

Peser en Grèce ancienne et ailleurs: Le projet Pondera Online

Charles DOYEN (F.R.S.–FNRS / UCLouvain)

Réunion ordinaire de la Société royale de numismatique de Belgique (17 décembre 2016)



ARCHAEOLOGY

Archaeological Context
Archaeological Description
Collection History

NUMISMATICS

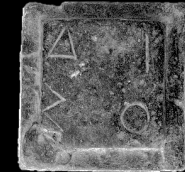
Authority
Symbols
Material and manufacture

METROLOGY

Denomination
Weight and
Metrological system



ANCIENT COMMERCIAL WEIGHTS



HISTORY

Economic History:
Standards, Daily Use,
Officials, etc.

HISTORY OF SCIENCES AND TECHNOLOGY

S & T STUDIES
OBJECT STUDIES

EPIGRAPHY

Inscriptions:
edition methods,
restorations,
corpus

DE PONDERIBUS ALIQUOT ANTIQUIS, GRAECIS
ET ROMANIS, MAXIMA EX PARTE
NUPER REPERTIS 1.

(Mon. dell' Inst. vol. VIII tav. XIV. tavv. d'agg. L. M)

Notum est Graecos veteres in ponderibus atque nummis appellandis dividendisque in partes eadem fere usos esse ratione. Talentum enim, quo nomine et maximum pondus nummumque significabant, dividebant in sexaginta minas, minas in centum drachmas, drachmam in sex obolos, obolum in octo chalcos. Cf. Boeckh, *Metrologische Untersuchungen* p. 32, Hultsch, *Metrologicon scriptorum reliquiarum* vol. I. fragm. 94 p. 299. ὁ δὲ Διόδωρος ἐν τῷ περὶ σταθμῶν. τάλαν- τὸν ἐστί μιν ἑξ, ἡ δὲ μνα δραχμῶν ῥ, ἡ δὲ δραχμή ὀβολῶν ἑ, ὁ δὲ ὀβολὸς χαλκῶν ἡ. Eundemque Diodorum, de quo Hultsch loquitur in eodem libro p. 156. ss., Suidas sequitur (v. τάλαντον), nisi quod obolum sex (ἑ) tantum chalcos habere dicit (Cf. Boeckh, *M. U.* p. 32 s.). Verumtamen talentorum non est unum genus, sed multa; memorant Homericum, Babylonium, Aegineticum, Euboicum, Atticum, alia. Illa autem genera, quibus veteres potissimum in ponderando et solvendo utebantur, sunt genus Aegineticum (cf. Boeckh, *M. U.* p. 82. Mommsen, *Geschichte des römischen Münzwesens* p. 46.

1 Quum anno MDCCCLVII et insequente Athenis morarer, in- cidi apud amicum Henricum Siegel sculptorem in nonnulla pondera antiqua haud multo ante Athenis reperta. Haec mihi tum nova sane miratus et saepius de iis collocutus cum Achille Postolacca museo nummario Hellenico praeposito, institui diligentius animum ad ea ad- vertere. Pondera igitur iterum atque iterum a me sunt inspecta; inscriptiones si quae erant, investigatae atque explicatae, trutina accuratissima examinatum est, quid pendat; deinde etiam delineatione pondera quam diligentissime a me sunt expressa. Postea vero quum multa sane per- pessus in patriam rediissem, sed non comperissem illorum ponderum, quae jam, priusquam ego in patriam adveni, Athenis Berolinum in museum regium migraverant, in annalibus rerum antiquarum a quopiam viro docto mentionem esse factam, operae pretium facturus mihi vi- debar, si illa pondera delineationibus expressa breviter illustrarem et in lucem proferrem. Rogatus igitur a me Achilles Postolacca amicus Atheniensis delineationes, quas dono a me acceperat, explicato consilio meo, benevolentissime non modo, quas petieram, sed etiam multas alias exprimentes pondera, quae Athenis aut in publicis collectionibus



GRIECHISCHE GEWICHTE

A 1100

GESAMMELT, BESCHRIEBEN UND ERLÄUTERT

VON

DR. ERICH PERNICE

PRIVATDOCENT AN DER UNIVERSITÄT GREIFSWALD.

MIT EINER TAFEL.

8GA
36992



BERLIN
WEIDMANNSCHE BUCHHANDLUNG
1894.

V. Mit einem ausgeschnittenen oder runden Schild bezeichnete Gewichte.

232) Athen, arch. Gesellsch. n. 1252. Oben in Relief ein ausgeschnittener Schild. Gut erhalten und wenig bestofsen. Abgeb. Mon. dell' Ist. VIII Taf. XIV, 65, vgl. Schillbach n. 65. Soutzo étal. S. 460 n. 270. Gewicht 231,66 gr. 926,64 gr.

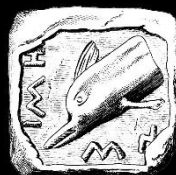
233) Athen, ebenda n. 1253. Oben in Relief ein ausgeschnittener Schild. In den Ecken deutlich die Buchstaben $\begin{matrix} \Gamma & \rho \\ \Xi & \Lambda \end{matrix}$ d. h. τέταρτον. Gleichmäfsig abgenutzt; auch mehrfach bestofsen. Abgeb. Mon. dell' Ist. VIII Taf. XIV, 66¹⁾, vgl. Schillbach n. 66. Soutzo étal. Taf. II, 20 S. 460 n. 271. Gewicht 231,14 gr. 924,56 gr.

234) Athen, ehemals bei Lafazanis. Oben in Relief Schild ohne Ausschnitte. Bestofsen und beschädigt. Abgeb. Mon. dell' Ist. VIII Taf. XIV, 67, vgl. Schillbach n. 67. Soutzo étal. S. 460 n. 272. Aus Athen. Gewicht 221,06 gr. 884,24 gr.

235) Berlin, Antiquarium n. 6496. Oben in Relief ein ausgeschnittener Schild. Gut erhalten, von einer Ecke abgesehen. Aus Athen. Gewicht 217,93 gr. 871,72 gr.

236) Athen, arch. Gesellsch. n. 247. Oben in Relief ein ausgeschnittener Schild. Gut erhalten, einige kleine Bestofsungen. Wahrscheinlich aus Athen. Gewicht 217,879 gr. 871,516 gr.

237) Athen, arch. Gesellsch. n. 1255. Oben in Relief Schild ohne Ausschnitte. Sehr abgenutzt und stark verstofsen. Links oben noch Rest eines Buchstaben Δ . Gewicht 216,19 gr. 864,76 gr.



FONDATION EUGÈNE PIOT

CATALOGUE
DES
BRONZES ANTIQUES
DE LA BIBLIOTHÈQUE NATIONALE

Publié sous les auspices de l'Académie des Inscriptions et Belles-Lettres

PAR MM.

Ernest BABELON

Conservateur du Département des Médailles et Antiques

ET

J.-Adrien BLANCHET

Sous-Bibliothécaire au même Département

OUVRAGE ILLUSTRÉ DE 1.100 DESSINS PAR SAINT-ELME GAUTIER



PARIS
ERNEST LEROUX, ÉDITEUR
28, RUE BONAPARTE, 28

1895

Tous droits réservés.

LES
BRONZES ANTIQUES
DU LOUVRE

PAR

A. DE RIDDER

CONSERVATEUR ADJOINT AU MUSÉE DU LOUVRE



TOME SECOND

LES INSTRUMENTS

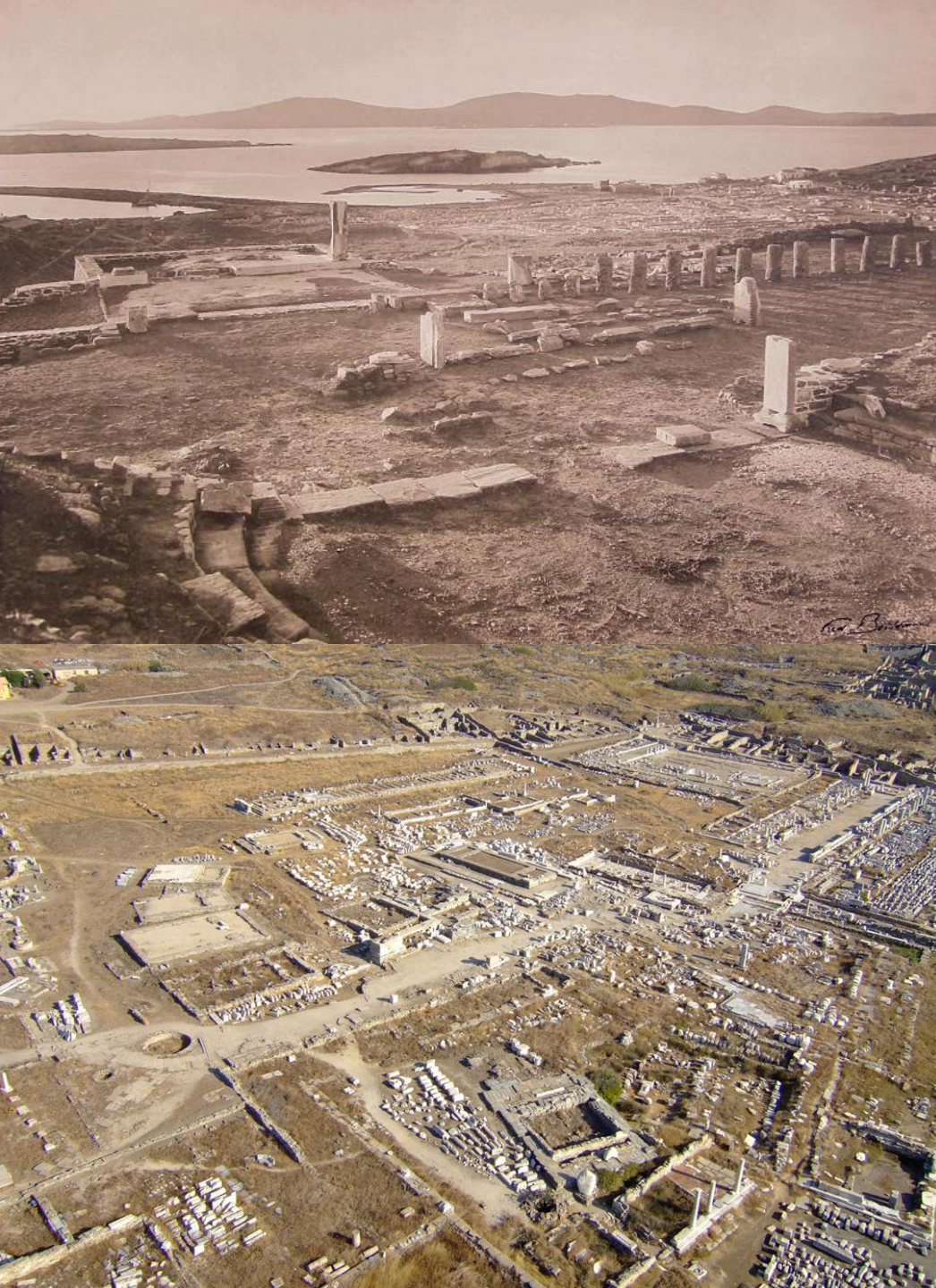
Illustré de 60 planches en phototypie par CATALA Frères

