

ON THE MEANING OF THE MŪLA NAKṢATRA

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It is shown that the origin of the name of the Mūla Nakṣatra, related to its being the southernmost among the recognised Nakṣatras in the sky, as concluded by Rev. Burgess, is not tenable. A new interpretation is proposed here to signify the fact that the well-defined domain of the Mūla Nakṣatra overlaps incidentally on the densest part of the Milky Way, implying Mūla to be the root or the Ādi Nakṣatra. If Vichratau is to mean the two releasers of the Ākāśa Gaṅgā, the Milky Way, in the two opposite directions, the legendary identification of Sagittarius, the lord Rudra (later Śiva), becomes further meaningful. On the other hand, the identification of Taurus as Nandī's Bull and of Pleiades as Kārtikeya, the six-headed son of Śiva, would also suggest that the head of this Śiva riding over the Bull must lie somewhere in the thinnest part of the Milky Way, as if it is to signify that the celestial Gaṅgā, the Milky Way, emerged from the head of Śiva in her most modest form and grew full to the brim by the time it reached the opposite constellation Scorpius, or most appropriately, the Nakṣatra Mūla, where moon and the planets are seen to cross the densest part of the Milky Way in a unique way.

Key Words : Mūla Nakṣatras, Ākāśa Gaṅgā, Śiva, Ādi Nakṣatra, Vichratau, Nandī's Bull, Kārtikeya, Citra.

INTRODUCTION

The Sanskrit word 'Nakṣatra' probably comes from *nak-kṣatra*, meaning 'having rule over night'. Its earliest usage was to denote any star in general. Later Nakṣatra came to mean only those stars that lie on the path of the moon. *The Yajurveda Samhitā* and other books list 27 Nakṣatras. (Some lists add a 28th Abhijit, Alpha Lyrae.) The significance of the number is easily understood. Since the moon completes its orbit around the earth in 27.3 days it spends each night with a Nakṣatra. The term 'Nakṣatra' is used in two senses; it refers to the star proper as well as to an arc of the ecliptic. Each of the Nakṣatras is assigned $360^\circ/27 = 13^\circ 20'$ of the ecliptic, with the star (or star groups) proper being called the Yogatārā. The Nakṣatras are enumerated from west to east, following the true motion of the moon. The ecliptic is not marked by any preferential point which can act as the origin of the celestial longitude. A solstice or an equinox or a Nakṣatra rising exactly due east may have been chosen as the reference point or Nakṣatra for listing the Nakṣatras

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with numerals. The early lists begin with Kṛttikā (Eta Tauri etc., the Pleiades). Later lists however are headed by Aśvinī (Beta and Eta Arietis) corresponding to vernal equinox of about AD 500.¹ If it is assumed that Kṛttikā was earlier chosen to head the list for the same reason, then the Nakṣatra system can be said to have been in existence as early as about 3000 BC, when Kṛttikā coincided with the vernal equinox (the *Śatapatha Brāhmaṇa* explicitly states that Kṛttikās rise due east).

With this background, we turn our attention to the Mūla Nakṣatra, that stands at number 19 in the list headed by Aśvinī, and corresponds primarily to the two stars Lambda and Upsilon Scorpii in the 'sting' of the constellation Scorpius. The older name is *Vichrtau* ('the two releasers'). Subsequently, it came to be known as Mūlabhara ('uprooting') or simply Mūla ('root').

Bently in his *Hindu Astronomy* suggests that the name 'Mūla' comes from the fact that the list of the Nakṣatras once began with Mūla.² Rev. Burgess³ (1860) referring to the "characteristic recklessness" with which the statement is put forth instead plausibly suggests that 'Mūla' was so named because it was "farthest to the southward, of the whole series of asterisms, and hence capable of being looked upon as the root out of which they had grown up the heavens". At present, 'Mūla' occupies the lowest declination ($-37^{\circ}.1$) followed by Pūrvāṣāḍha ($-26^{\circ}.3$). The slow precession of the earth's rotation axis changes the orientation of the celestial equator with respect to the backdrop of the stars. The cumulative effect over the *millennia* can indeed be significant.

