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## A New Athenian Intercalary Tetradrachm

David MacDonald

An American collection contains an Athenian New Style tetradrachm (Fig. 1) that records a new intercalary year:



Fig. 1: Athenian Tetradrachm of Demetrios/Agathippos of the Intercalary Year Month N.

*Obv.*: Head of Athena r. wearing triple-crested helmet.

*Rev.*: Owl standing r. on amphora. To right: Pilei of the Dioscuri. In field:

Α ΘΕ/ΔΗ ΜΗ/ΤΡΙ ΟΣ/ΑΓΑ/ΘΙΠ/ΠΟΣ/ΛΙ (The last two letters crowded and poorly cut) On amphora: Ν Below amphora: ΠΕ All surrounded by wreath.

Weight: 16.30 gm.; Die axis: 12.

As Thompson (1961), nos. 879–925 for the magistrates Demetrios/Agathippos, but unlisted for the month N. The coin is also overstruck, *q.v. infra*.

The Ν on the amphora is clear and should indicate the thirteenth, intercalary month, but it is possible that an apparent Ν on a New Style tetradrachm could actually be a poorly written Η, for the seventh month, or even a Ζ, for the ninth month, written sideways. In this case, both of those possibilities can be eliminated. The obverse die is the same as Thompson 921h, the reverse die of which bears a Λ on the amphora for the eleventh month. The obverse die was in a slightly earlier state when used to strike Thompson 921h than when it was employed for this coin: here it shows signs of general wear, slight blurring of the edges of the type, and a small die flaw in front of the nose absent on Thompson 921h. Since the obverse die deteriorated between eleventh month and the striking of this coin, the Ν must indicate the thirteenth, intercalary, month.

The name of the third magistrate appears as ΛΙ on the coin, a form not otherwise recorded. It is in all probability merely a poor, crowded attempt to write either ΑΠ, who was active as third magistrate throughout the year, or ΟΛΥ, who is attested as third magistrate in the second, fifth, and seventh months. M.L. Kambanis records a Demetrios/Agathippos tetradrachm combining the third magistrate ΟΛΥ with the month Ν in the Halmyros Hoard, but the coin was not included in his later notebook record of the hoard. Thompson concludes that Kambanis must have dismissed the reading as incorrect or dubious and so also

rejects the reading.<sup>1</sup> Whether Kambanis' initial reading was correct or not, this confirms that Demetrios/Agathippos issued coins in an intercalary year.

The coins of Demetrios/Agathippos comprise the first issue in Thompson's «Late Period». Thompson initially dated the issue to 131/130 B.C., but the consensus now is that Thompson's dates for the New Style coinage are about thirty-two years too early. D.M. Lewis, C. Boehringer, and O. Mørkholm in influential works all place the issue of Demetrios/Agathippos in 99/98 B.C.,<sup>2</sup> but the evidence for the dates of the New Style issues in this period is sufficiently inexact to permit a shift of several years in either direction.

There seems to be no direct evidence whether 99/98 B.C. was an ordinary or intercalary year, but in a recent article, J.H. Müller hypothesizes that between 125/4 B.C. and A.D. 211/212 the Athenian calendar observed intercalary years according to a nineteen-year cycle of Metonic type. If Müller's hypothesis is correct, it provides a means for dating late issues of the Athenian New Style coinage struck in intercalary years or definitely connected to such issues. According to Müller's hypothesis, 99/98 B.C. was an ordinary year and thus the coins of Demetrios/Agathippos cannot have been struck then, although they could with minimum disturbance of the current chronology be placed in 97/6 B.C., an intercalary year according to Müller's arrangement.<sup>3</sup> A close examination of the evidence cited by Müller, however, throws doubt on his hypothesis.

Müller cites thirty-three years as all conforming to the Metonic cycle, twenty-two between 125/4–95/4 B.C. and eleven between A.D. 111/2–188/9. An additional three years, 91/0, 89/8, and 75/74 B.C., attested as intercalary on the coinage of Mithradates VI, also conform to the cycle but are of uncertain relevance to the Athenian calendar.<sup>4</sup>

For the period 126/125 B.C.–95/94 B.C., Müller gives as his source a study of W.K. Pritchett and the works cited by Pritchett, but Müller lists several years differently from Pritchett and does not mention that the character of a number of other years is disputed. Müller gives no specific references within Pritchett's monograph, but the relevant material is presented in two charts in which Pritchett lays out the years claimed as ordinary and intercalary in the most recent works of Meritt and the years consistently represented as ordinary and intercalary.<sup>5</sup> The following chart (Fig. 2) summarizes the situation:

1 Thompson (1961), pp. 326–327 n. 1, citing M.L. Kambanis (1934), p. 106. Halmyros Hoard (IGCH 289); Thompson (1961), pp. 491–500, and literature cited there.

