

THE END OF WINTER IN THUCYDIDES

THE debate about the calendar used by Thucydides continues. Pritchett's latest contribution is to show that the order of months Gerastios-Artemisios in Kos is not *proof* of the same order in Sparta.¹ It none the less remains a valid order, with the analogy in this case sound, for the four ordinary years in succession from 425/4 through 422/1 which B. L. van der Waerden finds quite unreasonable can be reduced to three only (on van der Waerden's acceptance of the civil date of the lunar eclipse of Oct. 9, 425 B.C. as in Attic Boedromion)² by making 422/1 intercalary, and this means not only that Gerastios preceded Artemisios at Sparta (cf. the dates in Thuc., IV, 118-119, and V, 19) but that Thucydides reckoned with an elastic seasonal year, which Pritchett now again denies. Pritchett reaffirms his belief in a Thucydidean year counted by summers and winters in which the end of winter and the beginning of spring were determined by the evening rising of Arcturus.³ He thus holds to a rigid Thucydidean seasonal year in which the end of winter "was marked by the true evening rising of Arcturus,"⁴ the date being fixed according to the calendar of Euktemon to what we know as March 6 in the Julian calendar.⁵

Quite apart from the fact that there is no evidence whatsoever that Thucydides paid the slightest attention to Euktemon's dates,⁶ there is evidence in his own history that he could, and did, show an utter disregard of them, preferring to use his own judgment about when one season ended and another began.

The years of the reign of Dareios II in Persia have been set forth by Parker and Dubberstein in their outline of Babylonian chronology.⁷ Tablets exist which attest the intercalation of months in named regnal years, and the beginnings and ends of the

¹ *Historia*, XIII, 1964, pp. 21-36, especially p. 21.

² *J.H.S.*, LXXX, 1960, p. 180. I now agree with van der Waerden that this is correct. The astronomical calendar would have put the eclipse in Pyanopsion (with 426/5 an ordinary year). The schematic pattern of Meton's cycle is shown by Dinsmoor (*Archons*, p. 421; cf. also van der Waerden, *op. cit.*, pp. 176-177). This is the only pattern in which the tenth year has an intercalated Posideon, as is shown to be necessary by Ptolemy's *Almagest* (IV [ed. Heiberg], pp. 342-343; cf. Meritt, *The Athenian Year*, p. 24; and see the various schemes outlined by Dinsmoor, *Archons*, p. 320). This pattern is now confirmed, at least indirectly, by the non-Metonic order of years from 337/6 to 318/7 in the Athenian festival calendar (cf. Meritt, *The Athenian Year*, pp. 132-134). The observations of Timocharis in Alexandria in 295/4 which show that there was no Posideon II in the astronomical cycle in that year belong to the era of Kallippos. Their relation to Meton's scheme, which Pritchett and I once touched upon (*Chronology*, p. 86), is not clear to me.

³ *Historia*, XIII, 1964, p. 22.

⁴ *B.C.H.*, LXXXV, 1961, p. 29.

⁵ *Ibid.*, p. 39.

⁶ B. D. Meritt, *Historia*, XI, 1962, p. 440.

⁷ Richard A. Parker and Waldo H. Dubberstein, *Babylonian Chronology 626 B.C.—A.D. 75*, Brown University Press, 1956, pp. 9, 33.

years are known. The thirteenth year of Dareios's reign began on March 29, 411 B.C., and it was in this regnal year *and hence after March 29* of 412/1 that the Lakedaimonians and their allies made a treaty with Tissaphernes (Thuc., VIII, 58, 1).⁸ A number of things happened after this alliance and before the end of winter (Thuc., VIII, 59-60). Then finally Thucydides (VIII, 60-61) introduces the end of winter and the beginning of the following summer season with these words: *καὶ ὁ χειμῶν ἐτελεύτα οὗτος, καὶ εἰκοστὸν ἔτος τῷ πολέμῳ ἐτελεύτα τῷδε ὃν Θουκυδίδης ξυνέγραψεν. τοῦ δ' ἐπιγιγνομένου θέρους ἅμα τῷ ἡρι εὐθὺς ἀρχομένῳ* — — —. The end of winter was late in 411 B.C., surely well on into April of the Julian calendar. But Euktemon's evening rising of Arcturus, the date which Pritchett claims for the end of winter, fell on March 6.

