Balance Weights in the Collection of the Anatolian Civilizations Museum in Ankara

Oğuz Tekin

Electronic version

URL: <http://journals.openedition.org/anatoliaantiqua/383>

DOI: 10.4000/anatoliaantiqua.383

Publisher

IFEA

Printed version

Date of publication: 1 May 2016

Number of pages: 211-222

ISBN: 9782362450648

ISSN: 1018-1946

Electronic reference

Oğuz Tekin, "Balance Weights in the Collection of the Anatolian Civilizations Museum in Ankara", *Anatolia Antiqua* [Online], XXIV | 2016, Online since 11 December 2018, connection on 16 February 2021. URL: <http://journals.openedition.org/anatoliaantiqua/383> ; DOI: <https://doi.org/10.4000/anatoliaantiqua.383>

ANATOLIA ANTICUA ESKİ ANADOLU

XXIV

**INSTITUT FRANÇAIS D'ETUDES ANATOLIENNES GEORGES-DUMEZIL
CNRS USR 3131
DE BOCCARD
2016**

TABLE DES MATIERES

Ergul KODAS, Le surmodelage du crâne au Néolithique au Proche-Orient : techniques de surmodelage et expérimentations	1
Isabella CANEVA et Eric JEAN, Mersin-Yumuktepe : une mise au point sur les derniers travaux	13
Turan EFE et Bérengère PERELLO, Second Millenium site distribution and pottery of Inland Northwestern Anatolia	35
Antoine PEREZ, Amida 6 : Antiochos IV, le "Hanigalbat" et la Sophène	91
Ergün LAFLI et Hadrien BRU, Inscriptions et monuments funéraires gréco-romains d'Anatolie occidentale	103
Oğuz TEKİN et Aliye EROL-ÖZDİZBAY, Coins from Allianoi excavations: Campaign of 2001	117
Nuran ŞAHİN, Etude iconographique des monnaies autonomes frappées par Colophon-sur-Mer : nouveaux acquis	147
Vera SAUER, Konventionelle Individualität. Zur Münzprägung nordanatolischer Städte in der römischen Kaiserzeit	163
Oğuz TEKİN, Balance weights in the collection of the Anatolian Civilizations Museum in Ankara	211

CHRONIQUES DES TRAVAUX ARCHEOLOGIQUES EN TURQUIE 2015

Çiğdem MANER, Preliminary report on the third season of the Konya-Ereğli Survey (KEYAR) 2015	225
Dominique BEYER, Isabelle CHALIER et Françoise KIRNER, Rapport préliminaire sur les travaux de la mission archéologique de Zeyve Höyük-Porsuk 2015	253
Sami PATACI et Ergün LAFLI, Field surveys in Ardahan in 2015	281
Jean-Charles MORETTI avec la collaboration de Nicolas BRESCH, Isabel BONORA, Jean-Jacques MALMARY et Olivier RISS, Claros, le temple d'Apollon : travaux réalisés en 2015	299
Serdar Hakan ÖZTANER, La basilique civile de Nysa du Méandre	311
Abuzer KIZIL, Koray KONUK, Patrice BRUN, Laurent CAPDETREY, Raymond DESCAT, Pierre FROHLICH, Didier LAROCHE, Enora LE QUERE, Francis PROST, Baptiste VERGNAUD, Eurômos : rapport préliminaire sur les travaux réalisés en 2015	321
O. HENRY et E. ANDERSON, Chr. BOST, Ö. ÇAKMAKLI, F. CEDERLING, A. COMMITO, M. CORMIER-HUGUET, A. COUTELAS, A. DOLEA, D. ERGENÇ, A. FRECCERO, A. FREJMAN, P. LEBOUTEILLER, F. LESGUER, D. LÖWENBORG, V. LUNGU, Fr. MARCHAND-BEAULIEU, A. SITZ, P. DE STAEBLER, B. VERGNAUD, Labraunda 2015	339

Oğuz TEKİN*

BALANCE WEIGHTS IN THE COLLECTION OF THE ANATOLIAN CIVILIZATIONS MUSEUM IN ANKARA

There have been nearly ninety balance weights in the collection of Anatolian Civilizations Museum in Ankara; the present article covers seventy-four of them¹. Three weights (N° 1-3) date to the Late Classic / Early Hellenistic periods; two are Late Roman Imperial weights (N° 4-5); seventeen are Early Byzantine weights (N° 6-22) and fifty-two are Islamic weights which date from the 10th century through the early 20th century (N° 23-74).

The denomination of the first weight (N° 1) is clear since its mass corresponds its denominational mark (H) on it. But since it does not bear any ethnic or symbol it is impossible to attribute it to any city. The folded and rounded corners are characteristic for the Classical and Hellenistic lead weights. There are a lot of examples with folded and rounded corners found in the excavations at the Athenian Agora². The second weight (N° 2) is a *hemimnaion* according to its mass but the meaning of the large M on the top is not clear. If it is a *hemimnaion* then the M is not an initial of the denominational mark, instead it may be the initial of an ethnic but this is not certain. The meaning of the letter (inverted E? or H) between the middle legs of the M is a key point to understand the top design. However the obscure letter may be a damaged H; then one may read it as H+M which stands for a *hemimnaion*. Anyway it is hard to attribute it to any city. The third weight (N° 3) is a *tetarton* (i.e. one-fourth of a *mna*) and it is hard also to attribute it to any city since it does not bear an ethnic. The symbol, i.e. shield (?), is a common symbol and can not be attributed to any city.

