (0.2 mm in the thickness) the sensitivity for metals like Sn, Pb and As has been enhanced up to about 0.05–0.1% weight. For Ag-based alloys at the voltage on the Rh tube 35 kV (without filtering of the secondary beam) the sensitivity for Cu detection is about 0.1% weight. For quantitative determination of the doping metals content we used the measured dependences of the ratio of the intensities of the fluorescence lines of doping elements (Pb and Sn in Cu-based alloys or Cu in Ag-based alloys) and the fluorescence lines of basing element (Cu or Ag) on the ratio of masses for these doping elements and basing metal. These dependences were measured using as models of binary alloys the mechanical mixtures with definite ratio of element’s masses (for several values in the region of interest). The ratio of the masses in the sample was calculated based on the linear interpolation from the data for the mixtures with the closest values of this ratio of intensities.

⁷ After this article was completed a coin whose reserve is die-linked with Nos. 40–41 was identified (donated to the IM by David Hendin; IM 26190).

⁸ We are grateful to Sana Shilstein of the Kimmel Center for Archaeological Sciences, Weizmann Institute of Science, Rehovot, for carrying out the XRF analyses, and providing the technical information here.

For binary mixtures such a procedure gives the relative accuracy not better than 1%. As the models of ternary alloys we used the ternary mixtures. In this case the relative accuracy is about 2–3%.

Table 2. Worn Athenian-styled Philistian “*drachms*”

Coin type	Collection	Weight (g)	Remarks	Metallurgical Composition ⁹					
				Ag	Cr	Cu	Fe	Pb	Zn
1	IM 26150	3.48							
2	IM 26151	4.29		98.8		1.2			
3	JR 10	3.81		96.7		1.3		2.0	
4	JR 1	3.97		97.1		1.6		1.3	
5	JR 33	3.56							
6	JR 50	3.51							
7	IM 26152	2.26							
8	IM 26153	4.01							
Average		3.61		97.5		1.4			

Table 3. Transitional stage (?) “*drachms*”

Coin type	Collection	Weight (g)	Remarks	Metallurgical Composition ⁹					
				Ag	Cr	Cu	Fe	Pb	Zn
9	PC	3.82		96.0		2.4		1.6	
10	IAA 101004	4.13							
11	JR 19	4.15							

Table 4. Dome-shaped Edomite coins

Coin type	Collection	Weight (g)	Remarks	Metallurgical Composition ⁹					
				Ag	Cr	Cu	Fe	Pb	Zn
Oblong flans									
12	JR 21	4.11		99.4		0.6			
13	IM 14593	4.15							
14	JR 27	4.04							
15	JR 5	4.15		99.4		0.5		0.1	

⁹ Trace elements lower than 0.5–0.4% — the limit of sensitivity of the machine we used — are not included in this table.

Coin type	Collection	Weight (g)	Remarks	Metallurgical Composition ⁹					
				Ag	Cr	Cu	Fe	Pb	Zn
16	IM 26154	4.21		98.3			0.7	1.0	
17	JR 34	4.19		92.7		6.5		0.8	
18	IM 26155	3.66							
19	ANS 1998.134.7	3.7							
20	K 720.94	4.06							
Round flans									
21	JR 32	2.79							
22	JR 3	4.11		97.5	0.3	0.7	0.9	0.6	
23	JR 29	3.67	Plated						
24	IM 26156	4.13		96.4		0.4		3.2	
25	JR 7	4.05		97.2		2.2		0.6	
26	JR 9	3.99		98.9		0.3		0.8	
27	IM 26157	4.01		85.7		13.3		1.0	
28	JR 30	3.97		97.2		2.8			
29	K 26932	3.48							
30	K 719.94	4.01							
31	IM 26158	4.14	High copper content	69.5		30.0		0.5	
32	JR 25	3.15	Plated	90.1		9.4		0.5	
33	IM 26159	4.15		98.2			1.0	0.8	
Prominent dome-shaped motif									
34	JR 20	3.26	Plated	96.6		3.4			
35	JR 11	4.11		96.8		2.1		1.1	
36	JR 12	3.16	Plated	97.1		2.4		0.5	
37	JR 18	4.26		98.1		1.9			
38	JR 28	4.16		98.3		0.3		1.4	
39	JR 4	4.18		98.6		0.4		1.0	
40	JR 8	4.05		97.8		1.9		0.3	
41	PC	4.26							
42	IM 26160	4.2	Plated						
43	ANS 1944.100.62643	3.95							
44	ANS 1998.134.4	4.19							
45	JR 13	3.86		81.0		18.4		0.6	
46	JR 16	4.17		93.9		5.0		1.1	
47	JR 22	4.07		99.6		0.4			
48	ANS 1998.134.10	3.49							