Figure 1 shows the change in the declination of the two Yogatārās, Mūla (Lambda Scorpii) and Śatabhiṣaj (Lambda Aquarii), over the past 6000 years. Even though the declination of Śatabhiṣaj at present is only $-7^{\circ}.6$, it was increasing southward in the past, unlike in the case of Mūla where the increase was northwards. One can see that in about 3,000 BC, Śatabhiṣaj was distinctly more southerly than Mūla, but after about 0 AD, Mūla obtained the distinction of being the most southerly of all Nakṣatras. If Burgess' conclusion was correct, the name Mūla could have been coined before 500 BC at the earliest, but we know that the name Mūla existed in the Kṛttikādi list whose origin dates back to about 3,000 BC. Therefore, we concluded that Burgess' conclusion regarding the etymological origin of Mūla as a Nakṣatra is not tenable. We propose a new interpretation here on the basis of the following simple observation.

There is another aspect of Mūla's location which is worthy of note, especially because it is independent of the precession of equinoxes: visibly Mūla lies close to the intersection of the Milky Way and the zodiacal belt, or more precisely, close to the point of intersection of the Galactic equator and the ecliptic. The sidereal longitude (the origin of the so-called 'sidereal' longitude system is such that the celestial longitude of Alpha Virginis or Citra is exactly 180° , by definition) of this point of intersection has been calculated to be $246^{\circ}10'$, which is close to the centre of the zone of the ecliptic assigned to the Mūla Nakṣatra. Since the Mūla Nakṣatra occupies the zone of sidereal longitude between 240° and $253^{\circ}20'$, its centre ought