N° 4-5 are spherical weights doubly truncated on the top and bottom; they are bronze weights with lead core and characteristic for the Late Roman Period. These forms were replaced in the markets by the early Byzantine forms (N° 6-22), i.e. square, discoid and octogonal bronze weights. Byzantine weights in the catalogue may be placed under two groups: Commercial weights (N° 6-8, 17) and coin weights (N° 9-16, 18-22). The majority of the weights in the catalogue are islamic (*dirhams*), i.e. Seljuks and Ottomans. Some are barrel-shaped (N° 23-29); some are small square or discoid weights (N° 30-40) with bird's eye motifs; some are square prism or cubic in form (N° 41-50); some are the polyhedron weights which bear bird's eye motifs on their bodies (N° 51-61) and some polyhedron weights with triangular and square facets (N° 62-63) and some are octogonal weights (N° 64-74).

As far as dating is concerned, the first three lead weights (N° 1-3) may be dated to the Late Classic and Early Hellenistic periods. The two spherical weights may be dated to the 4th-5th centuries A.D., i.e. they are Late Roman weights. Part of the Byzantine weights (N° 6-16) may be dated to the Early Byzantine Period of the 6th-7th centuries while one example (N° 21) may be dated to 5th-6th centuries; the others (N° 17-20, 22) may be dated to the Middle Byzantine Period. Most of the Islamic weights (N° 23-61) may be dated to the 10th-13th/14th centuries while some (N° 62-74) may be dated to the 19th-early 20th centuries, i.e. Late Ottoman Period.

*) Istanbul University, Ancient History Department, Beyazıt-Istanbul.

1) I would like to thank Melih Arslan, the ex-Director of the Museum who permitted me to study and publish the weights. I would also thank Zehra F. Taşkıran and Mehtap Türkmen who facilitated my work and helped me during my studies in the museum. Eight of the seventy-four weights in the present catalogue were published previously by M. Acara Eser (see Acara Eser 2009).

2) Lang 1964: pls. 3-7.

CATALOGUE

Late Classic – Early Hellenistic Weights

1) Inv. N° 164.11.89. Acquired in 1989. Find place: İzmir (Fig. 1)

Lead, 236.34 g, 47 x 45 x 12 mm. Square in form; corners are folded inwards. On the top, a large H which stands for hemimnaion (*mna* of 472.68 g), in relief. The bottom is blank³.

2) Inv. N° 21.5.96. Acquired in 1996. Find place: uncertain (Fig. 2)

Lead, 223.16 g, 43 x 44 x 12 mm. Square in form. On the top, a large M and an obscure letter (inverted E? or H) at the place where the middle legs of the M are crossed; all in relief. The bottom is blank. If the M stands for the denomination it should be a *mna* but the mass does not correspond to a *mna*; instead it corresponds to a *hemimnaion* (*mna* of 446.32 g). So it is highly likely that the obscure letter is an H; then H+M stands for a *hemimnaion*.

3) Inv. N° 74.40.03. Acquired in 2003. Find place: Osmaniye (Fig. 3)

Lead, 107.29 g, 30 x 30 x 11 mm. Square in form. On the top, an oval shield (?) in low-relief. The bottom is blank. Although its mass is somewhat low, it may be a *tearton* (*mna* of 429.16 g). Since it does not bear an ethnic it is hard to attribute it to any city.

Late Roman Weights

4) Inv. N° 15.1.03. Acquired in 2003. Find place: Sinop / Boyabat (Fig. 4)

Bronze with lead content, 159.40 g, 33 x 27 mm. In the form of a flattened sphere doubly truncated with centring points on the top and bottom; engraved on the top with the denominational mark 8 Ϛ; inlaid with silver which stands slightly proud of the surface. It is a six-*uncia* weight (*uncia* of 26.5 g)⁴.

5) Inv. N° 84.16.73. Acquired in 1973. Find place: Konya/Kadınhanı (Fig. 5)

Bronze with lead content, 156.60 g, 36 x 21 mm. In the form of a flattened sphere doubly truncated with low centring points on the top and bottom; the body having a carinated profile; punched on the top with the denominational mark Ϛ which denotes to a six-*uncia* or semis (*litra* of 313.2 g).

Byzantine Weights

6) Inv. N° 23.17.03. Acquired in 2003. Find place: Osmaniye (Fig. 6)

Bronze, 48.52 g, 28 x 27 x 8 mm. Square in form with plain profile; engraved on the top with a Latin cross flanked by the denominational mark Γ B (hardly legible), originally not inlaid. The bottom is blank. It is a two-*uncia* weight (*uncia* of 24.26 g)⁵.

7) Inv. N° 20.3.68. Acquired in 1968. Find place: uncertain (Fig. 7)

Bronze, 52.02 g, 29 x 29 x 8 mm. Square in form with plain profile. On the top, engraved with the denominational mark Γ B within a square border formed of engraved and punched geometric motifs; only vertical line of the letter B is deeply engraved, the two semicircular parts are incised. Originally it may have been inlaid but the inlay is missing. The bottom is blank but irregular incisions. It is a two-*uncia* weight (*uncia* of 26.01 g)⁶.

8) Inv. N° 74.24.03. Acquired in 2003. Find place: Osmaniye (Fig. 8)

Bronze, 26.45 g, 25 x 22 x 5 mm. Square in form with slightly convex profile. On the top, engraved with the denominational mark Γ A, originally inlaid but the inlay is missing. The bottom is blank. It is a one-*uncia* weight⁷.

