

Surya Siddhanta

Jyotishashaastra – its purpose

Moksha characterized by complete cessation of sorrow and ever rejoicing in bliss is the ultimate goal of life, whether one knows it or not, accepts it or not. Vedas are the means of knowledge of Brahman, the absolute non-dual reality of Existence, Consciousness and Bliss, knowing which everything becomes known (brahmaavid brahmaiva bhavati, yat jnaatvaa neha bhooyo anyat jnaatavyam avashishyate). Brahman is known only through the scriptures (shaastrayonitvaat) which are apaurusheya and therefore faultless and tested and verified by innumerable people in the world. Since ignorance of our very nature of blissful Brahman is the cause of all problems, therefore knowledge is the only way to moksha (tameva vidvaan amrita iha bhavati, naanyah panthaa vidyate ayanaaya; tameva viditvaatimrityumeti naanyah panthaa vimuktaye, yadaa carmavadaakaasham vestayishyanti maanavaah tadaa devamavijnaaya dukkhasyaanto bhavishyati). And as mentioned, knowledge from the scriptures (Vedas) is the way to moksha.

Mundaka Upanishad says that knowledge is of two types, aparaa vidyaa and paraa vidyaa. Aparaa or lower vidyaa is that which we gain from the caturdasha vidyaa; the four Vedas of Rig, Yajur, Saama and Atharva, the six Vedaangas of Shiksha, Kalpa, Vyaakaranam, Chandah, Niruktam and Jyotisham and the four Upaangas of Puraana, Nyaaya, Mimaamsaa and Dharmashaastra. Paraa vidyaa is direct knowledge of Brahman (whereas aparaa vidyaa is theoretical knowledge, we can say).

The importance of Jyotisham is that it is that shaastra which is used to find out the apt time to perform vaidika karmas may it be the shodasha samskaaras or any yajna, yaga etc. Kaala or time has to be apt for anything to be fruitful. Also Jyotisham is essential to ensure that we are able to thwart all diseases and problems in worldly life so that focus on the spiritual path can be made (which is only possible when worldly life is smooth or without much obstacles or issues).

Unlike many sciences which are based on assumptions, jyotisha is based on direct perception of sun, moon etc. and therefore conflicts or confusions are not possible in this (apratyakshena shaastrena vivaadastatra kevalam, pratyaksham jyotisham shaastram candraarkau yatra saakshinau).

Jyotisham – the categories

Jyotisham is called kaalavidhaayakam shaastram or that in which time is judged or analysed or predicted. Thus time is the main basis for Jyotisham.

Jyotisham is said to have three parts – triskandaatmakam jyotisham shaastram. The first is siddhaanta, second is horaa and third is samhita. Siddhaanta deals with finding out positions of planets, eclipses, analysis of war between planets and complex calculations related to position of planets (it can be loosely translated as astronomy). Horaa deals with predictive astrology based on horoscopes (ahoraatrapadaadyantalopaat horeti kathyate – removing the first and last word of ahoraatram which means day-night or one full day, becomes horaa). Samhita is wherein everything about astrology is dealt in overall (tat kaarstyopanayasya naama munibhih samkiirtyate samhita). Samhita deals with societal topics, time of rain, time for digging wells, how a human being should be physically etc. Since it contains everything in astrology therefore nakshatras also are dealt with and some analysis of gochaara of planets as well. Major focus on jyotisham goes into horaa wherein predictions are made.

Siddhaanta is called the pratyaksha shaastra (directly based on pratyaksha of planets) whereas the other two are called phalitam (wherein prediction based on planets are made).

Another way of categorizing jyotisham is that there are six angas or parts to it (shadangaani asya shaastrasya). The six are golaa and ganitaa from Siddhaanta, jaataka, prashna, muhurta and nimittaa from horaa (nimittaa comes from both horaa and samhita as it is found in both). Golaa deals with direct positioning of planets whereas ganitaa is wherein based on direct positioning of planets, other complex calculations are made. Jaataka is wherein horoscope of a person at birth is taken up. Prashna is analysis based on horoscope, omens etc. at a particular time. Muhurta is finding out the auspicious time for starting anything. Nimittaa deals with predictions based on various omens.

