

# Vedanga Jyotisha and Vedic Calendar

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Followers of the Vedas are now a days called Hindus. The Vedas are the main scriptures of the Hindus. According to Mimamsa-shastra, Vedas are the scriptures of non-human origin<sup>1</sup>. Mimamsa says that the Vedas are the only source of the knowledge of Dharma<sup>2</sup>. Vedic sages created the books of Vedangas to clarify the meaning of the Vedas<sup>3</sup>. Vedangas also help to preserve the Vedas in their own nature. Vedangas were created with the materials collected from the Vedas. We should, therefore, try to interpret them in the context of the Vedic tradition.

Vedangas include Shiksha (Phonetics), Kalpa (scripture of ceremonials and rituals), Vyakarana (Grammar), Nirukta (Etymology), Chhanda (Prosody) and Jyotisha (Astronomy). As the sages meant these disciplines for the correct interpretation of the Vedas, one should understand the Vedas by the means of the six disciplines of Vedic studies. Vedanga Jyotisha clarifies the time aspects of the Vedic rituals. The treatise, Yajusha Vedanga Jyotisha consists of 44 stanzas. Eastern and western scholars suppose that the treatise was written some 3400 years ago. The treatise was in vogue in Vedic tradition until recently. But some astronomers are ill informed that Vedanga Jyotish is primitive and unscientific. But the fact is just the opposite.

In Vedic tradition, Vedanga Jyotisha of Lagadha is the most ancient scripture for the determination of 'Kala' (time). A few commentaries are now available on it. One of them written by Somakara is known to be quite ancient. Shankar Balakrishna Dikshit said that Somakara's Bhasya was not mentioned in any other works in Sanskrit literature<sup>4</sup>. But it was mentioned in Vishnubhatta's Purusharthachintamani. In the modern age different scholars have tried to analyse the Vedanga Jyotisha. A. Weber, G. Thibout, Janardan Balaji Modak, Shankar Balakrishna Dikshit, Chhotelal Barhaspatya, Sudhakar Dwivedi, Bal Gangadhar Tilak, R. Shamashastri and others presented their notes on Vedanga Jyotisha. Very recently H. M. Yajnik and T.S.K. Shastri are also known to have edited the Vedanga Jyotisha.

Western scholars had also shown interest on Vedanga Jyotisha for understanding the precession of solstices. Despite all this, scholars have paid little attention in applying the scientific method of Vedanga Jyotisha for calendar calculation for practical use in Vedic rituals. Many of them have only considered Vedanga Jyotisha as a work of historical importance. But Svaddyayashala-kutumba has concluded that Vedic Yajnas (Rites) such as Agnyadhana, Darshapurnamasa, Chaturmasya, Nirudha-pashubandha, Somayaga described by the Shrautasutras and Upanayana (initiation into a vow for a religious life), Vivaha (marriage) etc prescribed by the Grihyasutras should be performed at specific time of the year, which is determined by Vedanga Jyotisha of Lagadha and not by any other Jyotisha-book. In every religious rite of Vedic Dharma one should refer Vedic samvatsara (lunar year), Ayana (lunar 6-month period), ritu (soni-lunar season), lunar month, paksha (lunar fortnight) and the tithi (day) as determined by Vedanga Jyotisha. For this purpose, Svaddyayashalakutumba has conducted extensive research work on the Vedanga Jyotisha and determined the Vedic system of counting and determining the samvatsara, ayana, ritu etc. Vedanga Jyotisha is quite scientific because it is based on actual position of the Sun and Moon and not on man-made fallacious formulae. Astrologers addicted only to Faladesha, Grahadasha etc. obviously cannot even understand the system owing to the lack of study in the Vedic scriptures.

As Vedanga Jyotisha is the only authentic directory for all Vedic purposes, other works on Jyotisha including Surya Siddhanta are only acceptable as far as they are consistent with Vedanga Jyotisha. Although it is announced by all Jyotisha works that Jyotisha is the 'eye' of the Veda yet they are not following the Vedic system of 5-year yuga which is essential for Vedic rituals. Surya Siddhanta etc might be used for other calculations like horoscopes, which should be determined by the astrologers themselves. The cycle of 5 samvtsaras seems to have been in use throughout Indian subcontinent from time immemorial. Jainas<sup>5</sup> and Buddhists<sup>6</sup> also accepted Vedic yuga system. This implies that the 5-year cycle has been in use without any interruption for thousands of years. Brahmagupta could not grasp this system and criticized it in his Brahmasfutasiddhanta<sup>7</sup>. According to his view, Vedangakarasa say, "5 years constitute one yuga of the Sun and the Moon" owing to ignorance of adhimasa, avamaratra and true tithi. This statement of Brahmagupta obviously conflicts with the Vedas. Vedas deal with the yuga periods each of five years which are serially called Samvatsara, Parivatsara, Idavatsara, Idvatsara and Vatsara.

