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# EPIGRAPHIA INDICA

AND

RECORD OF THE ARCHÆOLOGICAL SURVEY OF INDIA

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Vol. XVII, 1923-24.

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EDITED BY

RAO BAHADUR H. KRISHNA SASTRI, B.A.,

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## ADDITIONS AND CORRECTIONS.

Page 2, l. 5.—For *-viddhyud-* read *-viddyud-*

„ „ „ 24.—For (*puram*) read (*puravu*).

„ 6, Translation of l. 37.—Śivāṅkāśrayābhyah translated “who resided near (the temple of) Śiva” suggests that the recipient Brahmins had their homes near the Parāśurāmēśvara temple at Guḍimallam, for which there are not sufficient indications at present. Perhaps a better interpretation of the compound would be Śivāṅkāṇām āśrayāḥ, the abodes of symbols (such as ashes, beads, liṅga etc.) of Śiva.

„ 10, l. 15.—For *Chāṇḍāla* read *Chāṇḍāla*.

„ 11, Text l. 3.—[Possibly Niya was the name of the carpenter (*vaḍaka*) who made the gift.—H. K. S.]

„ „ l. 38.—For *Bhāmi naga* read *Bhāmināga*.

„ 12 „ 8.—For *blocks* have read *block* has.

„ „ last line.—For *before r*, read *after r*,

„ 13.—Insert at the end of the introduction on page 13. [Prof. Hultsch and Mr. K. N. Dikshit have simultaneously invited my attention to Dr. Sukthankar's omission to have noted the very important paper on the Poona plates of the Vākāṭaka queen Prabhāvatī Guptā, the daughter of the Gupta Emperor Chandra Gupta II, which Messrs. Dikshit and Pathak had together published on p. 39 of Vol. XV of the *Ep. Ind.* From this it is clear that Prabhāvatī Guptā and her husband Rudrasēna II, the sixth in descent from Pravarasēna II, were contemporaries of Chandra Gupta II, the son and successor of Samudra Gupta of the beginning of the 5th Century A.C. Consequently, the Ganj inscription which, palaeographically is ascribed to be that of Prithvishēna I, must belong to about the end of the 4th Century A.C.; but it is very unlikely that the Prithvishēna of this inscription is the first of that name. If, however, he is the second, the record may be roughly referred to the beginning of the 6th Century A.C.—H. K. S.]

Page 15, f. n. 2, 4th line—*for श्री महेन्द्रविक्रमवर्मा read श्रीमहेन्द्रविक्रमवर्मा*

„ 18, l. 16—insert comma after 307.

„ 106, l. 11—For *bhāta-vāta*° read *bhāta-vāta*°.

„ „ paras. 3 & 4.—[Dr. Sukthankar in criticising Dr. Sten Konow with regard to the meaning of प्रावेद्य has not noted the significance of the word एतत् which occurs in एतत् प्रावेद्य of line 4 of the Khariar grant of Mahāsudēva where two villages Navannaka and Śāmbilaka adjoining Navannaka, were granted. There is, thus, no indication of Navannaka being a territorial division expressed by the term प्रावेद्य added to it as supposed by Sukthankar, whereas प्रावेद्य as an independent word indicates certainly the sense of proximity, or better, a dependence on the village immediately mentioned before it.—Ed.]

„ 107, Text, l. 10.—Insert कवि after खानायुक्त°

„ „ f. n. 6.—For *देव* read *देव*.

„ „ 7.—For *ब्राम्हावय्य*° read *बामि बालय्य*°

Page 108.—*Inscription B.*—The missing second plate of this inscription has been discovered at Iyāvēja by Mr. D. B. Diskalkar, M.A., Curator, Watson Museum of Antiquities, Rajkot, and will shortly be published by him in this journal.—Ed.

- „ 108, f. n. 2.—For *upadmāntya* read *upadhmāntya*.  
 „ 109, l. 10.—Dr. Sukthankar is not right in his guess; for the *dātaka* of the grant as found in the missing plate is Rudradhara. But the writer was Kikkaka, here spelt Kikaka.—Ed.  
 „ 109, f. n. 2.—For *Dhruvasōna* read *Dhruvasēna*.  
 „ 110, l. 3.—For *Rotghamitra* read *Rōtghamitra*.  
 „ „ 1. 5.—For *Āsvina* read *Āsvayuja*.  
 „ „ Text l. 7.—For *-gitan* read *-gitau*.  
 „ „ „ 8.—For *āchchhettā* read *āchchhettā*.  
 „ „ „ 9.—To *-vvā*, add the footnote 'Read *-vā*'.—Ed.  
 „ „ „ 11.—For *Kikkakena* read *Kikkakēna*.  
 „ „ f. n. 2.—For *āgami* read *āgāmi*.  
 „ \* 111, l. 3.—For '34' read '33'.  
 „ „ „ 8.—For 'these two sets' read 'this set'.  
 „ „ „ 16.—For *Tirunalūr* read *Tirunālūr*.  
 „ „ „ „—For *°nallūr* read *°nalūr*.  
 „ „ „ „—For *'Saneputha°'* read *'Sunaiputha°'*.  
 „ „ „ 17.—Insert after '*Nārāyaṇāmbikā*', "or *Nārāṇadēvi-auva*."  
 „ „ „ 11 from the bottom.—For *Tirunalūr* read *Tirunālūr*.  
 „ „ „ „ „ „ For *°perumā-nallūr* read *°perumā-nalūr*.  
 „ „ „ 10 „ „ For *Sunē°* read *Sunai°*.  
 „ „ „ 9 „ „ For *Mēlmurū* read *Mēlemuri*.  
 „ „ „ „ „ „ For *Maḷa-nāḍu* read *Maḷa-nāḍu*.  
 „ „ „ 8 „ „ Insert before 'villages', "first three".  
 „ „ „ 7 „ „ For *Tiruchchirāppalli* read *Tiruchchirāpalli*.  
 „ „ „ 5 „ „ Insert after 'twelve' the following: " *harivāḥas* of food should be supplied, one".  
 „ „ „ „ „ „ For *lamps* read *lamp*.  
 „ „ „ „ „ „ Insert after 'burned' "one".  
 „ „ „ „ „ „ For *garlands* read *garland*.  
 „ „ last line.—For 1,82 read 1,823.  
 „ 112, l. 2.—Insert '*vāṇ-payir*' after '*punṣey*'.  
 „ „ „ For *°ppēru°* read *°pperu°*.  
 „ „ „ 3.—Cancel (*tari-kaḍamai*).  
 „ „ „ „ For *āḷukku°* read *olukku°*.  
 „ „ „ 4.—For *kaṭṭigai-avasaram* read *kathige-avasara*.  
 „ „ „ „ For *paḷai-kāṇikkai* read *paḍai-kāṇike*.  
 „ „ „ 10.—For *Pēr°* read *Pēr*.  
 „ „ „ 11.—Omit the passage from *āḷukku°* to *nīrāṇikkam* in l. 13.  
 „ „ „ 13.—For *Maḡamai* read *mahamai*.  
 „ „ „ 17.—For *Kaṭṭigai-avasaram* read *Kathige-avasara* and add in a foot-note [This term does not indicate any tax on firewood as the author suggests but may have to be connected with *kaṭṭige-yava*, a mace-bearer, or in this case the village servant who carries the staff of office with him.—Ed.]

\*[The following numerous corrections on pp. 111 to 117 have been necessitated by the proof being passed by the office in the belief that it had been revised by the author].

- Page 112, l. 18.—For -kkāṇikkai read kāṇike.
- „ „ „ 23.—For Tiruchchirāppalli read Tiruchchirāpalli
- „ „ „ 23.—For Tirunālūr read Tirunālūr.
- „ „ „ 24.—For Śēranai° read Śēranai° and for °nallūr read °nalūr.
- „ „ „ 24.—For Mēlmuri read Mēlemuri.
- „ „ „ 24.—For Maḷa-nāḍu read Maḷa-nāḍu.
- „ „ „ 24.—For Sune° read Sunni°.
- „ „ „ 26.—For Tiruchchirāppalli read Tiruchchirāpalli.
- „ „ „ 29.—For Maḷa-nāḍu read Maḷa nāḍu.
- „ „ „ 33.—For Tirunālūr read Tirunālūr and insert after it, [-Tirunallūr].
- „ „ „ 33.—For Śēranai° read Śēranai°.
- „ „ „ 34.—For °ma-nallūr read °mā-nalūr.
- „ „ „ 35.—For Śunepuḥa° read Śunaipuḥa°.
- „ „ Text, l. 1. —Remove the unnecessary extra bracket after नमः(;) and insert a hyphen at the end of the line.
- „ „ „ 2.—For नु read नुं.
- „ 113 „ 3.—For खै read खै and cancel foot-note.
- „ „ „ 6.—For °मंनूषि° read मंनूषि°.
- „ „ „ 8.—For °यद्र° read °यदु°.
- „ „ „ 14.—For °हारिहरि° read °हारी हरि°.
- „ „ „ 23.—For °जन्म त° read °जन्मत°.
- „ „ f. n. 9.—For चन्मन read चन्मनं.
- „ 114, Text l. 29.—For मूढ° read मूढ° and add in a footnote: “[ रँ is the letter ra as generally transcribed in Nāgarī,—Ed.]”
- „ „ „ „ 31.—For °हये read °हये and correct into °हये.
- „ „ „ „ 34.—For मासि read मासौ and correct into मासि.
- „ „ „ „ 36.—Insert after °[खे] the letter ‘द’ and correct °[राखे]द into °रा[खे]द.
- „ „ „ „ 37.—Carry the footnote number 14 to °भौ of the preceding word.
- „ „ „ „ —For तिहन्नलू° read तिहन्नलू° and correct into तिहन्नलू.
- „ „ „ „ 38.—Correct in a foot-note °नलूरपि into °नलूरपि. Insert space after उत्तरे and for °कंन्या° read °कंन्य°.
- „ „ „ „ 39.—Insert “[ || 23\* ]” after °वे and add a foot-note “read वल्लामिधे [वल्लामिधे]. [This word which occurs in connection with Rājagambhira and Rājarija, both in lines 36 and 38 f, has perhaps to be understood in the sense of the Tamil वल्लमाडु, a territorial subdivision, as suggested also by its use below, in ll. 52 and 56 f.—Ed.]”
- „ „ „ „ —Insert as a foot-note on पडन्नपदे:—“[पडन्नपदे perhaps stands for पाडन्नपदे which is perhaps a Sanskritised form of Maḷanāḍu.—Ed.]”
- „ „ „ „ —Correct सुनेपुडन्नलूरवा into सुनेपुडन्नलूरवा in a foot-note.
- „ „ „ „ —Insert after उभौ “[ |\* ].”
- „ „ „ „ 40.—Read यीरनगजगपरि as one word.
- „ „ „ „ 41.—After “[ | ” insert [24\*].
- „ „ „ „ —For खलि यी read ख लि and correct the same into खलि यी [||\*].



Page 114, Text l. 42.—Insert a foot-note on सुधः—“Read युद्ध”.

” ” ” ” 44.—For नारायण° read नारण°.

” ” ” ” 46.—For परि° read हरि° and insert spaces after ह and ी

” ” ” ” —For दग्धाले read दग्धमाले.

” ” ” ” 47.—For तिह° read तिरि° and correct into तिह. The letters दके को ought to be in [ ].

” ” f. n. 9.—Add at the end: “ [ Perhaps प्रकस्याह्ने was meant—Ed. ] ”

” ” ” 13.—For मिधकावेर्या° read मिधे कावेर्या°.

” ” ” 14.—Cancel the hyphen at the end and insert [ | 22\* ]

” ” ” 15.—For सत्यकन्याया read सद्यकन्याया.

” ” ” 16 & 17.—[Perhaps metrical considerations would require some corrections like श्रीरगराटसपयार्थं नाः स्वात्माभिधानतः —Ed.]

” ” ” 25.—For चान्दक read चोदके.

” 115, Text l. 51.—For सुध read सुध.

” ” ” ” 53.—Correct in a foot-note, °हीमलि° into °हीमलि°.

” ” ” ” 54.—Correct तिरनालुर into तिरनालुर.

” ” ” ” 55.—For नलू read नलु and correct into नलू°.

” ” ” ” 56.—In १३०९ put the nought in square brackets with an asterisk.

” ” ” ” —For °कर read °करे.

” ” ” ” —For °वळ° read °वल°.

” ” ” ” 57.—For सुने° read सुने° and correct in a foot-note °नलुर into °नलूर.

” ” ” ” 58.—For समय(ः) read समय.

” ” ” ” 59.—Insert a space after कंद and add in a foot-note “ [कंद perhaps stands for कण्ड i. e., मेखण्ड —Ed.] ”

” ” ” ” 64.—For चो read चो and correct the whole into चोदकुनीयाई in a foot-note.

” ” ” ” 67.—Carry foot-note No. 15 to the end of एतुङ्गता.

” ” ” ” 71.—Insert space after the first letter in the line and correct in a foot-note माच° into चाच°.

” ” f. n. 4.—Omit ने at the end of the correction.

” ” ” 6.—Change the foot-note thus: “ Read सिरनेबंदपेरमानलूर as in the Sanskrit portion in l. 37.”

” ” ” 9.—For चान्दके read चोदके.

” ” ” 14.—For पध read पधे.

” ” ” 15.—For होसवरि read एतुङ्गया.

” 116, Text l. 75.—For 22 read 25 and for खदता read खादता and correct into खदत,

” ” ” ” 76.—For बटिबर्ब° read बटिबर्बु° and correct into बटि बर्ब°.

” ” ” ” 77.—For 23 read 26.

” ” ” ” 79.—For 24 read 27.

” ” ” ” 80.—For दता° read दता and correct into दता°.

” ” ” ” 82.—For °जा° read °भा°.

” ” ” ” —For 26 read 29.

” ” ” ” 83.—For °विह° read °विह° and correct into °विह°.

” ” Vv. 6-7.—For kaustabha read kaustubha.

” ” ” 10-12, last sentence.—For °Lakshmi read -Śrī and for as read the.

- Page 116, line 3 from the bottom.—For Śēra° read Sēra°.
- „ „ „ „ „ „.—For Śune° read Sunai°.
- „ „ last line.—For Monday read Sunday.
- „ „ f. n. 3.—Insert 'and' before दत्तात्रि.
- „ „ „ 6.—Insert ता before द्वि.
- „ „ „ 7.—Insert दत्तात्रि before द्वि.
- „ „ „ 8.—Cancel °पद्मद्वि.
- „ 117, l. 3.—For Sēranaibēṇḍa° read Sēranaibāṇḍa°.
- „ „ „ 4.—For Trisīrāppalli read Tiruchchirāpalli.
- „ „ „ 6.—Insert Sahyakanyā before Kāvēri and put the latter in round brackets and add  
“ in the Prāvṛḍjanapada i.e., in the Maḷa-nāḍu district ”.
- „ „ para. 2, l. 3.—Insert at the end of the line “ sacred food, of one ”.
- „ „ „ „ 4.—For lamps read lamp and insert 'one' after the comma.
- „ „ „ „ 4.—For garlands read garland.
- „ „ „ „ 5.—For Nārāyaṇa° read Nārāṇa°.
- „ „ „ „ 5.—Insert after Pāṇḍamaṅgaḷam “ with its hamlets.”
- „ „ „ „ 6.—For Sune° read Sunai°.
- „ „ „ „ 11.—For Chirichirāpalli read Tiruchchirāpalli.
- „ „ „ „ 11.—For Sune° read Sunai°.
- „ „ „ „ 12.—For Mēlamuṛi read Mēlemuri.
- „ „ „ „ 12.—Maḷa read Maḷa.
- „ „ „ „ 17.—Cancel tarikkāḍamai at the end of the line.
- „ „ „ „ 18.—For āḷḷukunīpāṭṭam, read oḷḷukunīrpāṭṭam.
- „ „ „ „ 18.—For verses 22-26 read verses 25-29.
- „ 118, text lls. 5 & 6.—I would add a hyphen at the end of l. 5 and take mahōḍaya—  
mahādhavāndra as one word, thus altering the sense. The chief who is  
described was a Sun on the Lord of mountains, viz., the great eminence of  
the Kadamba family.—Ed.
- „ 130, l. 40, for XIV read XVI.
- „ 150, coll. 6-7 for Śōchana read Śōbhana.
- „ 189, „ 29, for nāme read name.
- „ 191, f. n. 3, for the letter ऋ after य (?) read ऋ after ऋ.
- „ „ „ 12, insert length after °प.
- „ 193, l. 22, for Tōramāna read Tōramāpa.
- „ 194, para. 5, l. 4, for Karnāṭa read Karṇāṭa.
- „ 196, „ 2, „ 13, for Śiddhaladēvi read Śiddhaladēvi.
- „ „ „ 3, „ 2, for Kārttika read Kārttika.
- „ 197, „ 1, „ 2, for Hastināvatī- read Hastināvatī.
- „ „ „ 3, „ 1, for Durgā-Bhaṭṭa read Durgā-Bhaṭṭa.
- „ „ f. n. 4, for ° read °.