OUVRAGE PUBLIÉ

AVEC LE CONCOURS DU MINISTÈRE DE L'INSTRUCTION PUBLIQUE ET DES BEAUX-ARTS
ET DE L'ACADÉMIE DES INSCRIPTIONS ET BELLES-LETTRES (Fonds Doullans)

PARIS
ERNEST LEROUX, ÉDITEUR
28, RUE BONAPARTE, VI^e

1915



EXPLORATION ARCHÉOLOGIQUE

DE

DÉLOS

FAITE PAR L'ÉCOLE FRANÇAISE D'ATHÈNES

SOUS LES AUSPICES DU MINISTÈRE DE L'INSTRUCTION PUBLIQUE

ET AUX FRAIS DE M. LE DUC DE LOUBAT

PUBLIÉE SOUS LA DIRECTION DE

TH. HOMOLLE, M. HOLLEAUX, G. FOUGÈRES, CH. PICARD, P. ROUSSEL
ANCIENS DIRECTEURS DE L'ÉCOLE FRANÇAISE D'ATHÈNES

ET

R. DEMANGEL

DIRECTEUR DE L'ÉCOLE FRANÇAISE D'ATHÈNES

LE MOBILIER DÉLIEN

PAR

W. DEONNA

PROFESSEUR A L'UNIVERSITÉ DE GENÈVE

DIRECTEUR DU MUSÉE D'ART ET D'HISTOIRE DE GENÈVE

PARIS

E. DE BOCCARD, ÉDITEUR

PUBLICATIONS DES ÉCOLES FRANÇAISES D'ATHÈNES ET DE ROME

1, RUE DE MÉDICIS, 1

1938

*See front
cover
(5000)
140*

EXCAVATIONS AT OLYNTHUS

PART X

Y1043

METAL AND MINOR MISCELLANEOUS FINDS,

AN ORIGINAL CONTRIBUTION TO GREEK LIFE

(WITH A NEW UP-TO-DATE MAP OF OLYNTHUS)

BY

DAVID M. ROBINSON

BALTIMORE: THE JOHNS HOPKINS PRESS

LONDON: HUMPHREY MILFORD

OXFORD UNIVERSITY PRESS

1941





THE ATHENIAN AGORA

RESULTS OF EXCAVATIONS

CONDUCTED BY

THE AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS

VOLUME X

WEIGHTS, MEASURES AND TOKENS

BY

MABEL LANG AND MARGARET CROSBY



THE AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS
PRINCETON, NEW JERSEY

1964

DEUTSCHES ARCHÄOLOGISCHES INSTITUT



DIE GEWICHTE GRIECHISCHER ZEIT AUS OLYMPIA

VON
KONRAD HITZL



1996

WALTER DE GRUYTER · BERLIN · NEW YORK



CORPUS
PONDERUM ANTIQUORUM ET ISLAMICORUM

Turkey 3

THE COLLECTION OF
SUNA & İNAN KIRAÇ FOUNDATION
IN THE PERA MUSEUM

Part 1

Greek and Roman Weights

by

Oğuz TEKİN

ISTANBUL RESEARCH INSTITUTE

ISTANBUL

2013

POIDS ROMANO-BYZANTINS ET BYZANTINS EN ALLIAGE CUIVREUX

Collections du Musée d'art et d'histoire – Genève





Weight and Value

■ Weight and Value

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- People
- Publications
- Contact



Weight and Value

Weights and measures, weight metrology, value, origin of money, Bronze Age, Europe, West Asia, South Asia

ERC Consolidator project

The project explores the economical and societal transformations provoked by weights and measures during the Bronze Age in Western Eurasia. A systematic analysis of the early dissemination of weights and weighing systems will be conducted on archaeological evidence from the Bronze Age in Europe, as well as that from West and South Asia.

The project will begin by identifying and documenting hitherto unacknowledged balance weights and mass-related objects on account of archaeological indications and through the rigorous application of various statistical methods, but will subsequently develop and test models of exchange and the transfer of innovations in ancient Eurasia.

[Read more about the project.](#)

Funded by



The project has been awarded an ERC Consolidator Grant of 1.9 million Euro.

The European Research Council (ERC) is established by the European Commission.

[Read more about ERC Grants at
erc.europa.eu](#)

22nd Annual Meeting of the EAA



WEIGHTS AND WEIGHING FROM THE BRONZE AGE TO THE MIDDLE AGES: PERCEPTION, CONTEXT, USE / Session (TH1-24)

-at the 22nd Annual Meeting of the European Association of Archaeologists (EAA), September 1st, 9:00-13:00 at the University of Vilnius.
Organized by Lorenz Rahmstorf, Aleksander Dzybyski and Tomasz Gralak.
[For programme and abstracts see here.](#)

{BnF

Médailles
et
Antiques

Médailles et Antiques de la Bibliothèque nationale de France > Notice d'oeuvre

poids (bronze.2237)

Adresse permanente de la notice

Désignation générale : poids
demi mine**Lieu de découverte :** [Grèce](#)**Précisions sur la découverte :** Découverte : Athènes
Pays : Grèce**Matières et techniques :** bronze (fonte)**Mesures :** L. 4.6 cm, Poids 255 g**Description :** poids quadrangulaire. Demi-mine. [Inscription sur l'une des faces](#)**Mode d'acquisition :** [achat](#)**Donateur(s),
testateur(s) ou
vendeur(s) :** [Lambros](#)**Date de l'acte
d'acquisition :** 27/08/1872**Ancienne(s)
appartenance(s) :** [Lambros](#)**Numéro d'inventaire :** bronze.2237**Autre(s) numéro(s) :** reg.K.1054**Bibliographie :** Babelon, Ernest, Blanchet, Jules-Adrien. Catalogue des Bronzes Antiques de la Bibliothèque nationale. Paris : 1895, p.676, n°2237.



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SEARCH



Weight Showing Dolphin Pierced with Harpoon

Created: Attica (?), 4th century BC

Found:

Name: Weight Showing Dolphin Pierced with Harpoon

Place: Attica (?)

Date: 4th century BC

Material: lead

Technique: cast

Dimension: 6.2x6.0 cm

Inventory Number: TP-16603

Category: Archaeological Artifacts

Collection: Antiquity

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Where to find It

Remark: Not on display.

Artwork



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Weight

Greek

DIMENSIONS

Legacy dimension: 0.053 SQ.; weight: 7095 grains

ACCESSION NUMBER

01.8334

MEDIUM OR TECHNIQUE

Lead

NOT ON VIEW

COLLECTIONS

[Europe, The Ancient World](#)

CLASSIFICATIONS

[Tools and equipment, Weights and measures](#)

Square, with raised rim. On face, a dolphin, around which the letters

Provenance

By 1901: with E. P. Warren (according to Warren's records: [this is one of a group of weights] bought in Munich. [The weights] constituted lot 425 in the Margaritis-Helbing sale of 1899: were collected by the late D. Margaritis & are, in provenience, Attic.); purchased by MFA from E. P. Warren, December 1901

Credit Line

Henry Lillie Pierce Fund

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Weight with Amphora





Object Details

Title: Weight with Amphora

Artist/Maker(s): Unknown

Culture: Greek (Attic)

Place(s): Athens, Greece (Place created)

Date: second half of 5th century B.C.

Medium: Bronze filled with lead

Dimensions: 5.2 x 5.3 cm, 0.277 kg (2 1/16 x 2 1/16 in., 0.6107 lb.)

Credit Line: Gift of Barbara and Lawrence Fleischman

[See more](#) v

In antiquity, the Athenian government kept sets of official weights used to calibrate and verify the accuracy of other weights used in the city. These official weights were made of bronze rather than the usual, more easily alterable lead used for other weights. They also carried an inscription indicating that they belonged to the *Demosion* or public. This thick, square plaque is an Athenian official weight dating to the period from about 450 to 400 B.C. The symbol of an amphora in high relief and the inscription on the front indicate its value. The letters are an abbreviation for tritemorion, or one-third of a stater, a basic unit of weight at this time. The dotted inscription on the side of the weight is the abbreviation for *Demosion*. The stamped image of an owl, the symbol of Athens, on the front and side of the plaque are countermarks, indicating that the weight was periodically inspected. The back of the plaque is plain except for a rectangular cutting filled with lead to adjust the weight.