9) Inv. N° 20.2.68. Acquired in 1968. Find place: uncertain (Fig. 9)

Bronze, 13.11 g, 18 x 19 x 4 mm. Square in form with plain profile. Engraved and punched on the top with a wreath enclosing a cross above the denominational mark Ñ Γ; both inlaid but the inlay is missing; one dot at each corner of the weight. It is a three-*nomismata* weight (*nomisma* of 4.37 g). The bottom is blank⁸.

10) Inv. N° 137.4.96. Acquired in 1996. Find place: Afyon/Dinar (Fig. 10)

Bronze, 10.21 g, 18x18x4 mm. Square in form with plain profile. Engraved and punched on the top with the denominational mark N B; the bottom is blank. Although its mass is somewhat high, it is a two-*nomismata* weight (*nomisma* of 5.10 g, “a high mass for two-*nomismata*”).⁹

11) Inv. N° 55.36.03. Acquired in 2003. Find place: Osmaniye (Fig. 11)

Bronze, 8.71 g, 15 x 15 x 4 mm. Square in form with plain profile. Engraved on the top with a wreath enclosing

3) Tekin 2013: n° PMA 2236.

4) Published in Acara Eser 2009: n° 8 (Fig. 12). Tekin 2015b: n° 6-11. For the spherical Late Roman weights cf. Pink 1938: n° 44; Dürr 1964: n° 261; Binsfeld 1990: n° 18-20; Stiegemann 2001: n° III.31 = Wamser 2004: n° 790; Hendin 2007: n° 328; Minchev 2008: 28, n° 119 and fig. 77; Jovanović 2012: n° 3-4; Tekin 2013: n° 6-11.

5) Published in Acara Eser 2009: n° 5 (Fig. 8). Tekin 2013: n° 097 (denominational mark within wreath).

6) Tekin 2013: n° 102-104 (not exact parallel, first two inlaid with silver).

7) Tekin and Baran Çelik 2013: n° 284.

8) Breuer and Alenus-Lecerf 1965: fig. 22.9; Hendin 2007: n° 403; Qedar 1979: n° 4172. Tekin and Baran Çelik 2013: n° 205; Tekin 2013: n° 221; 2015b: n° 221.

9) Published in Acara Eser 2009: n° 4 (Fig. 7) but misidentified as 3-*nomismata*.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

the denominational mark N B; the bottom is blank. It is a two-*nomismata* (*nomisma* of 4.35 g)¹⁰.

12) Inv. N° 74.26.03. Acquired in 2003. Find place: Osmaniye (Fig. 12)

Bronze, 4.39 g, 14 x 15 x 2 mm. Square in form with plain profile. Engraved and punched on the top with the denominational mark N and below, three punched dots. The bottom is blank. It is a one-*nomisma* weight¹¹.

13) Inv. N° 55.33.03. Acquired in 2003. Find place: Osmaniye (Fig. 13)

Bronze, 4.37 g, 14 x 12 x 2 mm. Square in form with plain profile. Engraved and punched on the top with the denominational mark N; at each angle of the N, a three-dots motif. The bottom is blank. It is a one-*nomisma* weight¹².

14) Inv. N° 55.35.03. Acquired in 2003. Find place: Osmaniye (Fig. 14)

Bronze, 4.49 g, 16 x 13 x 2 mm. Rectangular in form with plain profile. Engraved and punched on the top with the denominational mark N; at each angle of the N, a three-dots motif. The bottom is blank. It is a one-*nomisma* weight¹³.

15) Inv. N° 29.65.04. Acquired in 2004. Find place: Osmaniye (Fig. 15)

Bronze, 9.03 g, 20 x 4 mm. Discoid in form with raised rim and a thin centring point on the top; engraved on the top with a wreath enclosing the denominational mark N B, originally inlaid but the inlay is missing. It is a two-*nomismata* weight (*nomisma* of 4.51 g). Corroded¹⁴.

16) Inv. N° 29.66.04. Acquired in 2004. Find place: Osmaniye (Fig. 16)

Bronze, 8.90 g, 20 x 3 mm. Discoid in form with plain profile; engraved on the top with a wreath enclosing the denominational mark N B, originally inlaid but the inlay is missing. It is a two-*nomismata* weight (*nomisma* of 4.45 g).

17) Inv. N° 110.1.89. Acquired in 1989. Find place: uncertain (Fig. 17)

Bronze, 733.6 g, 85 x 17 mm. Discoid in form with plain profile. On the top engraved concentric circles from the centring point through the edge. The bottom is blank but nailed at four point and a low hole at center. It is a commercial weight and it may be a thirty-*uncia* (*uncia* of 24.45 g)¹⁵.

18) Inv. N° 20.6.68. Acquired in 1968. Find place: uncertain (Fig. 18)

Bronze, 4.20 g, 13 x 4 mm. Discoid in form with plain profile; two concentric grooves around a centring point on both sides. Its mass corresponds to a one-*nomisma*¹⁶.

19) Inv. N° 45.6.76. Acquired in 1976. Find place: uncertain (Fig. 19)

Bronze, 4.12 g, 13 x 4 mm. Discoid in form with carinated profile. On the top and bottom, four bird's eye motifs. Although the bird's eye motifs occur also on the islamic weights the mass of the present (and the following) weight corresponds to the Byzantine one-*nomisma*.

20) Inv. N° 20.7.68. Acquired in 1968. Find place: uncertain (Fig. 20)

Bronze, 4.02 g, 12 x 3 mm. Discoid in form with plain profile. On the top and bottom, two bird's eye motifs. Its mass corresponds to a one-*nomisma*.