Coin type	Collection	Weight (g)	Remarks	Metallurgical Composition ⁹					
				Ag	Cr	Cu	Fe	Pb	Zn
49	ANS 1998.134.2	4.32							
50	IM 26161	3.98		98.7		1.3			
51	JR 2	4.13		96.3		3.3		0.4	
52	JR 24	4.12		96.1		1.7		2.2	
53	ANS 1998.134.9	3.83							
54	JR 26	4.01		96.7		2.8		0.5	
55	JR 6	4.08		99.5		0.2	0.3		
56	ANS 1998.134.8	3.64							
57	JR 14	3.83	Plated	89.1		10.9			
58	JR 17	4.16		98.9		0.2		0.5	0.4
59	JR 23	3.93	High copper content	66.3		32.0		1.7	
Average¹⁰		3.99		96.5		2.9			
Dome-shaped “obols”									
60	IM 14568	0.98	Samaria hoard 333						
61	IM 14569	0.8	Samaria hoard 334						
62	JR 39	0.79		98.3		1.1		0.6	
63	IM 78	0.79		88.2		11.0		0.8	
64	JR 42	0.67		99.1		0.8		1.0	
65	IM 79	0.74		97.9		1.2		0.9	
66	JR 35	0.72	High copper content	9.70		90.0		0.3	
67	IM 76	0.76		97.1		2.9			
68	JR 41	0.69		99.3		0.7			
69	JR 38	0.75		98.0		2.0			
70	JR 36	0.63		99.1		0.9			
71	JR 37	0.53		88.5		11.5		0.6	
Average¹¹		0.74		96.2		3.6			

10 The average silver and copper values do not include the values of Nos. 23, 31, 32, 34, 36, 42, 57 and 59 which have either a significantly high copper content or are plated, as attested from their sampling for ICP-AES analysis carried out by Matthew Ponting. ICP-AES analysis results of selected “Edomite” and other selected Persian-period Palestinian coins form part of a new research project which will be published in due course.

