

## METONIC INTERCALATIONS IN ATHENS

WHEN I published in 1940 the only known Attic decree naming in its preamble at least part of the name and demotic of the secretary of 298/7 I suggested that the calendar equation indicated an ordinary year of twelve months.<sup>1</sup> This determination was taken over by Pritchett and Meritt in *Chronology of Hellenistic Athens* (p. xvi), by Pritchett and Neugebauer in *Calendars of Athens* (p. 80), and by Meritt in *The Athenian Year* (p. 232). There is one consideration which at the time did not seem so important as it does now and which I wish to discuss here.

The incentive to a reconsideration has been the observation that the sequence of ordinary and intercalary years which called for OOOI in 299/8—295/4 rather than OIOOI at the beginning of the 8th Metonic cycle was the first apparent deviation from Meton's norm for possibly a hundred years, except for the anomaly in 307/6 which had valid and obvious historical reasons and which could be amply explained.<sup>2</sup> I noted, as a comment on the cycles, that "the eighth cycle has only the transposition of IO to OI in the years 298/7 and 297/6."<sup>3</sup> Otherwise the cycle in the festival calendar of Athens followed faithfully the normal Metonic cycle of intercalation.

In the text of *Hesperia*, IX, 1940, pp. 80-83 (13), as now restored with a stoichedon line of 29 letters, the equation reads:

[ . . . . . Ἐλαφη]βολιῶν[ο]ς ἐνά[τει μετ']  
 [εἰκάδας τρίτει] καὶ εἰκοστὲ[ῖ τῆς πρ]  
 [υτανείας· --] — κτλ. --[-----]

The prytany, with number and name not given, was clearly the 9th, and I equated Elaphebolion 22 with Prytany IX 23 on the assumption that the first six prytanies of the year had 29 days each and the last six 30 days each.<sup>4</sup> This is correct for an ordinary year, and the date by month ἐνάτη μετ' εἰκάδας shows that Elaphebolion was a full month of 30 days.<sup>5</sup>

If the year was intercalary the prytanies were of 32 days each, and dates by prytany ranging from τρίτει] καὶ εἰκοστὲ[ῖ to ἐνάτει] καὶ εἰκοστὲ[ῖ would cover a span from the 279th to the 285th day of the year (8 x 32 + 23 to 8 x 32 + 29). With months alternating full and hollow (and Elaphebolion full) the days in an intercalary year down to Elaphebolion 22 would be 287 (265 + 22). Clearly the equation as published does not suit an intercalary year. But if one may assume that extra days

<sup>1</sup> *Hesperia*, IX, 1940, pp. 80-83 (13).

<sup>2</sup> *Hesperia*, XXXIII, 1964, pp. 13-15.

<sup>3</sup> *Trans. Am. Phil. Assn.*, XCV, 1964, p. 238.

<sup>4</sup> This would be correct for the equation within one day; the numbers were incorrectly reversed in *Hesperia*, IX, 1940, p. 81.

<sup>5</sup> Meritt, *The Athenian Year*, p. 58.

were intercalated into the month Elaphebolion before the Dionysia, in order to postpone the Dionysia, as often happened,<sup>6</sup> the equation might be read as

[ . . . . . Ἐλαφη]βολιῶν[ο]ς ἐνά[τει ἰστ]  
 [αμένου πέμπτει] καὶ εἰκοστ[ῆ τῆς πρ]  
 [πυτανείας· --] -- κτλ. -- [----]

Elaphebolion 9, the 274th day of the year is thus equated with Prytany IX 25, the 281st day of the year, and seven extra days (ἐμβόλιμοι) have to be assumed in the festival calendar before Elaphebolion 9 to make a true equation for the 281st day. It is unfortunate that the calendar character of 298/7 and 297/6 has to be determined here on the evidence of one fragmentary inscription alone, which can be read as normal for an ordinary year but out of keeping with the Metonic cycle, or as showing retardation in Elaphebolion in an intercalary year but remaining true to the Metonic cycle.