21) Inv. N° 20.4.68. Acquired in 1968. Find place: uncertain (Fig. 21)

Bronze, 17.51 g, 21 x 7 mm. Octagonal in form with a centring point on the top; engraved with two circles on the top (one along the edge). At center, slightly engraved with a gamma-like mark. On the bottom deeply engraved irregular lines. Its form and mass correspond to a Byzantine weight; if so it is a four-*nomismata* weight (*nomisma* of 4.38 g).

22) Inv. N° 126.41.73. Acquired in 1973. Find place: uncertain (Fig. 22)

Lead, 37.02 g, 23 x 24 x 7 mm. Square in form with rounded corners; made from a seal-like object. Its mass corresponds to a nine-*nomismata* weight (*nomisma* of 4.11 g) but not certain.

Islamic ("Seljuks of Rum or Syria" and Ottomans)

23) Inv. N° 45.1.04. Acquired in 2004. Find place: Ankara/Polatlı (Fig. 23)

Bronze, 140.41 g, 34 x 22 mm. Barrel-shaped. The top and bottom are blank. A punchmark on one side. Its mass corresponds to a fifty-*dirham* (*dirham* of 2.80 g).

24) Inv. N° 91.1.74. Acquired in 1974. Find place: uncertain (Fig. 24)

Bronze, 57.66 g, 27 x 13 mm. Barrel-shaped. On the top, illegible inscription in Arabic in relief. The bottom is blank. Circular groove near the edge on both sides. Its mass corresponds to a twenty-*dirham* (*dirham* of 2.88 g)¹⁷.

10) Published in Acara Eser 2009: n° 3 (Fig. 6). Dalton 1901: n° 442; Breuer and Alenus-Lecerf 1965: fig. 20.c and fig. 22.11; Qedar 1983: n° 5121; Bendall 1996: n° 102; Wamser 2004: n° 803-804; Pottier 2004: pl. IV, n° 5; Minchev 2008: n° 73, fig. 43; Tekin and Baran Çelik 2013: n°s 212-217; Tekin 2013: n°s 230-233; 2015b: 230-33.

11) For the variations of one-*nomisma* weights see Weber 2009.

12) Published in Acara Eser 2009: n° 1 (Fig. 4). See also Weber 2009: n° 21; Tekin 2013: n° 314; 2015b: 312-14.

13) Published in Acara Eser 2009: n° 2 (Fig. 5). Tekin 2015b: 312-14.

14) Tekin 2013: n° 583.

15) Published in Acara Eser 2009: n° 9 (Fig. 13). Tekin 2015b: n° 666 ff.

16) Tekin 2015b: n° 674.

17) Kürkman 2003: n° 114.

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

25) Inv. N° 14.145.04. Acquired in 2004. Find place: Osmaniye (Fig. 25)

Bronze, 14.62 g, 15 x 11 mm. Barrel-shaped with centring points and circular grooves near the edge on both sides. Its mass corresponds to a five-*dirham* (*dirham* of 2.92 g)¹⁸.

26) Inv. N° 19.26.07. Acquired in 2007. Find place: uncertain (Fig. 26)

Bronze, 7.90 g, 14 x 6 mm. Barrel-shaped. Circular groove near the edge on both sides. Its mass corresponds to a two-*mithqal* / *dinar* (*mithqal* of 3.95 g)¹⁹.

27) Inv. N° 29.68.04. Acquired in 2004. Find place: Osmaniye (Fig. 27)

Bronze, 57.91 g, 23x19 mm. Barrel-shaped with vertical ridges. Three bird's eye motifs on both sides. Its mass corresponds to a twenty-*dirham* (*dirham* of 2.89 g).

28) Inv. N° 14.140.04. Acquired in 2004. Find place: Osmaniye (Fig. 28)

Bronze, 28.83 g, 18 x 16 mm. Barrel-shaped with vertical ridges. Top and bottom are blank. Its mass corresponds to a ten-*dirham* (*dirham* of 2.88 g)²⁰.

29) Inv. N° 29.67.04. Acquired in 2004. Find place: Osmaniye (Fig. 29)

Bronze, 28.64 g, 19 x 14 mm. Barrel-shaped with vertical ridges. On the top, double bird's eye motifs, the bottom is blank. Its mass corresponds to a ten-*dirham* (*dirham* of 2.86 g)²¹.

30) Inv. N° 14.147.04. Acquired in 2004. Find place: Osmaniye (Fig. 30)

Bronze, 5.97 g, 13 x 12 x 4 mm. Square in form. Five bird's eye motifs on the top, the bottom is blank. Its mass corresponds to a two-*dirham*. (*dirham* of 2.98 g)²².

31) Inv. N° 23.16.03. Acquired in 2003. Find place: Osmaniye (Fig. 31)

Bronze, 5.91 g, 13 x 13 x 4 mm. Square in form. Five bird's eye motif on both sides. Its mass corresponds to a two-*dirham* (*dirham* of 2.95 g)²³.

32) Inv. N° 114.13.09. Acquired in 2009. Find place: uncertain (Fig. 38)

Bronze, 5.72 g, 12 x 12 x 5 mm. Square in form with carinated profile. Five bird's eye motifs on both sides. Its mass corresponds to a two-*dirham* (*dirham* of 2.86 g)²⁴.

33) Inv. N° 24.44.06. Acquired in 2006. Find place: Osmaniye (Fig. 37)

Bronze, 5.78 g, 12 x 12 x 5 mm. Square in form with carinated profile. Five bird's eye motifs on the top and four bird's eye motif on the bottom. Its mass corresponds to a two-*dirham* (*dirham* of 2.89 g).

