

$1\frac{3}{4}$ asterisms = $23\frac{3}{4}^{\circ}$ (27 asterisms being = 360°). Taking the starting-point at 499 A.D., the assured period of Varāha Mihira, Jones¹²⁸ arrived at the date B.C. 1181 for the vernal equinox corresponding to the winter solstice in Māgha—that is, on the basis of 1° = 72 years as the precession. Pratt¹²⁹ arrived at precisely the same date, taking the same rate of precession and adopting as his basis the ascertained position in the Siddhāntas of the junction star¹³⁰ of Maghā, α Leonis or Regulus. Davis¹³¹ and Colebrooke¹³² arrived at a different date, B.C. 1391, by taking as the basis of their calculation the junction star of Citrā, which happens to be of uncertain position, varying as much as 3° in the different textbooks. But though the twelfth century has received a certain currency as the epoch of the observation in the Jyotiṣa,¹³³ it is of very doubtful value. As Whitney points out, it is impossible to say that the earlier asterisms coincided in position with the later asterisms of $13\frac{3}{4}^{\circ}$ extent each. They were not chosen as equal divisions, but as groups of stars which stood in conjunction with the moon; and the result of subsequently making them strictly equal divisions was to throw the principal stars of the later groups altogether out of their asterisms.¹³⁴ Nor can we say that the star ζ Piscium early formed the eastern boundary of Revatī; it may possibly not even have been in that asterism at all, for it is far remote from the Chinese and Arabic asterisms corresponding to Revatī. Added to all this, and to the uncertainty of the starting-point—582 A.D., 560 A.D., or 491 A.D. being variants¹³⁵—is the fact that the place of the equinox is not a matter accurately determinable by mere observation, and that the Hindu astronomers of the Vedic period cannot be deemed to have been very accurate observers, since they made no precise determination of the

¹²⁸ *Asiatic Researches*, 2, 393.

¹²⁹ *Journal of the Asiatic Society of Bengal*, 31, 49.

¹³⁰ Cf. Whitney, *Oriental and Linguistic Essays*, 2, 373.

¹³¹ *Asiatic Researches*, 2, 268; 5, 288.

¹³² *Essays*, 1, 109, 110. See Sir T. Colebrooke, *Journal of the Royal Asiatic Society*, 1, 335 et seq.; Whitney, *op. cit.*, 2, 381, 382.

¹³³ E.g., Lassen, *Indische Alterthumskunde*, 1², 606, 607, 976, and cf. Thibaut, *Astronomie, Astrologie und Mathematik*, 17, 18; Tilak, *Orion*, 38, 39.

¹³⁴ Whitney, *op. cit.*, 2, 375.

¹³⁵ Cf. Whitney, *op. cit.*, 377, 379; Weber, *op. cit.*, 2, 363, 364, where he prefers A.D. 582.