

Varahamihira: The polymath of Ancient India

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Abstract:-

Varahamihira, a name synonymous with ancient Indian wisdom, was a renowned astronomer, astrologer, mathematician, and polymath who flourished during the sixth century CE. His profound contributions to various fields of knowledge continue to inspire and intrigue scholars and enthusiasts alike.

In the annals of ancient Indian history, Varahamihira stands out as a luminary figure, a polymath whose brilliance spanned the realms of astronomy, mathematics, astrology, and even architecture. Born in the early 6th century CE in Ujjain, a city that served as a major intellectual hub of its time, Varahamihira's contributions have left an indelible mark on Indian intellectual tradition.

Keywords:- **Synonymous, Polymath, Scholars, Luminary, Realms, architecture**

Introduction:-

Varahamihira (c 20/21 March 505-c 587), also called Varaha or Mihira, was a Hindu astrologer-astronomer who lived in or around Ujjain in present-day Madhya Pradesh, India.

Likely other prominent ancient Indian Mathematicians and astronomers, Varahamihira does not mention his date of Birth . However, based on hints in his works. modern scholars date of birth of him to the 6th century CE; possibly, he also lived during the last years of the 5th century.

In his Pancha-siddhantika, Varahamihira refers to the year 427 of the Shaka-kala . Identifying this calendar era with the Shaka era places Varahamihira in the 505 CE. Alternative theories identify this calendar era with other eras, placing him before the 5th century CE. However, these theories are inaccurate, as Varahamihira must have lived after Aryabhata whose work he refers to. The particulars of the date mentioned by Varahamihira - Shukla pratipada of the Chaitra month of the Shaka year 427- align accurately with 20-21 March 505 CE. Al-Biruni also places Varahamihira in 505 CE.

In accordance with the contemporary tradition, 505 CE was most probably the year in which Varahamihira composed Pancha Siddhantika or began planning it. However, some scholars believe that it was the year of Varahamihira's birth or of another important event in his life. This is because according to Amaraja, the author of a commentary on Brahmagupta's Khonda-khadyaka, Varahamihira died in 587 CE . If Varahamihira wrote his work in 505 CE even at the young age of 25, he must have been over 105 years old at the time of his death, which seems exceptionally high to these scholars. Consequently, these scholars consider date Varahamihira's lifespan to 505-587 CE. 15 Other scholars doubt the accuracy of Amaraja's statement, since he lived a thousand years after Varahamihira.

According to a historically inaccurate tradition, Varahamihira was associated with the first century BCE legendary emperor Vikramaditya. This tradition is based on Jyotirvid-abharana, a work have theorized that Aditya-dasawas another name of Shabara-savamin, but no historical evidence supports this tradition.

Birthplace:-

Kapitthaka, where Varāhamihira studied, was probably his birthplace. While "Kapitthaka" is the most popular reading the place's name, several variants of this name appear in various manuscripts, including Kampilyaka, bl Kapilaka, Kapishthala, and Kapishkala. Utpala suggests that this village had a sun temple. According to one theory, Kapitthaka is the modern Kayatha, an archaeological site near Ujjain. Statues of the sun deity Surya dated 600-900 CE have been found there, and kapittha trees are abundant in and around Kayatha. However, no historical source suggests that Kapitthaka was another name for Kayatha. According to another theory, Kapitthaka is same as Sankissa in present-day Uttar Pradesh: according to the 7th-century Chinese traveler Xuanzang, this town was also known as Kah-pi-t'a. Historian Ajay Mitra Shastri notes that Kah-pi-t'a is phonetically similar to Kapittha or Kapitthaka.

Based on the term "Magadha-dvija" Sudhakara Dvivedi suggests that Varahamihira was born and brought up in Magadha, and later migrated to Ujjain, 1221 Ajay Mitra Shastri disputes this, noting that Utpala describes him as "Avantikacharya" and "Magadha-dvija": these two terms cannot be reconciled if "Magadha-dvija" is interpreted as "Dvija of Magadha": instead "Magadha" here means Maga, as attested by the Bhavishya Purana.