34) Inv. N° 55.34.03. Acquired in 2003. Find place: Osmaniye (Fig. 32)

Bronze, 5.89 g, 12 x 12 x 5 mm. Square in form. Four bird's eye motif on both sides. Its mass corresponds to a two-*dirham* (*dirham* of 2.94 g).

35) Inv. N° 29.63.04. Acquired in 2004. Find place: Osmaniye (Fig. 33)

Bronze, 5.80 g, 12 x 12 x 4 mm. Square in form. Double bird's eye motif on both sides; on one side, also Arabic stamp. It may be read "ABD 7" (Abdullah 7) but if one may interpret the V at below as a lam (ل) placed diagonally then it may be read as "AD/L" (Adil=just)²⁵. This countermark occurs also as ADL on the Byzantine *folles* of the 10th-11th centuries found in the eastern part of the Anatolia²⁶. Its mass corresponds to a two-*dirham* (*dirham* of 2.90 g)²⁷.

36) Inv. N° 23.15.03. Acquired in 2003. Find place: Osmaniye (Fig. 34)

Bronze, 5.65 g, 13 x 13 x 4 mm. Square in form. Double bird's eye motif on both sides. Its mass corresponds to a two-*dirham* (*dirham* of 2.83 g)²⁸.

37) Inv. N° 23.13.03. Acquired in 2003. Find place: Osmaniye (Fig. 35)

Bronze, 2.91 g, 10 x 11 x 3 mm. Square in form. One bird's eye motif on both sides. Its mass corresponds to a one-*dirham*²⁹.

38) Inv. N° 29.62 04. Acquired in 2004. Find place: Osmaniye (Fig. 36)

Bronze, 2.87 g, 10 x 10 x 4 mm. Square in form with carinated profile. One bird's eye motifs on both sides. Its mass corresponds to a one-*dirham*³⁰.

39) Inv. N° 41.32.79. Acquired in 1979. Find place: uncertain (Fig. 39)

Bronze, 20.54 g, 20 x 9 mm. Thick discoid in form. Four bird's eye motifs on both sides. Although its mass is somewhat low, it may be an eight-*dirham* weight (*dirham* of 2.57 g).

18) Holland 1986: n° 81; 2009: n°s 113-114; Tekin and Baran Çelik 2013: n° 326.

19) For similar forms see Holland 2009: n° 153.

20) Kürkman 2003: n° 109; Tekin and Baran Çelik 2013: n° 333.

21) Holland 2009: n° 148; Tekin and Baran Çelik 2013: n° 126 (five-*dirham*).

22) Holland 2009: n° 130; Tekin and Baran Çelik 2013: n° 314.

23) Same refs. as above.

24) Same refs. as above.

25) For the similar examples of this countermark cf. Kürkman 2003: n° 85 (read as Muhammed); Tekin and Merzeci 2012: n° 104, 107 and 115 (read as Abd 7).

26) Lowick 1977: n°s 10-11 in the Table; Tekin 1996.

27) Kürkman 2003: n° 89; Tekin and Merzeci 2012: n°s 99-100, 103, 108, 120; Tekin and Baran Çelik 2013: n° 313 (different denominations).

28) Same refs. as above.

29) Same refs. as above.

30) Tekin and Merzeci 2012: n°s 113, 116-119; Tekin and Baran Çelik 2013: n° 312.

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

40) Inv. N° 23.10.03. Acquired in 2003. Find place: Osmaniye (Fig. 40)

Bronze, 8.39 g, 15 x 5 mm. Discoid in form. Five bird's eye motifs on both sides. Its mass corresponds to a three-*dirham* weight (*dirham* of 2.79 g). Alternatively its mass also corresponds to a two-*mithqal* (*mithqal* of 4.20 g).

41) Inv. N° 84.15.73. Acquired in 1973. Find place: Konya/Kadınhanı (Fig. 41)

Bronze, 294.5 g, 38 x 39 x 29 mm. Square prism in form with bevelled edges. All faces are full of punched dots and some stamps. Its mass corresponds to a 100-*dirham* weight (*dirham* of 2.94 g).

42) Inv. N° 114.14.09. Acquired in 2009. Find place: uncertain (Fig. 42)

Bronze, 14.63 g, 13 x 14 x 9 mm. Square prism in form. Eight bird's eye motifs on the top and bottom faces; sides are blank. Its mass corresponds to a five-*dirham* weight (*dirham* of 2.92 g).

43) Inv. N° 14.146.04. Acquired in 2004. Find place: Osmaniye (Fig. 43)

Bronze, 14.35 g, 14 x 15 x 9 mm. Square prism in form with carinated profile. Five bird's eye motifs on both sides. Its mass corresponds to a five-*dirham* (*dirham* of 2.87 g).

44) Inv. N° 74.20.07. Acquired in 2007. Find place: uncertain (Fig. 44)

Bronze, 58.80 g, 20 x 20 x 18 mm. Cubic in form. On all faces, twelve bird's eye motifs around the central bird's eye motif. Its mass corresponds to a twenty-*dirham* weight (*dirham* of 2.94 g)³¹.

45) Inv. N° 49.33.04. Acquired in 2004. Find place: Osmaniye (Fig. 45)

Bronze, 29.05 g, 15 x 15 x 15 mm. Cubic in form. On the all faces have five bird's eye motifs and one face has one bird's eye motif. Its mass corresponds to a ten-*dirham* weight (*dirham* of 2.90 g)³².