David Lewis calls my attention to another proof that winter ended late in 411 B.C. About the time of the solstice a Lakedaimonian fleet sailed from the Peloponnesos toward Ionia (Thuc., VIII, 39, 1). The winter months saw much fighting and intrigue, but they also saw an interval of 80 days when this fleet was idly beached at Rhodes (Thuc., VIII, 44, 4). The narrative resumes and carries on until VIII, 60-61, when Thucydides brings the winter to an end. The events of the winter cannot be compressed into the Pritchett-van der Waerden remnant (less even than the idle 80 days) between the solstice and their supposed terminus at the evening rising of Arcturus on March 6. It is merely a figment of modern imagination that Thucydides should be saddled with the fallacious stricture of Euktemon's, or any other, astronomical dates.

I do not discuss here the rest of Pritchett's article, to which I shall return later,⁹ nor do I discuss further van der Waerden's article in *J.H.S.*, LXXX, 1960, except to comment briefly on two astronomical phenomena.¹⁰ He refers to the comet seen in Gamelion of 427/6 near the time of the winter solstice and to the lunar eclipse in Boedromion of 425 (*op. cit.*, p. 180). I deem it quite possible that the date of observation of the comet is only approximate, and that it may indeed have been seen in

⁸ See A. Andrewes, *Historia*, X, 1961, p. 2, note 4; D. M. Lewis, *Historia*, VII, 1958, p. 392.

⁹ See now, in part, *Hesperia*, XXXIII, 1964, pp. 1-15.

¹⁰ Pritchett (*Historia*, XIII, 1964, p. 34, with note 52) mentions the investigation made at his suggestion by van der Waerden of the dates in Ptolemy's *Almagest*, with results published in *J.H.S.*, LXXX, 1960, chiding me for not having given a reference: "Meritt later (*The Athenian Year*, 19 ff.) published similar results about the dates in the *Almagest*; but he refers to van der Waerden in no way." He ignores the fact that *The Athenian Year* had gone to press before van der Waerden's article was available. But more surprisingly he implies that van der Waerden had discovered something new about these dates, forgetting that it was he himself (Pritchett) who together with me commented in 1941 on the relevance of them (*Chronology*, pp. 85-86), when we cited Fotheringham's convincing and still binding interpretations of 1924 and 1931. This was all set forth in *The Athenian Year*, p. 32. It is, of course, agreeable to have van der Waerden's independent confirmation, but I had already received independent confirmation for *The Athenian Year* (p. 32, note 30) from Neugebauer.

January.¹¹ Comets were not like eclipses, visible only for an hour or so; if visible at all to the naked eye, they could be seen for long periods of time, frequently for several weeks or more. But this is probably an astronomical date which cannot in any case be paired with the festival date of Oct. 9 in Boedromion of 425 (as van der Waerden now has it) to prove anything about the nature of the intervening year 426/5 in the Athenian festival year. That there was confusion in these years and that they did not tally with astronomical exactitude is no doubt true, but the confusion is nowhere near so great as van der Waerden would have us believe. His idea that the lunar eclipse of Oct. 9, 425, came at the very end of Boedromion (*normal time of New Moon*) and that "14 or more days had been intercalated in the first three months" of 425/4, about which he claims that "there is nothing improbable,"¹² is grotesque, and why it should be preferred to the assumption that the comet of 427/6 is only approximately dated I do not know.

The equation of Oct. 9, 425, with Attic Boedromion (*Full Moon*), and divorced from the comet of 427/6, turns out after all to make a firm fixed date in the Athenian festival calendar.¹³

BENJAMIN D. MERITT

INSTITUTE FOR ADVANCED STUDY

¹¹ As I assumed in *The Athenian Calendar*, pp. 92-93.

¹² *J.H.S.*, LXXX, 1960, p. 180.

¹³ *Dies diem docet*. I retract the opinion expressed in *The Athenian Year* (p. 218) that the month Boedromion for the lunar eclipse belongs to astronomical reckoning.