

GUEST EDITORIAL

Sanskrit literature in the astral sciences includes a substantial amount of numerical lists and tables which to this day, remains largely understudied. These documents are striking in their wide range, their scope, and their variety. Their potential to contribute to our understanding of the conditions and practice of mathematics and astronomy in this context is enormous; despite this, they have been largely neglected by historical scholarship.* In light of this, the aim of this collection of articles is thus to draw with enthusiasm an initial impression of the great diversity of numerical tables in Sanskrit sources.

Kim Plofker opens this collection of papers with a survey of the various types of tabulated data that were presented in diverse forms in the astral sciences in India over the course of two millennia. She considers the spectrum of sources ranging from non-numerical inventories such as star lists, the presentation of precomputed values of algorithms in versified formats, and numerical tables which used rows, columns, and alignment to organize data. Next, arguably the most widely known groups of numerical data in the astral sciences are the oft-called « tables of sines ». Toke Knudsen's article considers two versified sine tables presented in the same work, the *Siddhāntasundara* composed by sixteenth century scholar Jñānarāja (fl. 1500). V. Madhukar Mallayya's contribution examines various notable versified trigonometric tables. He emphasizes in detail the various procedures proposed to interpolate between supplied values and the ways in which various authors, notably Munīśvara (1653) and Nīlakaṇṭha (fl.1500) experimented with step length and precision in their generation of numerical data.

A regional study of the tradition of astral sciences which is pertinent to the tabular tradition is offered by K. Mahesh, who considers the astral lore of South India and in particular the *vākya* tradition. He considers the *Saṅkramavākya*s for computing solar transits of the *Vākyakarāṇa* a work composed in around 1300 AD. Agathe Keller also considers numerical data arranged in verse, through a passage by seventh century commentator Bhāskara I on the *Āryabhaṭīya*: 91 verses containing computed solutions to linear indeterminate equations. Two contributions to this special edition analyze and detail the features of specific astronomical tabular texts. S. Balancandra Rao, Padmaja Venugopal and K. Rupa analyze numerical tables using parameters belonging to the *Sūryasiddhānta* (*saurapakṣa*), comparing how to compute key parameters. Clemency Montelle examines some notable aspects of a seventeenth century work, the *Karaṇakesarī*, which consists of a set of tables intended to be used for eclipse reckoning and an accompanying text.

All these contributions reveal the breadth and variety of the sources and allow but a glimpse of the many areas and themes that remained to be yet explored. Because numerical tables enable one to appreciate some of the ways in which a practitioner dealt with algorithms, the study of numerical tables raises questions on the wider context in which they appear: Why were they constructed? What was their ultimate purpose? We hope that the scholarly offerings here further will encourage future explorations of this sphere of investigation, not only in the context of Sanskrit sources, but beyond.

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* Ikeyama, Setsuro; Plofker, Kim. The *Tithicintamaṇi* of Gaṇeśa, A Medieval Indian Treatise on Astronomical Tables. *SCIAMVS Sources and Commentaries in Exact Sciences*, 2, 251-289, 2001; M. Campbell-Kelly, R. F., M. Croarken, & Robson, E. The History of Mathematical Tables from Sumer to Spreadsheets. Oxford University Press, 2003 ; Pingree, D. On the Classification of Indian Planetary Tables. *Journal for the History of Astronomy*, 1(2), 95-108, 1970 ; Pai, Joshi, and Ramasubrahmanian. The Vakya Method of Finding the Moon's Longitude. *Gaṇita Bhārati*, 83-105, 2009