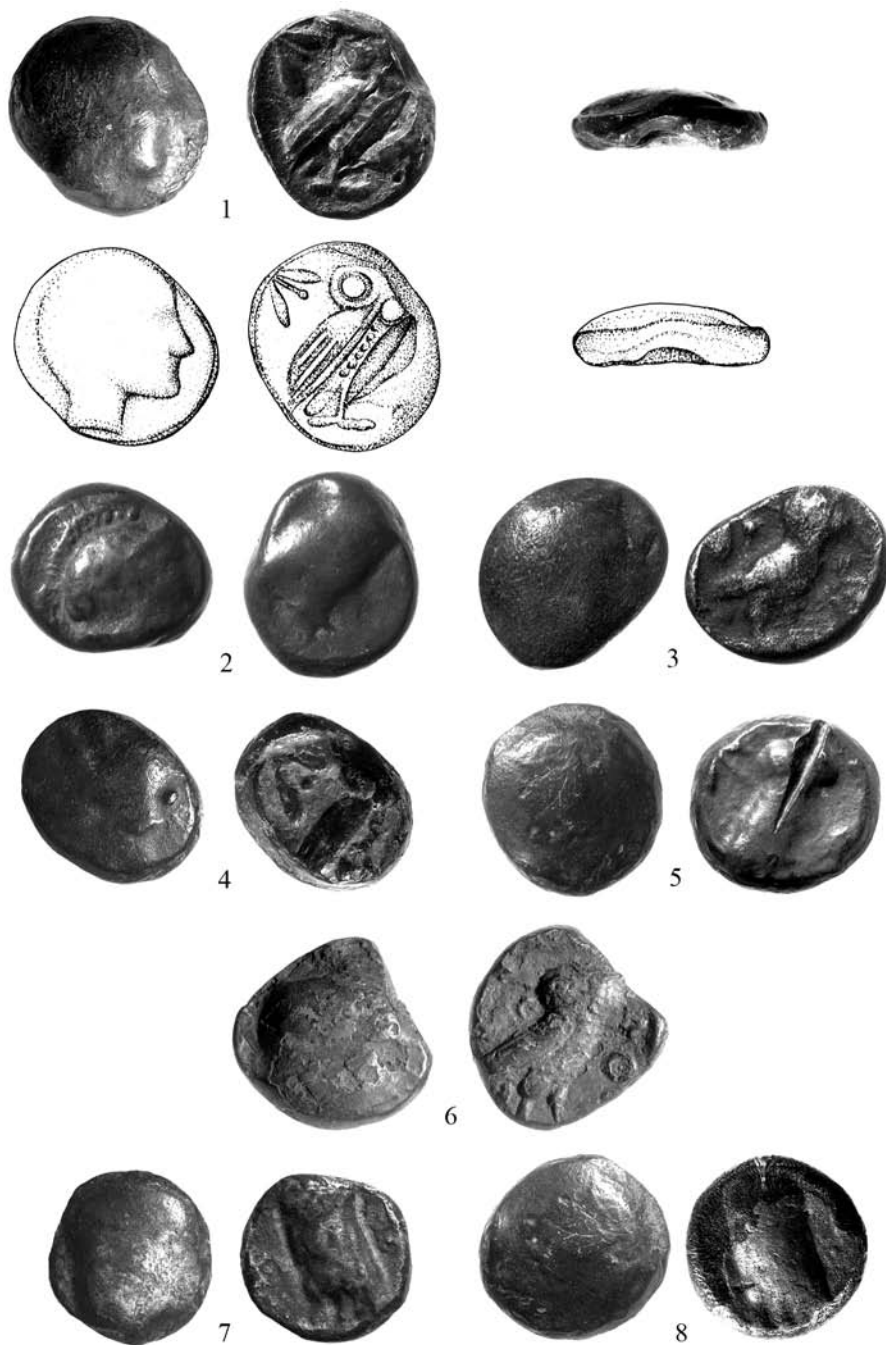
11 The average silver and copper values do not include the values of No. 66 which has a significantly high copper content.

REFERENCES

- Ariel D.T. and Shoham Y. 2000. The Locally Stamped Handles and Related Body Sherds. In D.T. Ariel ed. *Excavations in the City of David Directed by Yigal Shiloh VI: Inscriptions* (Qedem 41). Jerusalem. Pp. 137–171.
- Ariel D.T. 2002. The Coins from the Surveys and Excavations of Caves in the Northern Judean Desert. *Atiqot* 41/2 (2002):281–304.
- Bartlett J.R. 1999. Edomites and Idumaeans. *Palestine Exploration Quarterly* 131:102–114.
- de Callatay F. 1997. *Recueil quantitatif des émissions monétaires Hellénistiques*. Wetteren.
- de Callatay F. 1999. Etude de technique monétaire: le rapport “nombre de coins de droit/nombre de coins de revers” à l’époque hellénistique. *Revue des Archéologues et Historiens de l’Art de Louvain* 32:91–102.
- Dembski G. 2006. Die Münzprägung der keltischen Stadtstaaten und Kleinkönigreiche. *Bericht über den 24. Österreichischen Historikertag in Innsbruck*. Innsbruck. Pp. 464–469.
- Edelman D.V. 1995. Edom: A Historical Geography. In D.V. Edelman ed. *You Shall Not Abhor an Edomite for He Is Your Brother: Edom and Seir in History and Tradition* (Archaeology and Biblical Studies 3). Atlanta. Pp. 1–12.
- Elsen J. 2002. La stabilité du système pondéral et monétaire attique (VI^e–II^e s. avant notre ère). *Revue Belge de Numismatique et de Sigilliographie* 148:1–32.