Page 198, text l. 12, for *सुगम*, read *सुगमः*.

- „ 200, f. n. 8 for *दावः* read *दाव*; for see above, note 1 read see above, note 7.
- „ 203, trans. of v. 9, for *Udaiya* read *Udaya*.
- „ 204, l. 8, for *kere* read *kere*.
- „ „ l. 21, delete who received.
- „ 291, 4th line from the bottom, insert the word “after” after “and” in brackets.
- „ 292, l. 5, for *kkoḷiya* read *kkoḷiyya*.
- „ 293, l. 27, omit *n* of *Kalabhran*.
- „ „ f. n. 4, last line, for *Saḍaiyaṇ* read *Śaḍaiyaṇ*.
- „ 294, l. 35, insert after orator: “thus making it clear that Mangalarāja Madhuratara is identical with Madavikalan Māraṅgāri mentioned in the previous paragraph”.
- „ „ l. 38, insert after certain: “Śuttakēśari-pPerumbaṇaikkāraṇ. The document was signed by”; and after Perumbaṇaikkāraṇ “who seems to be identical with the engraver Śuttakēśari-pPerumbaṇaikkāraṇ”
- „ 295, l. 10, for *Kaḍuṅḡṇ* read *Kaḍuṅḡṇ*.
- „ „ l. 22, for *Maduratura* read *Madhuratura*.
- „ „ l. 27, for *grove* read *drove*.
- „ „ f. n., for *Epigraphia Indica* read *S. I. I., Vol. III, Pt. IV*.
- „ 296, l. 2, for inscriptions read inscription.
- „ 297, l. 29, for *Maḷava* read *Maḷava*.
- „ „ l. 33, for *Kurumaḍai* read *Kuṇumaḍai*.
- „ „ f. n. 3, for °*Vaḷanāḍu* read °*vaḷanāḍu*.
- „ 308, l. 15, insert “(?)” after *Kuṇumbunāḍu*.
- „ „ l. 36, for *Kuḷandevaṇ* read *Kuḷandaivaṇ*.
- „ 309, l. 6, for *race* read *people* and omit °*ttavar* of *Karavandapurattavar*.
- „ „ trans. of v. 19, remove the brackets of (*learned*) and use roman type.
- „ „ trans. of l. 152, for °*pPerumbāṇaikkāraṇ* read °*pPerumbaṇaikkāraṇ*.
- „ „ f. n. 1, for *Pāṇḍya* read *Pāṇḍya*.
- „ 311, l. 11, omit ‘made through an ambassador,’
- „ „ l. 17, for *Rajagriha* read *Rājagriha*.
- „ „ para. 2, 4th line from end, for *Kalāsan* read *Kalasan*.
- „ 312, l. 11, from end, for *Prambanam* read *Prambanan*.
- „ 313, l. 6, for *extending* read *governing*.
- „ „ l. 6, from bottom, for a *dūtaka* or ambassador read *dūtas* or ambassadors.
- „ „ f. n. 5, for *Sailēndras* read *Śailēndras*.
- „ 314, l. 7, for *Kalāsan* read *Kalasan*.
- „ 315, l. 14, for *Kuṇḍinga* read *Kuṇḍinga*.
- „ 317, l. 26, insert *-naya* after *Pilipinkā*.
- „ 317, f. n. 6, after ‘document.’ at the end, add “That Nagara by itself was used as a synonym of Kusumapura or Pāṭaliputra is evidenced by the *Dharmavāda* of Iśvaradatta (pp. 3 f.) published in the *Chaturbhāṇi* in 1922 by Mr. M. Ramakrishna Kavi, M.A., Teacher’s College, Rajahmundry.

Page 320, text l. 24, for °सनावासि° read °सनावासित°.

" 321, f. n. 2, for *uparik*, read *uparika*.

„ 323, text l. 57, for °दीप्यते° read °दीप्यते°; for °जनक° one should expect °जनकः° or the poet might have used °जनक as a derivative of °जन treating it as a stem like °जीवक from °जीव; and for °१° read °१°.

" 324, f. n. 1, for *Sakti* read *Śakti* (twice).

" 325 l. 9, for *-mahishyadhikṛita* read *-mahishyadhikṛita*.

" „ l. 13, for *Brabmanōttaras*, read *Brāhmanōttaras*.

" „ l. 14, for *Chāṇḍālas* read *Chandālas*.

" 328, l. 18, for *-Hiranyagarbha-* read *-Hiranyagarbha-*.

" „ l. 28 beginning, for *gf* read *of*.

" 335, l. 13, for *Guddādi-* read *Guddādi*.



# EPIGRAPHIA INDICA

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## VOLUME XVII

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### No. 1.—GUDIMALLAM PLATES OF THE BANA KING VIKRAMADITYA II.

By PROFESSOR E. HULTZSCH, Ph.D.; HALLE (SAALE).

These plates were found at Gudimallam in the Kālabasti Zamīndārī, and were forwarded to Rao Bahadur H. Krishna Sastri by Mr. K. Raghaviah of Kālahasti. They have been acquired for the Government Central Museum, Madras.

The copper-plates are five in number and have nine faces of writing, the outer side of the first plate being left blank. The plates are not raised into rims for the protection of the writing, which is, however, in good preservation. They measure  $7\frac{1}{4}$ " in length and  $3\frac{3}{8}$ " in breadth, and are strung on a copper ring, which measures about  $2\frac{3}{4}$ " in diameter, and the two ends of which are fixed in a circular seal. The hole through which the ring is passed was enlarged after the inscription had been already engraved. This led to the total or partial destruction of some letters, a few of which were subsequently engraved a second time below the ring-hole. The seal bears, in relief, the figure of a bull couchant, facing the proper right, and above it what looks like a lamp-stand and a crescent. The weight of the plates with ring and seal is 133 *tolas*.

The alphabet is old Grantha (ll. 1-53) and old Tamiḻ (l. 53 f.). In the Grantha portion the superscribed *i* is not always distinguished from *i*, nor the subscribed form of *ri* from that of *r*. Final forms of *m* occur in lines 3, 7, 35, 48, 49, 53. In *-dhrik* (l. 30), *chāt* (l. 37), and *°vān* (ll. 26, 29, 47) the Virāma is expressed by a small dash at the right of the final consonant.

The Grantha portion consists of Sanskrit prose (ll. 1, 14, 33, 37-47, 51-53) and of 22 verses in the Anuṣṭubh and Āryā metres. Both the language and the metre of some of the Āryā verses are incorrect. In the footnotes on the text I have suggested a few possible emendations, but am unable to furnish a fully satisfactory text and translation of the eight opening verses, which are addressed to Śiva. The remainder of the inscription is quite intelligible, but the wording of it is not always correct. The compounds *-nām-ākhyā* (l. 23), *-ākhyā-nāmaka* (l. 35), and *kidrig-vidha* (l. 37) are tautological. In lines 37-39 the author violates the rules of composition by comparing words in the dative plural to nominatives singular; cf. *Sāhityadarpaṇa*, Translation, p. 301, j. In line 50 the neuter *yuga* is used as a masculine, and in line 53 the neuter *likhitam* forms the predicate of the feminine *prastāh* (l. 52). The record ends with a short postscript in the Tamiḻ language.

As regards orthography, *au* is expressed by *o* in *-so* (l. 10) and *mōli* (l. 12). The group *ksh* is replaced throughout by *tsh*, *dm* by *tm* in *patma* (ll. 4, 37), *dh* by *th* in *narāthipa* (l. 24), and perhaps *ddh* by *tth* in lines 5, 10, 11. The lingual *ḷ* is used in *gaḷa* (l. 2). The

rules of Sandhi are neglected in *Nandivarmma iti* (l. 19), *nriparāt=bhuja-* and *prādāt=grāman-* (l. 34), *chēt* (l. 37), and *bhyaḥ* (ll. 39, 42 (twice), 52). In *-nipuṇaḥsh=śhaḍgunā* (l. 30) and in four other cases (ll. 38, 40, 41 (twice)) final Visarga is expressed both by its original form and by a sibilant. Consonants are doubled throughout after *r*, and before *y* and *r* in *-maddhyē* (l. 2), *-viddhyud-* (l. 3), *-viddrā(ddru)ma-* (l. 3), *-mātrāt=* (l. 5), *Ruddrō* (l. 9), *Girittrēna* (l. 33), and *pitrē* (l. 35), but not in *traividya* (l. 41), *tsha(ksha)tra* (l. 23), *putrēna* (l. 32), *vēda-traya* (l. 39), and *vikrama* (passim). The superscribed *r* of double consonants is often omitted through carelessness.

After lengthy invocations of Śiva, which have already been noticed in the preceding remarks, the inscription introduces the demon king **Bali** (v. 9), who is stated to have been the son of **Virōchana**, and to have granted the earth at a sacrifice to **Kṛishṇa** (i.e. to **Vishṇu** in his incarnation as a dwarf). One of **Bali**'s descendants was king **Nandivarman** (v. 10 f.). His son was **Vijayāditya** (v. 12), his son **Malla-dēva** of the **Bāna** race (v. 13), his son **Jayamēru** (v. 14) *alias* **Vikramāditya** (v. 15), his son **Vijayāditya** (vv. 16, 20, and l. 44) *alias* **Prabhumēru** (vv. 17, 21), and his son **Vikramāditya** (v. 20 and l. 44) or **Vikramādityavarman** (v. 18).

According to verse 19 a king named **Nanda**<sup>1</sup> (who may be meant for the **Nandivarman** of verse 10 f.) had granted to **Brāhmaṇas** the village called **Viprapīṭha**. With the sanction of his father (v. 20 and l. 45) **Vijayāditya**'s son **Vikramāditya** granted protection (*rakṣā*), i.e. a confirmation of the former grant, to the **Brāhmaṇas** of this village (l. 45), because he had obtained a boon from the god of the **Paraśurāmēśvara** temple (l. 43). In verse 21 f. the donor, **Prabhumēru**'s son, requests future kings to protect his grant. Lines 50-53 record the names of the composer and of the writer of this eulogy (*prāśasti*). A postscript in Tamil states that the revenue assessment (*puram*) of the village amounted to 500 *kāḍi* of paddy and 10 (*kaḷaṇḍu*) of gold (l. 53 f.).

Before discussing the historical information which is supplied by this inscription, I may state that **Viprapīṭha** (v. 19 and l. 45) is clearly a Sanskrit equivalent of **Tiruvippirambēḍu**, the ancient name of **Guḍimallam**,<sup>2</sup> where the temple of **Paraśurāmēśvara** (l. 43) exists to the present day.

When my late friend Venkayya wrote his learned article on five **Bāna** inscriptions at **Guḍimallam**, which was destined to remain his last contribution to the *Epigraphia Indica* (above, Vol. XI, pp. 222 ff.), no other genealogical inscription of the **Bāna** dynasty was available but the **Udayēndiram** plates published by Kielhorn (above, Vol. III, p. 74 ff.). From the new plates we now learn that the king **Prabhumēru** of the **Udayēndiram** plates had also the name **Vijayāditya**, and that his father, who is called **Bānavidyādhara** in the **Udayēndiram** plates, had the two additional names **Vikramāditya** and **Jayamēru**. These fresh facts may be used for locating in the genealogical tree a few **Bāna** kings who are referred to in other inscriptions. A *viragal* which was published by Mr. Rice<sup>3</sup> belongs to the reign of **Vikramāditya-Jayamēru alias Bānavijyā(dyā)dhara**, and mentions a military commander **Prabhumēru** who may be identified with his son and successor **Vijayāditya-Prabhumēru**. Inscriptions both of **Vikramāditya-Jayamēru alias Bānavidyādhara** and of **Vijayāditya-Prabhumēru** exist also

<sup>1</sup> An early **Rāṣṭrakūṭa** king **Nannarāja** is supposed to be mentioned in the **Multāi** plates of Śaka 631 (*Ind. Ant.*, Vol. XVIII, p. 234); but the actual reading of the plate (l. 9) seems to be नन्नराज. In the **Tiwarikhēd** plates of the same king (above, Vol. XI, p. 279) the reading is distinctly नन्नराज. The genealogy of this **Nannarāja** is the same as in the **Multāi** plates of Śaka 631, but the date of the **Tiwarikhēd** plates is Śaka 553, which would mean that **Nannarāja** reigned at least 78 years (!).

<sup>2</sup> See Venkayya's remarks, above, Vol. XI, p. 222.

<sup>3</sup> *Ind. Ant.*, Vol. X, p. 39, No. II, and *Ep. Carn.*, Vol. X, Śrinivāspur Tāluk, No. 6.

in the Puṅganūr Zamindārī of the North Arcot District.<sup>1</sup> One of Venkayya's Gudimallam inscriptions<sup>2</sup> contains a Śaka date—820—which must be assigned to the reign of Vijayāditya-Prabhumēru, because it calls the Bāna king Vijayāditya, to whose reign it belongs, the son of a queen of Bānavidyādhara, i.e. of Vikramāditya-Jayamēru. Another queen of Bānavidyādhara, named Kundavvai, was the daughter of Pratipati-Araiyar, i.e. of the Gaṅga king Prithivipati I,<sup>3</sup> who was a contemporary of the Rāshtrakūṭa king Amoghavarsha I<sup>4</sup> and of the Pāṇḍya king Varaguna.<sup>5</sup> Two further inscriptions of Vijayāditya (Prabhumēru) furnish the Śaka dates 827 and 831.<sup>6</sup>

According to the Udayēndiram plates, Prabhumēru's great-grandson, Vikramāditya-Vijayabāhu, was a friend of Kṛishṇa-Rāja, who used to be identified with the Rāshtrakūṭa king Kṛishṇa II (about A.D. 900). This identification cannot be upheld, because we have now for Prabhumēru Śaka dates ranging about A.D. 900, but Vijayabāhu's friend Kṛishṇa-Rāja must have been the Rāshtrakūṭa king Kṛishṇa III (about A.D. 950), of whom we know from other sources that he made and held extensive conquests in the South. The Gaṅga prince Prithivipati II Hastimalla, who received the title *Bānādhirāja* from the Chōla king Parāntaka I,<sup>7</sup> and whose inscriptions are dated in the 9th and 15th years of the same king<sup>8</sup> (i.e. A.D. 915 and 921), would thus have been a temporary usurper and a predecessor of Vikramāditya-Vijayabāhu. He was the Chōla king's candidate for the Bāna throne, while the legitimate ruler Vijayabāhu was the *protégé* of the Rāshtrakūṭa invader. To facilitate reference, I subjoin a tabular statement of the two Bāna genealogies.

| Gudimallam plates.                    | Udayēndiram plates.                      | REMARKS.                                                                                                                   |
|---------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Nandivarman.                          | Jaya-Nandivarman.                        |                                                                                                                            |
| Vijayāditya (I).                      | Vijayāditya (I).                         |                                                                                                                            |
| Malla-dēva.                           | Malla-dēva.                              |                                                                                                                            |
| Vikramāditya (I)<br>Jayamēru.         | Bānavidyādhara.                          | Son-in-law of the Gaṅga Prithivipati I, who was an adversary of the Pāṇḍya Varaguna and of the Rāshtrakūṭa Amoghavarsha I. |
| Vijayāditya (II)<br>Prabhumēru.       | Prabhumēru.                              | Inscriptions dated in Śaka 820, 827, 831.                                                                                  |
| Vikramāditya (II)<br>(heir-apparent). | Vikramāditya (II).                       |                                                                                                                            |
|                                       | Vijayāditya (III)<br>Pugalvippavarganda. |                                                                                                                            |
|                                       | Vikramāditya (III)<br>Vijayabāhu.        | Friend of the Rāshtrakūṭa Kṛishṇa III.                                                                                     |

<sup>1</sup> See above, Vol. XI, p. 235.

