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ROBERT PALTER

**AN APPROACH TO THE HISTORY OF
EARLY ASTRONOMY**

HERE are two evaluations of ancient Greek astronomy:

That the [Ptolemaic] system as a whole deserves our admiration as a ready means of constructing tables of the movements of Sun, Moon, and planets cannot be denied. Nearly in every detail (except the variation of distance of the Moon) it represented geometrically these movements almost as closely as the simple instruments then in use enabled observers to follow them, and it is a lasting monument to the great mathematical minds by whom it was gradually developed . . . in reality the system is quite analogous to a development in a series of sines or cosines of multiples of the mean anomaly.¹

We have now come to the end of our study of Greek astronomy; and those readers who have managed to scramble through this maze of perverted ingenuity will doubtless express a sigh of relief.²

The first of these statements—by one of the most distinguished historians of early astronomy—is demonstrably sound and just.³ The second is just as demonstrably obtuse and silly—though written by an intelligent historian of science who, moreover, proclaims his indebtedness to the historical approach of Whitehead and Collingwood (and who might therefore be expected to display that sympathetic insight into past ideas which is recommended by both these philosophers). What has gone wrong in the second case? It would be easy enough to say that the author has been misled by reading other discussions of Greek astronomy, but this, of course, only raises the same question in broader form: why have so many otherwise intelligent thinkers gone so far wrong on this subject? The answer may lie in various preconceived ideas, partly about the nature of science in general and partly about Greek science in particular, which these thinkers have attempted to confirm or illustrate by the example of Ptolemaic astronomy or, more frequently, by the entire history of astronomy from Ptolemy to Copernicus.

Of these preconceived ideas two are especially prevalent: the alleged *conventionality* of all theoretical frameworks in science; and the alleged role of a criterion of *simplicity* in deciding between otherwise 'equivalent'

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