Three years later, in Elaphebolion of 295/4, precisely the same equation occurs, according to the best interpretation of the evidence, again in a year which should be taken as intercalary according to the Metonic cycle, being 5th in the series of nineteen. The inscriptions are as follows:<sup>7</sup>

I.G., II<sup>2</sup>, 646

a. 295/4 a. ΣΤΟΙΧ. 30

[Θ ε] ο [ί]  
 [ἐπὶ Νικοστράτ]ου ἄρχοντος ἐπὶ τῆ[ς Δη]  
 [μητριάδος ἐνά]της πρυτανείας· Ἐλ[αφη]  
 [βολιῶνος ἐνάτ]ει ἰσταμένου, πέμπ[τ]ε[ι]  
 5 [καὶ εἰκοστῆ τῆ]ς πρυτανείας· -- κτλ. --

I.G., II<sup>2</sup>, 647

a. 295/4 a. ΣΤΟΙΧ. 23

[ἐπὶ Νι]κοστράτου ἄρχοντος [έ]  
 [πὶ τῆς] Δημητ[ρ]ιάδος ἐνάτη[ς π]  
 [πυταν]είας ἡ[ί] Δωρόθεος Ἄρ[ισ]  
 [τομάχ]ου Φαληρεὺς ἐγρα[μμάτ]  
 5 [ευεν· Ἐ]λαφη[βο]λιῶνος ἐ[νάτει]  
 [ἰσταμ]ένο[υ, πέμπ]τει κ[αὶ εἰκο]  
 [στῆ τῆς πρυτα]ν[ε]ί[ας . . . . .]  
 κτλ.

<sup>6</sup> See Meritt, *The Athenian Year*, pp. 26-33, 151, 162. See also *Hesperia*, XXIII, 1954, pp. 299-300, a text of the year 271/0 (*Year*, pp. 151-152) and now also the equations in Elaphebolion in 307/6 in Ἀρχ. Ἐφ., 1969, pp. 112-115 and the six days intercalated early in Elaphebolion in 244/3 (*Year*, p. 148). Other examples have been cited for other months, as well as for Elaphebolion (cf. *Year*, pp. 162-166).

<sup>7</sup> See *The Athenian Year*, pp. 26-33.

This occurrence of the same anomaly again in Elaphebolion, only three years later, strengthens the case for 298/7 as an intercalary year.

In the year of Pytharatos (271/0) there can be no doubt that the year was intercalary, for the first prytany contained 32 days and the equation Prytany II 7 = Metageitnion 9 shows no irregularity.<sup>8</sup> Again extra days were added in Elaphebolion, for which there is indisputable evidence on the stone in an inscription of the 9th prytany.<sup>9</sup> This too was an intercalary year in the Metonic cycle, being 10th in the series of 19 in the 9th cyclical period.

In view of these examples, and in view of the prevalence of irregularities in other years in Elaphebolion,<sup>10</sup> it is my judgment now that the year 298/7 should be taken as intercalary, with the corollary that 297/6 should be recorded as ordinary.

The next irregularity in following the Metonic order of intercalations appears in 280/79, at the commencement of the 9th cycle. Here the year should be ordinary, and it was, indeed, for many years so assigned. But Kirchner's recantation about the text of the relevant inscription *I.G.*, II<sup>2</sup>, 670A<sup>11</sup> gave what seemed to be proof of an intercalary year, with the restoration

[ἐπὶ . . . ἄρχον]τος ἐπὶ τῆς Αἰα[ντίδος δωδεκάτης πρυτανεί]  
[αὐτῆ . . . Εὐφο?]ρίωνος Ἐλευσίν[ιος ἐγγραμμάτευεν Σκιροφο]  
[ρίωνος δωδεκάτη], τρ[ίτ]ει καὶ δεκά[τει τῆς πρυτανείας· ἐκκλησ].