2 Lewis (1962), pp. 275–300, generally followed by Boehringer (1970), pp. 22–31, 200–204; Mørkholm (1984), pp. 29–42.

3 Müller (1991), pp. 85–89. The Athenian astronomer Metonos, fl. c. 440 B.C., equated 235 lunar months with 19 solar years, making it possible to calculate intercalary months on a predictable schedule which would minimize shifts in the calendar. Any such schedule is generally referred to as a Metonic Cycle.

4 Müller (1991), pp. 85–89, derived from Pritchett (1970), pp. 58–60 for the years 125/4–95/4 B.C., and from de Callatay (1987), p. 55 for the years of Mithradates VI.

5 Pritchett (1970), p. 58, derived in turn for the years 126/5–88/7 B.C. from Meritt (1961), pp. 231–238, as modified in Meritt (1964), pp. 200–260.

<i>Year B.C.</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Year B.C.</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
126/5	1	I*	O		107/6	1	O	O	O
125/4	2	O	I		106/5	2	O	O	O
<i>124/3</i>	<i>3</i>	<i>I</i>			<i>105/4</i>	<i>3</i>	<i>I</i>	<i>I</i>	
123/2	4				104/3	4	O	O	
122/1	5	O	O	O	103/2	5	O	O	O
<i>121/0</i>	<i>6</i>	<i>I</i>			<i>102/1</i>	<i>6</i>	<i>I</i>	<i>I</i>	
120/19	7	O			101/0	7	O	O	O
<i>119/8</i>	<i>8</i>	<i>I</i>	<i>I</i>		<i>100/99</i>	<i>8</i>			
118/7	9	O	O	O	99/8	9			
117/6	10	O	O		98/7	10			
<i>116/5</i>	<i>11</i>	<i>I</i>	<i>I</i>	<i>I</i>	<i>97/6</i>	<i>11</i>	<i>I</i>		
115/4	12	O			96/5	12			
114/3	13				95/4	13	O	O	
<i>113/2</i>	<i>14</i>		<i>I</i>		<i>94/3</i>	<i>14</i>			
112/1	15	O	O	O	93/2	15			
111/0	16				92/1	16			
<i>110/09</i>	<i>17</i>				<i>91/0</i>	<i>17</i>	<i>I**</i>		
109/8	18	O	O	O	90/89	18			
<i>108/7</i>	<i>19</i>	<i>I</i>	<i>I</i>		<i>89/8</i>	<i>19</i>	<i>I**</i>		

Column 1: Years of the Metonic Cycle, according to Müller (1991), p. 88, Fig. 2. Intercalary years indicated by *italics*.

Column 2: Years attested as Ordinary (O) and Intercalary (I) according to Müller (1991), p. 88, Fig. 2.

Column 3: Years attested as Ordinary (O) and Intercalary (I) Years according to Meritt (1961, 1964, 1967), as reported by Pritchett (1970), pp. 58–59.

Column 4: Years consistently attested as Ordinary (O) and Intercalary (I) according to Pritchett (1970), p. 60.

\* Last year not conforming to regular cycle, according to Müller.

\*\* Years attested intercalary by coinage of Mithradates VI, as is 75/4 B.C. also.

Fig. 2: Ordinary and Intercalary Years 126/5–89/8 B.C. According to Müller, Meritt, and Pritchett.

Pritchett demonstrates that Meritt resorts to extraordinary special pleading and often arbitrary emendation of epigraphic texts to support the hypothetical use of a Metonic cycle at Athens, resulting in inconsistent claims about the character of specific years.<sup>6</sup> By accepting Meritt's inconsistently reported dates, Müller introduces a strong element of circularity into his argument.

Müller's hypothetical Metonic cycle is possible, but it must still be regarded as unproven. The evidence is also consistent with Pritchett's explanation that the Athenian calendar was empirically regulated to retain the first month in the summer season, rather than schematically determined.<sup>7</sup> Such empirical regulation would on the average designate seven years out of nineteen as intercalary and could «at times produce stretches which are identical with any rigid pattern which

6 Pritchett (1970), pp. 59, 62.

7 Pritchett (1970), p. 62 n. 21.

would maintain the seasons in their proper positions.»<sup>8</sup> Such intercalary years, however, would not necessarily follow a consistent pattern, and Pritchett concludes «for the restoration of the character of any particular year, the application of any <cycle>, even in its loosest form is without value.»<sup>9</sup>

Other evidence indicates that the coinage of Demetrios/ Agathippos ought to be redated to the last years of the second century, about three years earlier than the currently accepted date of 99/8 B.C. This would not necessarily require that the entire New Style coinage be shifted back in date. Both Müller and De Callataÿ have suggested that the sequence of issues proposed by Thompson requires revision,<sup>10</sup> and such revisions could easily accommodate minor shifts.

