

**National Seminar on “Kerala School of Astronomy and Mathematics: Contributions and Contemporary Relevance” organized by Indira Gandhi National Centre for the Arts (IGNCA) in association with Amrita Darshanam, International Centre for Spiritual Studies, Amrita Vishwa Vidyapeetham, Amritapuri Campus, Kollam, Kerala, India.
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ABSTRACT

8 Understanding Vākyas through Karaṇapaddhati by Dr. Venkateswara Pai, IISER Pune

There are two discernible procedures for the computation of true longitudes of a planet as outlined in Indian astronomical works. One, the well-known siddhānta method, and two, the vākya method. In the former, we have to first find the mean longitudes and then apply a few corrections (samskāras) in order to obtain the true longitudes, whereas in the latter, by making use of a few vākyas and doing a bit of arithmetic, we directly obtain the true longitudes on any given date with reasonable accuracy.

In the vākya system of astronomy prevalent in South India, the true longitudes of the Sun, the Moon, the planets, and associated quantities can be directly found using vākyas or mnemonics. The set of vākyas for a specific physical variable presented at regular intervals is essentially a numerical table.

However, the vākya texts such as vākyaaraṇa merely give the algorithms, mathematical equations and parameters. The text Karaṇapaddhati of Putumana Somayājī (1532--1566 CE) describes methods to obtain the set of vākyas based on the general principles of Indian astronomy. In particular, it presents the rationale for obtaining the various vākyas which are used for computing various astronomical quantities. In this talk, we will explain the procedures outlined in Karaṇapaddhati to obtain some of these sets of vākyas.