"From Philip II to Alexander the Great. Metrological Reforms by the Delphic Amphictyony (336–335 BCE)"

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ABSTRACT

At the end of the Classical period, when the Macedonians had great influence over mainland Greece, the Delphic Amphictyony successively implemented two fundamental monetary reforms. The first reform, between Spring 336 BCE and Spring 335 BCE, created a full-weight Aeginetic coinage, with the Amphictyonic name and types. This “new amphictyonic” was intended to replace the reduced coins (5.80g per drachma) used in the Peloponnese and Central Greece. The second reform, in Spring 335 BCE, accepted the reduced weight of the existing Aeginetic coins by applying a revaluation of the exchange rate between the Attic drachma (4.35g) and the reduced Aeginetic drachma (5.80g), from 10 to 7 to 10 to 7.5 (ἐπικαταλλαγή). This reform also modified the Attic and Aeginetic bronze–silver ratio (from 105:1 to 112.5:1), and impacted the weight standards (mina weighing 112 drachmae) as well as the Hellenistic monetary standards (light silver drachma worth one bronze mina).

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From Philip II to Alexander the Great
Metrological Reforms by the Delphic Amphictyony (336–335 BCE)

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1. Coins in Delphi (4th c. BCE)

2. The “New Amphictyonic” Coinage (Fall 336 – Spring 335 BCE)

3. The ἐπικαταλλαγή (Spring 335 BCE)
Weight and Coin Equivalences during the Classical Period

Aeginetic Stater (AE)
1305g = 3 minae

Aeginetic Stater (AR)
12.40g = 1/35th mina

Attic Stater (AE)
870g = 2 minae

Attic Stater (AR)
8.70g = 1/50th mina

Attic hemistater (AE)
435g = 1 mina

Attic hemistater (AR)
4.35g = 1/100th mina

RATIO 105:1

RATIO 100:1
Converting Small Amounts in Delphi, 4<sup>th</sup> c. BCE

Κλεογένης ἀττικοῦ δραχμὰς τέσσαρας, τούτου αἰγιναῖον δραχμαὶ δύο, όβολοι τέσσαρες.

Πείσιος ἀττικοῦ δραχμὰς τέσσαρας, τούτου αἰγιναῖον δραχμαὶ δύο, όβολοι τέσσαρες.

Κτήσων ἀττικοῦ δραχμὰς τέσσαρας, τούτου αἰγιναῖον δραχμαὶ δύο, όβολοι τέσσαρες.

CID II 4, I, 57–66 (360 BCE)

Attic: 4 dr. = Aeginetic: 2 dr. 4 ob.
Attic: 24 obols = Aeginetic: 16 obols
Attic: 3 obols = Aeginetic: 2 obols

Conversion rate = 3:2
Converting Large Amounts in Delphi, 4\textsuperscript{th} c. BCE

Δημαίνετος Νάξιος ἀττικὰς δραχμὰς δέκα· τούτου αἰγιναῖον δραχμαὶ ἑπτά.

Attic: 10 dr. = Aeginetic: 7 dr.

Conversion rate = 10:7

CID II 4, I, 21–23 (360 BCE)
Conversion Rules between Attic and Aeginetic Systems

1 Attic drachma (4.35g) ↔ 1 Aeginetic drachma (6.20g) 1:6

1 Attic obol (0.72g) ↔ 1 Aeginetic obol (1.03g) 1:6

100:70 10:7 10×105:7×100
1. Coins in Delphi (4th c. BCE)

2. The “New Amphictyonic” Coinage (Fall 336 – Spring 335 BCE)

3. The ἐπικαταλλαγῆ (Spring 335 BCE)
Philippe II de Macédoine

Third Sacred War (356–346 BCE)
“Old Aeginetic” Coins (παλαιὸν αἰγιναῖον)

Aegina, stater, [---] g

Phocis, triobol (c. 2.69g)

Opus, triobol (c. 2.65g)

Larisa, “old” drachma (c. 5.73g)

Sicyon, “new” drachma (c. 5.51g)

Larisa, “new” drachma (c. 5.82g)
“New Amphictyonic” Coins (καινὸν ἀμφικτυονικόν)

- Delphic Amphictyony, stater: 12.40 g
- Delphic Amphictyony, drachma: 6.20 g
- Delphic Amphictyony, triobol: 3.10 g
Global Procedure for Producing the New Amphictyonic Coinage

Sorting and counting old coins: **100%** (122.44T)

Weighing old coins and calculating deficit (*apousia*): **–10.36%** (12.68T)

Melting loss: **–1.50%** (1.83T)

Global *Apousia*: **–13.71%**

New Amphictyonic Coins: **86.29%** (105.65T)