This was accepted by Meritt in *Hesperia*, VII, 1938, p. 106, by Pritchett and Meritt in *Chronology*, p. xviii, by Pritchett and Neugebauer in *Calendars*, p. 70, and by Meritt in *The Athenian Year*, p. 233. Pritchett and Neugebauer have a note, however, that the equation is not decisive in indicating the character of the year. They were justly skeptical, for, as Kirchner noted in his *Addenda*, it implies that Prytany I of the year had 33 days and Prytany XII 31 days instead of the normal regular progression of prytanies of 32 days throughout. To avoid this irregularity Meritt (in 1938) restored the date by month as ἐνδεκάτει. But an interpretation as of an ordinary year can also be made with no assumption of irregularity whatever, reading

[ἐπὶ Γοργίου ἄρχον]τος ἐπὶ τῆς Αἰα[ντίδος ἐβδόμης πρυτανείας]  
[ἡμ . . . Εὐφο?]ρίωνος Ἐλευσίν[ιος ἐγγραμμάτευεν Γαμηλιῶ]  
[νος ἕκτει ἐπὶ δέκα], τρ[ίτ]ει καὶ δεκά[τει τῆς πρυτανείας· ἐκκλησ].

With the first six prytanies of 30 days each and with the months of the festival calendar alternately full and hollow,<sup>12</sup> the day becomes the 193rd of the year in both

<sup>8</sup> See the text in *Hesperia*, XXIII, 1954, pp. 288-289 (*S.E.G.*, XIV, 64) and comment in *The Athenian Year*, pp. 151-152.

<sup>9</sup> *Hesperia*, XXIII, 1954, pp. 299-300 (*S.E.G.*, XIV, 65). See *The Athenian Year*, pp. 151-152.

<sup>10</sup> See note 6, above.

<sup>11</sup> See *I.G.*, II<sup>2</sup>, 670 (*Addenda*, p. 663).

<sup>12</sup> See the chart in *Ἀρχ. Ἐφ.*, 1969, p. 98 for the order of months in the first year of a Metonic cycle.

calendars, and the equation is satisfied. The year 280/79 should, in fact, be described as ordinary, as was appropriate for the first year of a Metonic cycle.

This has the natural consequence of making the following year 279/8 intercalary, as it should be in its position of second year in the Metonic cycle. Restorations accepted to date have been made for an ordinary year, but in both instances where inscriptions permit a study of the calendar restorations can be made, and should be made, for an intercalary year:

(1) *Hesperia*, XXXII, 1963, pp. 5-6 (6). Cf. *S.E.G.*, XXI, 364.

This inscription is of the 7th prytany in the archonship of Anaxikrates. The equation in lines 3-4 should be read as [Γαμηλιῶνος ὀγδόει ἱσταμένου δευτέραί καὶ εἰκοστῆ τῆς πρυτανείας]. The day was the 214th of the year.<sup>13</sup>

(2) *Hesperia*, XVII, 1948, pp. 1-2 (1).

This inscription is of the 9th prytany in the archonship of Anaxikrates. The equation in lines 3-4 should be read as Ἐλ[αφηβολιῶνος δωδεκάτει μιᾷ καὶ εἰκοστῆ τῆς] πρυτανείας. The day was the 277th of the year.

The suggested restoration in *Hesperia*, XVII, *loc. cit.*, of the date by month as Ἐλ[αφηβολιῶνος τετάρτη ἱσταμένου] cannot, in any event, be correct, for the fourth of the month was τετράς, not τετάρτη. Having frequently corrected this mistake when made by others I now correct it when made by myself.

Next in order, about which question should be raised, comes the difficult year of the archonship of Peithidemos (265/4). Until recently the calendar equation of *I.G.*, II<sup>2</sup>, 687, has been taken to prove this year surely ordinary.<sup>14</sup> The prytany was the second, and the 9th day of it fell on the 9th day of Metageitnion. Nothing, one might say, could be more conclusive proof of the character of the year. But then a new text from the Agora was found, dated in the third prytany, in which I restored the calendar equation as follows:

[Βοηδρομιῶνος] ὀ[γ]δόει [ἐπ]ὶ δέκα [ῥ ἐβδόμει] καὶ δ[εκάτει]  
[τῆς πρυτανείας -----].<sup>15</sup>