<sup>2</sup> *Ibid.*, pp. 227 f.

<sup>3</sup> In his Annual Report for 1908-09, p. 13, Mr. R. Narasimhaiah has suggested that the actual name of this chief may have been Diṇḍika.

<sup>4</sup> *South-Ind. Inscri.*, Vol. III, Nos. 47 and 48.

<sup>5</sup> See above, Vol. IX, p. 87.

<sup>6</sup> Above, Vol. XI, p. 238, and *Ep. Carn.*, Vol. X, Malbāgal Taluk, No. 229.

<sup>7</sup> Above, Vol. IV, p. 225, verso 5.

<sup>8</sup> *Ibid.*, p. 224, and *South-Ind. Inscri.*, Vol. II, p. 389.



TEXT.<sup>1</sup>*First Plate ; Second Side.*

- 1 Namaś=Śivāya svasti || Jayati sa sarvva-vyāpi yat-kṛita-pa-  
 2 ripaddha-kandharā-maddhyē [1\*] gaḷa-bhūṣaṇ-āhi-<sup>2</sup>pratibimbam=iva su-  
 3 ra-dahana-visham || [1\*] Jayati hutāśana-viddyud-viddrā(ddru)ma-saṁghāta-ni-  
 4 bha-jatā-bhāraḥ [1\*] yach-chhirasi maṇi-jatā-[bh]ā-rakta-sarit=patma(dma)-māl-ē-  
 5 va || [2\*] Jayati praṇavapyātthō<sup>3</sup> lēkhā-mātraś=śikhā-śaśi yasya [1\*] dri-  
 6 ḍha-nahana-khinna-vishadhara-van-ānala-dagdha iva latshyaḥ(kshyaḥ) || [3\*]

*Second Plate ; First Side.*

- 7 Jayaty=abdhara-saṁkāśa-kandharāñ=ch-āhi-kunḍalam [1\*] lalāt-ētsha(ksha)ṇam=Ākāśasa-  
 8 r[i]n-mālā-dharan vapuḥ || [4\*] Jayati vṛish-ēśō dēvō lalāta-nayan-āgni-  
 9 niva(pa)tit-Ānamgaḥ [1\*] asura-pur-āri(ri) Ruddrō jagad-udaya-layaṁkarō bhīmaḥ || [5\*]  
 10 Jayati sa-nād-ātthō=sō<sup>4</sup> śakti-dvaya-<sup>5</sup>gun-ākarō vibhu-  
 11 ś=Śambhuḥ [1] saṁvṛita-mantr-ārth-ārtthaś=<sup>6</sup>śabd-ādi-guṇair=anupaḷabhyah || [6\*]  
 12 Jayati jatā-dhara-mō(mau)lir=Mmandākinī-pūrita-<sup>7</sup>mahā-makuṭ-ēśaḥ [1\*] Śi(Gi)-  
 13 ritanay-ārppita-bhāgō guṇa . . rahitō<sup>8</sup> vibhu[r\*]=vvyāpiḥ(pi) || [7\*]

*Second Plate ; Second Side.*

- 14 Namaś=Śivāya svasti(sti) śrī [1\*] Jayati sa Kām-āṁga-dahanō<sup>9</sup>  
 15 mastaka-nyasta-mugdh-ēnduḥ [1\*] k-ādī(di)-trīṇ-āntasy-ēśō<sup>10</sup> gupty-u-  
 16 tpatti-laya-hētuḥ- [1] [8\*] Bali[r\*]=Vvairōchanō<sup>11</sup> nāma Dāna-  
 17 v-ēndrō mahā-baluh [1\*] prādāt=sa gām=makha-varō Kṛishṇāy-āmi-  
 18 ta-tējasēḥ<sup>12</sup> [1] [9\*] Tasy=ānvayō samu[d]bhūtaḥ prithivi(vi)pāla-sa-  
 19 ttamaḥ [1\*] Nandivarmma[s] iti<sup>13</sup> khyātaḥ praśamsita-mahā-balaḥ || [10\*]

*Third Plate ; First Side.*

- 20 Jayatī<sup>14</sup> sa Nandiva[r]mmā narapati-maṇi-makuṭa-li(li)ḍha-pāda-  
 21 yugaḥ [1] tēna nirākṛita-kalinā samprati rājanvati(ti) prithi-  
 22 vi[h]<sup>15</sup> || [11\*] Tasya sūnur=mmahā-virō vēlā-paryyanta-dipakaḥ [1\*] Vi-  
 23 jayāditya-nām-ākhyō dharmma-tsha(ksha)trabhrītām varah || [12\*] Tasy=ābhava-  
 24 n=mahā-bāhur-Mmalla-dēvō narāthi(dhi)paḥ [1\*] Bāṇa-vamśasya tilaka-  
 25 a=samasta-vasudh-ādhipaḥ [1] [13\*] Tasya jajñē mahā-sūrō Ja-

<sup>1</sup> From two sets of ink-impressions supplied by Rao Bahadur H. Krishna Sastri.

<sup>2</sup> For the sake of the metre, a word like *bhāga* may have to be inserted after *-āhi*.

<sup>3</sup> Read perhaps *praṇavasy=ārdhō*.

<sup>4</sup> Read perhaps *ārdhō* [or *rithō*?—F. W. T.] = *śau*.

<sup>5</sup> For the sake of the metre, *śakti-ārdhā* may have to be read. \* Read perhaps *ārdhāś*.

<sup>7</sup> For the sake of the metre, *-pūrita* may have to be replaced by its synonym *-bhṛita* [and perhaps *makuṭ-ēśaḥ* is for *makuṭaḥ*. But the scansion seems too irregular in many places.—F. W. T.].

<sup>8</sup> Read perhaps *gunatva-rahitō* [or *guna-gaṇa*, since *gunatva* is found only in *gunas*?—F. W. T.].

<sup>9</sup> The metre is wrong here.

<sup>10</sup> For the sake of the metre, *yō* may have to be inserted here.

<sup>11</sup> The second half of the *ō* of *śō* is very faintly seen.

<sup>12</sup> The correct Sandhi *varmm-ēti* is precluded by the metre.

<sup>13</sup> Read *Vijayati* on account of the metre.

<sup>14</sup> Cancel the Visarga.

<sup>15</sup> Cancel the Visarga.

ii a.

८  
 १०  
 १२  
 १४  
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iii a.

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iv a.

34  
 36  
 38

*ib.*[illegible]

ii b.

[illegible]

iii b.

26  
 34  
 28  
 36  
 30  
 38  
 32

*iv b.*

40 யுத ஸ்வரூபம்: அஷ்டகாங்கு சேதபரம  
 பரிசு: சேதபரம பரிசு: 22 கருணாபுர  
 42 பரிசு: சேதபரம பரிசு: 22 கருணாபுர  
 44 பரிசு: சேதபரம பரிசு: 22 கருணாபுர  
 46 பரிசு: சேதபரம பரிசு: 22 கருணாபுர

va.

48  
 50  
 52

v b.

54

*Third Plate ; Second Side.*

- 26 yamēruḥ pratāpavān [\*] samasta-ripu-chakrāṇām=bhētt-āchintya-pa-  
 27 rākramaḥ || [14\*] Samasta-dharaṇipāla-kiriṭ-āṁkita-sāsanah [\*] sa jiyāt-shi(kshi)-  
 28 tipāl-ēndrō Vikramāditya-bhūpatih || [15\*] Vikramāditya-bhūpasya sū-  
 29 [n]uḥ parama-vīryavān [\*] dōr-ddaṇḍ-ōddhṛita-sṛiṣṭ-ārir=<sup>1</sup>Vvijayāditya-  
 30 nāma-dhṛikḥ<sup>2</sup> || [16\*] Pañchāṅga-mantra-nipunaḥsh=<sup>3</sup>shadgunō sakta-chinta-  
 31 kaḥ [\*] nay-ōpayukta-sachivah Prabhūmōrur-mmahā-yaśāḥ || [17\*]  
 32 Tasya putrēṇa mahatā Vikramādityava[r]mmaṇā [\*] prasādita-

*Fourth Plate ; First Side.*

- 33 Giritrēṇa dhvasta-duḥkhēṇa dhimatā [| 18\*] Api cha<sup>3</sup> [|\*] Nandō nāma mahā-sa-  
 34 tvō(ttvo) nripa-rāt=<sup>4</sup>bhuja-vikramaḥ [\*] prādāt=<sup>5</sup>grāman=dvij-ēndrāṇām Vi-  
 35 prapīṭh-ākhyā-nāmakamḥ<sup>6</sup> || [19\*] Tasya prādāt-sa ratshā(kshā)n-tu pīṭrē vijñā-  
 36 [pya] saḥ<sup>7</sup> prabhuh [\*] Vijayāditya-sūnus=sō<sup>8</sup> Vikramādityaśśrātaḥ<sup>9</sup> [| 20\*]  
 37 Ki(kt)dig-vidhēbhyō ratshā(kshā)n=dattavān=iti chēt(d=) Brahm=ēva patm(dm)-āspa-  
 38 dēbhyō Nārāyaṇa iva bhṛita-sach-chakrēbhyah<sup>10</sup>Śiva iva sita-bhūti-  
 39 priyēbhyah[\*] Kumāra iva Śiv-āmk-āśrayēbhyah(bhyō) vēda-tray-ādhyā-

*Fourth Plate ; Second Side.*

- 40 yana-mukhara-mukhēbhyahs=<sup>10</sup>susṭhu-kṛit-ānusṭhāna-Paramēshṭhi-  
 41 charitēbhyahs=<sup>10</sup>traividya-vṛiddhēbhyahs=<sup>10</sup>samasta-sāstra-pā-  
 42 ragēbhyah(bhyō) brahmāḍy-ānusantānēbhyah(bhyō) dharmma-vi[d\*]bhyō=  
 43 [v]ichchhinna-sōmapīṭhēbhyah [|\*] Paraśurāmēśvara-bhaṭṭāra-  
 44 ka-var-āvāpti-nimittād=Vijayāditya-sūnu[r\*]=Vvikramāditya-  
 45 s=sva-pitu[r\*]=nniyōgād=Viprapīṭh-ākhyā-nivāsinān=dvi-  
 46 j-ēndrāṇām samasta-[pa]rihāra-samanvitām ratshā(kshā)n=datta-

*Fifth Plate ; First Side.*

- 47 vān || Sa[r\*]vvāms=tu prithivipālān=bhāvinaḥ prā[r\*]tthaya-  
 48 ty=ayam [|\*] Prabhūmōrōs=suta[h\*] śrīmān=ari-marddanu-karma-kṛita<sup>11</sup> [|] [21\*]  
 49 Yē tu ratshā(kshā)m=imām-pānti vipr-ēndrēshu sama[r\*]ppitām [|\*] tē-  
 50 [sh]ām=pāda-yugā mūnni(rdhni)<sup>12</sup> tishṭhantu mama sa[r\*]vvadā || [22\*] Śiva-bhaṭṭā-  
 51 raka-sūnōś=Śivatamasy=ēyam kṛitih [|\*] Svasti gō-brā-  
 52 hmaṇēbhyah(bhyō) namaḥ || Iyam=prasasti[h] Parahit-āchā-  
 53 rinā likhitam[h](tā) || A[yu]nuru=<sup>13</sup>kkādi nellu[m] pat-

<sup>1</sup> Read -driṭ-ārir=. [Read ऋ ?—F. W. T.]<sup>2</sup> Cancel the Visarga.<sup>3</sup> These two words are entered below the line, and the place at which they have to be inserted is marked by a cross or caret (*kākapada*); cf. Sir Aurel Stein's Translation of the *Rājatarāṅgi*, IV, 117 and note.<sup>4</sup> Read -rāt=.<sup>5</sup> Read *prādāt*=.<sup>6</sup> Cancel the Visarga.<sup>7</sup> The syllable *sa* is entered below the line; read perhaps *sat-prabhūh*.<sup>8</sup> Read perhaps *sūnu=gyō*.<sup>9</sup> Read perhaps *itya-vitrutaḥ*.<sup>10</sup> Cancel the Visarga.<sup>11</sup> Read -*kṛit*.<sup>12</sup> After this word the syllable *ka* is written below the line.<sup>13</sup> Read *cinṇūgu=*.

*Fifth Plate ; Second Side.*

54 tu poṇṇum idiṇ purava [||\*]

## TRANSLATION.

(Line 1.) Obeisance to Śiva ! Hail !

[Verses 1-7 are addressed to Śiva.]

(Line 14.) Obeisance to Śiva ! Hail ! Prosperity !

[Verse 8 is again addressed to Śiva.]

(Verse 9.) (There was) a powerful lord of demons (*Dānava*), Bali by name, the son of Virūchana. He presented at an excellent sacrifice the earth to Kṛishṇa of immeasurable lustre.<sup>1</sup>

(Verse 10.) In his lineage was born the best of kings, called Nandivarman, whose great power was praised.

(Verse 11.) Victorious is that Nandivarman, whose pair of feet was kissed by the diadems, (set) with jewels, of princes. Through him, who drove away (the sins of) the Kali (age), the earth is now (!) provided with a just king.

(Verse 12.) His son (was) a great hero, illuminating (the earth) as far as the coast (of the ocean), called Vijayāditya by name, the best of just rulers.

(Verse 13.) His (son) was the long-armed king Malla-dēva, the ornament of the Bāṇa race (and) the lord of the whole earth.

(Verse 14.) To him was born the powerful great hero Jayamēru, the breaker of the circle of all enemies, (and) whose valour was inconceivable.

(Verse 15.) Let that king Vikramāditya be victorious, the lord of princes, whose orders were marked (i.e. bowed to) by the diadems of all rulers of the earth !

(Verse 16.) King Vikramāditya had a very brave son, who bore the name Vijayāditya, (and) who uprooted proud enemies by (his) strong arm.

(Verse 17.) The renowned Prabhūmēru knew the spell of five members<sup>2</sup>; his thoughts were occupied with the six measures of politics; (and) his ministers were employed with polity.

(Verse 18.) By his great wise son Vikramādityavarman, who propitiated Giritra (Śiva), (and) who removed distress, (this grant was made).

(Line 33.) Moreover :—

(Verse 19.) The noble ruler of princes, Nanda by name, whose arms were powerful, (had) presented to chiefs of Brāhmaṇas the village called Viprapīṭha by name.

(Verse 20.) But Vijayāditya's son, that virtuous lord who was celebrated (by the name of) Vikramāditya, granted a confirmation (of the former grant) to this (village), after having submitted (this matter) to (his) father.