The issue of Demetrios/Agathippos, the immediately preceding issue, and the five following issues in Thompson's arrangement exhibit the lightest average weights in the entire New Style series. These seven issues average just 16.41–16.47 gm. actual weight, suggesting a norm corrected for wear of 16.65–16.70 gm., in contrast to the corrected norm of 16.90–16.95 gm. for the earliest and latest New Style tetradrachms. The weights returned from light to normal over the course of about five issues after the seven light issues.<sup>11</sup>

The issue of Demetrios/Agathippos was also the largest of the entire New Style series, struck from 47 obverse dies in the Thompson corpus. The preceding issue and three following issues were also large, struck from 29, 33, 30, and 25 obverse dies. In contrast, the earlier 36 issues of Thompson's «Middle Period», were struck from an average of just 13 obverse dies. The last 34 issues of the «Late Period», beginning a decade after the issue of Demetrios/Agathippos, were struck from an average of less than 4 obverse dies.<sup>12</sup>

The light weights and the large production of the Demetrios/Agathippos issue and the nearly-contemporary issues are indicative of heavy demand for money and difficulty in maintaining standards. Exactly this situation existed in Athens during the last years of the second century. About 104 B.C., slaves in the Athenian silver mines revolted, seizing the fortifications at Sunium and ravaging the countryside of Attica. About 103/2 B.C., revolutionaries ousted the conservative democratic government of Athens and replaced it with a trade-oriented pro-Roman oligarchy. The new government seems to have suppressed the revolt of the mine slaves about 102/1 B.C. At perhaps a slightly later date, extensive measures were passed to reestablish standard weights and measures, to establish appropriate measures for various commercial uses, and to coordinate the Attic coinage standard, Attic commercial standard, and Phoenician and Roman standards.<sup>13</sup>

Revolution and war require large amounts of money. The financial demands must have been especially great in this instance, since the slave revolt disrupted silver mining. The essential coinage would have been funded from other sources, as during other crises in Athenian history. The light weights of these issues probably reflect financial pressures, although a lesser decline in the weight standard had begun years earlier. By a decade after Demetrios/Agathippos, Athens had restored the weight standard of its silver coinage and was striking many fewer tetradrachms annually. Renewed confidence in Athenian coinage is apparent

8 Pritchett (1970), p. 62.

9 Pritchett (1970), p. 62.

10 De Callataÿ (1992), pp. 11–20; Müller (1991), pp. 85–89. H.B. Mattingly, review of M.J. Osborne and S.G. Byrne, *A Lexicon of Greek Personal Names*, Volume II: Attica (Oxford, 1994), in: NC 157 (1997), pp. 258–260 points out that «Niketes-Dionysios cannot stay in 98/7, as Habicht [C. Habicht, «Zu den Münzmagistraten der Silberprägung des Neuen Stils», *Chiron* 21 (1991), pp. 1–23.] (p. 11, n. 15) also saw, since Dionysios was then in Delos. It must go in 99/8, dislodging Demetrios-Agathippos – which will fit in 97/6 instead.» There is no evidence directly associating the Demetrios-Agathippos issue with 97/96, but the situation clearly that the dates of many New Style issues are far from certain. Mattingly also suggests, p. 259 Table I (cont.) that the moneyer Agathippos is the person of that name recorded as a knight in 106/105. If the identification is correct, Agathippos was young to be a moneyer c. 103/2, but revolutions lead to unusual advancements.

11 Thompson (1961), pp. 642–648.

12 Thompson (1961), pp. 649–657.

13 Poseidonius in Athenaeus VI. 272 e–f. Ferguson (1904), pp. 1–17; Ferguson (1911), pp. 427–430, particularly pp. 427–428 n. 4; Thompson (1961), p. 408; Lauffer (1979), pp. 236–242. The chronology of events cannot be fixed exactly;

in an act of the Delphic Amphictyony of about 96/5 B.C., establishing the Attic tetradrachm as the legal currency in all member cities and territories.<sup>14</sup>

The intercalary tetradrachm of Demetrios/Agathippos is also overstruck (Fig. 3). The host coin is another New Style tetradrachm, of the magistrates Timostratos/Poses, identifiable by the standing figure of Dionysos holding theater mask and thyrsos:



Fig. 3: Visible remains of host coin.

*Obv.:* Very slight, uncertain traces of host coin visible on the back of the helmet.

*Rev.:* Standing figure of Dionysos holding theater mask and thyrsos beneath pilei of the Dioscuri. Otherwise only slight, vague traces in fields.

*Host coin:* Thompson, *New Style*, nos. 823–839 (magistrates Timostratos/Poses).