Provenance

Exhibitions

Bibliography

A Passion for Antiquities: Ancient Art from the Collection of Barbara and Lawrence Fleischman (October 13, 1994 to April 23, 1995) (25)

- The J. Paul Getty Museum, (Malibu), October 13, 1994 to January 15, 1995
- The Cleveland Museum of Art, (Cleveland), February 14 to April 23, 1995

weight

[Back to search results >](#)

Object type	weight ?
Museum number	1842,0728.536
Description	Lead weight: an amphora, 1/3 stater.
Culture/period	Attic ?
Date	6thC BC-5thC BC
Production place	Made in: Athens ?; (Europe, Greece, Attica, Athens)
Materials	lead
Dimensions	Weight: 272.12 grammes Length: 5.08 centimetres Width: 5.08 centimetres
Location	G69/25
Acquisition name	Purchased from: Thomas Burgon ?
Acquisition date	1842
Department	Greek & Roman Antiquities
Registration number	1842,0728.536

[Large image >](#) [More views \(2\) >](#)[Image description >](#)

Image service:

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Recommend





Antikensammlung Berlin: Antike Bronzen in Berlin



Staatliche Museen zu Berlin
Preußischer Kulturbesitz

[Home](#) [Projektinformation](#) [Datenbank](#) [Originaltext](#) [Hilfe](#) [Impressum](#)



Bilddatenbank: Antike Bronzen in Berlin

Die Bronzesammlung nach C. Friederichs, *Antike Bronzen und Geräte im Alten Museum (1871)* und weitere Erwerbungen bis 1945 (Bestände und Verluste).

Ein Projekt der Antikensammlung der Staatlichen Museen zu Berlin, 2004-2007 und 2008-2011 durchgeführt mit Unterstützung der DFG - Deutsche Forschungsgemeinschaft von Norbert Franken unter der Leitung von Wolf-Dieter Heilmeyer und Andreas Scholl.



Antikensammlung Berlin: Antike Bronzen in Berlin

[Home](#) [Projektinformation](#) [Datenbank](#) [Originaltext](#) [Hilfe](#) [Impressum](#)[Suche](#) [Resultat](#) [Mappe](#)Resultate: **129**

Sortierung: Inv. Nr. ▼ Ansicht: Detail ▼ Funktionen ▼ ◀ 98 ▶

**Inv. Nr.: Ol. 7652**

Einstufiges rechteckiges Gewicht (äginetischer Standard, Halbminenstück) mit griechischer Inschrift ($\Delta\text{ΙΟ}\Sigma$) und Niete

Fotograf: Mirko Vonderstein

**Grunddaten**

Inv. Nr.: Ol. 7652

Gattung: Waagen und Gewichte

Titel: Einstufiges rechteckiges Gewicht (äginetischer Standard, Halbminenstück) mit griechischer Inschrift ($\Delta\text{ΙΟ}\Sigma$) und Niete

Maße

Höhe: 1,1 cm (mit Niete 1,5 cm)

Breite: 3,9 cm



Grunddaten

Inv. Nr.: Ol. 7652

Gattung: Waagen und Gewichte

Titel: Einstufiges rechteckiges Gewicht (äginetischer Standard, Halbminenstück) mit griechischer Inschrift ($\Delta\text{ΙΟ}\Sigma$) und Niete

Maße

Höhe: 1,1 cm (mit Niete 1,5 cm)

Breite: 3,9 cm

Länge: 6,1 cm

Gewicht: 205 g

Material: Bronze

Provenienz

Fundort: Olympia (Griechenland)

Erwerbungsdatum: 1889

Abbildungen: Skizze im Grabungsinventar (ungenau bzw. abweichend; darum Identität prüfen!)

Bemerkung: Falsch identifiziert, vgl. die Zeichnung bei Dittenberger-Purgold; die richtige Inv. des vorliegenden Gewichts ist wohl Ol. 13452. (NF)

Objektstatus: vorhanden

Literatur

W. Dittenberger – K. Purgold, Die Inschriften von Olympia, Olympia. Die Ergebnisse der von dem Deutschen Reich veranstalteten Ausgrabung V (1896) 810 Nr. 97 Abb.; K. Hitzl, Die Gewichte griechischer Zeit aus Olympia. OF 25 (1996) 187 f. Nr. 157.

Nomisma

Nomisma.org is a collaborative project to provide stable digital representations of numismatic concepts according to the principles of [Linked Open Data](#). These take the form of http URIs that also provide access to reusable information about those concepts, along with links to other resources. The canonical format of nomisma.org is RDF/XML, with serializations available in JSON-LD (including geoJSON-LD for complex geographic features), Turtle, KML (when applicable), and HTML5+RDFa 1.1.

While the URIs provided by nomisma.org are stable, the project is in progress and subject to constant expansion and ongoing correction. This is particularly the case for the information provided about each nomisma.org identifier.

The information provided by nomisma.org has been provided by a wide community of scholars and institutions.

The project is steered by a committee currently consisting of:

- Florence Codine, [BnF](#)
- Karsten Dahmen, [MK Berlin](#)
- Ethan Gruber, [ANS](#)
- Sebastian Heath, [NYU ISAW](#)
- Chris Howgego, [Ashmolean Museum, University of Oxford](#)
- Andrew Meadows, [ANS](#)
- Ulrike Peter, [Berlin-Brandenburg Academy of Sciences and Humanities](#)
- Daniel Pett, [BM PAS](#)
- Karsten Tolle, [DBIS, University of Frankfurt](#)
- David Wigg-Wolf, [DAI RGK](#)

Nomisma.org also hosts the [Numismatic Description XML Schema](#)

There are two Github repositories associated with the project. The application code is available in <https://github.com/nomisma/framework>. The RDF/XML data and ontology versions are in <https://github.com/nomisma/data>.

Example Nomisma.org URIs

Nomisma.org focuses on URIs for concepts that are unique to numismatics or which have a distinct meaning within the discipline. Examples are:

1. <http://nomisma.org/id/axis>. The 'axis' is the angular relationship between the obverse and reverse of a coin.
2. <http://nomisma.org/id/ephesus>. The 'mint' at Ephesus. Nomisma relates this numismatic concept to other URIs such as [wikipedia](#), [Pleiades](#), [Getty thesauri](#), and the [British Museum](#).
3. <http://nomisma.org/id/quinarius>. Nomisma.org maintains lists of Roman and other denominations. To indicate that "quinarius" is a concept within Roman numismatics, the Dublin Core property "dcterms:source" relates this URI to http://nomisma.org/id/roman_numismatics.

Data Export

Nomisma Linked Data



Linked Data: [JSON-LD](#), [TTL](#), [RDF/XML](#)

Pelagios Annotations



VoID for Concepts: [RDF/XML](#)
VoID for Partner Objects: [RDF/XML](#)

Atom Feed



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Contributors

The following institutions have contributed data, specialist advice and/or financial support to the Nomisma project:



Classes

- CoinWear
- Collection
- Context
- Controlmark
- Corrosion
- Countermark
- Denomination
- DepositionType
- DieWear
- DiscoveryType
- Ethnic
- FieldOfNumismatics
- Find
- Manufacture
- Material
- Mint
- Mintmark
- Monogram
- NumismaticObject
- NumismaticTerm
- ObjectType
- Peculiarity
- PeculiarityOfProduction
- ReferenceWork
- Region
- SecondaryTreatment
- TypeSeries
- TypeSeriesItem
- Wear
- WeightStandard

Properties

- hasAppearance
- hasAuthority
- hasAxis
- hasBearsDate
- hasCollection
- hasControlmark
- hasCorrosion
- hasCountermark
- hasDate
- hasDenomination
- hasDepth
- hasDiameter
- hasDie
- hasEdge
- hasEndDate
- hasFindType
- hasFindspot
- hasHeight
- hasIconography
- hasIssuer
- hasLegend
- hasManufacture
- hasMaterial
- hasMaxDepth
- hasMinDiameter
- hasMinHeight
- hasMinWidth
- hasMint
- hasMintmark
- hasMonogram
- hasObjectType
- hasObverse
- hasPeculiarity
- hasPeculiarityOfProduction
- hasPortrait
- hasProductionDate
- hasProductionObject
- hasReferenceWork
- hasReverse
- hasSecondaryTreatment
- hasStartDate
- hasStatedAuthority
- hasTypeSeriesItem
- hasWear
- hasWeight
- hasWeightStandard
- hasWidth
- representsObjectType

General Principles of the Pondera Online Database

- PostgreSQL relational database: 1 main table, 13 secondary tables
- Based on the Nomisma.org standards
- Online, Open access
- Selected contributors
- Detailed search tools, in order to generate graphs, maps, etc.
- Designed for ancient Greek weights, but easily adaptable to specific needs (e.g. other period and/or other region)
- Project funded by the Belgian Funds for Scientific Research (FNRS) for two years (July 2016 – June 2018)

[◀ Back](#)

ARCHAEOLOGICAL DESCRIPTION OF THE WEIGHT

AUTHORITY [Olympia](#) [nomisma.org](#)DENOMINATION [4 Minas](#) [nomisma.org](#)MATERIAL [Bronze](#) [nomisma.org](#)MANUFACTURE [Cast](#) [nomisma.org](#)SHAPE [Three-stepped square](#)LENGTH [9.20 cm](#)WIDTH [8.90 cm](#)HEIGHT [4.20 cm](#)

METROLOGY

Weight (g)	Weight (grain)	Date of measurement	Reference	fragmented	cleaned	reference weight
1859.20	-	-	Olympia V	No	No	No
1854.00	-	-	Hitzl 1996	No	No	Yes

ICONOGRAPHY

-

LEGEND /

INSCRIPTION

WEAR [Little to no wear](#) [nomisma.org](#)CORROSION [Little to no corrosion](#) [nomisma.org](#)

ARCHAEOLOGICAL DESCRIPTION

Hitzl 1996:

Inscript: Eingehauene Inschrift mit Zusatzbuchstaben. Die ersten drei Buchstaben quer über die hintere Hälfte der Oberseite; das Sigma verdreht in der Mitte der rechten Kante; in der vorderen linken Ecke ein zusätzliches Omikron; Buchstabenhöhe 0,8–1,3 cm.