(Line 37.) If (you ask) to what kind (of people) he granted the confirmation :—to those who were abodes of prosperity (*padmā*), as Brahmā dwells on a lotus-flower (*padma*); who supported a circle (*chakra*) of virtuous men, as Nārāyaṇa (Viṣṇu) holds an excellent discus (*chakra*); who were beloved by bright welfare (*bhāti*), as Śiva is fond of white ashes (*bhāti*); who resided near (the temple of) Śiva, as Kumāra rests on Śiva's lap; whose mouths resounded with the recital of the three Vēdas; who practised in a suitable manner the conduct of

<sup>1</sup> Cf. verse 3 of the Udayēndiram plates, above, Vol. III, p. 78.

<sup>2</sup> Viz. the five syllables *namas-Śivāya*, "obeisance to Śiva !" Cf. ll. 1, 14. [*Pañchāṅga-mantra* is 'counsel (consisting) of five subdivisions'; see Monier Williams s.v. *aṅga*.—H. K. S.]

Paramēshthīn (Brahmā); who had advanced in (the study of) the three Vēdas; who had mastered all sciences; who (possessed) a series of gifts to Brāhmaṇas; who knew the (sacred) law; (and) whose draughts of Sōma were uninterrupted.

(Line 43.) Because he had obtained a boon from the god Paraśurāmēśvara, Vijayāditya's son Vikramāditya granted, at the direction of his father, the confirmation, accompanied by all exemptions (*parihāra*), to the chiefs of Brāhmaṇas residing in (the village) called Viprapīṭha.

(Verse 21.) But the destroyer of enemies, that glorious son of Prabhumēru, requests all future rulers of the earth :—

(Verse 22.) "Let there rest for ever on my head the pairs of feet of those (kings) who protect this confirmation granted to chiefs of Brāhmaṇas!"

(Line 50.) This is the composition of Śivatama, son of Śiva-bhaṭṭāraka. Hail! To cows and Brāhmaṇas obeisance! This eulogy (*prasaṅgi*) was written by Parahit-āchāri.<sup>1</sup>

(Line 53.) The revenue assessment<sup>2</sup> of this (village amounted to) five hundred *kāḍi*<sup>3</sup> (of) paddy and ten (*kaḷaṇṇu* of) gold.

## No. 2.—TUMBAGI INSCRIPTION OF THE REIGN OF SATYASRAYA : SAKA 926.

By LIONEL D. BARNETT.

**Tumbagi**, or, as the name was anciently spelt, **Tumbige**, is a village lying in lat. 16° 34' and long. 76° 20', in the Muddebihāl *tāluka* of Bijāpūr District, and formerly was included in the Pagalatti Three-hundred. The name is given as "Toombgee" on the Indian Atlas sheet 57 and as "Tumbgi" on the Bombay Survey sheet 350. It contains a monastery known as "Polayya's Maṭh," at the well of which there is (or was) a stone inscribed with the present record. A bad copy was made by Elliot's pandit, and appears in Vol. I, fol. 17a. of the Elliot Collection (Royal Asiatic Society's copy). I now edit the text from good ink-impressions prepared for the late Dr. Fleet, which are now in the British Museum.<sup>4</sup>—The stone is a long narrow block, with an upper compartment in front containing sculptures, viz. in the centre a *linga* on a stand, with an upright figure of a votary facing it on the proper right of it, and still further to the right a cow with sucking calf. Underneath this is the inscribed area, which seems to include three faces of the slab. The first face, containing ll. 1-17, is about 1 ft. 1 in. wide and 3 ft. high; the second, containing ll. 18-40, is about 10 in. wide and 3 ft. 7 in. high; the third, containing ll. 41—end, is about 3 ft. 8½ in. high and 6 in. wide, except at the bottom, where it runs out towards the right to a width of 10½ in., enclosing the last two lines.—The character is fair Kanarese, somewhat inclined to angularity, with letters varying from 1 in. to 1½ in. in height. Its whole tendency is towards the later type, rather than the archaic. The cursive *v* is found only in the ligature *ruva* (ll. 51, 58).—The language is Old Kanarese, except for the concluding Sanskrit verses. We may note the sporadic change of *m* to *v* in *-āchēkhādanavaṃ* (l. 32) and *mahājanaruv* (ll. 43-4), and the conditionals *ādaḍe* (l. 37) and *appade* (l. 45), which all shew a tendency towards the medieval dialect.

The record opens (ll. 1-8) by referring itself to the reign of Akalaṅkacharita Iṛiva-bedaṅga Satyāśraya (*Dynast. Kanar. Distr.*, p. 432), while his officer Setṭi Brahmayya was administering Tumbagi (ll. 8-15), and registers gifts to local religious foundations by the latter and a lady named Āychakabbe, with rules for their management (ll. 15 ff.).

<sup>1</sup> *āchāri*, 'an artisan,' is a Tamil form of *āchārya*.

<sup>2</sup> *Parasu* occurs also in *South-Ind. Inscr.*, Vol. II, p. 386, text line 99, and above, Vol. IV, p. 224, text line 19. For its meaning see the Madras Epigraphical Report for 1920, p. 96.

<sup>3</sup> The same measure is mentioned in *South-Ind. Inscr.*, Vol. I, pp. 117, 140.

<sup>4</sup> A notice of the inscription has been given by Dr. Fleet above, Vol. XII, p. 306.



The date is specified on ll. 11-15 as Śaka 926 (expired), Krōdhi; Āshāḍha *amāvāsya*; an eclipse of the sun. This is quite regular. The Southern cycle is used, and according to the *Sūrya-siddhānta* (true system) the *tithi* quoted was connected with Thursday, 20 July, A.D. 1004, ending 3 h. 33 m. after mean sunrise (for Ujjain). On that day there was an eclipse of the sun at 3 h. 18 m. after sunrise by Lañkā time. Mr. R. Sewell, who has kindly examined this date at my request, remarks that by the true system of the *Ārya-siddhānta* the result is the same, but that by the mean system of the *Ārya-siddhānta* the *tithi* was connected with the previous Wednesday, 19 July.

The place-names mentioned are: the Pagalatti Three-hundred (l. 10); the Tumbige Agrahāra (l. 11); and Kalkere (ll. 23-4). On Pagalatti I may refer to the remarks of Dr. Fleet above, Vol. XII, p. 306 ff., where he identifies it with the district variously called Hagaritige, Hagarittage, or Hagaratage and connected with the village formerly designated Hagaritige, Hagaliṭṭage, or Hagarittage, and now known as Hagarattagi, Hagaritige, Hagarittige, or Hagarittigi, in the Shorāpūr taluka of Gulbarga District in the Nizam's Territories. Kalkere cannot be identified with certainty; there are several places of the name.

TEXT.<sup>1</sup>

- 1 Svasti samasta-bhuvan-āśra-
- 2 ya Śri-Pri(pri)thvi-vallabha
- 3 mahārājādhirāja para-
- 4 mōśvara paramabhaṭṭārakam
- 5 Satyāśraya-kula-tilaka-
- 6 n-Akalamkaccharitan-Iṭiva-
- 7 beḍamgam śrīmat Satyā-
- 8 śraya-dēvara pāda-padma-ś-
- 9 pajivi Seṭṭi Brahmayyam
- 10 Pagalatti 300raṣa baḷi-
- 11 ya Tumbige-agrahāra Sa-
- 12 kha-varisha<sup>2</sup> 926neya Krō-
- 13 dhi-samvatseraḍ-Āshāḍa(ḍha)d-amā-
- 14 vāsyeya[m]duve sūryya-gra[ha<sup>2</sup>]-
- 15 padandu Seṭṭi Brahmayyam Bra-
- 16 h[m]śva(śva)ra-dēvargge biṭṭa ke-
- 17 y-matta 200 ada \* \* \*
- 18 parekāra-sūle-
- 19 yargge koṭṭa key-ma-
- 20 tta 30 mata(tha)kke koṭṭa ke-
- 21 y-matta 50 dēvalaya-
- 22 nimittam koṭṭa ke-
- 23 y-matta 120 [\*] Kalke-
- 24 roya Gonnayyana
- 25 magal-Āychakabbe ta-
- 26 mma mānyad-olage ma-
- 27 ta(tha)kke koṭṭa key-matta
- 28 50 antu mata(tha)kke ma-
- 29 tta 100 [\*] Inn-alliya pha-
- 30 ladalu brahmacharyya-

<sup>1</sup> From the ink-impressions.<sup>2</sup> Read Śaka-varsha.

- 31 m-u||a tapaśviya 5  
 32 rgge<sup>1</sup> aśan-āchchhādanavam  
 33 naḍeyisuvar-alli-  
 34 y-orvvar=pradhānar=appa-  
 35 vargge uttamāgra[m\*] na-  
 36 ḍeyisuva[r\*] brahmacha-  
 37 ryy-ādi-lōpam=ādaḍe  
 38 poṛa-vaḍisuvar=[u]-  
 39 ttamar=appar=amt=appa-  
 40 r-i sthitiyo|-i dharmmamam  
 41 pratipāḷisuva-  
 42 r-ūr-oḍeyarum  
 43 mahājanavu-  
 44 v-idan=upākshi-  
 45 sidar=appaḍe gu-  
 46 ṇa-dōsham=ava-  
 47 [ra]n=ērugum ||  
 48 ūr-oḍeyara-  
 49 l=akke mahāja-  
 50 nado|-akke ā-  
 51 van-orvvan=i sthi-  
 52 tiyo|-allade  
 53 perat=ondu sthi-  
 54 tiyo| kiḍi-  
 55 suv-avam śvāna-  
 56 gā(ga)rdabha-chāṇḍālam  
 57 same(ma)ya-bāhiram [||\*]  
 58 Sarvvathā pālaniya-  
 59 m tta(tu) tad-dōśas=tais=tu  
 60 bhāmipsai[h\*] [i\*] ya-  
 61 sya yasya ya-  
 62 dā bhūmi[s\*]-tasya  
 63 tasya tadā phalam [||] [1\*]  
 64 Sva-dattām para-da-  
 65 [t]tā[m v]ā yō ha-  
 66 rēta vasumdhara[ām] [1\*]  
 67 shasht̥bim varisha<sup>2</sup>-sa-  
 68 hasr̥pi viśhṭhā-  
 69 [y]ām jāsytō krimih [||\* 2\*]  
 70 [Ma]mgaḷa mahā-āri ||

## TRANSLATION.

(Lines 1-9) **Seṭṭi Brahmayya**, who finds sustenance at the lotus-feet of—hail!—the refuge of the whole world, darling of Fortune and Earth, great Emperor, supreme Lord supreme Master, ornament of Satyāsraya's race, Akalāṅkaoharita Irivabedaṅga Satyāsraya-dēva :—

(Lines 10-23) (*While governing*) the **Agrahāra** of Tumbige, forming part of the **Pagalatṭi** Three-hundred, during the last lunar day of **Āśvadhā** in the cyclic year **Krōdhi**,

<sup>1</sup> Read 5 tapassiyargge.<sup>2</sup> Read śhasht̥fir-varehā.



the 926th (year) of the Śaka era, during an eclipse of the sun, **Setṭi Brahmayya** granted for the god **Brahmēśvara** a field, 200 *mattar*; . . . for the drummers and public women he granted a field, 30 *mattar*; for the monastery he granted a field, 50 *mattar*; for the benefit of the temple he granted a field, 120 *mattar*.

(Lines 23-29) **Āyachakabbe**, daughter of **Gennayya** of **Kalkere**, granted for the monastery out of her own honorary estate a field, 50 *mattar*. Thus (there are) for the monastery 100 *mattar*.

(Lines 29-47) Likewise out of the revenues of this land they shall provide food and clothing for the 5 ascetics living in celibacy. In the case of any superiors of this place, if there should be committed a breach of celibacy or the like in conducting the highest offices, they shall expel (them).<sup>1</sup> The leading men shall be such. They shall preserve this pious foundation, under this constitution. If the mayors of the town and the burgesses should have neglected it, guilt shall accrue to them. Any person, whether of the mayors of the town or of the burgesses, who should violate this constitution or any other constitution, (will become) a dog, an ass, or a **Chāṇḍāla**, an outcast from society.

(Verses 1 and 2: Sanskrit formulæ.)

(Line 70) Happiness! great fortune!

### No. 3.—A NAGA FIGURE IN THE MATHURA MUSEUM.

By Y. R. GUPTA, B.A.

On page 18 of the Annual Progress Report of the Archaeological Survey of India, Northern Circle, for the year 1908-1909 an inscribed pedestal from Rāl (No. 45) is mentioned. The upper part of the image must have been found since I examined the sculpture at Mathura. It represents a **Nāga** standing between two **Nāgīs**. The height of the sculpture is 4' 2". The inscription measures about 2 ft. in breadth and 7 in. in height.

The image came from a mound near the village of **Bhadāl** about six miles from Mathura. From local enquiries it appeared that people from the neighbouring villages used to visit the spot and vows were made to the deities by barren women. When they got sons, they resorted to the place for tonsuring their hair.

The **Nāga** in the centre has a canopy of seven hoods with forked tongues, as is usually the case with the other **Nāga** images of Mathura, and is similarly dressed. The threefold triangular necklace is a little damaged on the breast. We can see the bracelet on the right wrist, and a similar one on the left is hidden by the upper garment. The position of the hands is similar to that of the **Nāga** figure from Mathura city of the **Kushāna** year 52 (A. S. R. for 1908-9, Plate LIV). The left hand holds a small vessel; and a lotus bud is visible in the right. The **Nāgīs** are dressed in garments of the same stuff as the **Nāga** and have the same appurtenances in their hands. Beneath the feet of the deities were short inscriptions, now much defaced, which probably contained their names. The vestiges that remain favour this view.

On the pedestal are five males and five females and also two boys with folded hands. They are worshippers. The right hand of the man to the extreme proper right is gone. The male to the left and the female to the extreme proper left have their hands folded, the others holding lotus stalks in their right hands. On the lower part of the pedestal is an interesting inscription

<sup>1</sup> [ *Uttamāgrah* means 'sumptuous meal'; see *South Indian Inscriptions*, Vol. III, Part III, p. 256, footnote 1. (The meaning is: One of the superior members of these will be provided with a sumptuous meal'.—H. K. S.) ]



*From a photograph kindly supplied by Mr. H. Hargreaves*

SCALE ONE-SIXTH

Mathura Naga Image inscription : the year 8 of Kanishka.



of three lines, of which the second and third are much damaged, making the decipherment of a part of the third line impossible.

Several images of Nāga deities, both inscribed and without inscriptions, have been found in Mathura. Of these the following are dated :—

Image of Dadhikarna, of Samvat 26 va 3 di 5 (*Ind. Ant.*, Vol. XXXIII, p. 102, and *Ep. Ind.*, Vol. I, pp. 380 f. and 390, No. XVIII, and Dr. Vogel's paper in the *Arch. Survey Report* for 1908-9, pp. 159 ff.).

Nāga image of the year 40 of Huvishka, in the second month of winter, the 23rd day (Dr. Vogel's catalogue of the Arch. Museum at Mathura, No. C 13, pp. 88-9; *A. S. R.* for 1908-9, p. 161).

Nāga image of sa 52 va 3 di 25 (Dr. Vogel's catalogue of the Arch. Museum at Mathura, p. 91), *Arch. Survey Report* for 1908-9, p. 161.

Besides, there is a fragment which Dr. Vogel assigned to the 3rd century of the Christian era (Dr. Vogel's catalogue of the Arch. Museum at Mathura, p. 90; *A. S. R.* for 1908-9, p. 162).

The image described in this note dates from the year 8 of the Kushāna era and is the earliest dated Nāga one at Mathura.

The palaeography does not call for many remarks. The general characteristics are dealt with in Dr. Bühler's *Indian Palaeography*, edited by Dr. J. F. Fleet, p. 41. The peculiarities observable in the present inscription are these :—(1) The *kha* is triangular below, but its hook is large; (2) the upper horizontal stroke of *ra* is turned into a curve, while the lower is split up into lines; (3) *ta* in the 3rd line shows a loop; (4) the lower part of *da* is more slanting than in all examples given by Dr. Bühler; (5) *va* is rounded on the left; (6) the left limb of *sa* is never turned into a loop.