46) Inv. N° 74.25.03. Acquired in 2003. Find place: Osmaniye (Fig. 46)

Bronze, 28.98 g, 15 x 15 x 15 mm. Cubic in form. Nine bird's eye motifs on four faces and seven bird's eye motifs on the two faces. Its mass corresponds to a ten-*dirham* weight (*dirham* of 2.90 g).

47) Inv. N° 20.1.68. Acquired in 1968. Find place: uncertain (Fig. 47)

Bronze, 28.73 g, 14 x 15 x 15 mm. Cubic in form. Double bird's eye motifs on each face. Its mass corresponds to a ten-*dirham* weight (*dirham* of 2.87 g).

48) Inv. N° 24.43.06. Acquired in 2006. Find place: uncertain (Fig. 48)

Bronze, 14.47 g, 12 x 12 x 12 mm. Cubic in form. All faces have one large bird's eye motif except two sides. Its mass corresponds to a five-*dirham* weight (*dirham* of 2.89 g).

49) Inv. N° 14.148.04. Acquired in 2004. Find place: Osmaniye (Fig. 49)

Bronze, 14.42 g, 12 x 12 x 12 mm. Cubic in form. All faces have one bird's eye motif. Its mass corresponds to a five-*dirham* weight (*dirham* of 2.88 g).

50) Inv. N° 29.64.04. Acquired in 2004. Find place: Osmaniye (Fig. 50)

Bronze, 14.31 g, 12 x 12 x 12 mm. Cubic in form. Seven bird's eye motifs on the four faces and five bird's eye motifs on the two faces. Its mass corresponds to a five-*dirham* weight (*dirham* of 2.86 g).

51) Inv. N° 14.141.04. Acquired in 2004. Find place: Osmaniye (Fig. 51)

Bronze, 28.98 g, 19 x 15 mm. Polyhedron in form. Concentric circles on the top and bottom; all facets are full of bird's eye motifs. Its mass corresponds to a ten-*dirham* weight (*dirham* of 2.90 g)³³.

52) Inv. N° 17.42.08. Acquired in 2008. Find place: uncertain (Fig. 52)

Bronze, 29.00 g, 18 x 16 mm. Polyhedron in form. Concentric circles on the top and bottom; all facets are full of bird's eye motifs. Its mass corresponds to a ten-*dirham* weight (*dirham* of 2.90 g).

53) Inv. N° 23.12.03. Acquired in 2003. Find place: Osmaniye (Fig. 53)

Bronze, 28.78 g, 19 x 15 mm. Polyhedron in form. Rosette motif on the top and bottom; all facets are full of bird's eye motifs. Its mass corresponds to a ten-*dirham* (*dirham* of 2.88 g).

54) Inv. N° 17.43.08. Acquired in 2008. Find place: uncertain (Fig. 54)

Bronze, 29.81 g, 20x15 mm. Polyhedron in form. One large bird's eye motif on the top and bottom; all facets are full of bird's eye motifs. Its mass corresponds to a ten-*dirham* (*dirham* of 2.98 g).

55) Inv. N° 55.31.03. Acquired in 2003. Find place: Osmaniye (Fig. 55)

Bronze, 29.80 g, 21 x 15 mm. Polyhedron in form. One large bird's eye motif on the top and bottom; all facets are full of bird's eye motifs. Its mass corresponds to a ten-*dirham* (*dirham* of 2.98 g).

31) For cubic *dirhams* see Holland 2009: n°117 ff.

32) Tekin and Baran Çelik 2013: n° 310.

33) For this weight and the similar following weights cf. Tekin and Merzeci 2012: n°129 ff; Tekin and Baran Çelik 2013: n° 335 ff.

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

56) Inv. N° 55.32. 03. Acquired in 2003. Find place: Osmaniye (Fig. 56)

Bronze, 28.93 g, 20 x 15 mm. Polyhedron in form. One large bird's eye motif on the top and bottom; all facets are full of bird's eye motifs. Its mass corresponds to a ten-*dirham* (*dirham* of 2.89 g).

57) Inv. N° 14.142.04. Acquired in 2004. Find place: Osmaniye (Fig. 57)

Bronze, 27.33 g, 19x15 mm. Polyhedron in form. One large bird's eye motif on the top and bottom; all facets are full of bird's eye motifs. Its mass corresponds to a ten-*dirham* (*dirham* of 2.73 g).

58) Inv. N° 34.6.03. Acquired in 2003. Find place: Osmaniye (Fig. 58)

Bronze, 29.16 g, 19x15 mm. Polyhedron in form. One large bird's eye motif on the top and bottom; all facets are full of bird's eye motifs. Its mass corresponds to a ten-*dirham* (*dirham* of 2.92 g).

59) Inv. N° 23.11.03. Acquired in 2003. Find place: Osmaniye (Fig. 59)

Bronze, 14.50 g, 16 x 12 mm. Polyhedron in form. One large bird's eye motif on the top and bottom; all facets are full of bird's eye motifs. Its mass corresponds to a five-*dirham* (*dirham* of 2.0 g).

60) Inv. N° 20.5.68. Acquired in 1968. Find place: uncertain (Fig. 60)

Bronze, 14.44 g, 14 x 12 mm. Polyhedron in form. One large bird's eye motif on the top and bottom; all facets are full of bird's eye motifs. Its mass corresponds to a five-*dirham* (*dirham* of 2.89 g)³⁴.

61) Inv. N° 14.143.04. Acquired in 2004. Find place: Osmaniye (Fig. 61)

Bronze, 14.22 g, 15 x 12 mm. Polyhedron in form. One large bird's eye motif on the top and bottom; all facets are full of bird's eye motifs. Its mass corresponds to a five-*dirham* (*dirham* of 2.84 g).

