EUCLID ON SPHERICAL ASTRONOMY


Euclid’s Phaenomena is a geometrical treatment of problems relating to the risings and settings of stars and the length of daylight on a given day and given locality. Euclid’s is the earliest extant treatise addressing this question, and it is a rare early mathematical treatise not wiped out by the later, more elegant solutions such as that in Ptolemy’s Almagest. It is compact enough to be a suitable text for students in the history of science wishing to gain some appreciation of geometrical methods in this early period, that is, before Theodosius’s Sphaera (c. 150 b.c.).

The authors give a compact historical introduction to the Phaenomena, followed by notes on the theorems Euclid presupposes. The translation itself occupies about 70 pages with brief clarifying footnotes. There are English and Greek glossaries, and a bibliography.

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INDIAN ASTRONOMY AND CHRONOLOGY


What is it about precession that brings out the worst in some authors? Acknowledging Santayana’s Hamlet’s mill as his exemplar, Chandra Hari, after proposing a slight modification to the Saha-Lahirir formula for ayanāṃśa, constructs a rather preposterous volume of wide-ranging and contentious speculation, one that brings us to the wilder shores of current Hinduism. Ayanāṃśa is the measure of precession appropriate to the context of the various Sanskrit canons, which generally define sidereal and not tropical longitudes. In these canons the measure is referred explicitly to the observed position of the Sun in relation to the celestial equator, and so implies a reference to the tropical longitude. This makes no reference to the stars as such, although of course the position of the equinoctial point in relation to the stars is thereby implied. However, since the beginning of the last century there have been efforts to refer the ayanāṃśa directly to the stars, actually ignoring the need to involve the tropical longitude of the Sun. V. B. Ketkar argued that one should take the point opposite Spica as the zero ayanāṃśa point, and he was followed by others, including N. C. Lahiri who advised the Calendar Reform Committee (1954). Since then all the popular almanacs (pañcāṅgas) have declared the ayanāṃśa according to this definition. Chandra Hari now proposes that at the time of the Kaliyuga (3102 b.c.)