Minter’s wages: **–1.85%** (2.25T)

New Amphictyonic coinage: **88.13%** (107.90T)
Ἐλείπετο τοῖς ταμίαις παρὰ τῆι πόλει Δελφῶν, 
[ν σύμπαν κεφάλαιον] σὺν τῶι καινῶι καὶ τῶι παλαιῶι·
[ν τάλαντα ἐξήκοντα ἕν, μνα[ῖ] εἴκοσι τέσ[σ]αρε[ς],

vacat

Τούτου καινῶν ἀμφικτυονικῶν ἄρι[θ]μωι τάλαντα [τρι]-
[ν ἀκοντα ἕξ, μ]να[ῖ] τριάκοντα ὀκτώ, σ[τ]ατῆρες τριάκοντα
[ν δύο, ὀβολοὶ] ἐννέα.

vacat

Καὶ [παλαιοῦ] τάλαντα εἰκοσι τ[έ]σσαρα, μνα[ῖ]
ν ὀβολ[ο]ι δύο, χαλκοῖ ἑπτά.
[Τ]αῦτα μὲν τὰ ὑπάρχοντα.

CID II 76, I, 1–11 (Beginning of Spring 335 BCE)
Ἐλείφθη, ἀφαιρεθέντος τοῦ ἀναλώματος,  
v παρὰ τῇ πόλει τῶν Δελφῶν: παλαιοῦ τάλαντα  
v πεν[τ]ήκοντα δύο, μναὶ πεντήκοντα, [σ]τατῆρες εἴκοσι ἕξ,  
v δραχμή, χαλκοὶ ἑπτά.  

Κ[α]ὶ ἀμφικτυονικοῦ τάλαντα ἑκατὸν πέντε,  
v μναὶ τεσσαράκοντα ἐννέα, στατῆρες πέντε,  
v ὀβολοὶ ἑπτά.  

Ἀπὸ τούτων ἐγέν[ε]το, ἐκ ταλάντων ἀμφικτυονικοῦ  
v ἀριθμῷ τεσσα[ρ]άκοντα τεσσάρων καὶ μνῶν ὀκτὼ  
v καὶ στατήρων δέκα πέντε, ἀττικοῦ ἀριθμῷ  
v τ[ά]λαν[τ]α ἑκατὸν πεντήκοντα ἐννέα, μναὶ δέκα ὀκτὼ,  
v δραχμαὶ πεντ[ή]κοντα δύο, ὀβολοὶ τρεῖς.  

Σύμπαν κεφάλαιον· ἐλείφθη παρὰ τῇ πόλει τῶν Δελφῶν,  
v τοῖς ταμίαις· ν v τάλαν[τ]α ἑκατὸν πεντήκοντα ἐννέα,  
v μναὶ τεσσαράκοντα, στατῆρες δύο, ὀβολοὶ τρεῖς,  
v χαλκοὶ ἑπτά.  

CID II 76, I, 1–11 (end of Spring 335 BCE)
Failure of the New Amphictyonic Coinage

1 – Political Causes

Battle of Chaeronea (Summer 338 BCE) – Appointment of the Treasurers (Spring 337 BCE) – Assassination of Philip II (Summer 336 BCE) – Beginning of the Amphictyonic Coinage (Fall 336 BCE) – Increasing Power of Alexander – End of the Amphictyonic Coinage (Spring 335 BCE)
Oriental Campaigns of Alexander the Great (334–323 BCE)
Coinage of Alexander the Great
Failure of the New Amphictyonic Coinage

1 – Political Causes

Battle of Chaeronea (Summer 338 BCE) – Appointment of the Treasurers (Spring 337 BCE) – Assassination of Philip II (Summer 336 BCE) – Beginning of the Amphictyonic Coinage (Fall 336 BCE) – Increasing Power of Alexander – End of the Amphictyonic Coinage (Spring 335 BCE)

2 – Economic Causes

a) Cost of the operation (loss of 13.71%)

b) Unsuitability of the new Amphictyonic coinage with weight and monetary standards of the 2nd half of the 4th c. BCE
6th c. – early 4th c. BCE
Ratio 105:1

Bronze *Stater* (1305g)

Silver *Stater* (12.40g)
6th c. – early 4th c. BCE
Ratio 105:1

Silver Stater (12.40g)

mid 4th c. BCE
Ratio 112:1

Silver Stater (c. 11.80g)

Bronze Stater (1305g)
Bronze Stater (1305g)

Silver Stater (12.40g)

Silver Stater (c. 11.80g)

Silver Stater (12.40g)

6th c. – early 4th c. BCE
Ratio 105:1

Silver Stater (12.40g)

Silver Stater (c. 11.80g)