Unsauberer Guß mit Fehlern. In der Mitte von linker und rechter Seite der mittleren Stufe Vorsprünge bis zum Rand der unteren Stufe, B links 1,5 cm, B rechts 2,4 cm. Alle Kanten der Unterseite leicht abgeschrägt. Alle oberen Kanten der untersten Stufe ebenfalls abgeschrägt.

Olympia V:

Dreistufige Gewichte. Gesamthöhe 0,045, wovon 0,022 auf die oberste Stufe kommen; Grundfläche etwa 0,09 im Quadrat. Die beiden unteren Stufen sind auf 2 Seiten durch einen Vorsprung verbunden. Oben graviert in gebrochener Linie Διός. Ο. — 2 Exemplare. Vollständig erhalten, die rauhe Unterseite mit Vertiefung, ihre Ränder etwas abgekantet.

AUTOPSY

No



[◀ Back](#)

ARCHAEO

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ICONOG

LE

INSCR

CORR

ARCHAEO

DESCR

AL



Image 1 of 2

ARCHAEOLOGICAL CONTEXT

DATING OF THE WEIGHT



[← Back](#)

ARCHAEOLOGICAL DATA

AUTHORITY
 DENOMINATION
 MATERIAL
 MANUFACTURE
 SHAPE
 LENGTH
 WIDTH
 HEIGHT
 METROLOGY

ICONOGRAPHY

LEGEND /
 INSCRIPTION

WEAR

CORROSION

ARCHAEOLOGICAL

DESCRIPTION

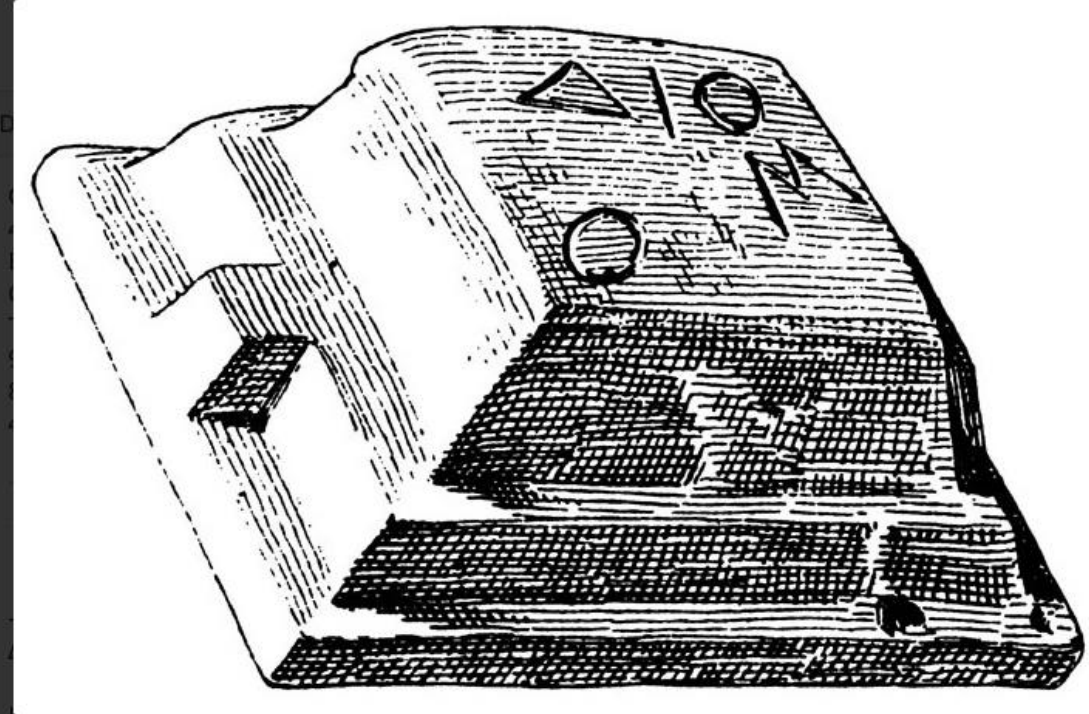


Image 2 of 2

Little to no wear

Little to no corrosion

Hitzl 1996:

Inscript: Eingehauene Inschrift mit Zusatzbuchstaben. Die ersten drei Buchstaben quer über die hintere Hälfte der Oberseite; das Sigma verdreht in der Mitte der rechten Kante; in der vorderen linken Ecke ein zusätzliches Omikron; Buchstabenhöhe 0,8–1,3 cm.

Unsauberer Guß mit Fehlern. In der Mitte von linker und rechter Seite der mittleren Stufe Vorsprünge bis zum Rand der unteren Stufe, B links 1,5 cm, B rechts 2,4 cm. Alle Kanten der Unterseite leicht abgeschrägt. Alle oberen Kanten der untersten Stufe ebenfalls abgeschrägt.

Olympia V:

Dreistufige Gewichte. Gesamthöhe 0,045, wovon 0,022 auf die oberste Stufe kommen; Grundfläche etwa 0,09 im Quadrat. Die beiden unteren Stufen sind auf 2 Seiten durch einen Vorsprung verbunden. Oben graviert in gebrochener Linie Διόζ. Ο. — 2 Exemplare.

Vollständig erhalten, die raue Unterseite mit Vertiefung, ihre Ränder etwas abgekantet.

AUTOPSY

No

ARCHAEOLOGICAL CONTEXT

DATING OF THE WEIGHT

ARCHAEOLOGICAL CONTEXT

FIND SPOT (REGION) Greece: Elis 

FIND SPOT (SITE) Olympia PLEIADES

CONTEXT Nordosten des Leonidaion, 29/04/1880

DATING OF THE WEIGHT

CHRONOLOGICAL PERIOD Classical Greece (480–338 BCE)

ADDITIONAL COMMENTARY Hitzl 1996: ca. 450–420 BCE.

COLLECTION HISTORY

COLLECTION

Name  nomisma.org

Date of acquisition

Inventory number

Antikensammlung Berlin

None

Ol. 13206

BIBLIOGRAPHY

Reference	Page/Column	Reference (number)	Plate / Figure	Comment
Hitzl 1996	158	13		(Gruppe II: Vierminenstücke; Klasse B)
Hultsch 1898	96			(non vidi)
Olympia V	801	1	Abb.	(Gruppe 1) (wrong Inv.Nr.: 12306)

VARIA

ADDITIONAL COMMENT

Antikensammlung Berlin:
Bemerkung: Zahlendreher (falsche Nummer), läßt sich im Grabungsinventar nicht verifizieren. Richtig ist Ol. 13206. (NF)
Bemerkung: Schon auf alter Inventarkarte durch einen Zahlendreher fälschlich als "Ol. 12306" verzeichnet. (NF)
Abbildungen: Skizze im Grabungsinventar

PERMALINK

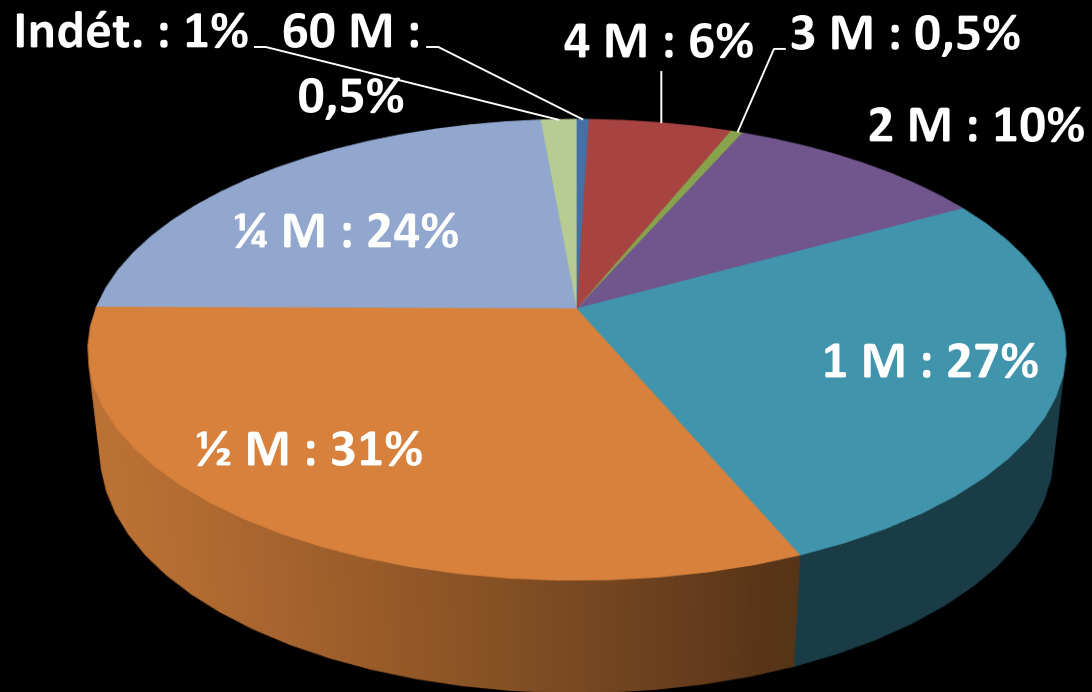
EXTERNAL LINKS

[http://www.smb-digital.de/eMuseumPlus?](http://www.smb-digital.de/eMuseumPlus?service=ExternalInterface&module=collection&objectId=1004489&viewType=detailView)
<http://www.smb.museum/antikebronzenberlin>