Thompson places the Timostratos/Poses issue third from the last issue of her «Middle Period» and separated from the Demetrios/Agathippos overtype, the first issue of the «Late Period», by two annual issues. The overstrike confirms the priority of Timostratos/Poses. The overstriking appears to have been done very carefully, aligning the new dies with the types of the coin being overstruck. The only area where the type of the host coin is apparent is the reverse symbol; the figure of Dionysos with mask and thyrsos appears clearly under the pilei of the Dioscuri.

The reason for the overstriking is not immediately apparent, but the division between Thompson's «Middle» and «Late Period» approximates the change in

the dates above are in the *communis opinio* most likely. The connection between the slave revolt and the oligarchic revolution is primarily the thesis of Ferguson. Ferguson (1904), pp. 8–9 argues strongly for 103/2 B.C. as the date of the revolution, but Ferguson (1911), pp. 427–428 n. 4, still concluding 103/2 B.C. is most likely, concedes the revolution

can only be placed definitely between 106/5 B.C. and 100/99 B.C. Ferguson (1904), p. 8–9 and Ferguson (1911), p. 429 also suggest 103/2 B.C. as the date of the reform of weights and measures (*JG II*<sup>2</sup> 1013), but Roussel (1916), p. 120 n. 3 argues that the date is uncertain. The magistrate in charge of the reforms was one of the leaders of the oligarchic party

and the reforms agree with the oligarchic agenda. The most natural date for the reform is after the oligarchic revolution and the suppression of the slave revolt, when the new government had opportunity to turn its attention to economic recovery.

<sup>14</sup> Ferguson (1911), p. 430; *FD III*<sup>2</sup> 139 = Dittenberg (1915), no. 729 = Melville Jones (1993), no. 226.

government from democracy to oligarchy. Coins struck under the old government remaining in the treasury may have been restruck by magistrates of the new oligarchy before issue. Other coins of Demetrios/Agathippos ought to be examined carefully for traces of overstriking. There are other possible explanations. Perhaps a consignment of new coinage was slightly short, so an older coin was overstruck to make up the deficiency. Even playfulness at the mint cannot be completely discounted.

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#### Bibliography

- Boehringer, C. Zur Chronologie mittelhellenistischer Münzserien 220–160 v. Chr. (AMUGS 5; Berlin, 1970), pp. 22–31, 200–204.
- Callatay, F. de «Athenian New Style Tetradrachms in Macedonian Hoards,» *AJN* 3–4 (1992), pp. 11–20.
- Callatay, F. de «La politique monétaire de Mithridate VI Eupator, roi de Pont (120–63 av. J.-C.),» in *Rythmes de la production monétaire, de l'antiquité à nos jours, Actes du colloque international à Paris 1986*, G. Depeyrot, T. Hackens, and Gh. Moucharte, eds. (Louvain-la-Neuve, 1987), pp. 55–66.
- Dittenberg, W. *Sylloge Inscriptionum Graecarum* (3rd edition; Leipzig, 1915).
- Ferguson, W.S. «The Oligarchic Revolution at Athens of the Year 103/2 B.C.,» *Klio* 4 (1904), pp. 1–17.
- Ferguson, W.S. *Hellenistic Athens* (London, 1911).
- Kambanis, M.L. «Notes sur le classement chronologique des monnaies d'Athènes,» *BCH* 58 (1934), pp. 101–137.
- Lauffer, S. *Die Bergwerkssklaven von Laureion* (2nd edition; Forschungen zur antiken Sklaverei 10; Wiesbaden, 1979).
- Lewis, D.M. «The Chronology of the Athenian New Style Coinage,» *NC* 1962, pp. 275–300.
- Melville Jones, J.R. *Testimonia Numaria, Vol. I: Texts and Translations* (London, 1993).
- Meritt, B.D. *The Athenian Year* (Sather Classical Lectures 32; Berkeley and Los Angeles, 1961).
- Meritt, B.D. «Athenian Calendar Problems,» *TAPA* 95 (1964), pp. 200–260.
- Meritt, B.D., and M.F. McGregor. «The Athenian Quota-list of 421–420 B.C.,» *Phoenix* 21 (1967), p. 85–91.
- Mørkholm, O. «The Chronology of the New Style Coinage of Athens,» *ANSMN* 29 (1984), pp. 29–42.
- Müller, J.W. «Intercalary Months in the Athenian Dark-Age Period,» *SM* 41 (1991, No. 164), pp. 85–89.
- Pritchett, W.K. *The Choiseul Marble* (University of California Classical Studies 5; Berkeley and Los Angeles, 1970).
- Roussel, P. *Délos colonie athénienne* (Paris, 1916).
- Thompson, M. *The New Style Silver Coinage of Athens* (American Numismatic Society Numismatic Studies 10; New York, 1961).
- Thompson, M.; O. Mørkholm; and C.M. Kraay. *An Inventory of Greek Coin Hoards* (New York, 1973).