Silver Stater (12.40g)

335 BCE
Ratio 105:1

Silver Stater (12.40g)

mid 4th c. BCE
Ratio 112:1

Bronze Stater (1305g)
1. Coins in Delphi (4th c. BCE)

2. The “New Amphictyonic” Coinage (Fall 336 – Spring 335 BCE)

3. The ἑπικαταλλαγὴ (Spring 335 BCE)
The “Exchange Revaluation” (ἐπικαταλλαγή)

1 – Modification of the Aeginetic standard

a) *The actual bronze–silver ratio became the official ratio (112.5:1)*
b) *The bronze counterpart of a silver coin remained the same*
c) *The silver coins were reduced (drachma weighing 1/75th of mina)*
6th c. – early 4th c. BCE
Ratio 105:1

Silver Stater (12.40g)

mid 4th c. BCE
Ratio 112.5:1

Silver Stater (c. 11.80g)

335 BCE
Ratio 105:1

Bronze Stater (1305g)

Silver Stater (12.40g)
The “Exchange Revaluation” (ἐπικαταλλαγή)

1 – Modification of the Aeginetic standard
   a) *The actual bronze–silver ratio became the official ratio* (112.5:1)
   b) *The bronze counterpart of a silver coin remained the same*
   c) *The silver coins were reduced* (drachma weighing 1/75th of mina)

2 – Foreign Exchange Revaluation
   a) *Between Aeginetic and Attic drachmae* (from 14:20 to 15:20)
   b) *Between Aeginetic silver drachmae and (Attic) gold stater* (from 14:1 to 15:1)
The “Exchange Revaluation” (ἐπικαταλλαγή)

Aeginetic
7 × 12.40g (14 drachmae)

Attic
5 × 17.40g (20 drachmae)

8.70g
The “Exchange Revaluation” (ἐπικαταλλαγή)

Aeginetic

7 × 12.40g (14 drachmae)

7.5 × 11.60g (15 drachmae)

Attic

5 × 17.40g (20 drachmae)

8.70g
Converting Coins in Delphi after 335 BCE

221 gold staters:
- 190 staters rated at 7 silver staters
- 31 staters rated at 7.5 silver staters

Total: 1562.5 silver staters
(44 minae 22.5 staters)

CID II 102, I A, 37–42 (Fall 324 BCE)

CID II 102, II A, 6–12 (Fall 324 BCE)
New Conversion Rules between Attic and Aeginetic Systems

1 silver mina (435g)

- 1:100
- 1 gold stater (8.70g)
  - 1:20
  - 100 Attic drachmae (435g)
  - 20 Attic drachmae (87g)
  - 1 Attic drachma (4.35g)

- 1:5
- 70 Aeginetic drachmae (435g)
  - 15 Aeginetic drachmae (87g)
  - 1 Aeginetic drachma (6.20g)
  - 5.80g
The “Exchange Revaluation” (ἐπικαταλλαγή)

1 – Modification of the Aeginetic standard
   a) The actual bronze–silver ratio became the official ratio (112.5:1)
   b) The bronze counterpart of a silver coin remained the same
   c) The silver coins were reduced (drachma weighing 1/75\textsuperscript{th} of mina)

2 – Foreign Exchange Revaluation
   a) Between Aeginetic and Attic drachmae (from 14:20 to 15:20)
   b) Between Aeginetic silver drachmae and (Attic) gold stater (from 14:1 to 15:1)

3 – Modification of the Attic Weight System
   Mina weighing 112 Attic drachmae = 84 reduced Aeginetic drachmae
Weight and Coin Equivalences during the Classical Period

Aeginetic Stater (AE)
1305g = 3 minae

Aeginetic Stater (AR)
12.40g = 1/35th mina

RATIO 105:1

Attic Stater (AE)
870g = 2 minae

Attic Stater (AR)
8.70g = 1/50th mina

RATIO 100:1

Attic hemistater (AE)
435g = 1 mina

Attic hemistater (AR)
4.35g = 1/100th mina

RATIO 100:1
A New Weight System Based on the Ratio 112(.5):1

1 stater: 224 Attic dr.

½ stater: c. 75 Attic dr.

¼ stater: 56 Attic dr.

1 mina: 112 Attic dr.

⅔ stater: c. 37.5 Attic dr.

⅛ stater: 28 Attic dr.

MINA = 112 ATTIC DRACHMAE = 84 (REDUCED) AEGINETIC DRACHMAE
A New Weight System Based on the Ratio 112(.5):1

1 mina: 112 Attic dr.

2 minae: 224 Attic dr.

4 minae: 448 Attic dr.

½ mina: 56 Attic dr.

¼ mina: 28 Attic dr.