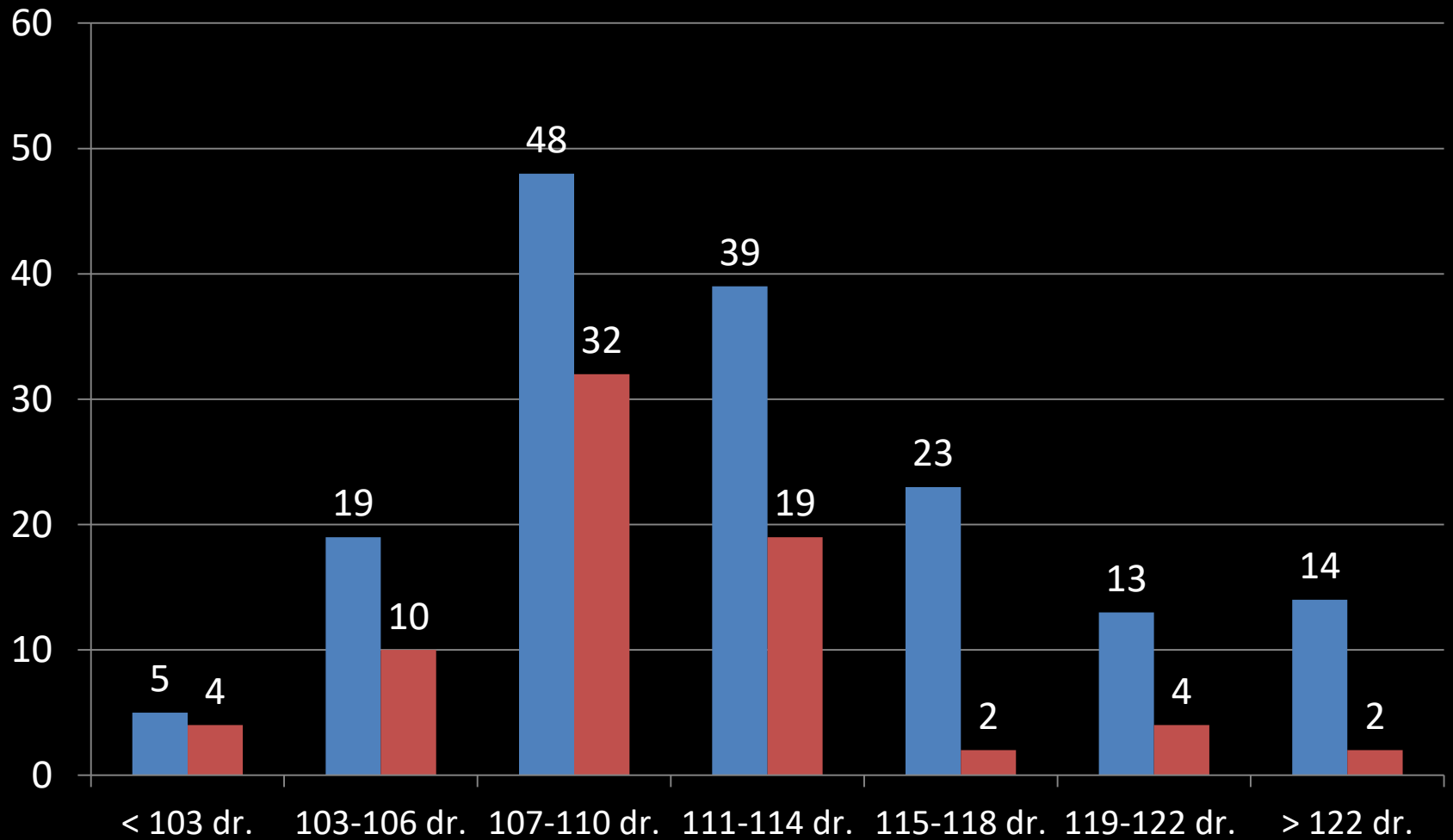
AUTHOR STATUS

Charles Doyen
PUBLISHED

Pie Chart



Distribution Graph



161 ex. (73 ex. $\geq \frac{1}{2}$ M)

Distribution Map



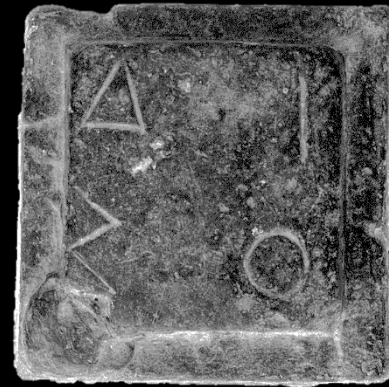
Case Study #1: The Olympic Weights



Talent = 60 Minas



4 Minas



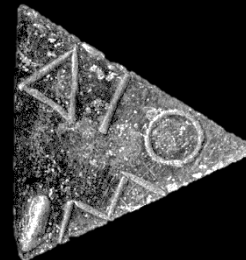
2 Minas



1 Mina



$\frac{1}{2}$ Mina



$\frac{1}{4}$ Mina



$\frac{1}{8}$ Mina

Weight Increase



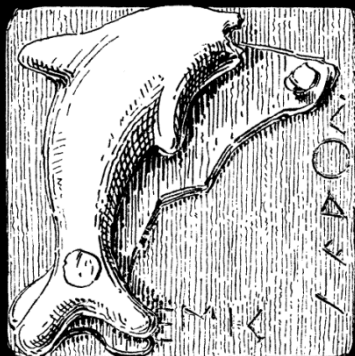
Mina = 100 drachmas
(435 g)



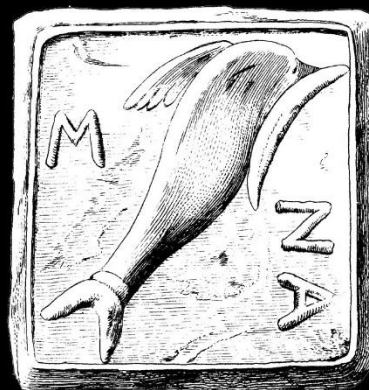
Mina = 105 drachmas
(454 g)



Mina = 112 drachmas
(487 g)



Mina = 100 drachmas
(435 g)



Mina = 105 drachmas
(454 g)



Mina = 112 drachmas
(487 g)



The Olympian Weights

First German Excavations in Olympia (1875–1881)

ca. 250 weights brought to light

ca. 185 weights
conserved
in Olympia

ca. 65 weights
transferred
in Berlin
as “duplicates”

Convention.

Les Gouvernements
de l'Empire d'Allemagne
et du Royaume hellénique
desirant entreprendre, d'un
commun accord des fouilles
archéologiques sur le territoire
de l'ancienne Olympie en
Grèce et ayant résolu de
conclure, une, convention, à

L'Envoyé Extraordinaire et Ministre
Plénipotentiaire de Sa Majesté
l'Empereur d'Allemagne
à Athènes, ainsi que M. le
Professeur E. Curtius, Délégué
officiel, d'un côté, et M. Jean
Pélyański, Ministre des Affaires
Étrangères de Sa Majesté Hellénique,
ainsi que M. P. Eustratiades,
Conservateur des antiquités de
l'État, dûment autorisés par
leurs Gouvernements respectifs
ont signé la présente Convention
et y ont apposé les sceaux de leurs
armes.

Fait à Athènes, en double
expédition, le treize (13/25) Avril,
mil-huit-cent-soixante-quatorze.

E. del Wagnier

J. Pélyański

Ernst Curtius

Πατριάρχης
Μεγαπασχίδης

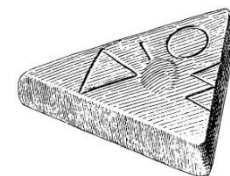
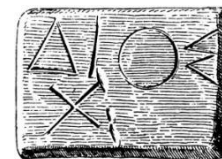
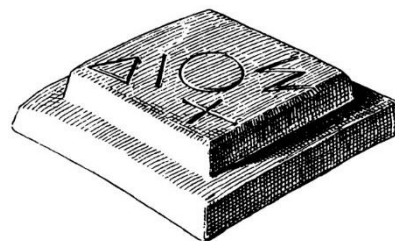
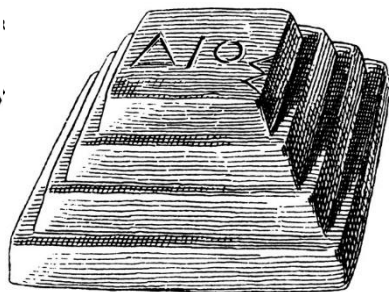
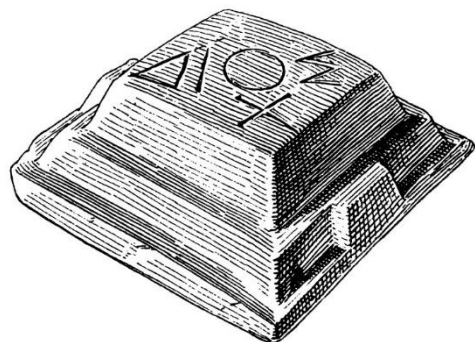


OLYMPIA

DIE ERGEBNISSE
DER VON DEM DEUTSCHEN REICH
VERANSTALTETEN AUSGRABUNG

IM AUFTRAGE
DES KÖNIGLICH PREUSSISCHEN MINISTERS DER GEISTLICHEN
UNTERRICHTS- UND MEDICINAL-ANGELEGENHEITEN
HERAUSGEGEBEN
VON
ERNST CURTIUS UND FRIEDRICH ADLER

TEXTBAND V
DIE INSCRIFTEN



DIE INSCHRIFTEN

VON

OLYMPIA

3D190

BEARBEITET

VON

WILHELM DITTENBERGER UND KARL PURGOLD



VERLAG ADOLF M. HAKKERT - AMSTERDAM
1966

[reimpr. d. 1896]