I was able to read nothing else from the stone after the date καὶ δ[εκάτει] at the end of line 4, but I have never been satisfied with the assumption of an unscribed space between the date by month and the date by prytany. In making a study of the incidence of unscribed spaces in decrees of the early third century Dow several

<sup>13</sup> Two iotas were inscribed in one space, as sometimes happened in stoichedon texts. See S. Dow, *Harv. Stud. Cl. Phil.*, LXVII, 1963, p. 75; Meritt, *Hesperia*, XXXII, 1963, p. 431 (text) and p. 432 (commentary). Examples occur in the Tribute Lists, e. g. in List 9, line 15, and in List 15, line 10 (Τέμιοι), and in *I.G.*, I<sup>2</sup>, 304B, line 60 (Meritt, *Athenian Financial Documents*, pl. XI) in the phrase ὀγδόει ἱστ[αμένου], which is comparable to the present text.

<sup>14</sup> Μεταγειτνῶνος ἐνάτει ἱσταμένου ἐνάτει τῆς πρυτανείας.

<sup>15</sup> *Hesperia*, V, 1936, pp. 418-419 (14).

years ago cited the examples known to him.<sup>16</sup> My own reaction to Dow's analysis was to consider it too schematic, and to hold that one ought not to entertain rigid rules for such a non-essential element in the body of a decree or in its preamble as mere punctuation,<sup>17</sup> and yet I know of no instance of a vacant space coming as punctuation between a date by month and its corresponding date by prytany. When punctuation was employed these dates were considered as a double item and treated as a unit. If a parallel for the uninscribed space before [ἐβδόμει in line 4 can be found it will be a very rare phenomenon indeed.

I have returned to the study of this text many times in the thirty odd years since 1936, and have gleaned more letters than I found for the first publication. The name of the archon in line 2 gains an added letter; in line 4 the second and third letters of δεκ[άτει] can be read; and in line 6 there are four letters of the word [συμπ]ρόεδ[ροι]. But more important than any of these is the initial letter of the date by prytany, a tau where earlier I had restored an uninscribed space. This unwelcome uninscribed space gives way to the new reading of the date as τ[ετάρτε]ι καὶ δεκ[άτει].<sup>18</sup> Hence the equation for this text is

Boedromion 18 = Prytany III 14

The first two months were of 30 days each<sup>19</sup> and the first two prytanies had 32 days each. The complete text reads

*Hesperia*, V, 1936, pp. 418-419 (14)

a. 265/4 a.

ΣΤΟΙΧ. 43

[Θ]	ε	[ο	ί]
ἐπὶ Πειθιδῆ[μ]ου ἄρχ[ον]τος ἐπὶ τῆ[ς Ἄ]καμαντίδος τρ[ί <sup>vv</sup> ]			
[τῆς πρυταν]εῖ[ας]		<i>vacat</i>	
[Βοηδρομιῶνος] ὁ[γ]δόει [ἐπ]ὶ δέκα τ[ετάρτε]ι καὶ δεκ[άτει]			
5	[τῆς πρυτανείας· ἐκκλησία· τῶν προέδρων ἐπειρήφιζεν <sup>v</sup> ]		
	[..... <sup>26</sup> ..... καὶ συμπ]ρόεδ[ροι <sup>vvv</sup> ]		

There thus exists an open contradiction, apparently, as to the character of the year between *I.G.*, II<sup>2</sup>, 687 (ordinary) and *Hesperia*, V, 1936, pp. 418-419 (14) (intercalary). Somehow the paradox must be resolved, and I suggest that two days had been intercalated late in Hekatombaion to postpone the Panathenaia and that they had not as yet been eliminated before Metageitnion 9.<sup>20</sup> Metageitnion 9 was, therefore,

<sup>16</sup> *A. J. A.*, LXVI, 1962, p. 366.

<sup>17</sup> *Hesperia*, XXXII, 1963, pp. 426-427.

<sup>18</sup> The left half of the horizontal and part of the vertical are preserved.