62) Inv. N° 24.42.06. Acquired in 2006. Find place: Osmaniye (Fig. 63)

Bronze, 29.88 g, 22 mm. Polyhedron in form with triangular and square facets. All facets have stamps with illegible arabic inscriptions or symbol³⁵. Its mass corresponds to a ten-*dirham* (*dirham* of 2.99 g)³⁶.

63) Inv. N° 14.144.04. Acquired in 2004. Find place: Osmaniye (Fig. 63)

Bronze, 15.16 g, 18 mm. Polyhedron in form with triangular and square facets. All facets have stamps with illegible arabic inscriptions. Its mass corresponds to a five-*dirham* (*dirham* of 3.03 g).

64) Inv. N° 34.7.03. Acquired in 2003. Find place: Osmaniye (Fig. 64)

Bronze, 132.43 g, 40 x 14 mm. Octagonal prism in form. On the top, there is an obscure mark and the bottom is blank or illegible. Its mass corresponds to a forty-five-*dirham* (*dirham* of 2.94 g) or alternatively to a Byzantine five-*uncia* (*uncia* of 26.48 g). If it is a Byzantine weight it may be dated to the 5th-6th centuries but if it is an Ottoman weight then it may be dated to the 18th-19th centuries. The attribution is not certain³⁷.

65) Inv. N° 17.46.08. Acquired in 2008. Find place: uncertain (Fig. 65)

Bronze, 64.03 g, 27 x 13 mm. Octagonal prism in form. One side stamped with a tughra of Sultan (Abdülmeceid?) and year (illegible). The other side is blank but bevelled edge. Its mass corresponds to a twenty-*dirham* (*dirham* of 3.20 g).

66) Inv. N° 84.17.73. Acquired in 1973. Find place: Konya/Kadınhanı (Fig. 66)

Brass, 63.95 g, 27 x 14 mm. Octagonal prism in form. Illegible stamp on the top and bottom. Its mass corresponds to a twenty-*dirham* weight (*dirham* of 3.19 g).

67) Inv. N° 17.45.08. Acquired in 2008. Find place: uncertain (Fig. 67)

Bronze, 55.03 g, 30 x 10 mm. Octagonal prism in form. Both faces are blank but on one side one punchmark and illegible tughra and four large punchmarks on the other side. Its mass corresponds to a twenty-*dirham* (*dirham* of 2.75 g).

68) Inv. N° 126.42.73. Acquired in 1973. Find place: uncertain (Fig. 68)

Bronze, 32.23 g, 22 x 10 mm. Octagonal prism in form. Top and bottom are blank. Its mass corresponds to a ten-*dirham* weight (*dirhem* of 3.22 g).

69) Inv. N° 126.45.73. Acquired in 1973. Find place: uncertain (Fig. 69)

Bronze, 15.78 g, 18 x 7 mm. Octagonal prism in form. On one face, obscure stamp. Its mass corresponds to a five-*dirham* weight (*dirham* of 3.15 g).

70) Inv. N° 17.44.08. Acquired in 2008. Find place: uncertain (Fig. 70)

Brass, 15.69 g, 19 x 6 mm. Octagonal prism in form. One side stamped with a semicircular dotted motif. The other side is blank. Its mass corresponds to a five-*dirham* weight (*dirham* of 3.13 g).

34) Tekin and Merzeci 2012: n° 143 ff; Tekin and Baran Çelik 2013: n° 339 ff.

35) For a similar countermark on Byzantine *folles* cf. Lowick *et al.* 1977: n° 26 in the Table.

36) For this weight and the similar following weight cf. Tekin and Merzeci 2012: n° 161; Tekin and Baran Çelik 2013: n° 353 ff.

37) Published in Acara Eser 2009: n° 7 (Fig. 11). For the Islamic octagonal weights in different units see Kürkman 2003: n°s 200, 207-208, 221-225, 231-232, 310, 326-328; Tekin and Merzeci 2012: n°s 159-160; Tekin and Baran Çelik 2013: n° 425 ff; Tekin 2015a: n° 30; Custurea 1995-1996: p. 327, n° 4; Isler 1999: fig. 1.

71) Inv. N° 126.43.73. Acquired in 1973. Find place: uncertain (Fig. 71)

Bronze, 15.59 g, 17 x 8 mm. Octogonal prism in form. On the top, cartouch and tughra. Its mass corresponds to a five-*dirham* weight (*dirham* of 3.12 g).

72) Inv. N° 126.44.73. Acquired in 1973. Find place: uncertain (Fig. 72)

Bronze, 15.35 g, 18 x 19 x 7 mm. Octogonal prism in form. Both faces are blank or illegible; central hole on both faces. Its mass corresponds to a five-*dirham* weight (*dirham* of 3.07 g).

73) Inv. N° 17.39.08. Acquired in 2008. Find place: uncertain (Fig. 73)

Bronze, 16.43 g, 19 x 7 mm. Octogonal prism in form. On one side two stamps; one is V (=17= [12]17, Abdülmecid) in cartouch and the other is the tughra of Abdulaziz (?) Its mass corresponds to a five-*dirham* (*dirham* of 3.28 g).

74) Inv. N° 17.40.08. Acquired in 2008. Find place: uncertain (Fig. 74)

Bronze, 15.99 g, 17 x 9 mm. Octogonal prism in form. Both sides are blank. Its mass corresponds to a five-*dirham* (*dirham* of 3.20 g).

O.T.