- Eph’al I. and Naveh J. 1996. *Aramaic Ostraca of the Fourth Century BC from Idumaea*. Jerusalem.
- Eshel H. and Zissu B. 2006. Two Notes on the History and Archaeology of Judea in the Persian Period. In A. M. Maeir and P. de Miroschedji eds. *“I Will Speak the Riddle of Ancient Times”*: *Archaeological and Historical Studies in Honor of Amihai Mazar on the Occasion of His Sixtieth Birthday*. Winona Lake, Ind. Pp. 823–831.
- Fantalkin A. and Tal O. 2004. The Persian and Hellenistic Pottery of Level I. In D. Ussishkin. *The Renewed Archaeological Excavations at Lachish 1973–1994* (Tel Aviv University, Monograph Series of the Institute of Archaeology 21). Tel Aviv. Pp. 2174–2194.
- Fantalkin A. and Tal O. 2006. Redating Lachish Level I: Identifying Achaemenid Imperial Policy at the Southern Frontier of the Fifth Satrapy. In O. Lipschits and M. Oeming eds. *Judah and the Judeans in the Persian Period*. Winona Lake, Ind. Pp. 167–197.
- Faucher T. 2006. *L’atelier monétaire d’Alexandrie sous les Lagides: problèmes techniques et stylistiques*. Ph.D. diss., University of Paris-Sorbonne. Paris.
- Gitler H. 1996. New Fourth-Century BC Coins from Ascalon. *NC* 156:1–9.
- Gitler H. 2006. A *Hacksilber* and Cut Athenian Tetradrachm Hoard from the Environs of Samaria: Late Fourth Century BCE. *INR* 1:5–14.
- Gitler H. and Lorber C. 2006. A New Chronology for the Ptolemaic Coins of Judah. *American Journal of Numismatics* (2nd Series) 18:1–41.