Residence:-

Besides the above-mentioned stanza, Varahamihira's association with Avanti is confirmed by other evidence: in Pancha-siddhantika, he calls himself Avantyaka and the later commentators such as Utpala and Mahidhara describe him as Avantikacharya Utpala also describes Varahamihira's son Prthu-yashas as Avantikacharya, in his commentary on Shat-panchashika.

Historian Ajay Mitra Shastri, relying on Utpala, believes that "Avanti" here refers to the city of Ujjayini in the Avanti region of central India. Scholar Dániel Balogh, however, notes that Avanti here may refer to the city of Ujjayini or the Avanti region in general, there is no concrete evidence that Varāhamihira lived in the city; he may have lived elsewhere in Avanti.

Early life:-

Much of the undisputed information about the life of Varahamihira comes from a stanza in his Brhaj-jataka. According to this stanza, he was a resident of Avanti, was a son of Aditya-dasa, and studied at Kapitthaka through the boon of the sun god.

Ancestry:-

Varahamihira's father Aditya-dasa likely trained him in jyotisha as suggested by the Brhaj-jataka stanza and the opening stanza of Pancha-siddhantika.

Varahamihira's commentator Utpala calls him "Magadha-dvija". According to one interpretation, this means that Varahamihira was Brahmana whose ancestors belonged to the Magadha region.

According to another theory, the word "Magadha" in this context refers to the sun-worshipping Maga cult that Varahamihira was a part of. In his Brhat-samhita, Varahamihira mentions that the Magas were the only people suitable for consecrating an image of the Sun god. The Magas, as they came to be known in India, originated from the Magi priests of the Achaemenid Empire. Historian Ajay Mitra Shastri cites a Bhavishya Purana passage according to which the term "Magadha" is a synonym of "Maga" and refers to "those who contemplate on the Maga". According to Shastri, Utpala has used the word "Magadha" to denote the Magas, who had been accepted as Shaka-dvipi Brahmins in the Indian society.

A.M. Shastri theorizes that "Varaha-mihira" may be a Sanskritized form of the Iranian name "Varaza-Mihr", and may refer to a legend mentioned in the Mihr Yasht of the Avesta. According to this legend, the god Verethraghna, in the form of a boar, precedes Mihr in his march. Shastri noted that the 5th century Sassanian monarch Bahram V bore the name Mihrvaraza, which is quite similar to

Varahamihra. Academic J.E. Sanjana suggests that Varahamihira was descended from an Iranian Magi priest .

Some scholars, such as M.T. Patwardhan and A.N. Upadhyay, have identified Varahamihira with Bazurjmehr, mentioned in Firishta's writings as a minister of the Sasanian king Khusraw Nushirwan. However, A.M. Shastri dismisses this theory as unconvincing.

There are several historically inaccurate legends about the ancestry of Varahamihira:

Jain writers Merutunga (14th century) and Rajashekhar-Suri claim that his original name was Varaha, and he was a brother of the Jain patriarch Bhadrabahu. He gained knowledge because of a favour by the Sun, because of which the suffix "Mihira" ("Sun") was added to his name. Jain authors seem to have fabricated this story to prove the pre-eminence of the Jain astrology over the Brahmanical astrology.

Another 20th century legend, purportedly based on "some old Gujarati text" claims that Aditya-dasa's wife was called Satya-vati alias Indu-mati: Varahamihira was born to them in their fifties by the boon of the Sun. He was originally known as Mihira, and was given the prefix "Varaha" by King Vikramaditya when he correctly predicted that a boar (varaha in Sanskrit) would kill the king's son.