BIBLIOGRAPHY

Acara Eser, M., 2009: "Ankara Anadolu Medeniyetleri Müzesi'ndeki Sikkeler Kontrol Ağırlıkları ve Ticari Ağırlıklar", in Alp, A.O. (ed.), *Ebru Parman'a Armağan. Sanat Tarihi ve Arkeoloji Yazıları*, Ankara: 175-189.

Bendall, S., 1996: *Byzantine Weights. An Introduction*, London.

Binsfeld, W., 1990: "Römische Gewichte in Trier", *Trierer Zeitschrift* 53: 281-290.

Breuer, J. and Alenus-Lecerf, J., 1965: "La boîte à poids monétaires de Lutlommel", *Archaeologia Belgica* 86: 103-116.

Custurea, G., 1995-1996: "Cateva ponduri mediavale descoperite in Dobrogea", *Pontica XVIII-XXIX*: 323-328.

Dalton, O.M., 1901: *Catalogue of Early Christian Antiquities and Objects from the Christian East in the Department of British and Medieval Antiquities and Ethnography of the British Museum*, London.

Dürr, N., 1964: *Catalogue des poids byzantins. Musée d'Art et d'Histoire de Genève*, Geneva.

Hendin, D., 2007: *Ancient Scale Weights and Pre-Coinage Currency of the Near East*, New York.

Holland, L., 1986: "Islamic Bronze Weights from Caesarea Maritima", *ANS Museum Notes* 31: 171-201.

– 2009: *Weights and Weight-like Objects from Caesarea Maritima*, Hadera.

Isler, H.P., 1998: "Pesi di bronzo islamici dagli scavi di Monte Iato (Sicilia)", *Numismatica e Antichità Classiche* XXVII: 345-369.

Jovanović, J., 2012: "Late Antique and Early Byzantine spherical bronze commercial weights housed in the Archaeological Museum in Split", *VAPD* 105: 179-200.

Kürkman, G. (ed.), 2003: *Anatolian Weights and Measures* (trs. P.M. İşın), Suna-Inan Kırac Research Institute on Mediterranean Civilizations, Istanbul.

Lang, M., 1964: "Five Hellenistic Lead Weights", *ANSMuseum Notes* 14: 1-3.

Lowick, N.M, Bendall, S. and Whitting, P.D., *The Mardin Hoard. Islamic Countermarks on Byzantine Folles*, A.H. Baldwin and Sons Ltd., Hampshire.

Minchev, A., 2008: "Early Byzantine Weights Found in North-eastern Bulgaria and Some Notes on Their Production, Distribution and Use", *Acta Varnaensis* VII-2: 7-40.

Pink, K., 1938: *Römische und byzantinische Gewichte in österreichischen Sammlungen*, Wien.

Pottier, H., 2004: "Nouvelle approche de la livre byzantine du V^e au VII^e siècle", *RBN* 150: 51-133.

Qedar, S., 1979: *Münz Zentrum Auktion XXXVII. Gewichte aus Drei Jahrtausenden*, Teil II, Köln.

– 1983: *Gewichte aus Drei Jahrtausenden*, Teil IV, Münz Zentrum XLIX. Auktion, Köln.

Stiegemann, C. (ed.), 2001: *Byzanz. Das Licht aus dem Osten. Kunst und Alltag im Byzantinischen Reich vom 4. bis 15. Jahrhundert. Katalog der Ausstellung im Erzbi-schöflichen Diözesanmuseum Paderborn*, Mainz.

Tekin, O., 1996: "Aşağı Anzaf (Van) Kazısından İslami Kontrmarklı Bir Bizans Sikkesi", *Toplumsal Tarih*, December: 48-50.

Tekin, O. and Merzeci, A.M., 2012: *Corpus Ponderum Antiquorum et Islamicorum. Turkey 1. The Collection of Klima Plus in Silifke Museum. Greek, Roman, Byzantine and Islamic Weights*, Turkish Institute of Archaeology, Istanbul.

Tekin, O., 2013: *Corpus Ponderum Antiquorum et Islamicorum. Turkey 3. Suna and İnan Kırac Foundation Collection at the Pera Museum. Part 1. Greek and Roman Weights*, Suna and İnan Kırac Foundation, Istanbul.

– 2015: "Weights in the Museums of Denizli, Kütahya and Afyon", in Şimşek, C., Duman, B. and Konakçı, E. (eds.), *Mustafa Büyükkolancı'ya Armağan / Essays in Honour of Mustafa Büyükkolancı*, Istanbul: 613-629.

– 2015b: *Corpus Ponderum Antiquorum et Islamicorum. Turkey 3. Suna and İnan Kırac Foundation Collection at the Pera Museum. Part 2. Late Roman and Byzantine Weights*, Suna and İnan Kırac Foundation, Istanbul.

Tekin, O. and Baran Çelik, G., 2013: *Corpus Ponderum Antiquorum et Islamicorum. Turkey 2. Istanbul Archaeological Museums. Greek, Roman, Byzantine and Islamic Weights in the Department of Metal Objects*, Turkish Institute of Archaeology, Istanbul.

Wamser, L. (ed.), 2004: *Die Welt von Byzanz - Europas östliches Erbe. Glanz, Krisen und Fortleben einer tausendjährigen Kultur; Schriftenreihe der Archäologischen Staatssammlung* 4, Stuttgart.

Weber, K., 2009: *Byzantinische Münzgewichte Material-korpus für 1-nomisma-Gewichte, Mass und Gewicht, Beihefte zur Zeitschrift für Metrologie*, Schwelm.

Eurômos : le temple de Zeus vu de l'Est (cliché Sönmez Alemdar).

ISBN: 978-2-36245-064-8