#### TEXT.<sup>1</sup>

- L. 1 Mahārājasya rāj-[ā]tirājasya [Shāhi] Kāṇikkhasya Sa<sup>2</sup> 8 grī 4 di 5  
 L. 2 as[yā]m p[ārvv]āy[ā]m bhagavataḥ [Bhūmi-nāga]sya (1) pukahiriṇi ār[ā]mā  
 cha pra[ti]-  
 L. 3 [shthāpitō . . . putras[y]a . . . turasya niya[mada]kisiya [sarvva]sat[v]a hi(hita)-su  
 (sukhārtham) (2) . . . . .

#### REMARKS.

(1) There can be little doubt about the reading *Svāmi-nāgasya*. I have examined the stone in all lights and shades. (2) *Hi* and *su* at the end of the third line stand for *hita-sukhārtham*. This abbreviation is due to want of space.

#### TRANSLATION.

In the year 8 of the great king, the king of kings the Shāhi Kāṇikkha in the fourth (month of) summer, on the 5th day on that (date specified as) above, a tank and a garden of the holy Bhūmi naga was founded . . . . . °tura, son of . . . . . for the welfare and happiness of all sentient beings.

The Prākṛitized form Kāṇikkha deserves notice. The form with the long *ā* in the first syllable has already been observed in two inscriptions, namely those on the statue of Kanishka

<sup>1</sup> From the original.

<sup>2</sup> It appears that the engraver first cut *sya*, but afterwards found out his mistake and deeply engraved only *sa*.

himself and the Bodhisattva statue of the Kushāṇa year 3, in the Sarnāth Museum. Bhūmināga is first met with in this record.

NO. 4.—A VAKATAKA INSCRIPTION FROM GANJ.

By V. S. SUTTHANKAR, PH.D.

This inscription, which is now brought to notice for the first time, was discovered by my friend Babā Rakhaldas Banerji, Superintendent, Archaeological Survey of India, Western Circle, in 1919, during one of his tours of inspection in Central India. The excellent estampages from which the accompanying blocks have been prepared were made under his direct supervision, and very kindly placed by him at my disposal for publication.

The inscription, Mr. Banerji tells me, is engraved on a detached slab of stone which he found lying at the bottom of a *dongā*, adjoining a hill called Maluhā-tongi near Ganj in the Ajayagadh (Ajaiagarh) State in Bundelkhand. Close by is a ruined stone structure, probably a dam to hold the waters of the stream passing along the *dongā*. The find-place of the record is not far removed from the ruined city of Kuṭhārā, where Cunningham discovered in 1883-84 the Nāchanē-ki-talāi inscription, which was first brought to notice by him, in 1885, in *Archaeological Survey of India*, Vol. XXI, pp. 97 f., and re-edited by Fleet in *Gupta Inscriptions*, pp. 233 ff. and Pl. xxxiii B. The Ganj inscription, like the one discovered by Cunningham, is one of the oldest records of the Vākātaka dynasty, and as such is worthy of being carefully preserved.

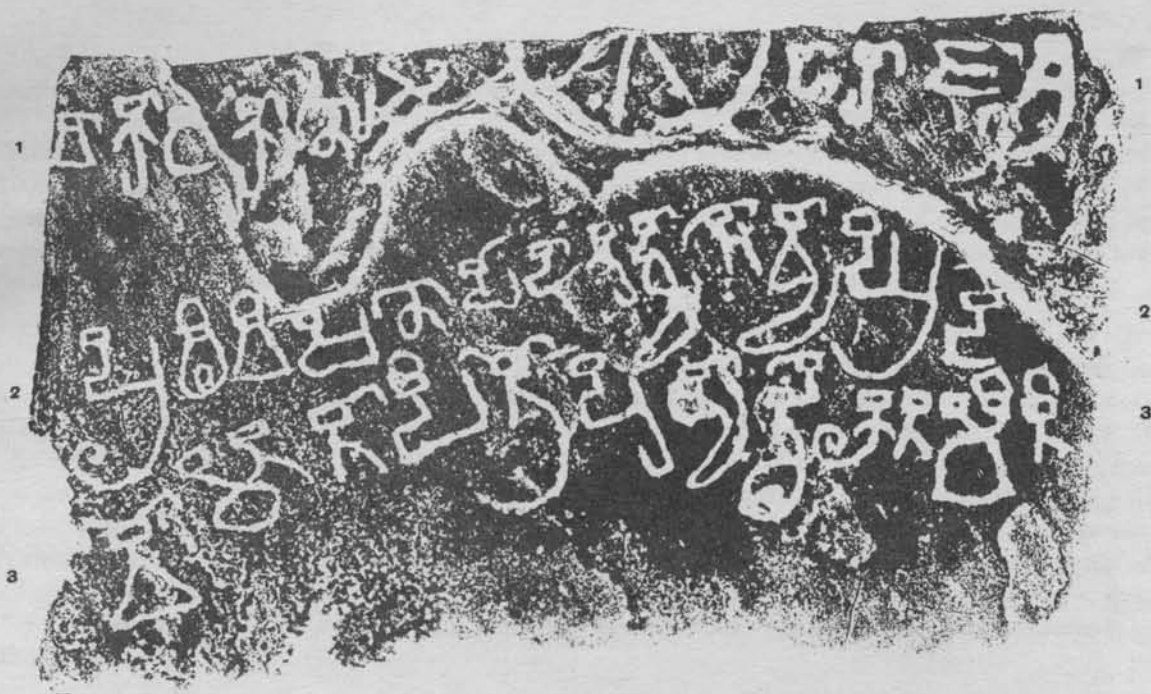
From the subjoined transcript it will be seen that the text of our inscription is practically identical with that of the Nāchanē-ki-talāi record of the reign of Mahārāja Prithivishēna, edited by Fleet in *Gupta Inscriptions*; it differs from the latter only in the length and the number of lines, and in the spelling of a couple of words. But our inscription is in a much better state of preservation than that edited by Fleet; at all events the stone has yielded an impression far superior to the one from which the block accompanying Fleet's article was prepared. Consequently we can study the forms of the letters in the subjoined facsimile much better than in that of the Nāchanē-ki-talāi version. Moreover, the writing of this inscription being perfectly distinct, we can give a transcript which is more reliable, and which at the same time discloses certain minor inaccuracies in Fleet's transcript, errors which even then could have been avoided by a more patient study of the available material.

The writing covers a space about 25" broad by 12" high. In the centre of the first line of the inscription there is a sculpture of a wheel, of which only a part is visible in the facsimile. The average size of such letters as *m*, *p* and *v* is about 2".—The characters belong to the 'southern' variety of alphabets, of which the distinguishing features, in our inscription, are the hooks at the lower ends of the verticals of *k* and *r*. In particular, we may say that the letters are a specimen of the Central Indian alphabet of the period, which on account of the peculiar 'box-headed' tops of the letters is known as the 'box-headed' sub-variety of the southern alphabet.<sup>1</sup> In our specimen the boxes are very conspicuous, and uniformly hollow. The letters are unequal in size and uncouth in appearance. It may be added that they betray a conscious effort to substitute angles for curves in the configuration of letters. The letters *t* and *n* are sharply distinguished from each other: the latter has always a knot at its lower end.—The language is Sanskrit, and the inscription is in prose.—As regards the orthography the only point calling for remark is the phonetic doubling of the *d* of *dh*, in °*d-ā(m)nuddhyātō* (l. 2), before *y*, and of the *t* of *th*, before *r*, in *punyat-rithō* (l. 3).

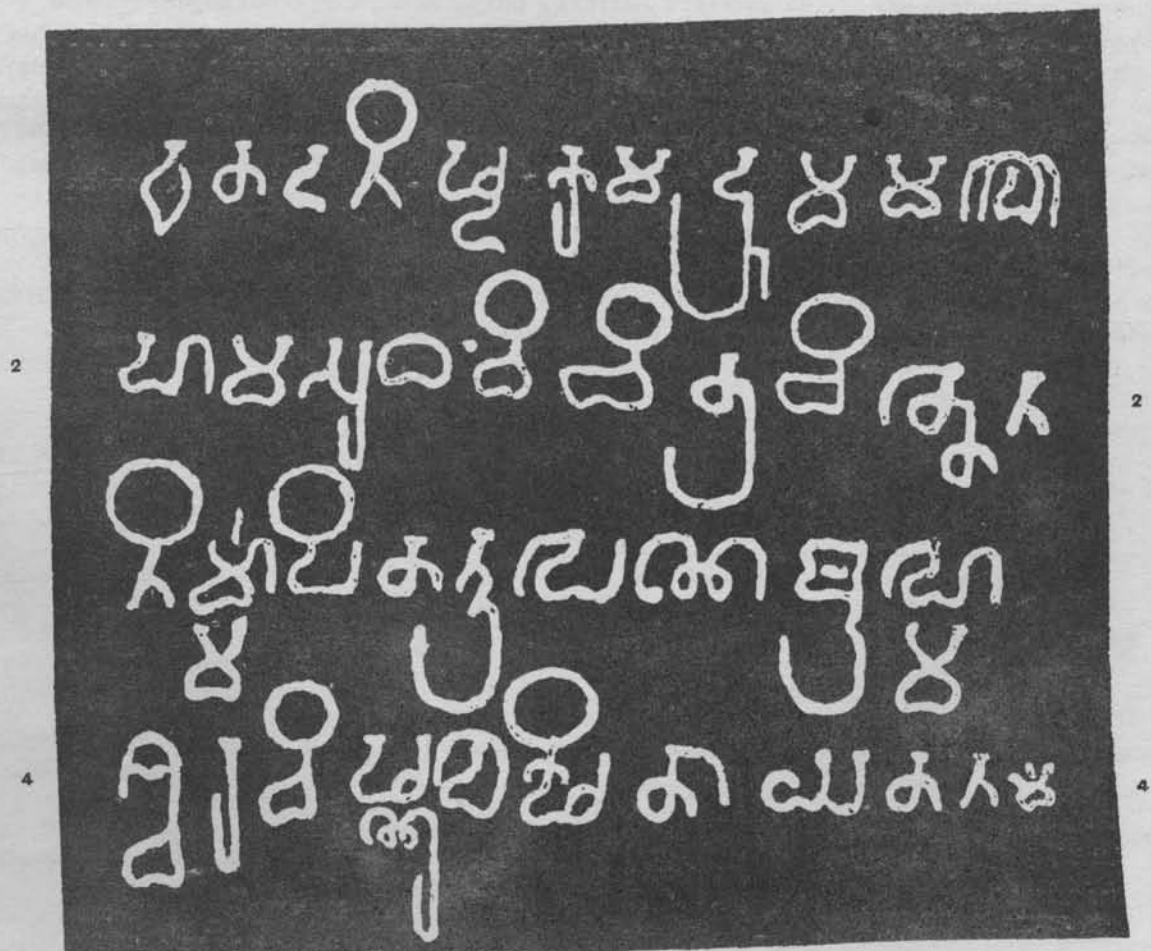
<sup>1</sup> See Bühler, *Indische Palaeographie*, p. 62.



1. A Vakataka Inscription from Ganj.



2. Mandagappattu Inscription of Vichitrachitta.





The inscription, which is a record of the reign of *Mahārāja* Prithivishēṇa [I.] of the Vākātaka family, states merely that a feudatory of his, Vyāghradēva by name, had made something or other for the sake of the religious merit of his parents. The exact nature of this act of piety has been left unspecified, just as in the other version discovered by Cunningham. The silence of these records on the point leads us to infer that the slabs on which the inscriptions are inscribed must have been built into that the making of which they were intended to record.

Our information regarding the Vākātaka dynasty is unfortunately very scrappy. All the important events in its history known to us have been succinctly summarized by Kielhorn<sup>1</sup> in his article on the Bālāghāt plates of Prithivishēṇa II.; we can even now add nothing of consequence to what has been said there. We do not possess exact dates for any of the kings of this family, nor can we form any clear idea of the extent of the country ruled over by them. Regarding Prithivishēṇa I. we know that he was the son of Rudrasēna I. and the great-grandson of Pravarasēna I., the latter being either the very first king or one of the early kings of this house. It should seem that the Vākātaka king at whose hands the 'lord of Kuntala' had suffered defeat, as recorded in the Vākātaka stone inscription at Ajaṇṭā,<sup>2</sup> was this same Prithivishēṇa. Beyond these few facts we know nothing of much consequence regarding the king referred to in our record.

About Vyāghradēva, the feudatory of Prithivishēṇa, we know still less. Indeed, Vyāghra appears as the name of chieftains in several well-known inscriptions;<sup>3</sup> but it is not possible to identify our Vyāghradēva with any of them.

Bühler<sup>4</sup> assigns the copper-plates of the Vākātaka Pravarasēna II., the grandson of Prithivishēṇa I., to the fifth or sixth century A.D.; it is not known to me on what grounds. I have examined the inscriptions of the Vākātaka dynasty and compared them with the allied inscriptions engraved during the time of the Guptas,<sup>5</sup> of the kings of Śarabhapura,<sup>6</sup> of Tivara,<sup>7</sup> of Kōsala and of the early Kadamba kings,<sup>8</sup> without being able to arrive at any definite conclusion regarding the age of the Vākātaka inscriptions. Bühler's date, however, appears to me to be far too early. My impression is that there can be no objection, on palaeographic grounds, to assigning this record of the Vākātakas to as late an epoch as the seventh century A.D. I conclude this short notice by drawing attention here to the remark of Kielhorn that the Bālāghāt plate of Prithivishēṇa II., who was the son of the great-grandson of the Prithivishēṇa of our inscription, "may be assigned with probability to about the second half of the eighth century A.D."<sup>9</sup>

#### TEXT.<sup>10</sup>

1 <sup>11</sup>Vākātakānā mahārāja-śri<sup>12</sup>.

2 Prithivishēṇa-pād-ā(m)nuddhyātō Vyāghradē,

3 vō mātāpitro[h\*] <sup>13</sup>puny-ārthā <sup>14</sup>kṛtām-iti [||\*]

<sup>1</sup> Above, Vol. IX, pp. 268 f.

<sup>2</sup> *Arch. Surv. West. Ind.*, Vol. IV, p. 124, verse 8.

<sup>3</sup> Kielhorn's *List of Inscriptions of Northern India*, Nos. 270, 387 and 508.

<sup>4</sup> *Indische Palaeographie*, pp. 62 f.

<sup>5</sup> *Corpus Inscriptionum Indicarum*, Vol. I, Nos. 2-8.

<sup>6</sup> *Gupta Inscriptions*, Nos. 40-41.

<sup>7</sup> *Ibid.*, No. 81.

<sup>8</sup> *Ind. Ant.*, Vol. VII, pp. 35-7.

<sup>9</sup> Above, Vol. IX, p. 270.

<sup>10</sup> From a set of estampages prepared and kindly lent to me by Mr. R. D. Banerji.

<sup>11</sup> Read *Vākātakānā*. Fleet in his transcript has wrongly spelt this word with the dental n in *Gupta Inscriptions*, Nos. 53-54.

<sup>12</sup> Read *śrī*.

<sup>13</sup> Read *puny-ārthā*. Here also Fleet has wrongly transcribed the word, both as regards the dental n and the case-ending. In Cunningham's version the word is spelt exactly as here.

<sup>14</sup> The construction is faulty. The verb should be in the active voice.



## TRANSLATION.

Vyaghradēva, who meditates on the feet of the *Mahārāja* the illustrious Prithivishēna, (of the family) of the *Vākatakas*, has made (this) for the sake of the religious merit of (his) parents.

## No. 5.—MANDAGAPPATTU INSCRIPTION OF VICHITRA-CHITTA.

By T. A. GOPINATHA RAO, M.A., TRIVANDRAM.