The Olympian Weights

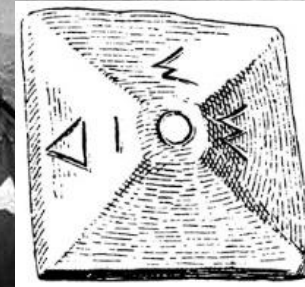
ca. 65 weights
transferred
in Berlin
as “duplicates”

ca. 10 weights
are missing

+

Interchange
of labels

Inv. nrs. 4905, 7271, 13835



Pergamon Museum, Berlin

1945

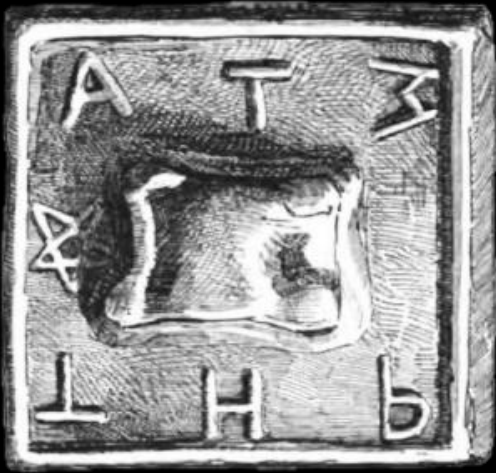


1958



Pushkin Museum, Moscow

Case Study #2: The Athenian Weights



Stater



$\frac{1}{3}$ stater



$\frac{1}{4}$ stater



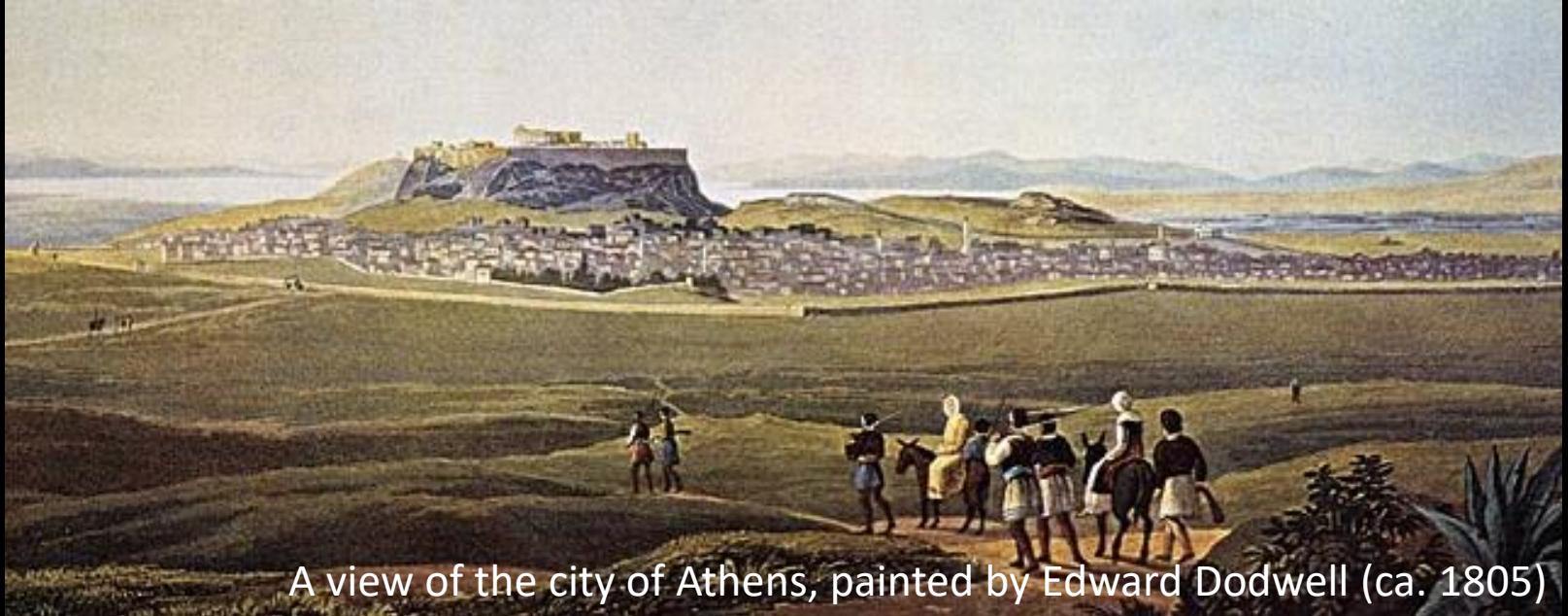
Mina = $\frac{1}{2}$ stater



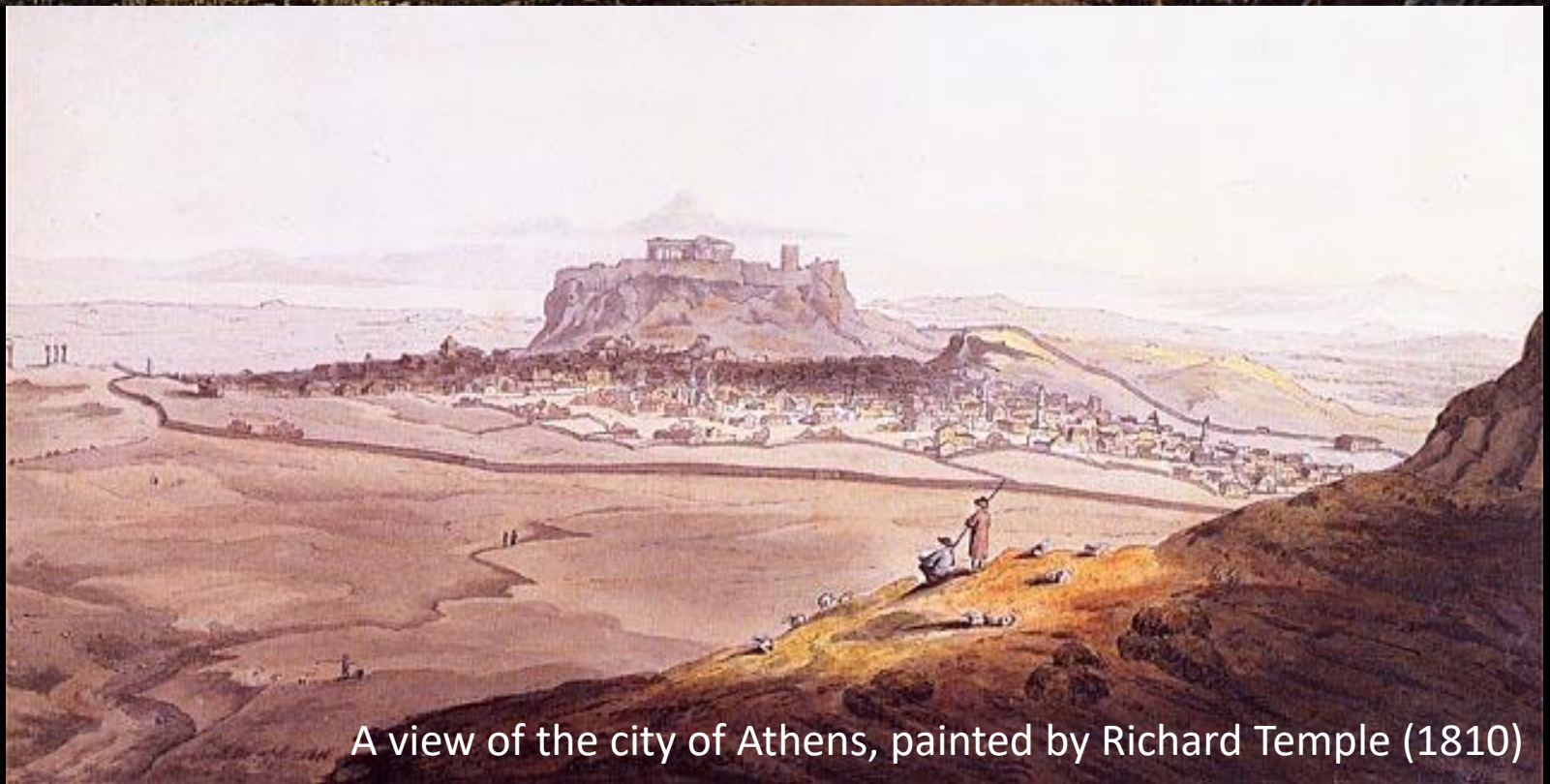
$\frac{1}{6}$ stater



$\frac{1}{8}$ stater



A view of the city of Athens, painted by Edward Dodwell (ca. 1805)



A view of the city of Athens, painted by Richard Temple (1810)



Athen mit Umgebung, Johann August Kaupert, 1875 (detail)

The British Museum Collection



ca. 370 weights, mainly from Athens, of which three private collections:

- Burgon Collection (1842): 44 weights
- Blacas Collection (1867): 131 weights
- Woodhouse Collection (1866 and 1868): 105 weights

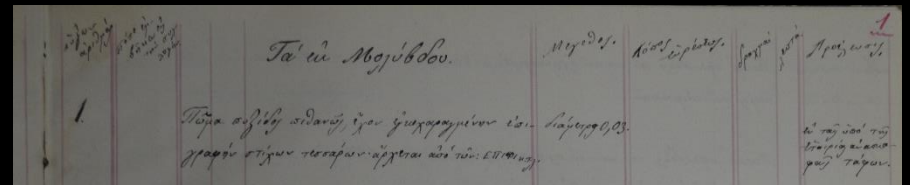
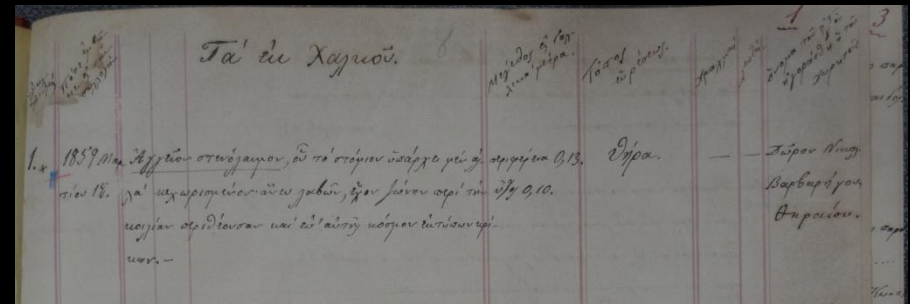
The Archaeological Society Collection (1866–1894)