It can be said that jaataka gives us a view of our praarabda karma with which we have been born. But based on our actions in this birth, we may get same or different effect and this is analysed through prashnaa (ihaarjita karma is analysed through prashna).

Siddhanta – works

Broadly works of our shaastras can be split into two – one is the aarsha granthaas or works written by rishis. Rishis are mantradrastaas (seers of mantras) and not mantrakartaa (creator or writer of mantras). During times of intense meditation or contemplation, the mantras are revealed to the Rishis. Therefore the aarsha granthaas have supreme authority of any topic. Second are the granthaas authored by humans. These are authoritative but when they are in conflict with aarsha granthaas, then aarsha granthaas view have to be accepted.

Raising the objection that maanava granthaas are not that authoritative, Varaahamihira in his Brihat Samhita says that the words of Brahmaa “kshitanayadivasavaara na shubakrit” or “don’t do good deeds in the day of the week which is that of the son of earth, mars” and his own words of “kujadinamanistam” or “Tuesday or day of mars isn’t favourable (for anything)” convey the same meaning and therefore differentiation isn’t really required. Yet we should keep in mind that supreme authority is given to aarsha granthaas at times of conflicts.

The aarsha grantha for siddhaanta is Suryasiddhaanta. The authorship is not known but it is a conversation between Suryaamsha purusha and Mayaasura. The first known maanava granthaa is that of aaryabhata (aaryabhattiiyam). More famous is Varaahamihira’s Panchasiddhantika.

Surya Siddhanta – the occasion

In order to gain knowledge of siddhanta, the great asura Maya worshipped God Surya (since all planets get their light from Surya therefore Surya is often prostrated in the beginning of jyotisham works). Pleased with the penance of Mayaasura, Surya appeared to him and then promised to impart knowledge of siddhanta to him.

There are two reasons that Surya directly cannot teach Mayaasura. First is that the rays of Surya are so powerful that nobody can bear it. Second is that Surya has no time; if he spends time teaching, then there will be chaos in the system itself (other planets will not move or will move wrongly etc.) (na me tejah saha kashcit, aakhyaatum naasti me kshanah). Therefore Surya tells Mayaasura that his amsha purusha (part-purusha) will appear to him and thereby instruct him in Siddhanta. Saying thus, Surya vanishes and then his amsha purusha appears and teaches Mayaasura.

It is also said that this teaching between Suryaamsha purusha and Mayaasura happens again and again. Just time is different (like yuga etc.) but the teaching is always the same only (there isn’t any difference in the concepts being taught).

Kaalavicaara – analysis of time and its categorization

“kaalah srijati bhuutaani, kaalah samharati prajaa” – time creates beings and time kills. Thus time is both the creator as well as the destroyer. That time which is the destroyer of beings is called akhandakaala (that time which has no divisions) and the time which creates beings is called khandakaala. Khandakaala is further divided into sthoola or muurta and sooksha or amuurta. Muurta is that which is used for vyavahaara or empirical purposes to measure, use etc. whereas amuurta is that which cannot be used for vyavahaara as it cannot exactly be measured or used or analysed.

Amuurta is said to have panca avayavaas or parts. They are trutih, renuh, lavah, liikshakam and praana. Truti is the time taken to pierce a lotus leaf with a needle. 60 trutis make up one renu. 60 renus make up one lava. 60 lavas make up one liikshakam and 60 liikshakams make up one praana.

- 1 Trutih – suucyaa padmapatrabhedanakaalah
- 1 Renuh – 60 trutayah
- 1 Lavah – 60 renavah
- 1 Liikshakam – 60 lavaah
- 1 Praana – 60 liikshakaani

Muurta is split into vinaadikaa, naadikaa and naakshatraahoraatram. 6 praanas make up one vinaadi. 60 vinaadis make up one naadi. 60 naadis make up one day-night (or 24 hours) of one nakshatra.