⅛ mina: 14 Attic dr.

MINA = 112 ATTIC DRACHMAE = 84 (REDUCED) AEGINETIC DRACHMAE
The “Exchange Revaluation” (ἐπικαταλλαγή)

1 – Modification of the Aeginetic standard
   a) *The actual bronze–silver ratio became the official ratio* (112.5:1)
   b) *The bronze counterpart of a silver coin remained the same*
   c) *The silver coins were reduced* (*drachma weighing 1/75th of mina*)

2 – Foreign Exchange Revaluation
   a) *Between Aeginetic and Attic drachmae* (from 14:20 to 15:20)
   b) *Between Aeginetic silver drachmae and (Attic) gold stater* (from 14:1 to 15:1)

3 – Modification of the Weight System *(Mina = 112 Attic drachmae)*

4 – Recalculation of the Number of Chalkoi per Attic Obol
New Conversion Rules between Attic and Aeginetic Systems

- 1 Attic obol (0.72g) ↔ 12 chalkoi (72g AE) ↔ 1 Aeginetic obol (1.03g)
- 8 Attic drachmae (435g) ↔ 70 Aeginetic drachmae (435g) ↔ 1 gold stater (8.70g)
- 1 Attic obol (0.72g) ↔ 3 Attic drachmae (4.35g) ↔ 4 Aeginetic drachmae (6.20g)

Ratio

AR–AE = 100:1
Ratio AR–AE = 112.5:1

AR–AE = 105:1
Ratio AR–AE = 112.5:1
Describing an Insane Profiteer

 [...] καὶ παρὰ παιδὸς κομιζόμενος ἀποφορὰν τοῦ χαλκοῦ τὴν ἐπικαταλλαγήν προσαπαιτεῖν, καὶ λογισμὸν δὲ λαμβάνων παρὰ τοῦ χειρίζοντος <--- >.

 “[...] when he receives an apophora from his slave, he requires the epikatallagê of the bronze, as also when he settles accounts with his steward <he requires the epikatallagê of the silver (?)>.”

Theophrastus, Characters XXX 15 (c. 319 BCE)
The “Foreign Exchange Revaluation” (ἐπικαταλλαγή)

1 – Modification of the Aeginetic standard
   a) The actual bronze–silver ratio became the official ratio (112.5:1)
   b) The bronze counterpart of a silver coin remained the same
   c) The silver coins were reduced (drachma weighing 1/75th of mina)

2 – Foreign Exchange Revaluation
   a) Between Aeginetic and Attic drachmae (from 14:20 to 15:20)
   b) Between Aeginetic silver drachmae and (Attic) gold stater (from 14:1 to 15:1)

3 – Modification of the Weight System (Mina = 112 Attic drachmae)

4 – Recalculation of the Number of Chalkoi per Attic Obol

5 – Creation of a Reduced Attic Drachma
“Silver” and “Bronze” Attic Drachmae in Greece and Aegean Sea

“Silver” Standard (ἀργύριον)

“Silver” Attic drachma (4.35g)  
9:8

New AE–AR Ratio (112.5:1)  

AE Counterpart (490g)

Original AE–AR Ratio (100:1)  

“Bronze” Standard (χαλκός)

“Bronze” Attic drachma (3.90g)  
9:8

New AE–AR Ratio (112.5:1)  

AE Counterpart (435g)
ταῦτα ἐστήσαμεν ἐν τῶι ζυγῶι τῶι ἐλάττονι τῶι ἐν ἀγορανῷ | μίωι ἀττικὸν ὁλοσχερές, δόκιμον, ἀνέπαφον, ἄτε | [λὲς πάντων] L. Migeotte, *Emprunt* 50, 21–23 (c. 325–275 BCE)

ταῦτα ἐστήσαμεν ἐν τῷ ζυγῷ τῷ ἐλάττονι τῷ ἐν ἀγορανῷ | μίῳ ἀττικῷ ὁλοσχερές, δόκιμον, ἀνέπαφον, ἄτε | [λὲς πάντων]

L. Migeotte, *Emprunt* 50, 21–23 (c. 325–275 BCE)

Reduced Attic Drachmae in Aegean Sea

Chalcis (dr.)

Euboean Koinon (dr.)
“Silver” and “Bronze” Attic Drachmae in Greece and Aegean Sea

“Silver” Standard (ἀργύριον)

“Silver” Attic drachma (4.35g) — New AE–AR Ratio (from 112.5:1 to 150:1) — AE Counterpart (from 435g to 652g)

“Bronze” Attic drachma (from 3.90g to 2.90g) — Original AE–AR Ratio (100:1) — AE Counterpart (from 9:8 to 4:3)

“Bronze” Standard (χαλκός)
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