A tradition associates Varahamihira with Berachampa in West Bengal, where a mound called "Varahamihira's house" is located. This seems to be the result of an attempt to associate the locality with a famous figure. A legend from the Bengal region claims that Varaha and Mihira were a father-son duo at Vikramaditya's court, and the poet Khana was Mihira's wife. This legend is of no historical value. "Varaha" and "Mihira" were alternative names for the same person - Varahamihira, as attested by the later astronomical works.

Another legend claims that the Mimamsa teacher Shabara-svamin had four wives, one from each varna, and Varahamihira was his son from his Brahmin wife. Some scholars, such as S.K. Dikshit, have theorized that Aditya-dasa was another name of Shabara-svamin, but no historical evidence supports this tradition.

Religion:-

Several scholars theories that Varahamihira came from a Brahminized family of the sun-worshipping Magi priests. He was a worshipper of the sun god Savitru, and stated that he had received all his knowledge by the grace of this god. For example, in Brhaj-jataka, he states that he was able to compose the text because of a boon by the Sun. While he mentions other deities, he devotes a much larger number of verses to the Sun. His commentator Utpala credits his sharp intellect to a boon by the Sun. Some later writers describe him as an incarnation of the Sun god. Utpala, for example, declares that the Sun descended on earth in the form of Varahamihira to save the jyotisha-shastra from destruction. The Subhashita-ratna-kosha quotes stanzas that praise Varahamihira as an incarnation of Vishnu and the Sun, presumably because of two parts of his name is varaha referring to an avatar of Vishnu, and mihira meaning sun.

Sun worship seems to have been his family's religion, as his father Aditya-dasa's name literally means "slave of the Sun", Kutuhula-manjari, a later text, suggests that Varahamihira was born to Aditya-dasa by the blessings of the Sun. Varahamihira's son Prthu-yashas also invokes the Sun in the opening stanza of his work Shatpanchashikha.

Varahamihira was well-versed with the Vedic tradition, He recommends the performance of several ancient Hindu rituals such as Punyaham and chanting of Vedic hymns.

Varahamihira praises Vishnu in the chapters 42 and 104 of Brhat-samhita, leading A.N.S. Aiyangar and K.V.R Aiyangar to speculate that he came in contact with the Shri Vaishnava saints (Alvars); however, A.M. Shastri dismisses this theory, describing the praise for Vishnu as an example of religious eclecticism.

In Brhat-samhita, Varahamihira discusses the iconography of several Brahmanical deities, including Vishnu, Baladeva, Ekanamsha, Shamba, Pradyumna, consorts of Shamba and Pradyumna, Brahma, Skanda, Indra, Shiva, Surya, the divine mothers, Revanta, Yama, Varuna, and Kubera. These were presumably the popular gods worshipped during his period. He also describes the iconography of two non-Brahmanical faiths, that of the Buddha and the Jinas. He appears to have been religiously liberal, as he reveres the Buddha as "the father of the world" and devotes an entire stanza to Buddha's iconology. A verse in the Brhat-samhita describes the iconography of Ganesha, but this verse appears only in one or two manuscripts, and is likely a later interpolation. Similarly, a Tikanika-yatra verse in which the author reveres Ganesha, is likely spurious; this verse appears only in one manuscript.

Surya Siddhanta

- In India, astronomy equipment had been used prior to 1000 BC. The "Surya Siddhanta," a well-known book for astronomical computations, was composed around this time.
- The name 'Suryasidhanta' means 'sun theory,' and it relates to the observations of star and planet positions.
- Later, some Indian mathematicians created their own tools and techniques to aid in the comprehension of the "Surya Siddhanta" theory.
- The introduction of zero to mathematics and the decimal system of calculating are two such priceless contributions.
- In his four other panchasiddhantika treatises, Paitamaha Siddhantas, Paulisha Siddhantas, Romaka Siddhantas, and Vasishta Siddhantas, Varahamihira contrasted Surya Siddhanta with them.
- Aryabhata also makes reference to the Surya Siddhanta in his writings.