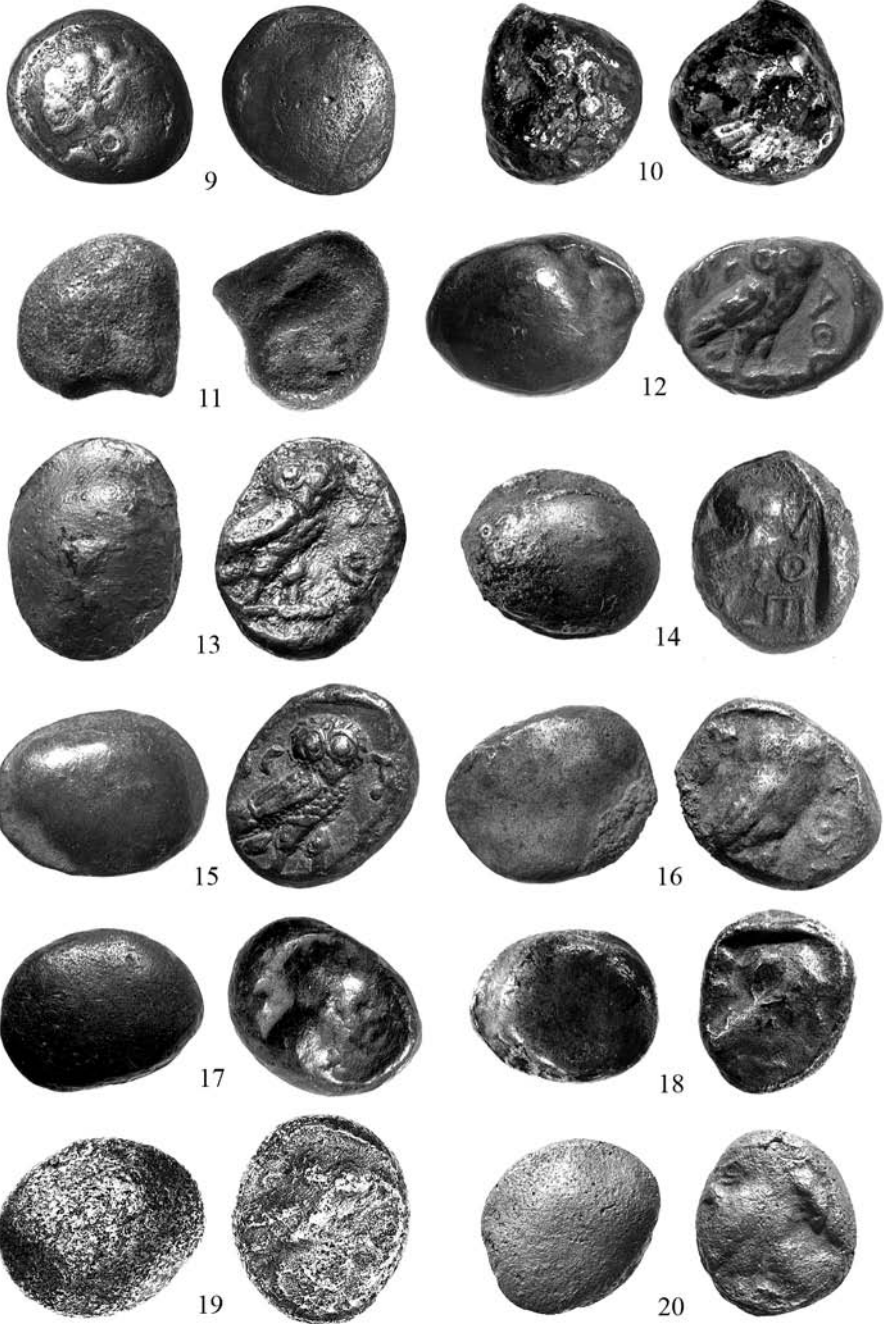
- Gitler H. and Tal O. 2006a. *The Coinage of Philistia of the Fifth and Fourth Centuries BC: A Study of the Earliest Coins of Palestine* (Collezioni Numismatiche 6). Milan.
- Gitler H. and Tal O. 2006b. Coins with the Aramaic Legend *Šhrw* and Other Unrecorded Samaritan Issues. *SNR* 85:47–68.
- Hill G.F. 1922. Ancient Methods of Coining. *NC* (5th series) 2:30–32.
- Lemaire A. 1996. *Nouvelles inscriptions araméennes d'Idumée au Musée d'Israël* (Supplement 3 of Transeuphratène). Paris.
- Lemaire A. 2002. *Nouvelles inscriptions araméennes d'Idumée II: Collections Moussaïeff, Jeselsohn, Welch et divers* (Supplement 9 of Transeuphratène). Paris.
- Lemaire A. 2004. Taxes et impôts dans le Sud de la Palestine (IV^e siècle avant J.-C.). *Transeuphratène* 28:133–142.
- Lemaire A. 2006a. New Aramaic Ostraca from Idumea and Their Historical Interpretation. In O. Lipschits and M. Oeming eds. *Judah and the Judeans in the Persian Period*. Winona Lake, Ind. Pp. 413–456.
- Lemaire A. 2006b. La Transeuphratène en transition (c. 350–300). *Persika* 9:405–441.
- Lipschits O. 2006. Achaemenid Imperial Policy, Settlement Processes in Palestine, and the Status of Jerusalem in the Middle of the Fifth Century B.C.E. In O. Lipschits and M. Oeming eds. *Judah and the Judeans in the Persian Period*. Winona Lake, Ind. Pp. 19–52.
- Lipschits O. and Vanderhooft D.S. 2007. Yehud Stamp Impressions in the Fourth Century B.C.E.: A Time of Administration Consolidation? In O. Lipschits, G.N. Knoppers and R. Albertz eds. *Judah and the Judeans in the Fourth Century B.C.E.* Winona Lake, Ind. Pp. 75–94.
- Meshorer Y. and Qedar S. 1991. *Coinage of Samaria in the Fourth Century BCE*. Los Angeles-Jerusalem.
- Meshorer Y. and Qedar S. 1999. *Samaritan Coinage* (Numismatic Studies and Researches 9). Jerusalem.
- Michaux-Van Der Mersch F. and Delamare F. 1987. Évolution de la technique de frappe des Statères Éginétiques. *Revue Belge de Numismatique* 133:5–38.
- Naveh J. 1973. The Aramaic Ostraca. In Y. Aharoni ed. *Beer-Sheba I: Excavations at Tel Beer-Sheba 1969–1971 Seasons*. Tel Aviv. Pp. 79–82.
- Naveh J. 1979. The Aramaic Ostraca from Tel Beer-Sheba (Seasons 1971–1976). *Tel Aviv* 6:182–198.
- Naveh J. 1981. The Aramaic Ostraca from Tel Arad. In Y. Aharoni. *Arad Inscriptions*. Jerusalem. Pp. 153–176.
- Nicolet-Pierre H. 2000. Metrologie des monnaies grecques. La Grèce Central et l'Égée aux époques archaïque et classique (VI^e–IV^e s.). *Annali* 47:11–76.
- Sills J. 2003. *Gaulish and Early British Gold Coinage*. London.

