



HARIDATTA AND HIS PERSPECTIVES ON ASTRONOMY

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Introduction

Sanskrit is the richest repository of knowledge of all branches of learning including science and technology in India. Nilakantha Somayajin a prominent astronomer of Kerala gives in his work Jyotirmimānsā the meaning of science as 'science is a divine instruction, that does not mean direct instruction by gods but only chastening of the intellect through divine grace as a result of which authors could express their thought logically. That is

“ग्रन्थकरणे देवताप्रसादा तितुपदेशः। ननु तपोभिः प्रसो ब्रह्मा आर्यभट्टाय भगणपरिध्यादिग्रहणसाधनभूतं... तस्य कृतः परीक्षणं ब्रह्मणा सर्वज्ञत्यात् अविद्यतत्त्वानिश्चयात् इति चेत् मन्द, मेवं, देवताप्रसादो मतिवैपुल्यहेतुरेव न च ब्रह्मादित्यो वा स्वयमेवागत्य उपदिशेत्”¹

Haridatta- A Profile

Haridatta was a famous astronomer who was the promulgator of Parahita system that was popular for a long time in Kerala and Tamilnadu. He expounded this system in his two works, Grahacāranibandhana and Mahāmārganibandhana.

The calculation system in the Kerala school of Astronomy had been constantly renewed in accordance with the contemporary requirements by various scholars in different periods. The persons who made contribution in this regard are mentioned below.

- 683 CE -Parahitaganita Introduction at Tirunāvāya.
- 860 CE -Śaṅkaranārāyaṇa – Goḷayantra at Mahodayapura
- 1431 CE-Drgganitam by Parameśvara.

Date and Place of Haridatta

The date of Haridatta is given as 650-700 CE by KV Sarma in his critical edition of the work Grahacāranibandhana and most of the scholars have accepted this date. He has born at Tirunāvāya in Kerala

Personal Details of Haridatta

Haridatta's personal details are not mentioned in any work. The only information available from his work about him is that he was a dedicated devotee of the Lord Viṣṇu. He says,

परहितहेतोरेतत्परंकरणं ग्रहस्थितिज्ञानम् ।

हरिदत्तेन निगदितं-हरिपदकमलैकभक्तेन ²His work starts with a Mangaḷaśloka, where he pays his

Tribute to Brahmā,

हरिनाभिसमुत्पन्नपद्मकिञ्जल्कवर्तिने ।

¹ K.V.Sarma, Jyotirmimānsā of Nilakantha Sonayajin. P.2

² Grahacaranibandhana of Haridatta, Edited by K.V.Sarma,p.21.



प्रणम्य ब्रह्मणे कुर्या ग्रहचारनिबन्धनम् ॥³

Some scholars believe that Haridatta, Govindasvāmin and 49 Sankaranarayana were under the royal patronage of king Ravivarma Kulśekhara at different periods.

Haridatta's Works

Grahacaranibandhana and Mahāmārganibandhana are his two works. The Mahāmārganibandhana is not extant. Jyotirmimāmsa of Varahamihira mentions the work Mahāmārganibandhana.⁴ Grahacāranibandhana has been critically edited and published by K.V. Sarma.

Grahacaranibandhana

Grahacaranibandhana is a basic text of the Parahita system of astronomy, and it was published in 1954 by the Kuppaswami Sastri Research Institute. Karaṇa type of text. Karana texts are often short or long based on some astronomical siddhantas. The work has been divided into three chapters. In total 100 Personal Details of Haridatta

Grahacaranibandhana

Grahacaranibandhana is a basic text of the Parahita system of astronomy, and it was published in 1954 by the Kuppaswami Sastri Research Institute. The critical edition of this rare work along with a Sangraha of it are prepared by KV Sarma with the help of five Malayalam palm leaf manuscripts, one in Malayalam script and the other in Grantha script. Among them three manuscripts are available in the Travancore University Manuscripts Library and the other two in H.H. the Maharaja's Palace Library, Trivandrum.

Features of the Text

It is a Karaṇa type of text. Karana texts are often short or long based on some main astronomical siddhāntas. Authors of the Karana texts adopt some suitable contemporary date as the epoch and specify fresh constants for calculation. Majority of the texts from Kerala are of karana types. Drgganita of Parameśvara, Karanapaddhati of Putumana Somayājīn etc. fall in this category. Several Karana texts have the generic title called Panca-bodha.

Content of the Grahacāranibandhana

The work has been divided into three chapters. In total 100 verses are there. This work offers little scope for showing his poetic talents in the field of astronomy. The author commences his work with a customary salutation to Lord Brahman. The first chapter contains 35 verses, all these verses are in Anustubh metre.

At the very outset, Haridatta describes the method for computing the day- Ahargaṇāyana. Ahargaṇāyana is explained in 11 verses. The first two of them are quoted here

समा मासीकृता युक्ता यातमासैर्दिनीकृताः ।

अतीततिथिसंयुक्ता याताः कार्या यथास्मृतिः ॥

त्रिशरिर्कृते राशावधस्ताद् युद्धवर्धितात् ।

अनूनज्ञानतुङ्गासं मध्यात्कालगुणादृणम् ॥

³ Ibid., p.1.

⁴ चतुर्दशभागान्तश्चलन्त्येव ग्रहास्ततः, p.37.



Without knowing katapayādi system one could not follow the text. The following verse may be quoted as an instance.

तंहत्वा हेमरत्नागैरधिमासाः फलं वृथा।

शेषे शंगुणिते तेषां दधिकामोर्वभाजिते ॥

Be This verse says that the product that obtained should divided by 'hemaratnāngairadhimāsāḥ Here hemaratnāngairadhimāsāḥ denotes the digits 30258 by means of katapayādi system (ह-8, म-5, र-2, न-0, ग-3), and then the digit शं, शं means 5 and it should be divided by दधिकाम that means 5198 (द-8, ध-9, क-1, म-5). This is the style of composition. Then the verses for the multiplier and divisor of the planets can be seen soon after the verses of Grahacāranibandhana. These verses are pretty clear in stating the numbers. Verses 20-29 explain this. For example-

गुणकारः कुलं भानोर्भाजको गोत्रगायकः ।

गुणो मामृणलाभाय समास्तुत्यो विभाजकः ॥⁵

The multiplier for sun is kulam. Kulam denotes the number 31 and the divisor is gotragāyakah that is the number 11323

The first chapter discusses the Katapayādivarṇakṛtam jyotiṣavākyaṃ in two verses and it comes to an end explaining the Jyāvākyaṃ (That is the table of equation of the centre of the planets). He finishes the chapter by stating that he is going to explain the tables of the equations of the centre in the second chapter'.

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⁵ Ibid.,p.4



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