- 1 vinaadikaa – 6 praanas
- 1 naadikaa – 60 vinaadikaas
- 1 nakshatra day-night – 60 naadikaas

- 24 hour – 60 naadikaas
- 1 hour – 2.5 naadikaas

- 1 naadikaa – 24 mins
- 1 vinaadikaa – 24 seconds

Kaalamaanam – measurement of time

There are in total nine types of measurement of time. They are as in the below sloka:

Braahmyam divyam tathaa pitryam praaajaapatyam ca gauravam
Sauram ca saavanam caandraarsham maanaani vai nava

In these, four alone are useful for human beings which are naakshatramaanam, caandramaanam, saavanam and sauram.

i. Naakshatramaanam

In this, time is measured from the rise of a nakshatra to the next rising of the same nakshatra. The time between two rising of the same nakshatra is one naakshatradinam or one naakshatra day. 30 such days make up one naakshatra maasam or naakshatra month. And 12 such naakshatra maasam make up one naakshatra varsham or naakshatra year.

ii. Caandramaanam

As the name suggests, here measurement is based on the moon's tithi (or waxing and waning). Tithi is calculated with the differences in positions or speed of movement of both sun and moon. There are in total 16 tithis, pratipat or one, dvitiiya or two, and thereon till caturdashii or 14 and then amaanta or ammaavaasya (no moon) and pournami (new moon).

The time from pratipat (before that is amaanta) to pournami or new moon is called shukla paksha (waxing of the moon). And the period from pratipat (after pournami) to amaanta is called Krishna paksha (waning of the moon).

One shukla paksha and one Krishna paksha (or in total two cycles of tithis from 1 to 15) is called a caandramaasam or a moon-month. Put in Varaahamihira's words, amaanta to amaanta (no moon to next no moon) is one full moon-month. One moon-month split into 30 gives us one caandradinam (or one titihi alone). 12 moon-months make up caandravarsham or one moon-year.

Generally in south india (except kerala), caandramaanam is what is used like the months of caitraa, vaishaakha etc. The names of each of these months corresponds to the one (or the next or previous star) wherein falls pournami. So in the month of caitra, it is either chithra or swati wherein pournami falls (2 or max of 3 stars are when in a month, pournami can fall upon). There are 12 such months starting with caitra in the month of april.

iii. Saavanamaanam

Here, one day is the time from one rising of the sun to the next rising of the sun. 30 such saavanadinam make up one saavanamaasam. 12 such maasams make up one saavanavarsham.

In ancient times, it was the saavanadinam that was used to indicate birth of people. For example, a person born in English date of 18th June 2021 early morning 2 am would have been told in ancient times as "the child is born on 17th June 2020 and night 2 am" (as their day started with one sunrise and ended with the next sunrise).

iv. Souramaanam

Sun transits the 12 houses or rasis from Aries to Pisces. Sun's movement or rotation is called sankraanti (suryasya raashisamkramanam). Sun moving from the first degree of one rasi to the first degree of next rasi constitutes one souramaasam or one solar month. One solar month divided by 30 degrees gives us one souradinam or solar day. Approximately one day movement of Sun is one degree. For example if Sun was yesterday 17th June in Mithuna 3 degrees then today Sun would be in Mithuna 4 degrees.

12 souramaanam leads to one souravarsham or solar year. Souramaanam is used in kerala to denote the various months from medam to meenam. Approximately Sun moves from the 15th of month into a rasi and enters the next rasi on the 15th of the next month. Approximately April 15th is when Sun enters Mesha or medam.

Ayana classification of Uttarayana and Dakshinayana is based on Souramaanam alone. Sun moving into Makara indicates the start of Uttarayana and it extends till the end of Mithuna. Sun's movement from Kataka to end of Dhanus denotes Dakshinayana. It is often considered good to give up one's body in Uttarayana and thereby go through the agni or jyotimaarga and attain moksha (agnirjyotirahah shukrah shanmaasaa uttarayaanam, tatra prayaataa gaccanti brahma brahmavido janaah). Famous from puranas is Bhisnacharya waiting for uttarayana to come, in order to give up his body.

Lagna is based on the movement of Sun and therefore souramaanam will be helpful in either quick or proper calculation of lagna based on the birth date and birth time.