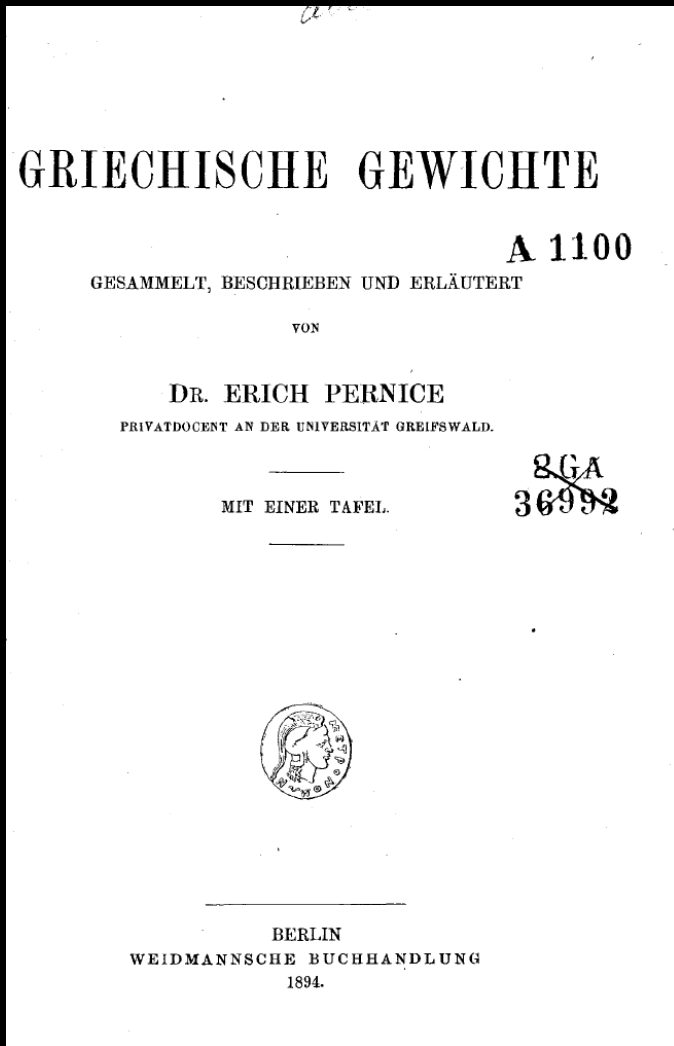
566 weights, mainly from Athens:

- 125 bronze weights
- 441 lead weights

+ dozens of marble weights



Erich Pernice's Corpus of Weights



830 ancient weights and 76 Byzantine weights,
mainly originating from Athens:

- 436 weights conserved in the Archaeological Society of Athens
- 138 weights seen in the antiquities trade and in private collections in Athens and Piraeus
- 149 weights conserved in the British Museum
- 57 weights conserved in the Antikensammlung, Berlin
- 126 weights conserved in other private and museum collections across Europe

The British Museum Collection in Pernice's Corpus

Poole, R. S. 1863

A. — TABLE OF MR. BURGON'S WEIGHTS FROM ATHENS.
All these weights are of lead, except Nos. 15 and 38, which are of bronze.

No.	Weight, Grs. Troy.	Inscription.	Type.	Con- dition. ⁵	Value, Attic Com- mercial. ⁶	Excess or deficiency.	Value, Attic Solonian. ⁷	Excess or deficiency.
1	9,980	MNA AΓOP	Dolphin.	A	Mina	.	.	.
2	9,790		Id.	D	(Mina)	- 190	.	.
3	7,171	MNA	Id.	A	.	.	Mina	.
4	7,048		Id.	d	.	.	(Mina)	- 123
5	4,424		Diota	B	.	.	MINA?	- 356.6
6	3,874		Tortoise	B	.	.	MINA?	+ 238.5
7	3,482	ΔEMO	Id. ¹	B	.	.	Mina	- 103.5
8	3,461		Turtle	B	.	.	Mina	- 124.5
9	3,218	TETAPT	Tortoise	A? or D?	.	.	MINA	- 367.5
10	2,959		Half diota	d	.	.	MINA?	+ 90.6
11	2,865	MO	Turtle	B	.	.	MINA?	- 8.4
12	2,210	ΔEMO	Half diota	C	.	.	MINA	- 180.3
13	1,872		Half turtle	B	.	.	MINA	+ 79.2
14	1,770	EMITETAP	Half tortoise	B	.	.	MINA	- 22.7
15	1,698		Crescent	B?	1/2 Mina?	- 298	.	.
16	1,648		.	B	1/2 Mina?	- 348	.	.
17	1,603	Γ' M	.	B? or D?	1/2 Mina?	- 393	.	.
18	1,348	B	.	A	.	.	2 deca- drachms.	- 86.2
19	1,281	MO	Quarter diota ²	B	.	.	MINA?	+ 35.8
20	1,172	ΔH	Crescent	B	.	.	MINA?	- 23.1
21	1,171		Crescent	B	.	.	MINA?	- 24.1
22	1,082		Half Turtle ³	B	1/10 Mina?	+ 84	MINA?	- 113.1
23	1,045	ΔEMO	Crescent	B	.	.	MINA?	- 150.1
24	988	ΔEMO	Diota in wreath ⁴	B	.	.	MINA?	+ 91.6
25	923.5	ΔEMO	Owl, A. in field ⁴	C	.	.	MINA	+ 32.1
26	924		Half crescent and star	B	.	.	MINA	+ 27.6
27	915.5		.	D?	.	.	Mina	+ 19.1
28	910.5		.	B	.	.	Mina	+ 14.1
29	901		Quarter diota	B	.	.	Mina	+ 4.6
30	889	Δ . . O	.	d	.	.	Mina	- 7.3
31	884	ΔH OΓΔO	.	C?	.	.	Mina	- 12.3
32	889		Rose	C?	.	.	Mina	- 27.3
33	859	ΔEMO	Uncertain obj. in wreath ⁴	d	.	.	Mina	- 37.3
34	845		Half crescent	B	.	.	1/2 Mina?	- 51.3
35	756.5	Δ	.	D?	4 didrachms	- 41.9	.	.
36	541.5		.	B	.	.	8 drachms?	- 32.1
37	527.5	Γ	.	B	1/2 of 1/2 mina?	+ 28.5	.	.
38	450		.	B?	6 drachms?	- 49	6 drachms?	+ 19.7
39	411		.	B	4 drachms?	+ 11.8	6 drachms?	- 19.2
40	388		.	B?	4 drachms?	- 11.2	5 drachms?	+ 29.4

¹ Countermark, tripod.

² Countermark, prow.

³ Turtle, headless?

⁴ Countermark.

⁵ Explanation of signs: A, Scarcely injured. B, A little weight lost. C, More than a little lost. D, Much weight lost. d, Much corroded. E, Very much weight lost. When two signs are given, the former is the more probable. ⁶ The weight of the Commercial Attic mina is here assumed to be about 9,980 grs. ⁷ The weight of the Solonian Attic mina is here assumed to be about 7,171 grs. The heavier talent is indicated by capital letters.

Murray, A. S. 1868. Numismatic Chronicle, n. s. 29, p. 57-73.

II.

GREEK WEIGHTS IN THE BRITISH MUSEUM.

WHEN Mr. Poole¹ published, in 1863, forty specimens of Greek weights acquired at Athens by Mr. Burgon, he almost exhausted the collection of the British Museum. Since then it has been augmented by the following items:—(I.) 8 specimens purchased from Mr. Merlin at Athens in 1866, of which several had already been published;² (II.) 50 added by the Blacas collection; (III.) 48 in the collection of the late Mr. Woodhouse, of Corfu, which has finally reached the Museum. The two latter collections are mostly inedited. In both cases, too, a difficulty sometimes arises as to where specimens were found, though usually it is presumed that those coming from Mr. Woodhouse were found in Corfu.

The state of preservation is such as might be expected from a material like lead; the loss is very unequal, and often difficult to estimate.

While making these preliminary remarks I may state the denominations and relative value of the unit, and of the several fractions employed by the Greek systems of coinage.

¹ Smith's "Dict. of Bible," art. *Weights*.

² Schillbach, "Annali del. Instit. di Corresp. Archæol.," vol. xxxvii., 1865.

The British Museum Collection in Pernice's Corpus

A. — TABLE OF **MR. BURGON'S** WEIGHTS FROM ATHENS.
All these weights are of lead, except Nos. 15 and 38, which are of bronze.

No.	Weight, Grs. Troy.	Inscription.	Type.	Con- dition. ⁵	Value, Attic Com- mercial. ⁶	Excess or deficiency.	Value, Attic Solonian. ⁷	Excess or deficiency.
7	8,482	ΔΕΜΟ	Id. ¹	B	. .	. .	1/4 Mina	- 108.5

125) London, Brit. Mus. Oben in Relief
Schildkröte und Stempel mit Dreifufs. Be-
zeichnet ΔΕΜΟ. Vgl. Madden, Jewish coinage
S. 257 n. 7. Ziemlich gut erhalten. Aus Athen.
Gewicht 225,63 gr. 902,52 gr.

126) London, Brit. Mus., ehemals **bei Bur-**
gon. ΔΕΜΟ. Vgl. Numism. chron. 1868
S. 68 n. 103. Soutzo étal. 8. 454 n. 70. Gewicht 225,38 gr. 902,52 gr



1842.07,28.507
3478.3 grains = 225.4 g
(new measurement 227 g)

102.	242.22 (= 8840, Burgon)	Tortoise	} 1/4 Attic dim- noun (Solo- nic).
103.	225.38 (= 8480 „)	„ ΔΕΜΟ	
104.	223.83 (= 8456 „)	„ ΔΕΜΟ	
105.	219.80 (= 8396, Blacas)	„	
106.	210.23 (= 8246, Burgon)	„ TETAPT	

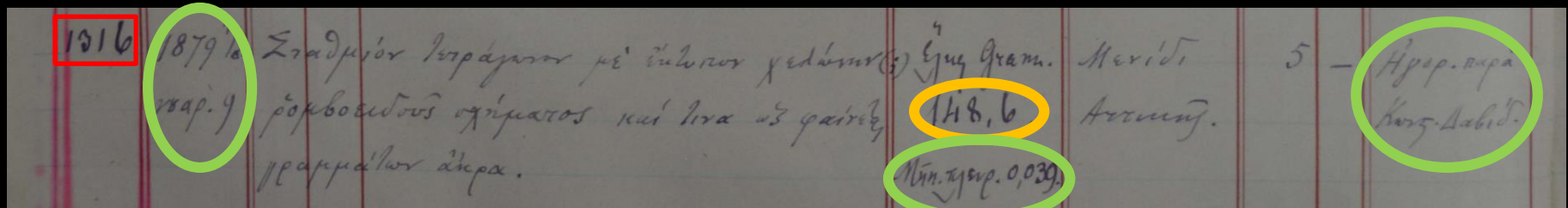
The Archaeological Society Collection in Pernice's Corpus

566 ancient weights, mainly from Athens > 436 weights published by Pernice

– 125 bronze weights > 89 weights published by Pernice

– 441 lead weights > 347 weights published by Pernice

+ dozens of marble weights > 18 weights published by Pernice



Oben in Relief eine ganze Schildkröte.

