

*JHA*, xii (1981)

## BOOK REVIEWS

### TRANSLATION OF CLEOMEDES'S HANDBOOK

*Cléomède: Théorie élémentaire* ("De motu circulari corporum caelestium").  
Texte présenté, traduit et commenté par Richard Goulet (J. Vrin, Paris, 1980).  
Pp. x + 273. FF.106-95.

This work gives a new translation of a treatise by Cleomedes conventionally known under the title "On the circular motion of the celestial bodies" (or a similar title). The present rendering (ninety pages) is based on a new collation of manuscripts, in part not used in the edition of 1891, resulting in some twenty-five pages of variant readings. No Greek text is given (in spite of the "texte présenté" of the title page). There is no running commentary but some 400 notes (fifty pages) supplement the translation. Some useful indices are given at the end. The figures to the notes are in part rather primitive in design.

The general introduction (thirty pages) discusses, among other problems, the question of the title of Cleomedes's compilation. The mainly philological arguments lead the author to the final suggestion (p. 19) that the title should be understood as "Théories élémentaire (useful for the reading of Aratus)". Admittedly there is no direct connection between Aratus and the material assembled by Cleomedes; nor do I see how this interpretation can be reconciled with the author's other strong conviction that our treatise is a "texte fondamental de la physique stoïcienne" (p. IX) and that Cleomedes is "obviously not an astronomer but a philosopher" (p. 9 *et passim*).

Cleomedes was certainly not a great astronomer, yet it seems to me implausible that he was not capable of applying "des calculs savants" in order to find the longitudes of  $\alpha$  Tau and  $\alpha$  Sco for his time (p. 7). Of course, he need not have consulted the *Almagest* personally since any contemporary astrologer also could have provided this information. In fact we have such contemporary data in an exactly dated treatise (A.D. 379), which agrees accurately with Cleomedes's data. The author wishes to invalidate this parallelism on the basis of (p. 38, n. 28) "le caractère astrologique de cet ouvrage . . . sans aucune référence à la précession des équinoxes". To question the astronomical competence of ancient astrologers seems to me a serious methodological error in the face of a large body of evidence to the contrary.

The author makes a great effort to show that Cleomedes did not use the Catalogue of Stars in the *Almagest*. Be this as it may, some incorrect statements are made in this context. Cleomedes does not say that  $\alpha$  Tau and  $\alpha$  Sco are of the same magnitude (p. 7), but calls them only "similar" in magnitude (p. 128). Nor is it correct to say that Ptolemy does not give any information about the colour of stars (p. 7 and p. 37, n. 24) since he calls both stars "reddish". The same statement is found in the *Tetrabiblos* (I,9) and the association with Mars is not only commonplace in antiquity but again explicit in the *Tetrabiblos*.

The desire to eliminate the dreaded concept of precession leads also to some speculations about the Babylonian norm of the vernal point as Aries  $8^\circ$  and connections with Eudoxus which seem to me extremely unconvincing. The real basis of all this is, of course, the traditional trend to associate Cleomedes

with Posidonius (first century B.C.) whom he quotes repeatedly. But references to Posidonius and ignorance of the *Almagest* do not seem to me chronological arguments that can invalidate a reference to stellar coördinates, not to mention close parallels in the fourth century A.D. and the contemporary milieu of popular astronomy.

The notes, intended to serve as a commentary, provide a huge amount of references to ancient and modern literature. When it comes to technical matters, however, the reader is not greatly helped. When Cleomedes speaks about “hauteur” or “altitude” a rendering of “distance” would have been preferable for a modern reader. Or, in note 85, the sidereal periods of the planets are called “durée de leur orbite”. Figure 4 is intended to illustrate Cleomedes’s statement that the planets (in contrast to the Sun) can have positive or negative latitude, either increasing or decreasing. The corresponding figure (caption: “Mouvement des planètes dans le zodiaque”) is a simple sine-curve (with an arrow from left to right!). The long note 134 is even more obscure than Cleomedes’s struggle with the equation of time; and Figure 18 manages to make Eratosthenes’s method for the measurement of a meridian arc difficult to understand. Note 209 to Figure 19 states that the Moon’s parallax will vanish when the distances observer-Moon ( $AO$  and  $CO$ ) are equal, in flagrant contradiction to the figure.

While I have doubts about some astronomical and historical interpretations offered here for Cleomedes’s treatise, I hasten to say that this by no means detracts from the value of the new translation. The last rendering (in German, 1927) was flawed by several misleading passages which are here rendered correctly. It is clear that this book will have to be consulted by every serious user of Cleomedes’s treatise.