- Stern E. 2001. *Archaeology of the Land of the Bible II: The Assyrian, Babylonian and Persian Periods 722–332 BCE*. New York.
- Stern I. 2005. *Idumaea in the Persian Period: The Interaction between Ethnic Groups as Reflected in the Material Culture*. Ph.D. diss., Bar Ilan University. Ramat Gan.
- Vanderhooft D.S. and Lipschits O. 2007. A New Typology of the *Yehud* Stamp Impressions. *Tel Aviv* 34:12–37.



HAIM GITLER, OREN TAL AND PETER VAN ALFEN

PLATE 6





21



22



23



24



25



26



27



28



29



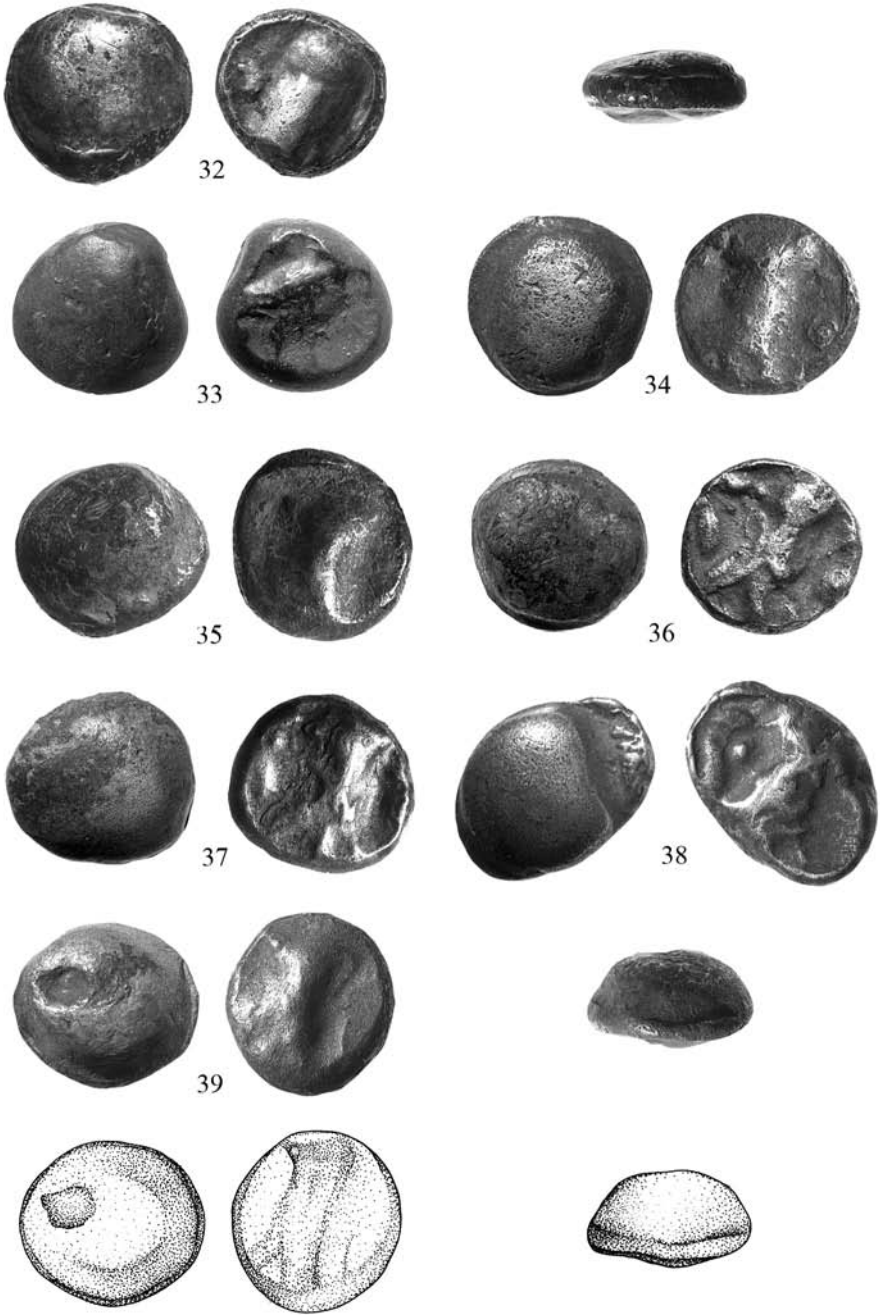
30



31



PLATE 8



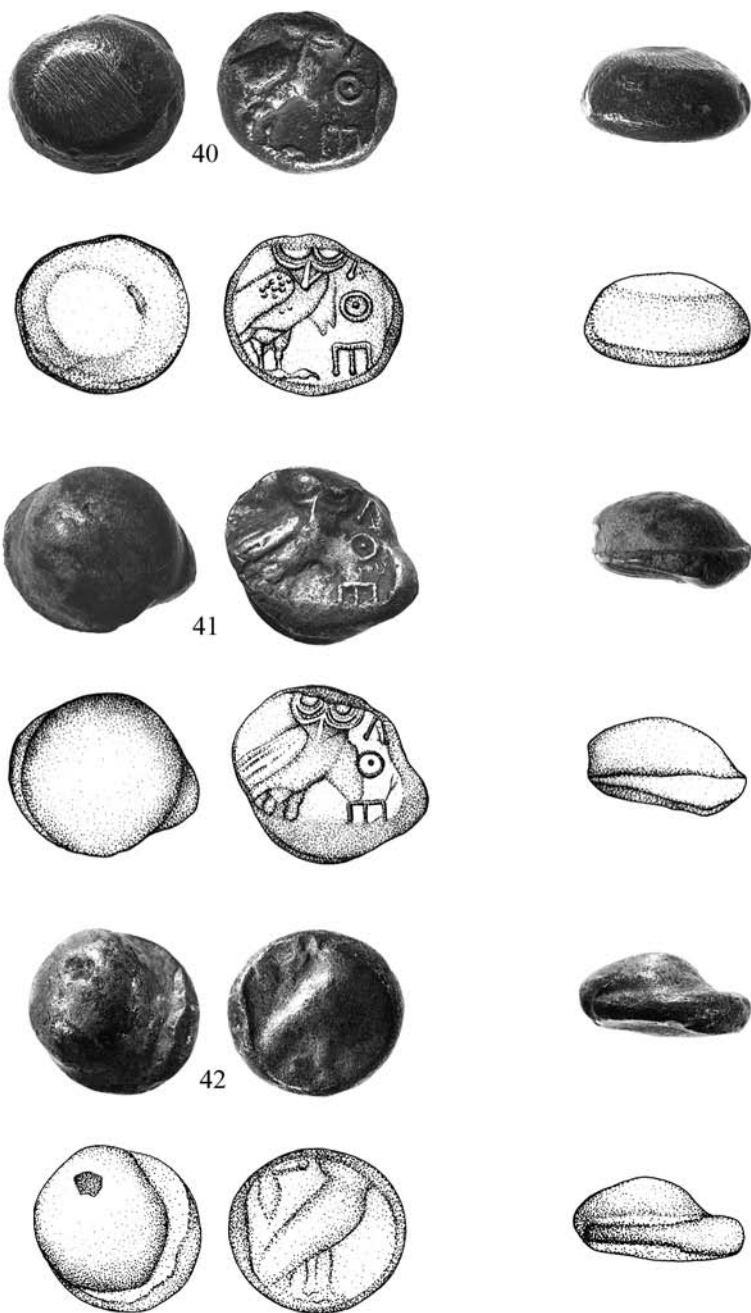


PLATE 10





50



51



52



53



54



55



56



57



58



59

PLATE 12