The small village of Mandagappattu is situated in the Villupuram *Taluka* of the South Arcot District and is about five miles south-west of Pēraṇai, a station on the main line of the South Indian Railway. In a small hill near Mandagappattu is cut out a shrine, on the façade of which is engraved the inscription which is edited below. The shrine has at its back end three niches, which are dedicated to the gods Brahmā, Īśvara and Viṣṇu respectively. On the panels on either side of this shrine is carved a *deva-pālaka*; the figure on the right very much resembles those which are found in the rock-cut shrines attributable to the Pallava king Mahēndravarman I. From this and other considerations based upon its architectural peculiarities Mons. G. Jouveau-Dubreuil has attributed its excavation to Mahēndravarman I. A photograph of the front view of this rock-cut shrine is given by him in his *Pallava Antiquities*, Vol. I, Pl. XXVIII. The cave was visited by the staff of the office of the Madras Epigraphist, and the inscription was copied in 1905. Regarding this cave Mr. Venkayya wrote in his *Annual Report on Epigraphy* for that year thus:—"The cave at Dalavāṇṭr in the Tinḍivanam *Taluka* consists of a shrine and a *mandapa* in front of it, thus resembling to a certain extent the upper cave at Trichinopoly, while that at Mandagappattu (mentioned in Mr. Sewell's *List of Antiquities*, Vol. I, p. 209) is a smaller one, which looks as if it had been left unfinished . . . . . There is only one inscription in the Mandagappattu cave, which is so much damaged that the name of the king cannot be made out. To judge from what remains of it, we may say that it must also belong to the Pallava period. And, as we know that it was Mahēndravarman I of that dynasty that excavated almost all the hitherto known monolithic caves in the Tamil country, we may not be altogether wrong, if we suppose that the one at Mandagappattu also came into existence during his reign." Depending upon probability, Mr. Venkayya hazarded a guess which has now turned out to be quite correct. It is true that the shrine was excavated during the reign of Mahēndravarman I; but no serious attempts were made by the Madras Government Epigraphists at deciphering this epigraph. The credit of having made out the name of the king belongs to the French Professor, Mons. G. Jouveau-Dubreuil, of Pondicherry. He has visited Mandagappattu more than once to obtain eye-copies and mechanical impressions, as also to acquire any further knowledge by studying the inscription directly from the stone. His zeal and perseverance have been richly rewarded by his discovery of the name of the king in whose reign the shrine was excavated. At this stage he sent me the impression of the inscription and his eye-copy, so that I might complete the reading of the document, translate and annotate it. When my notes, translation, etc., went to him, it had become impossible for him to edit the inscription himself; for he had to proceed to Cochin China on military duty. He therefore sent me a good photograph of a very carefully prepared eye-copy and asked me to edit the epigraph as early as possible. From the mechanical impression kindly lent to me by Mons. Jouveau-Dubreuil and the photograph of the eye-copy prepared jointly by me and that gentleman I edit this important inscription below.

The record consists of four lines of writing in *Grantha* characters of the first half of the 7th century A.D., and is a *Saṁskṛit* verse in the *Gīti* metre. As has been remarked by Messrs. Venkayya and Jouveau-Dubreuil, the inscription is somewhat badly damaged, and it is only with difficulty that one can read it successfully; but one need not on this score imagine that the

reading is fanciful. The inscription states that the shrine was caused to be made by the king Vichitra-chitta for the accommodation of the three deities *Brahmā*, *Īśvara* and *Vishṇu*, without using in its construction bricks, timber, metal or mortar. This short record is of importance in more ways than one. The most important information conveyed by it is that before the time of Vichitra-chitta bricks, timber, metal and mortar were the common temple building materials. Evidently the basement and walls of the buildings were of brick work, plastered with chunam, and the superstructures were composed of wood work held in position by the use of metallic nails and bands. This, in fact, is even to this day the mode of construction of temples on the Malabar Coast. It is difficult to find a single temple in Southern India which belongs to a date prior to the 7th century of the Christian Era. One would naturally be inclined, therefore, to surmise that temple building was never in vogue before that century. But immediately after this period we see a number of temples which have sprung into existence, and this also seems to lend weight to the surmise that no temples were built before the time of Mahēndravarman I in Southern India. The statement made in this inscription that Mahēndravarman did not employ bricks, timber, metals and mortar clearly warrants us in drawing the conclusion that the temples built before his time were all of such easily perishable materials as bricks, etc., that they were all ruined in course of time, and that this is the first rock-cut shrine of his. This is clear from the special mention of *anishṭaka*, etc., in the case of this shrine. It is impossible for a number of temples to have come suddenly into existence from the beginning of the 7th century, unless the building of temples had been practised long before.

We know from the inscriptions of the cave temple at Pallāvaram that Vichitra-chitta was one of the *birudas* of Mahēndravarman I (see Pl. XXI in the *Pallava Antiquities* of Mons. G. Jouveau-Dubreuil, wherein the name Vichitra-chitta is clearly legible; *vide* also for the *biruda* Vichitra-chitta, p. 74, para. 14, of *Ep. An. Rep.* for 1909). It is, therefore, patent that the shrine was caused to be excavated by Mahēndravarman I.

Again, the *biruda* Vichitra-chitta means 'the curious or inventive-minded one.' One can easily concede to the king Mahēndravarman the title 'inventive-minded,' in so far as he avoided bricks, etc., commonly used by all in the construction of their buildings, and devised quite a new path, namely the cutting out of rock-temples, which needed neither bricks, timber nor mortar. His country extended far north of the river *Kṛishṇā*, where he must necessarily have seen some of the earlier rock-cut temples and so have introduced into Southern India the new style of cutting temples in rock. That he was the first to introduce into Southern India the method of excavating temples in the solid rock is certain; for we do not find even a single rock-cut shrine which belongs to a time before the reign of Mahēndravarman. We know of no less than fifty rock-cut shrines in Southern India, not one of which is earlier than the time of this Pallava king. In fact, the art of cutting temples out of rock was contemporaneous with the Pallava dynasty and disappeared after them.<sup>1</sup>

The *birudas* of Mahēndravarman are not mere boasts; each of them has a meaning which is based upon some act done by him. We have seen that the *biruda* Vichitra-chitta is assumed by him for his invention of a new method of raising temples. Similarly, the *biruda* Matta-vilāsa is, in fact, indeed due to his having composed the pleasant little burlesque the *Mattavilāsa-prahasana*, in which he ridicules an actual *matta* or madman, a drunken *Kāpālika* and meat-eating *Bauddha Bhikṣu*.<sup>2</sup> Mention is made of this burlesque in his inscription found in Māmaṇḍūr;

<sup>1</sup> [See *South-Indian Images*, Introduction, pp. 1 f.—H. K. S.]

<sup>2</sup> The following extracts from this work will show that it was the composition of Mahēndravarman:

सूत्रधारः—भवति ! श्रुयताम् । पञ्चकुलपरिनिष्कलकुलपर्वतस्य सर्वमयविविजितसमस्तसामन्तस्थलस्य चासंख्यस्य-  
समपराक्रममयिहः श्रीमद्विमानुपदानविभूतिपरिभूतराजराजस्य श्रीविजयविश्ववर्मणः पुत्रः शत्रुघ्नवर्गनिशङ्कपरः  
परविजयपरतन्त्रतया महाभूतसधर्मा महाराजः श्रीमहेन्द्रविजयवर्मा नाम ।

The *birudas* Avani-bhājana, Guṇa-bhara, Matta-vilāsa and Śatru-malla are also introduced ingeniously in the play; these, we know, are the *birudas* of Mahēndravarman I.

the portion where it occurs is somewhat damaged, but the name of the work is not broken; the passage runs thus: *Mattavilāsādi-padam-prahasān-ottamam*<sup>1</sup> . . . and in the other fragments of the inscription we see that mention is made of poets like Vyāsa and Vālmiki, as also of *tālas*, etc., of music. Thus then each *biruda* of Mahēndravarman appears to have been bestowed on him or assumed by him for some ostensible reason. The *biruda* *Saṅkirṇa-jāti*<sup>2</sup> of this king is rather curious; it means 'of mixed caste.' Perhaps the parents of Mahēndravarman were of different castes. The significance of the other *birudas* will become patent as further researches are made.

It is interesting to note that at the time of Mahēndravarman the three deities Brahmā, Śiva and Viṣṇu were enshrined together in the same temple in adjacent niches. Such a group consisting of Brahmā, Viṣṇu and Śiva is called Hari-Hara-Pitāmaha or Dattatṛeya. (See my *Elements of Hindu Iconography*, Vol. I, pp. 251-256, as also Pl. LXXII, fig. 1 of the same volume.) At Mahābalipuram also there exists a Trimūrti cave; but, strangely enough, the cell which is supposed to have been dedicated to Brahmā is occupied by a figure which has only one face. The figure of Brahmā ought, according to the *āgamas*, to be always shaped with four faces, and in practice also we find that three faces are always shown in sculpture, the fourth being supposed to be at the back of the figure. In spite of the fact that the figure in the Mahābalipuram rock-cut shrine has only one face Dr. Vogel in his *Iconographic Notes on the Seven Pagodas*, contributed to the Director-General of Archaeology's Annual Report for 1910-11, identifies the figure with Brahmā (see page 58). Prof. Jouveau-Dubreuil has sent me a note containing his own explanation concerning this image for publication here, which I reproduce below. "The Trimūrti cave at Mahābalipuram is formed of three cells; the one on the right contains an image of Viṣṇu, and the middle one an image of Śiva. It is, therefore, but natural to suppose that the left cell contains an image of Brahmā. I was the first author to remark (vide *Archéologie du Sud de l'Inde*, Vol. II, Pl. XVIII B) that the god in the left cell has only one head and so could not be identified with Brahmā. I have thought fit to affirm that this unknown god is Subrahmanya, who is represented also on the ground-floor of the Dharmarāja Ratha<sup>3</sup> (*Archéologie du Sud de l'Inde*, Vol. II, Pl. XVIII B). However, the problem why the trinity Subrahmanya, Śiva and Viṣṇu is found in place of the usual trinity Brahmā, Viṣṇu and Śiva has remained till now unsolved. I believe I shall be able to explain why Subrahmanya is substituted for Brahmā in the group of the trinity at Mahābalipuram. Mr. T. A. Gopinatha Rao says in his *Elements of Hindu Iconography*, Vol. II, Part II, page 439, 'Brahma-sāstā: This is the aspect of Subrahmanya in which he put down the pride of Brahmā by exposing his ignorance of the Vēdas. He should be represented with a single face and four arms; he should have only two eyes. In the back hands there should be the *akṣhamālā* and the *kamaṇḍalu*,<sup>4</sup> and the front hands should be held in the *varada* and *abhaya* poses. The colour of Brahma-sāstā should be the red of the lotus flower.' If we note that the image of Subrahmanya in the Trimūrti cave wears on its breast a double chaplet of *rudrākṣa* beads, and that at the entrance to the sanctuary there are two personages dressed as Sannyāsins and having pointed beards, we shall conclude that the sculptors of Mahābalipuram have put Subrahmanya in the place of

<sup>1</sup> This fact was also discovered by Prof. Jouveau-Dubreuil: see his *Pallavas*, p. 38.

<sup>2</sup> [*Saṅkirṇajāti* is the name of a variety of musical time. Perhaps Mahēndravarman I held this *biruda* as an inventor of this method of keeping musical time.—H. K. S.]

<sup>3</sup> Behind the rock bearing the Trimūrti shrine are executed the figures of a peacock, an elephant and a monkey, carved in half relief. We know that the peacock is the characteristic vehicle (*rāhava*) of Subrahmanya. The elephant is generally associated with the temple of Sāstā, and is here perhaps intended to show that the image is that of Brahma-sāstā. [Temples of Traipurushadēva are found dedicated to Sun, Śiva and Viṣṇu. Why should not the Brahma-sāstā figure represent the Sun?—H. K. S.]

<sup>4</sup> Dr. Vogel takes the objects in the back hands as a flower and a ring, neither of which is right. The hands carry only a *kamaṇḍalu* and an *akṣhamālā*, as required by the *āgamas*.

Brahmā because they have placed there Brahma-sāstā, a deity superior to Brahmā in his knowledge of the Vēdas. I think fit to draw attention to the existence of the trinity consisting of Subrahmaṇya, Śiva and Viṣṇu and also to explain it with the help of the above-mentioned excellent work of M. R. Ry. T. A. Gopinatha Rao."<sup>1</sup>

TEXT.<sup>2</sup>

- 1 एतदनिष्टकमदुम[मली]-
- 2 वमसुध[विचित्रचि]त्तेन [I\*]
- 3 निर्मापितचपे[ण] ब्रह्मो-
- 4 श्वरविष्णु[क्षि]तायतनम् [II\*]

## TRANSLATION.

This brickless, timberless, metalless and mortarless temple, which is a mansion for (the Gods) Brahmā, Īvara and Viṣṇu, was caused to be created by the king Vichitra-chitta.

## No. 6.—THE FIRST ARYA-SIDDHANTA.

## MEAN SYSTEM.

(A continuation of the author's "Indian Chronography.")

By ROBERT SEWELL, I.C.S. (RETIRED).

303. It has long been known that in earlier years the Pañchāṅg Brahmans in India framed their local almanacs on calculations made by the use of the mean, as opposed to the true or apparent, motions of the sun and moon. The change from the mean to the true systems of calculation was advocated by Śrīpathi (A.D. 1040), and the latter system may have been adopted in some places about that time; becoming more general from about A.D. 1100 onwards. India, however, is a very conservative country, and the late Dr. Fleet was of opinion that, the mean system may have been adhered to, in some tracts at least, till a far later date.

304. With this opinion in mind I have prepared the Tables which follow, so as to cover the period of nine centuries from Āryabhaṭa's date, K.Y. 3600 (A.D. 499-500), to 4500 (A.D. 1399-1400). It would be well if all dates of inscriptions that have hitherto been set aside as irregular by epigraphists could be re-examined, seeing that the difference between the two systems of the *Ārya Siddhānta* constantly leads to differences in the computed positions of the sun and moon on the same civil day, and consequently to differences in the almanac; let alone the differences caused by the use of different Siddhāntas.

Thus, to give an example. The civil day, Monday, 21 October A.D. 1090, was by the *Ārya Siddhānta* true system described as "Monday, 25 Tūlā, nija Āśvina kr. 10," while by the mean system it was "Monday, 27 Tūlā, Kārttika kr. 10." Thursday, 31 Oct., in the same year was by the true system "Thursday, 5 Vṛśchika, Kārttika śukla 6," while by the mean system it was "Thursday, 7 Vṛśchika, Mārgaśira śukla 5."

305. The present Tables are based on the First *Ārya Siddhānta* as amended by Lalla. The principal Table LXXVI is framed on the lines of the *Indian Calendar*, Table I, so as to meet the convenience of epigraphists who have become accustomed to the use of that work. The numbers of the columns are made to correspond in both Tables.

Results of calculation carried out by the present Tables will be found to correspond with those worked by use of Professor H. Jacobi's skeleton Tables published in Vol. XI above. There is no need for me to dwell on the great services he has rendered to the cause of Indian history and epigraphy. These are well known. All I have done is to follow in his footsteps,

<sup>1</sup> This note is reproduced here exactly as it was sent by Mons. G. Jouveau-Dubreuil; no corrections have been effected in it.

<sup>2</sup> [For Plate see the article on 'A Vākātaka Inscription from Ganj.'—F. W. T.]

verify his figures to the best of my ability and apply the results to practical use. Any little differences that exist between us have been fully set forth and their cause explained.