Pancha Siddhanta

- Suryasidhanta was one of the five astronomical theories that were in use before the time of Christ, and Varahamihira did a fantastic job of compiling them.
- This group of texts is referred to as the "Panchasiddhantika."
- He had created a wide range of string and ring instruments.
- It is a compilation of both Hellenistic and Vedanga Jyotisha astronomy.
- The equinox shifts by 50.32 arc seconds annually, according to Varahamihira, who was the first to note it.

Contributions to the Mathematics

- One of Varahamihira's mathematical achievements was the discovery of the trigonometric formulae.
- He enhanced Aryabhata's sine tables' accuracy. He provided definitions for the algebraic characteristics of zero, negative numbers, and positive and negative numbers.
- In addition, he was among the first mathematicians to find a different form of Pascal's triangle.
- He utilised it to establish a method for calculating binomial coefficients.

Other Contributions

- Varahamihira also made several significant discoveries in the fields of hydrology, geology, and ecology.
- His claim that termites and plants can sense subsurface water is increasingly receiving support among scientists.
- Additionally, he wrote a lot. His command of Sanskrit language and poetic rhythm allowed him to express himself in a distinctive manner.
- He became well-known due to his encyclopaedic knowledge and engaging presentation of even the most boring subjects, including astronomy.

- He has been promoted to the same level of astrology as Kautilya, Manu, and Panini in political philosophy, law, and grammar thanks to his works like the Pancha Siddhantika, Brihatsamhita, and Brahjataka.

Legacy and Impact:-

Varahamihira's contributions to astronomy, astrology, and other fields of knowledge have had a lasting impact on Indian intellectual history. His works were translated into Arabic and Persian, influencing Islamic scholarship and contributing to the global exchange of ideas.

Varahamihira's emphasis on empirical observation and rational inquiry was ahead of his time. He sought to reconcile traditional Indian knowledge with the insights gained from Hellenistic astronomy. His works provide valuable clues about the state of scientific knowledge in ancient India and its interactions with other cultures.

Conclusion:-

In conclusion, Varahamihira was a polymath whose multifaceted talents and profound insights have left an indelible mark on Indian intellectual tradition. His contributions to astronomy, mathematics, astrology, and architecture continue to inspire and inform even in the modern age. He is a shining example of the intellectual prowess and cultural richness of ancient India, and his name will forever be etched in the annals of history as a true pioneer of knowledge and learning.

In the early part of the sixth century, an Indian mathematician by the name of Varahamihira was born. Varahamihira, a citizen of Ujjain, was one of Chandragupta II's nine jewels. According to Indian mythology, he was one of the "Nine Jewels" at the court of Malwa Monarch Yashodharman Vikramaditya. Varahamihira was the only well-known astronomer, mathematician, and astrologer from ancient India whose name gained widespread recognition in his native countries.

Reference:-

1. History of Indian Literature. Motilal Banarsi Dass Publications, 2008, p. 46.
2. Gopal, Ram (1984). Kalidasa: His Art and Culture, Concept Publishing Company. p. 15.
3. M. Srinivasachariar (1974). History of Classical Sanskrit Literature Motilal Banarsi Dass. pp94-111. ISBN 9788120802841.
4. Winternitz, Moriz (1985). History of Indian Literature. Motilal Banarsi Dass, pp. 45-47. ISBN 978-81-208-0056-4.
5. A.M. Shastri 1991, p.51, p.43-45, p.8, p.100-120, p.120-121, p.121, p.19-20, p.18.
6. A.M. Shastri 1969, p.1, p.21.
7. B. Suryanarain Rao, ed (1986). Sree Varaha Mihira's Brihat Jataka. Motilal Banarsi Dass. P.612. ISBN 9788120813953.
8. Winternitz, Moriz (1985). History of Indian Literature. Motilal Banarsi Dass. pp. 685-697, ISBN 978-81-208-0056-4.