The view of Brahmagupta has therefore been refuted by Sri Shivaraja Acharya Kaundinyayana and the essence and importance of Vedic 5-year yuga system has clearly been established<sup>8</sup>. Vedic System of time calculation should be understood in the background of Vedas (Mantra-samhitas and Brahmahas), Vedanga Jyotisha and other related Shastras. It is possible that owing to lack of the background knowledge of the Vedas and the Vedic rituals, the Calendar reform committee headed by the famous scientist Meghnath Saha in India was not able to grasp the Vedic calendrical system and failed to work for proper reform of calendar<sup>9</sup>. Therefore, the committee accepted the day of the vernal equinox as the year beginning day of Indian National Calendar instead of Tapashshukla Pratipada. Nemichandra Shastri in his famous book Bharatiya Jyotish<sup>10</sup> interpreted Vedanga Jyotisha to be primitive in nature, as he was not able to understand the Vedic lore in Vedanga Jyotisha.

In Nepal, the renowned historian and astronomer Nayaraj Panta was also found unable to understand the Vedic system of calculating the soni-lunar Vedic year<sup>11</sup>. Recently Prof. Dr. K. D. Abhyankar, fellow of the Indian National Science Academy and the former President of Astronomical Society of India tried to describe the Vedic calendrical system, but he was not even able to understand the true Vedic year<sup>12</sup>. Vedic soni-lunar year begins at the Shukla Pratipada (the first day of white fortnight) of that lunar month in which the winter solstice day (starting day of the true solar Uttarayana) occurs within the first 24 tithis (days) of the month. This Shukla Pratipada is Tapashshukla Pratipada according to the indication found in Vedanga Jyotisha. From the same day, soni-lunar Uttarayana and soni-lunar Shishir Ritu are also started<sup>13</sup>. This method is completely scientific and according to the natural phenomena. In Vedic calendrical system, a tithi consists of a time period of a day and the following night. A fortnight consists of 14 or 15 tithis. A month consists of such two fortnights. A ritu consists of such two months. An ayana consists of such three ritus. And a year consists of such two ayanas. And finally a yuga consists of five years<sup>14</sup>. According to this system adhikamasa (intercalary month) is placed only in the end of Uttarayana or Dakhsinayana after every 30 or 36 months. It appears as the seventh month of an ayana. Not only in ancient history of Nepal but also till medieval age, there is no mention of kshayamasa. The Nepalese were following and preserving this system in the period of Lichchhavis and Mallas<sup>15</sup>. Existence of kshayamasa cannot be accepted in Vedic system since there are no Rashis such as Mesha, Vrisha etc in Vedic tradition.

The definition of Adhikamasa given by Bhaskara in his Siddhanta Shiromani<sup>16</sup> is, therefore, completely wrong and against the Vedic system. Presently used modern Panchangas (calendars) of Nepal and India are unscientific and against our ancientmost scientific Vedic tradition. Now let us see an example: Uttarayana is the process in which the sun seems to move towards the Tropic of Cancer from the Tropic of Capricorn. That is why the period is called Uttarayana. Likewise Dakshinayana is the name of the reverse process and its time period. In Uttarayana the dinamana (measure of the day) goes on increasing in the northern hemisphere while the measure of the night goes on decreasing and the vice versa in Dakshinayana. On the 21st of December of current year the sun actually touches the Tropic of Capricorn and is now moving towards north. Vedanga Jyotisha strictly follows this natural phenomenon<sup>17</sup>. But in the Vedic rituals instead of taking the purely solar Uttarayana the lunar cum solar (soni-lunar) Uttarayana is taken<sup>18</sup>. Vedic soni-lunar Uttarayana starts from the Shukla Pratipada of the lunar month in which the winter solstice day (the starting day of true solar Uttarayana) occurs within the first 24 tithis (days). This method is completely scientific and according to the natural phenomena. But on the other hand, the current Panchangas (calendars) take 14 January of the current year as the starting day of solar Uttarayana instead of the actual solar Uttarayana day. This is completely unscientific and against the natural phenomena.

If Panchangakaras stick to such unscientific calculations, a time will come when there will be warm season (summer) in their Shishir Ritu (winter) and cold season (winter) in their Grishma Ritu (summer). The system of Vedanga Jyotisha has no such fault. In Vedic astronomical system, there are six Ritus (seasons) namely Shishira, Vasanta, Grishma, Varsha, Sharat and Hemanta. These Ritus change with the movement of the Sun and the Moon. Shishir Ritu remains from Tapashshukla Pratipda to Tapasyakrishna Amavasya. Vasanta Ritu appears between Madhushukla Pratipada and Madhavakrishna Amavasya. In this way, each Vedic season begins at Shukla Pratipada and ends by Krishna Amavasya. In conclusion, we see that the Vedic calendar according to Vedanga Jyotisha should be followed for all Vedic rituals. Because of the present faulty system, our Puranic festivals are slowly shifting from their actual seasons. We should also fix them to their own seasons on the basis of Vedanga Jyotisha. In the context of calendar reform, some Nepali as well as other thoughtful astronomers are now paying attention to our glorious and time-honoured Vedic system, which is a positive move towards renaissance. (Svaddhyayashala, 168, Shivabhaktamarga, Lazimpat, Kathmandu, Nepal.Ph. 4433327,

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