<sup>19</sup> See the chart in Ἄρχ. Ἐφ., 1969, p. 98 for the 16th year of the Metonic cycle.

<sup>20</sup> See the evidence for added days to postpone the Panathenaia in *I.G.*, II<sup>2</sup>, 861, as edited in *The Athenian Year*, p. 166.

actually the 41st day of the year, and Prytany I had 32 days, as was required in an intercalary year.

It follows that 264/3, archonship of Diognetos, was ordinary, and that the last three years of the 9th Metonic cycle (264/3-262/1) had the normal sequence of the closing triad of years OIO. It may be possible to carry this study into the later Metonic cycles, but there are many irregularities. If the revised reading of the Herculaneum papyrus made by F. Sbordone and reported to Kendrick Pritchett is correct,<sup>21</sup> then there were 32 years from Arrheneides down to Jason (231/0 or 230/29) and Arrheneides must be dated, as has been conventionally done hitherto, in 262/1, and his predecessor Antipatros belongs in 263/2. This is the alternative arrangement which I envisaged in *The Athenian Year* (p. 226).<sup>22</sup> The date of the break in the secretary cycle comes, therefore, not with Peithidemos in 265/4, but somewhere later than Kleomachos, who had a prytany-secretary from Leontis (VI) in 260/59.<sup>23</sup> It is economical to assume the break immediately after Kleomachos and to posit a secretary from Kekropis (IX) in the following year. This may help to explain why the ninth phyle did not furnish a secretary in 247/6 after the eighth phyle of 248/7. It, and the succeeding phylai, had already been represented at the close of the former cycle. The years from 265/4 to 256/5 are now to be arranged as follows:

Type	Year	Archon	Deme of Secretary	Reference
I*	265/4	Peithidemos	(1)	Above
O	264/3	Diognetos	(2)	Parian Marble
I	263/2	Antipatros	(3)	Above
O*	262/1	Arrheneides	(4)	<i>The Athenian Year</i> , p. 137; Above

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O	261/0	Polystratos	(5)	Above
O*	260/59	Kleomachos	VI Kettos	Above
I	259/8	Antiphon	9	Above
O	258/7	Thymochares	10	<i>The Athenian Year</i> , pp. 141-142.
O	257/6	Lykeas	XI Marathon	<i>Hesperia</i> , XXXII, 1963, pp. 8-9.
I*	256/5	Euboulos	XII Alopeke	<i>Chronology</i> , p. xxi.

<sup>21</sup> *University of California Publications in Classical Archaeology*, IV, 4, 1963, p. 389. For variant readings of this passage see *The Athenian Year*, pp. 224-225.

<sup>22</sup> See James R. McCredie, *Hesperia*, Suppl. XI, 1966, p. 113, for these dates and the last years of the Chremonidean War.

<sup>23</sup> For the archons of these years see *The Athenian Year*, p. 233.

The year of Thymochares is here made ordinary for the sake of an even distribution of intercalations. It need not imply an irregular prytany length of 31 days for either the first or the second prytany, as was suggested by Pritchett and Meritt<sup>24</sup> and later by Meritt.<sup>25</sup> The date by month and prytany in *I.G.*, II<sup>2</sup>, 700 could have been [Βοηδ]ρομιῶνος ἔνει καὶ [νείαι, ὀγδοίει καὶ εἰκοστῇ τῆς πρυτανείας], or with the spelling *νέαι* retained, the extra letter needed to fill the stoichedon line might have been supplied by the reading *ὀγδοίει*. Both variant spellings, though unusual, are well attested. The alternative is to have four ordinary years in succession from 262/1 to 259/8. A study of the years of the tenth Metonic cycle would show a certain precision in irregularity, but for the present we note merely the close adherence to Metonic intercalations in the 5th, 6th, 7th, 8th, and 9th cycles, where evidence exists for the years from 347/6 to 262/1 B.C.

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<sup>24</sup> *Chronology*, p. 97.

<sup>25</sup> *The Athenian Year*, p. 141.