*Elements. Arya Siddhanta, mean system.*

306. (i) The length of the mean sidereal solar year is  $365^d 6^h 12^m 30^s$ , or  $365^d.2586805$ .  
 (ii) For the sun's mean motion per day, hour, etc., see Tables XLIII, XLIV, above, Vol. XIV.  
 (iii) The distance of mean moon from mean sun (our  $a$ ), measured in 10,000ths of the circle, i.e. 10,000ths of the mean synodical revolution of the moon and excluding 12 whole revolutions, increases, during one sidereal solar year, from 0 to 3688.231484714. That is the advance of  $a$  in the year. Table LXIV A above, col. 3, shews this advance per day, and Table LXV the advance per hour, etc.  
 (iv) The value of  $a$  in mean reckoning corresponds to that of  $t$ , the tithi-index, in true reckoning. It shews what mean tithi was current at the moment in question.<sup>1</sup> In general calculation by the Tables this moment is the moment of mean sunrise at Laṅkā, taken as 6 A.M.  
 (v) In reckoning by 10,000ths of the circle the advance of  $a$  in one mean solar month is 307.352623726.  
 (vi) Each mean solar month consists of  $30^d 10^h 31^m 2\frac{1}{2}^s$ . The collective duration from the moment of mean Mēsha-saṁkrānti (the beginning of the mean solar year when the mean sun is at celestial long.  $0^\circ$ ) to each separate saṁkrānti, or the moment when the mean sun enters each of the signs, is given in Table LXXVII.  
 (vii) The length of each mean lunar month is  $29^d 12^h 44^m 2.79^s$  or  $29^d.530587946$ , during which the mean moon's distance from mean sun increases, in our circle reckoning, from 0 to 10,000. The length of one mean tithi, or one-thirtieth of the mean lunar synodic month, is  $23^h 37^m 28^s.09$ , or  $0^d.984352931$ ; during which, in circle reckoning, the increase of  $a$  is  $333\frac{1}{3}$ .  
 (viii) The *sādhya*, or time-difference between the moments of arrival at celestial long.  $0^\circ$  of the true and mean suns, which moments are known respectively as the true and mean Mēsha-saṁkrāntis, is  $2^d 3^h 32^m 30^s$ , true Mēsha-saṁkrānti being the earlier.  
 The time of occurrence of mean Mēsha-saṁkrānti in every year is given in Table LXXVI, cols. 13 to 17.  
 (ix) The samvatsara name of the solar year is the same by both true and mean reckonings, except in the years A.D. 564-5, 905-6, 990-1, 1246-7 and 1331-2. A special footnote is appended to the main Table LXXVI in each case.  
 (x) There can be no suppression of a lunar month when calculation is made by the mean system; for the length of a mean solar month is greater than that of a mean lunar month, so that two mean solar saṁkrāntis cannot take place within the limits of one mean lunar month.  
 (xi) Let it be noted that no intercalation of a lunar month can take place unless, at mean sunrise of the day on which mean Mēsha-saṁkrānti took place, the value of  $a$  is more than 6280.4892, or unless at the moment of mean Mēsha-saṁkrānti the value of  $a$  is more than 6619.1211; the latter value being 10,000—3380.8789, the total increase of  $a$  from Mēsha- to Mīna-saṁkrānti, and the former being 6619.1211—338.6319, the latter value being the increase of  $a$  in 24-hours.

*The 19-year intercalation cycle.*

307. (See Indian Calendar, § 50, p. 29.) By the mean system the cycle-sequence is found to work with almost perfect regularity. After four successive intercalations at intervals of 19 years each the intercalated lunar month gives way to the month preceding it. But there are

<sup>1</sup> The equations of sun and moon are not taken into account in mean reckoning.

two exceptions in the nine centuries embraced in Table LXXVI. Between A.D. 751 and 827 there is a run of five intercalary mean Pausha months, and between A.D. 1242 and 1318 there is a run of five intercalary mean Āśvina months.

In eleven instances the names of the mean intercalary months given in Table LXXVI differ from those stated in the *Indian Calendar*. These differences are due to the former calculations having been based on Professor Jacobi's earliest Tables published 30 years ago, while the present ones agree with the results of calculation made by his more recent elementary fixtures. Each difference is specially noted at foot of Table LXXVI.

#### *The nakshatra.*

308. In the mean system the position at any moment of the mean moon in the ecliptic circle, i.e. the mean moon's nakshatra, is found by adding her mean distance from the mean sun to the latter's longitude; that is to say, by adding to the value of  $s$  (the mean sun's longitude) the value of  $a$  at the same moment as found by calculation for the mean tithi. All work by the Tables being in the first instance for the mean positions of sun and moon at mean sunrise of any day, Table LXXX provides the sun's mean long.,  $s$ , in 10,000ths of the circle, for each period of 24-hours measured from the moment of mean Mēsha-samkrānti, while Table LXXXI states the same increase for fractions of the day. To obtain the value of  $s$  for mean sunrise of any day it is necessary to note first its value after the interval of days between the day of Mēsha-samkrānti and the given day (Table LXXX), and, since that value is measured from the moment of Mēsha-samkrānti and not from mean sunrise, afterwards to deduct from the value so obtained the increase during that fraction of the day (Table LXXXII). The result is the required  $s$ , or the mean sun's long. at mean sunrise of the given day. Then  $s + a = n$ , the nakshatra index required, or the mean moon's place in the ecliptic circle at mean sunrise of that day.

The Rule for work, then, is as follows. Find the value of  $a$  ( $=t$ ), the mean tithi-index at mean sunrise of the given day (*Example 2 below*). Note the serial number of the day as measured from Jan. 1. Deduct from this the serial number of the day of mean Mēsha-samkrānti (Table LXXVI, col. 13, in brackets). This gives the number of intervening days. Turn to Table LXXX and note the value of  $s$  against that interval of days. Deduct from this the mean sun's movement given in Table LXXXI during the hours and minutes stated in Table LXXVI, col. 17. The result is the required value of  $s$  at mean sunrise of the given day. Add  $s$  to  $a$ . This  $= n$ , the required nakshatra-index. Table LXVIII above, or Table VIII, *Indian Calendar*, gives the name of the nakshatra.

#### *The Tables.*

309. Table LXXVI corresponds to Table I. *Indian Calendar* in formation and is to be used in the same way. Here the value of  $a$  is the value of  $t$ . It gives the tithi-index direct without farther calculation.<sup>1</sup>

Table LXXVII shows the duration and collective duration of mean solar months, and the increase in the moon's phase,  $a$ , during each such month.

Table LXXVIII gives the value of  $a$  at the beginning of each Kaliyuga century.

Table LXXIX corresponds, with a necessary shift of position, to Table LXXIV above; the use of which is fully explained in my former papers, §§ 279, 301.

<sup>1</sup> To find the value of  $a$ , or  $t$ , i.e. the exact moon's phase, in 10,000ths of the circle, at any moment of any day, note its value at mean sunrise of the first civil day of the first solar year, as given in Table LXXVI (col. 23), and add its value for intervening days, hours, etc. (Tables LXIV, LXV under heading  $a$ ).

Tables LXXVIII and LXXIX, with Table LXXIII above (under heading *a*), which gives the value of *a* at the beginning of each year of the Kaliyuga century, enable us to find the value of *a* at mean sunrise of the civil day Chaitra śukla 1 at the beginning of each luni-solar year. Tables LXXVIII and LXXIII yield the value of *a* at mean sunrise of the day on which mean Mēsha-saṁkrānti occurred; and Table LXXIX enables, by addition, the *a* for the interval of days between that day and the day Chaitra śukla 1 to be ascertained. [The same can be found by subtracting from the sum of the values obtained from Tables LXXVIII and LXXIII (col. *a*) the value for those intervening days given in Table LXIV above (see *Example 1*).]

The use of Tables LXXX and LXXXI is explained above (§ 308). They correspond, *mutatis mutandis*, with Tables XLVIII A, XLIX above used in calculation for the sun's true longitude.

310. The century-Table LXXVIII requires some further explanation. Its object is to determine the mean moon's phase, *a*, at mean sunrise of the opening civil day of each Kaliyuga century, i.e. the day on which mean Mēsha-saṁkrānti occurred at some time later on that day. Reference to Table LXXVI shows that this opening day occurred at the beginnings of centuries 36 and 37 K.Y. on a Sunday, and in centuries 38 to 45 on a Saturday. From Table I, *Indian Calendar*, by adding the *śodhya* interval (above, § 306, viii) to the date and time there given for the moment of true Mēsha-saṁkrānti, we find that in centuries 46 to 48 it fell on a Friday. In the mean system, therefore, centuries 37 and 45 were defective centuries, while the rest were common.

Table LXXVIII corresponds to Table LXXII above, which concerns true solar years, and by the true system, i.e. calculation by the movements of true sun, the only defective century was century 42. This accounts for the difference between the two Tables.

It has been shewn above (§ 299, i) that the actual value of *a* at mean sunrise of Sunday, 21 March A.D. 499, on which day, 6 hours later, occurred the moment of mean Mēsha-saṁkrānti (mean sun at 0°) at the beginning of Kaliyuga century 36, was, in notation in 10,000ths of the circle, 7715.352496330. The values of *a* for later century-beginnings are found by addition to this of the century increases of *a*, common and defective as required.

### EXAMPLES.

*Example 1.* To find the European day, week-day, and phase of mean moon, i.e. the mean *tithi-index* *a* (which = *t*, the *index*) at mean sunrise of the first civil day of the luni-solar year; that is to say, of the day called "Chaitra śukla 1" of the year in question.

[This example is given in order to enable any student to verify the entries in Table LXXVI, cols. 19-23. For ordinary date work the entries themselves afford all information.]

The mean new moon which marks the astronomical beginning of any mean lunar year is the new moon at the end of the lunar month Phālguna of the previous year. The moment of its occurrence is always earlier than the moment in the current year of mean Mēsha-saṁkrānti, the beginning of the mean solar year. The civil day next following the moment of the initial mean new moon of the year is called "Chaitra śukla 1," that *tithi* being current at mean sunrise of that civil day. Our tabular calculations being for mean sunrise, the value of *a* in Table LXXVI, col. 23, must always be between 0 and 333.3, the last being the limit of the *tithi*.

To find its value for any year we must first calculate the value of *a* at mean sunrise on the day of occurrence of mean Mēsha-saṁkrānti from Tables LXXVIII and LXXIII (above) under heading *a*.

This done there are two processes by which the mean sunrise value of *a* on the day Chaitra śukla 1 can be obtained. One is to use Table LXIV, which, by deducting from the *a* of mean Mēsha-saṁkrānti-day mean sunrise (already found) the next lower value of *a* in the Table as given for the first 30 days, yields at once the interval of days between Chaitra śukla 1 and

*Mēsha-samkrānti*, the value of  $a$  at mean sunrise of the former, and the required week-day. The second process is, using Table LXXIX, to find such earlier day as by adding its  $a$  to the  $a$  of *Mēsha-samkrānti*, already found, will yield a result between 0 and 333·3. The Table then shows the interval of days between the two sunrises, and the week-day corresponding to Chaitra śukla 1.

A. Take for instance the year K.Y. 3725 expired, A.D. 624-25. Mean *Mēsha-samkrānti* occurred in that year (Table LXXVI, cols. 13-17) on Wed. 21 Mar.,—serial day 81, from Jan. 1. We take the value of  $a$  at mean sunrise at the beginning of the Kaliyuga century and at the beginning of the expired year from Tables LXXVIII and LXXIII respectively. The result gives the value of  $a$  at mean sunrise of *Mēsha-samkrānti* day in the given year.

|                                                                                                 | <i>w-d.</i> | <i>a.</i> |
|-------------------------------------------------------------------------------------------------|-------------|-----------|
| (Table LXXVIII). K.Y. cent. 37 . . . . .                                                        | (1)         | 6583-1816 |
| (Table LXXIII above). K.Y. year 25 . . . . .                                                    | (8)         | 2047-6413 |
| <hr/>                                                                                           |             |           |
| At mean sunrise on Wed. 21 Mar., the day of occurrence of mean <i>Mēsha-samkrānti</i> . . . . . | (4)         | 8630-8229 |

*Process 1.*

(Table LXIV above). Next lower value of  $a$  in the first 30 days of the Table, i.e. that for 25 days . . . . . —(4) —8465-7968

At mean sunrise of the day Chaitra śukla 1 . . . . . (0) 165-0261

This Chaitra śukla 1 civil day was (81—25=) Day 56, or (Table IX, *Indian Calendar*, or LXIX above) Sat. 25 Feb. A.D. 624.

*Process 2.*

|                                                                                              | <i>w-d.</i> | <i>a.</i>  |
|----------------------------------------------------------------------------------------------|-------------|------------|
| At mean sunrise on Wed. 21 Mar., the day of mean <i>Mēsha-samkrānti</i> (as above) . . . . . | (4)         | 8630-8229  |
| (Table LXXIX). The only value of $a$ which yields result between 0 and 333·3 . . . . .       | + (3)       | +1534-2032 |

At mean sunrise of the day Chaitra śukla 1 . . . . . (0) 165-0261

Table LXXIX shews that the interval of days was 25, and the result is in all respects the same as the former.

B. Calculation for the mean sunrise value of  $a$  on the day of mean *Mēsha-samkrānti*, the first step shewn in the above, by use of Tables LXXVIII and LXXIII sometimes results in the day found being not the actual day on which *Mēsha-samkrānti* took place but the day next to it. This is inevitable, seeing that only one Table has to stand for the odd years of all centuries. In such case the necessary adjustment must be made for one day's difference. The entries in Table LXXVI, cols. 13 to 17, are conclusive as to the actual day.

Take the year A.D. 625-26, K.Y. 3726 expired. In that year mean *Mēsha-samkrānti* occurred on Thurs. 21 Mar., serial day 80.

|                                                                                   | <i>w-d.</i> | <i>a.</i> |
|-----------------------------------------------------------------------------------|-------------|-----------|
| (Table LXXVIII). K.Y. century 37 . . . . .                                        | (1)         | 6583-1816 |
| (Table LXXIII). K.Y. year 26 . . . . .                                            | (5)         | 5986-9072 |
| <hr/>                                                                             |             |           |
| At mean sunrise of Friday, 22 Mar. . . . .                                        | (6)         | 2570-0888 |
| Deduct value for one day (Table LXIV) . . . . .                                   | →(1)        | —338-6319 |
| <hr/>                                                                             |             |           |
| At m. sunrise of Thurs. 21 Mar., the day of mean <i>Mēsha-samkrānti</i> . . . . . | (5)         | 2231-4569 |



For the  $a$  of Chaitra śukla 1 and its day and week-day, we use either of the two processes.

| <i>Process 1.</i>                                        |       | <i>w-d.</i> | <i>a.</i>  |
|----------------------------------------------------------|-------|-------------|------------|
| At m. sunrise of m. M. S.-day, Thurs. 21 Mar. . . .      | (5)   |             | 2231.4569  |
| (Table LXIV above). Next lower value of $a$ in the first |       |             |            |
| 30 days of the Table, viz. for 6 days' interval . . .    | —(6)  |             | —2031.7912 |
| At mean sunrise of Fri. 15 Mar., being the day Chaitra   |       |             |            |
| śukla 1 . . . . .                                        | (6)   |             | 199.6657   |
| <i>Or, Process 2.</i>                                    |       | <i>w-d.</i> | <i>a.</i>  |
| At m. sunrise of m. Mēsha-samk. day (as above) . . .     | (5)   |             | 2231.4569  |
| Add (Table LXXIX for 6 days earlier) . . . . .           | + (1) |             | +7968.2086 |
| Result (same as above) . . . . .                         | (6)   |             | 199.6657   |

*Example 2.* To find the mean tithi-index  $a$  for any day in the year, or any moment of any day.

Table LXXVI, cols. 19-23, states the civil day, Chaitra śukla 1, for each year, its serial number from Jan. 1, its week-day, and its tithi-index  $a$  at mean sunrise. Calculate, from Table III *Indian Calendar* or Table LXIII above, the interval of whole days to mean sunrise on the given day, and, if necessary, the fraction of day subsequent to that sunrise. Add the increment of  $a$  for whole days from Table LXIV, and for fractions of the day from Table LXV, to the  $a$  given in Table LXXVI.

