

number of days of the year, which even in the Jyotiṣa they do not determine more precisely than as 366 days, and even the Sūrya Siddhānta¹³⁶ does not know the precession of the equinoxes. It is therefore only fair to allow a thousand years for possible errors,¹³⁷ and the only probable conclusion to be drawn from the datum of the Kauṣītaki Brāhmaṇa is that it was recording an observation which must have been made some centuries B.C., in itself a result quite in harmony with the probable date of the Brāhmaṇa literature,¹³⁸ say B.C. 800-600.

(4) Another chronological argument has been derived from the fact that there is a considerable amount of evidence for Phālguna having been regarded as the beginning of the year, since the full moon in Phalgunī is often described as the 'mouth (*mukham*) of the year.'¹³⁹ Jacobi¹⁴⁰ considers that this

¹³⁶ See Whitney's note on Sūrya Siddhānta, iii. 12; *op. cit.*, 2, 369, n. 1; 374, n. 1. Cf. Tilak, *Orion*, 18.

¹³⁷ Whitney, 384, followed by Thibaut, *Indian Antiquary*, 24, 98; *Astronomie, Astrologie und Mathematik*, 18. See also Weber, *Indische Studien*, 10, 236; *Indian Literature*, 2, n. 2; Whitney, *Journal of the Royal Asiatic Society*, 1, 313 *et seq.*; in Colebrooke's *Essays*, 1², 120 *et seq.*; Max Müller, in his edition of the *Rig-veda*, iv², xxx *et seq.*, was also inclined to regard the date as very uncertain; only in his popular works (*Chips*, 1, 113, etc.) did he accept 1181 B.C., or rather 1186 B.C., as recalculated by Main from Pratt's calculation. Shamasastri's defence, *Gavām Ayana*, 122 *et seq.*, of the Jyotiṣa shows a misunderstanding the criticisms made. See Keith, *Journal of the Royal Asiatic Society*, 1910, 66, n. 5.

¹³⁸ Cf. Macdonell, *Sanskrit Literature*, 12, 202; Keith, *Aitareya Aranyaka*, 20 *et seq.* It has been put earlier: see Thibaut, *Astronomie*, etc., 18; Bühler, *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, 55, 544, and cf. Bühler, *Sacred Books of the East*, 2, xl *et seq.*; *Indian Antiquary*, 23, 247; von Schroeder, *Indiens Literatur und Cultur*, 45 *et seq.* See also Jolly, *Recht und Sitte*, 3; Hille-

brandt, *Ritualliteratur*, 31, who are inclined to accept an early date, fourth or fifth century B.C., for the Āpastamba Sūtras, from which a still earlier date for the Brāhmaṇas must be conceded. But Eggeling is more probably correct when he assigns the Āpastamba Sūtras to the third century, B.C. See *Sacred Books of the East*, 12, xl, and it seems unwise unduly to press back the date of Vedic literature. It is noteworthy that in the Epic the solstice is still in Māgha (*Mahābhārata*, xiii. 168, 6. 28). Reference is, however, made (*ibid.*, i. 71, 34) to the Nakṣatras commencing with Śravaṇa, and the first month is Mārga-śīrṣa (see Hopkins, *Journal of the American Oriental Society*, 24, 21 *et seq.*). Cf. also Tilak, *Orion*, 37, 216.

¹³⁹ Taittirīya Saṃhitā, vii. 4, 8, 1. 2; Pāṇcaviṃśa Brāhmaṇa, v. 9, 9. Cf. Kauṣītaki Brāhmaṇa, iv. 4; v. 1; Taittirīya Brāhmaṇa, i. 1, 2, 8; Śatapatha Brāhmaṇa, vi. 2, 2, 18; Āśvalāyana Śrauta Sūtra, v. 3. 16. According to the Taittirīya and the Kauṣītaki Brāhmaṇas, the beginning falls at the middle of the joint asterism.

¹⁴⁰ *Indian Antiquary*, 23, 156 *et seq.*; *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, 49, 223 *et seq.*; 50, 72-81. See Tilak, *Orion*, 53 *et seq.*; 198 *et seq.*