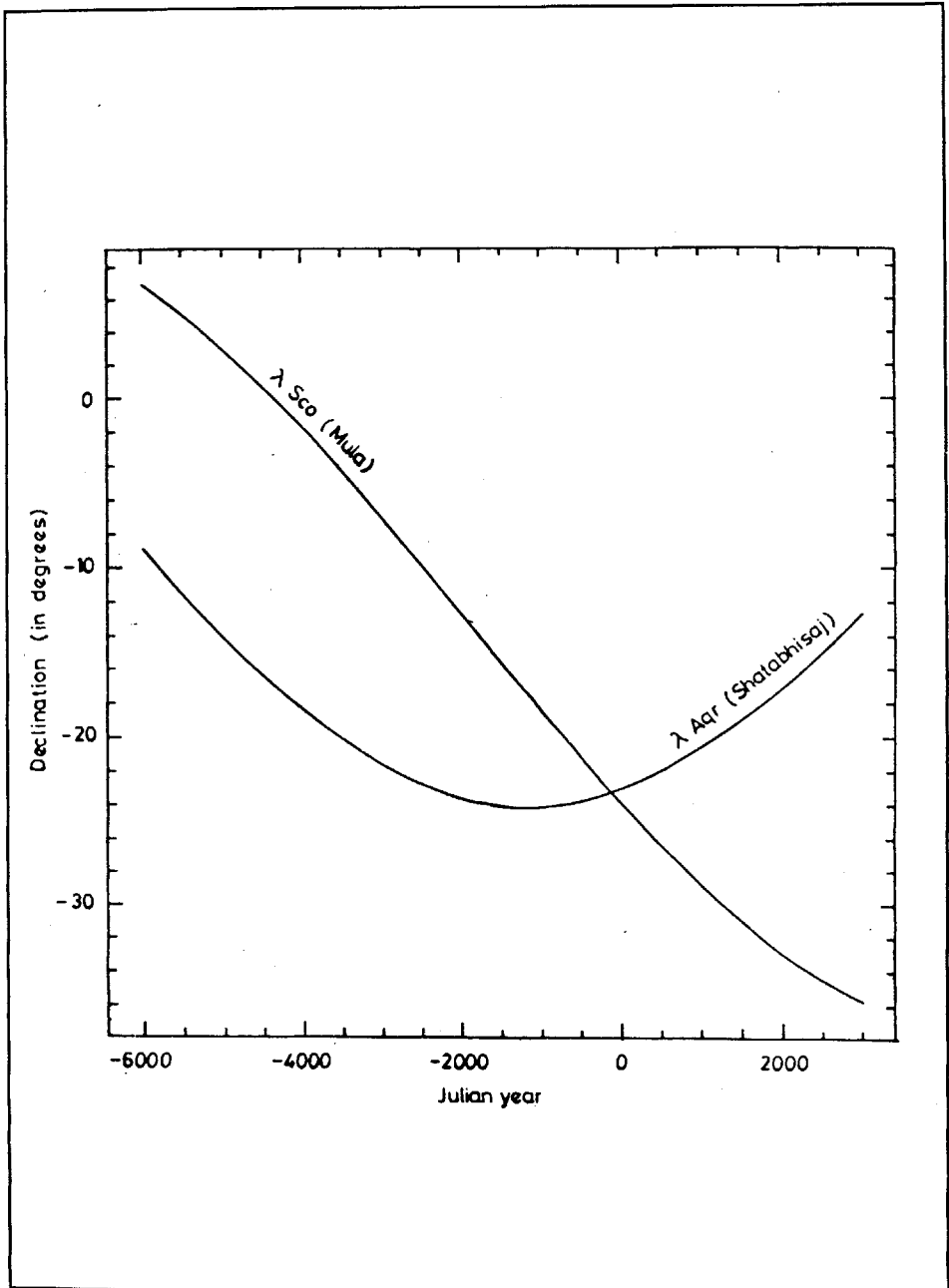


Fig. 1

to be located at the sidereal longitude $246^{\circ}40'$, which is merely $30'$ away from the exact point of intersection of the ecliptic and the Galactic equator. We are not claiming that our ancestors had conceived the idea of the modern Galactic equator or had mapped it accurately either, but what would have been possible is that, as our naked eye observations would suggest, the entire ascribed range of the Mūla Nakṣatra is nicely intercepting the wide band of the Milky Way in a region where it appears to be visibly most dense. Since the location of this point of intersection does not practically change in thousands of years, it can serve well as a preferred point (or Nakṣatra) on the ecliptic where moon and the planets were seen to cross the densest part of the Milky Way in a unique manner. In absence of any scriptural evidence in support of this observation so far, we propose it here as a plausible new interpretation of the term 'Mūla', as a further supplement to the existing etymological explanation, namely the sting of the Scorpio appearing like a root or Mūla. Since the possibility that the name *Vichratau*, the two releasers, might also logically refer to the release of the bounty of the Ākāśa Gaṅgā, the Milky Way band in the sky, our interpretation may not be a wrong one.

It is relevant to note that the Milky Way figures prominently in the Indian mythology. It has been suggested that the Vedic God Rudra (who is later represented by Śiva) be identified with the constellation Sagittarius (Archer). In this context, it is noteworthy that in all Śiva temples, opposite Śiva sits Nandī Bull, probably representing the constellation Taurus, which faces Scorpius in the sky and also the region where the thinnest part of the Milky Way again crosses the ecliptic. Furthermore, the six sisterly stars of Kṛttikā (Eta Tauri, etc.) are said to have jointly mothered Śiva's son, who is accordingly called Kārttikeya. This may suggest a good reason as to why Kārttikeya is considered to be a six-headed god. It is also interesting to note that there is a legend that Śiva received the Gaṅgā brought to earth by Bhāgiratha. This can easily be understood in terms of the astronomical identity of Śiva. Since Sagittarius denotes the brightest part of the visible Milky Way band, the legend can be viewed as a simple way of connecting the celestial Gaṅgā (Ākāśa Gaṅgā, the Milky Way) with the terrestrial river Gaṅgā.

To sum up, we have argued that the Mūla Nakṣatra was noted because close to it the moon would then be seen in the densest part of the Milky Way band and that it is associated with the Śiva legend by way of the Milky Way.

REFERENCES

1. Macdonell, A.A., Keith, A.B. *Vedic Index*. 2 vols. Motilal Banarsidass. Delhi : 1958.
2. Bentley, J. *Historical View of the Hindu Astronomy*. 1825; p. 5.
3. Burgess, E. *The Sūrya Siddhānta*. Indological Book House. Delhi : 1977; p. 224.