206) Athen, arch. Gesellsch. n. 1316.

M
T

Ein wenig abgenutzt, ohne größere Be-
stofsung. Aus Menidi. Gewicht.

148,72 gr.

892,32 gr.

The Archaeological Society Collection in Pernice's Corpus

196

Burgon. Oben bezeichnet Π. Vgl. Numism. chron. 1868 S. 67 n. 59. Soutzo étal. S. 462 n. 326. Gewicht 73,83 gr.

793) Athen, arch. Gesellsch. n. 248.
Θ K
Oben bezeichnet Δ. An den Ecken be-
N A
stoßen, sonst gut erhalten. Gewicht . . . 68,01 gr.

794) Athen, ebenda n. 1172. Oben eingese-
schnitten III, unten eingeschnitten T oder ⊥.
Sehr gut erhalten, an den Ecken ganz wenig
abgenutzt. Gewicht 48,99 gr.

795) Athen, ebenda n. 1187. Quadra-
tisches Bronzestück. Oben in Relief das Hinter-
bein eines Vierfüßlers, links und rechts
davon Γ A. Tadellos erhalten. Gewicht . . 43,07 gr.

1187 1888 *ἑτάφην ἀναγνώσας πρὸς ἐλευθέρωσιν* *ἡγεμονίας*
ἐλευθέρων *οὐκ ἐστὶν ἀναγνώσας* *πρὸς 0.03*
1 *ἡγεμονίας* *Γ A* *ἡγεμονίας*

797) Athen, ebenda n. 2290. Quadra-
tisches Bronzestück. Oben eingeschnitten AP,
unten Δ Ω. Tadellos erhalten. Gewicht . . 36,23 gr.

798) Athen, ebenda n. 1178. Oben in
Relief der Buchstabe Α. Die Ecken etwas
abgenutzt, sonst kleine Bestofsungen. Gewicht 33,675 gr.

799) Athen, ebenda n. 1179. Oben ein-
geschnitten II, unten Β. Tadellos erhalten.
Gewicht 32,07 gr.

800) Athen, ebenda n. 1181. Rechteckiges
Bleistück. Oben in Relief III Γ, unten →.
Sehr abgenutzt und beschädigt, auch von
Ansatzschicht überzogen. Gewicht 31,57 gr.

197

801) Athen, ebenda n. 1186. Oben ein
kleiner Buckel. Sehr gut erhalten. In der
einen Ecke ein kleines Loch. Gewicht . . 29,66 gr.

802) Athen, ebenda n. 1187. Oben ein-
geritzt IE. Abgenutzt und ein wenig be-
stoßen. Gewicht 29,11 gr.

1187 18. *ἑτάφην ἀναγνώσας πρὸς ἐλευθέρωσιν* *ἡγεμονίας*
ἐλευθέρων *οὐκ ἐστὶν ἀναγνώσας* *πρὸς 0.021*
ἡγεμονίας *Γ E* *ἡγεμονίας*

804) Athen, arch. Gesellsch. n. 1188.
Rundes dickes Bleistück. Oben eingepreßt ein
Flügelrad. Am Rande kleine Bestofsungen,
sonst gut erhalten. Gewicht 28,65 gr.

805) Athen, ebenda n. 2635. Oben ein
Stempel, darin in Relief M. Sehr gut er-
halten. Gewicht 28,51 gr.

806) London, Brit. Mus., ehemals bei
Burgon. Oben bezeichnet Η. Vgl. Numism.
chron. 1868 S. 66 n. 38. Soutzo étal. S. 459
n. 238. Gewicht 27,98 gr.

807) London, Brit. Mus., ehemals bei
Burgon. Oben bezeichnet IIII. Vgl. Numism.
chron. 1868 S. 66 n. 36. Soutzo étal. S. 460
n. 269. Gewicht 26,42 gr.

808) Athen, arch. Gesellsch. n. 2012.
Oben ein viereckiger Stempel, darin ein-
geritzt III. Sehr gut erhalten. Gewicht . . 21,91 gr.

809) Athen, ebenda n. 1162. Kugel-
abschnitt von Bronze. Auf der platten Fläche
in Relief K. Gut erhalten, ein wenig korrodiert.
Gewicht 21,40 gr.

The Archaeological Museum Collection



1895



566 ancient weights, mainly from Athens:

- 125 bronze weights (inv. nr. 1–1510)
- 441 lead weights (inv. nr. 1–3257)

+ dozens of marble weights



ca. 630 ancient weights

New inv. nrs. 8453–9080
(only one inventory, no distinction
according to the material)

The Numismatic Museum Collection



1912



ca. 750 ancient weights

New inv. nrs. 8453–9180
(only one inventory, no distinction
according to the material)



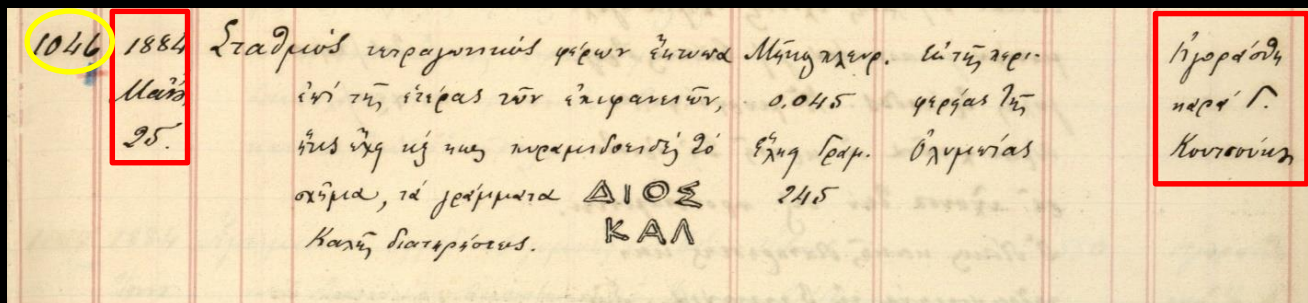
ca. 750 ancient weights

New inv. nrs. 1911–1912 ΛΘ' 1–751
(only bronze and lead weights;
only one inventory)

The Numismatic Museum Collection



Bought on May 25, 1884, from Γ. Κουτσούκου



Conserved in the Archaeological Society of Athens until 1895

Inv.Nr.: 1046

Αριθμός: 8461

Περιγραφή: Σταθμός με έκτυπον ΔΙΟΣ ΚΑΛ
γραμμ. 245, πλ. 0,045

Αριθμός Πρωτοκόλλου Παραδόσεως: 1234

Αριθμός Πρωτοκόλλου Ευρετηρίου Αρχαιολογικής Εταιρείας: 1046

Τόπος Ευρέσεως: Ολυμπία

Παρατηρήσεις: Ηγοράσθη παρά Κουτσούκου

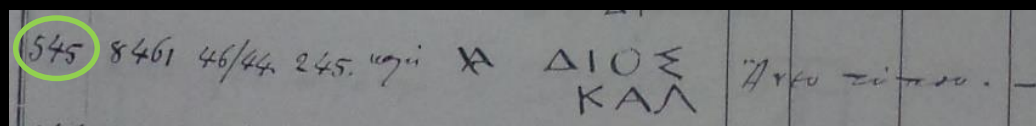
Παρεδόθη τω Ι. Σβορώνω.

Διαταγή Υπουργ. 6911, 16 Απριλίου 1912.



Transferred to the National Archaeological Museum of Athens in 1895

Inv.Nr.: 8461



Transferred to the Numismatic Museum of Athens on June 30, 1912

Inv.Nr.: 1911–1912, ΛΘ', 545

Athenian Weights: Most Frequent Mistakes

- Misreading the inv. nr. (either in the catalogue or on the label)
e.g. 1553 instead of 1558
- Interchanging digits in the inv. nr.
e.g. 2678 instead of 2687
- Reading a label upside down (!)
e.g. 9688 instead of 8896
- Exchanging labels of very similar weights
- Confusing two similar inv. nrs. belonging to two separate catalogues (Br. vs. Pb.)
- Confusing inv. nrs. belonging to different museum collections
- Creating a duplicate by mistake



Pondera Online Team



Dr. Charles Doyen
Project leader



Dr. Simone Killen
Postdoc researcher

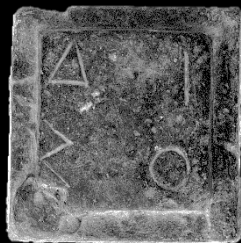
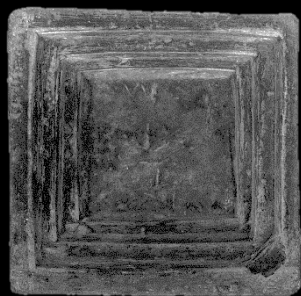


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Peser en Grèce ancienne et ailleurs: Le projet Pondera Online

Charles DOYEN (F.R.S.–FNRS / UCLouvain)

Réunion ordinaire de la Société royale de numismatique de Belgique (17 décembre 2016)