Whole numbers may always be used for whole days, the decimals being only resorted to for close cases and when the calculation includes a fraction of a day.

E.g. Required the tithi-index at mean sunrise on Āshāḍha śukla 4 in the year corresponding to A.D. 625-26; and at 8<sup>h</sup> 20<sup>m</sup> 15<sup>s</sup> after m. sunrise on that day.

|                                                    | <i>d.</i> | <i>w-d.</i> | <i>a.</i> |
|----------------------------------------------------|-----------|-------------|-----------|
| Table LXXVI. Chait. śuk. 1, mean sunrise . . . . . | (74)      | (6)         | 199.6657  |
| Tables LXIII A. LXIV. Interval to Āsh. śuk. 4.     |           |             |           |
| and increase of $a$ . . . . .                      | (91)      | (0)         | 815.5005  |

At mean sunrise on Āsh. śuk. 4 day . . . . . (165) (6) 1015.1662

Day 165 was (Table IX, *Indian Calendar*, or Table LXIX above) 14 June A.D. 625 (6)=Friday.  $a=1015$  shews (Table VIII or LXVIII) that śukla 4 was current at mean sunrise of that day.

For the specific hour mentioned—

|                                       |                 | <i>a.</i> |
|---------------------------------------|-----------------|-----------|
| At mean sunrise on that day . . . . . |                 | 1015.1662 |
| (Table LXV) . . . . .                 | 8 <sup>h</sup>  | 112.8773  |
|                                       | 20 <sup>m</sup> | 4.7032    |
|                                       | 15 <sup>s</sup> | 0.0588    |

At 8<sup>h</sup> 20<sup>m</sup> 15<sup>s</sup> after mean sunrise . . . . .  $a=$  1132.8055

*Example 3.* To find  $a$  (the tithi-index, or phase of mean moon) at each of the solar samkrāntis in the year (the moments of the mean sun's entrance into the several signs), and to determine whether an intercalation of a lunar month took place during the year.

Table LXXVI, cols. 13, 14, 17, shews the day and time of occurrence of mean Mēsha-samkrānti (mean sun at long.  $0^{\circ}$ ) in each year, and Example 1 shews how to find the value of  $a$  at mean sunrise of that day. To that value must be added from Table LXV the increment of  $a$  during the interval from mean sunrise to moment of samkrānti. The advance of  $a$  during each mean solar month, i.e. from each mean samkrānti to the next. (Table LXXVII, col. 4) is 307.3526. The work may be carried out by use of whole numbers, except when a case is very close. This occurs when a waning moon is very near 10,000, or when a waxing moon is very near 0.

Required the above details for the years noted in Examples 1, 2, viz. A.D. 624-5 and 625-6.

In A.D. 624-25 mean Mēsha-samkrānti took place  $14^h 2^m 30^s$  after mean sunrise. In A.D. 625-26 it took place  $20^h 15^m 0^s$  after mean sunrise (Table LXXVI, cols. 13-17).

|                                                                |           |
|----------------------------------------------------------------|-----------|
| A.D. 624-25. Value of $a$ at m. sunrise on mean Mēsha-sam-     | $a$ .     |
| krānti-day, as already found (Example 1) . . . . .             | 8630.8229 |
| (Table LXV). Increase of $a$ in $14^h$ . . . . .               | 197.5358  |
| Ditto $2^m$ . . . . .                                          | 0.4703    |
| Ditto $30^s$ . . . . .                                         | 0.1176    |
| Exact value of $a$ at moment of mean Mēsha-samkrānti . . . . . | 8828.9461 |
| A.D. 625-26. Value of $a$ at m. sunrise of mean Mēsha-sam-     |           |
| krānti-day as found . . . . .                                  | 2231.4569 |
| (Table LXV). Increase of $a$ in $20^h$ . . . . .               | 282.1932  |
| Ditto $15^m$ . . . . .                                         | 3.5274    |
| Exact value of $a$ at moment of mean Mēsha-samkrānti . . . . . | 2517.1775 |

For the several samkrāntis in each year we work here roughly with whole numbers only, adding successively the increase of  $a$  in 1 solar month.

|                             | A.D. 624-25 | A.D. 625-26 |
|-----------------------------|-------------|-------------|
| At Mēsha-samkr. . . . .     | $a=8829$    | 2517        |
|                             | 307         | 307         |
| At Vṛishabha-samkr. . . . . | 9136        | 2824        |
|                             | 307         | 307         |
| At Mithuna-samkr. . . . .   | 9443        | 3131        |
|                             | 307         | 307         |
| At Karka-samkr. . . . .     | 9750        | 3438        |
|                             | 307         | 307         |
| At Simha-samkr. . . . .     | 57          | 3745        |
|                             | etc.        | etc.        |

In A.D. 624-25 it is seen that the mean moon was waning at the Karka-samkrānti and waxing at the Simha-samkrānti, proving an intercalation of a lunar month, which month (see Table LXXVII, col. 1) was Śrāvapa. Actually  $a$  at Simha-samkrānti was 58.36.

In A.D. 625-26 the small value of  $a$  at the moment of Mēsha-samkrānti shews that there could have been no intercalation in that year (*see above*, § 306, xi).

*Example 4. To find the mean moon's nakshatra, or her place in the ecliptic circle at any moment.*

(*See* § 308 *above*.) We have to find the value of  $s$ , the sun's mean long., at the given moment and the value at the same moment of  $a$ , the index of the mean tithi.  $s + a = n$ , the index of the nakshatra. I assume that, as usual, the values wanted are those at mean sunrise on the given day; for later moments they can easily be found, from Table LXV for  $a$ , and from Table LXXXI for  $s$ . The example here given will shew the process of work.

Required the nakshatra at mean sunrise on the day referred to in Example 2, viz. Āshāḍha sukla 4 in K.Y. 3726, which was proved to be 14 June A.D. 625, and on which day at mean sunrise the value of  $a$  was found to be 1015.1662. The day, measured from Jan. 1, was serial number 165. In that year mean Mēsha-samkrānti took place (*Table LXXXVI*) on Day 80 at 20<sup>h</sup> 15<sup>m</sup> after mean sunrise. The interval of whole days between 20<sup>h</sup> 15<sup>m</sup> after mean sunrise on the day of Mēsha-samkrānti and 20<sup>h</sup> 15<sup>m</sup> after mean sunrise on the given day is (165 - 80 =) 85.

|                                                           |                   |
|-----------------------------------------------------------|-------------------|
| ( <i>Table LXXX</i> ). Interval of 85 days . . . . .      | 2327.1179         |
| Less ( <i>Table LXXXI</i> ) for 20 <sup>h</sup> . . . . . | 22.8149           |
| for 15 <sup>m</sup> . . . . .                             | 0.2852            |
|                                                           | <hr/>             |
|                                                           | 23.1001 . . . . . |
|                                                           | <hr/>             |
| At mean sunrise on the day Āshāḍha suk. 4, . . . . .      | $s = 2304.0178$   |
| Add $a$ , as found for that mean sunrise . . . . .        | 1015.1662         |
|                                                           | <hr/>             |
| At mean sunrise on that day (=14 June) . . . . .          | $n = 3319.1840$   |
|                                                           | <hr/>             |

Table VIII *Indian Calendar*, or Table LXVIII *above*, shews that the moon was then in the nakshatra Āślēshā by the equal-space system and by Garga, but in Maghā by the Brāhma Siddhānta.<sup>1</sup>

The value of  $n$ , 3319.1840, in 10,000ths of the circle, can be converted into degrees, if required, by Table XLV B, *above*. It = 119° 29' 26". That was the mean moon's place.

*Example 5. The lagna.* (*See Indian Chronography*, § 193, p. 74, and *Example 63*, p. 127.) Required to ascertain at what hour on the day Āshāḍha suk. 4 K.Y. 3726, or 14 June A.D. 625, the sign Tūlā became lagna.

At mean sunrise the sun's mean long.  $s$  was (*Example 4*) 2304.0178, roughly (*Table XLV above*) 82° 57'. The first point of Tūlā (Libra) (*Indian Chronography*, Table XXII) is 180°. 180° - 82° 57' = 97° 3'. 97° × 4 = 388<sup>m</sup>, or 6<sup>h</sup> 28<sup>m</sup>. 3' × 4 = 12<sup>s</sup>. The first point of Tūlā, therefore, was lagna at 6<sup>h</sup> 28<sup>m</sup> 12<sup>s</sup> after mean sunrise on the day in question. It lasted for 2 hours, when Vṛiśchika (Scorpio) became lagna.

<sup>1</sup> As to these systems *see Indian Calendar*, § 88, p. 21; *Indian Chronography*, § 112 *etc.*

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## TABLE LXXVI.

Mean System Table, First Arya Siddhānta.

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TABLE

## MEAN SYSTEM TABLE,

Numbers of columns conform

(Cols. 1 to 4.)—The years herein stated are the *current* years corresponding(Cols. 6 and 7.)—*Saivatsara*-names of mean solar years in italics shew where

| CONCURRENT YEAR. |       |                     |                                  |         |         |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|---------------------|----------------------------------|---------|---------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitra<br>Vikrama. | Maha<br>solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAIVATSARA.  |                     |                                                  |
|                  |       |                     |                                  |         |         | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                   | 3a                               | 4       | 5       | 6                   | 7                   | 8a                                               |
| 3601             | 422   | 557                 |                                  |         | 499-500 | 9 Yuvan . . .       |                     | 9 Mārgasira .                                    |
| 3602             | 423   | 558                 |                                  |         | *500-01 | 10 Dhātṛi . . .     |                     | ...                                              |
| 3603             | 424   | 559                 |                                  |         | 501-02  | 11 Īśvara . . .     |                     | ...                                              |
| 3604             | 425   | 560                 |                                  |         | 502-03  | 12 Bahudhānya . .   |                     | 5 Śrāvaṇa .                                      |
| 3605             | 426   | 561                 |                                  |         | 503-04  | 13 Pramāthin . .    |                     | ...                                              |
| 3606             | 427   | 562                 |                                  |         | *504-05 | 14 Vikrama . . .    |                     | ...                                              |
| 3607             | 428   | 563                 |                                  |         | 505-06  | 15 Vṛiṣha . . .     |                     | 2 Vaiśākha .                                     |
| 3608             | 429   | 564                 |                                  |         | 506-07  | 16 Chitrabhānu . .  |                     | ...                                              |
| 3609             | 430   | 565                 |                                  |         | 507-08  | 17 Subhānu . . .    |                     | 10 Pausa .                                       |
| 3610             | 431   | 566                 |                                  |         | *508-09 | 18 Tāraka . . .     |                     | ...                                              |
| 3611             | 432   | 567                 |                                  |         | 509-10  | 19 Pārthiva . . .   |                     | ...                                              |
| 3612             | 433   | 568                 |                                  |         | 510-11  | 20 Vyaya . . .      |                     | 7 Āśvina .                                       |
| 3613             | 434   | 569                 |                                  |         | 511-12  | 21 Sarvajit . . .   |                     | ...                                              |
| 3614             | 435   | 570                 |                                  |         | *512-13 | 22 Sarvadhārin . .  |                     | ...                                              |
| 3615             | 436   | 571                 |                                  |         | 513-14  | 23 Visākhin . . .   |                     | 3 Jyēṣṭha .                                      |
| 3616             | 437   | 572                 |                                  |         | 514-15  | 24 Vikiṭa . . .     |                     | ...                                              |
| 3617             | 438   | 573                 |                                  |         | 515-16  | 25 Khara . . .      |                     | 12 Phālguna .                                    |
| 3618             | 439   | 574                 |                                  |         | *516-17 | 26 Nandana . . .    |                     | ...                                              |
| 3619             | 440   | 575                 |                                  |         | 517-18  | 27 Vijaya . . .     |                     | ...                                              |
| 3620             | 441   | 576                 |                                  |         | 518-19  | 28 Jaya . . .       |                     | 8 Kārttika .                                     |

LXXVI.

FIRST ĀRYA SIDDHĀNTA.

to Table I, "Indian Calendar."

to the A.D. years in col. 5; as in Table I, "Indian Calendar."

differences exist from *Sūrya Siddhānta* nomenclature in true solar years.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                                | Kali year. |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|------------------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |                                                |            |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | $\alpha$ (here= $t$ , the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                             | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                                |            |
| 21 Mar. (80) . .    | 1 Sun. .  | 6 0 0                         | 27 Feb. (58) . .                                                                | 0 Sat. .  | 265-4513                                       | 3601       |
| 20 Mar. (80) . .    | 2 Mon. .  | 12 12 30                      | 17 Mar. (77) . .                                                                | 6 Fri. .  | 300-0909                                       | 3602       |
| 20 Mar. (79) . .    | 3 Tues. . | 18 25 0                       | 6 Mar. (65) . .                                                                 | 3 Tues. . | 175-7743                                       | 3603       |
| 21 Mar. (80) . .    | 5 Thur. . | 0 37 30                       | 23 Feb. (54) . .                                                                | 0 Sat. .  | 51-4577                                        | 3604       |
| 21 Mar. (80) . .    | 6 Fri. .  | 6 50 0                        | 14 Mar. (73) . .                                                                | 6 Fri. .  | 86-0973                                        | 3605       |
| 20 Mar. (80) . .    | 0 Sat. .  | 13 2 30                       | 3 Mar. (63) . .                                                                 | 4 Wed. .  | 300-4125                                       | 3606       |
| 20 Mar. (79) . .    | 1 Sun. .  | 19 15 0                       | 20 Feb. (51) . .                                                                | 1 Sun. .  | 176-0959                                       | 3607       |
| 21 Mar. (80) . .    | 3 Tues. . | 1 27 30                       | 11 Mar. (70) . .                                                                | 0 Sat. .  | 210-7356                                       | 3608       |
| 21 Mar. (80) . .    | 4 Wed. .  | 7 40 0                        | 28 Feb. (59) . .                                                                | 4 Wed. .  | 86-4189                                        | 3609       |
| 20 Mar. (80) . .    | 5 Thur. . | 13 52 30                      | 18 Mar. (78) . .                                                                | 3 Tues. . | 121-0586                                       | 3610       |
| 20 Mar. (79) . .    | 6 Fri. .  | 20 5 0                        | 7 Mar. (66) . .                                                                 | 0 Sat. .  | 9996-7419†                                     | 3611       |
| 21 Mar. (80) . .    | 1 Sun. .  | 2 17 30                       | 25 Feb. (56) . .                                                                | 5 Thur. . | 211-0572                                       | 3612       |
| 21 Mar. (80) . .    | 2 Mon. .  | 8 30 0                        | 16 Mar. (75) . .                                                                | 4 Wed. .  | 245-6968                                       | 3613       |
| 20 Mar. (80) . .    | 3 Tues. . | 14 42 30                      | 4 Mar. (64) . .                                                                 | 1 Sun. .  | 121-3802                                       | 3614       |
| 20 Mar. (79) . .    | 4 Wed. .  | 20 55 0                       | 21 Feb. (52) . .                                                                | 5 Thur. . | 9997-0635†                                     | 3615       |
| 21 Mar. (80) . .    | 6 Fri. .  | 3 7 30                        | 12 Mar. (71) . .                                                                | 4 Wed. .  | 31-7031                                        | 3616       |
| 21 Mar. (80) . .    | 0 Sat. .  | 9 20 0                        | 2 Mar. (61) . .                                                                 | 2 Mon. .  | 246-6185                                       | 3617       |
| 20 Mar. (80) . .    | 1 Sun. .  | 15 32 30                      | 20 Mar. (80) . .                                                                | 1 Sun. .  | 280-6581                                       | 3618       |
| 20 Mar. (79) . .    | 2 Mon. .  | 21 45 0                       | 9 Mar. (68) . .                                                                 | 5 Thur. . | 156-3414                                       | 3619       |
| 21 Mar. (80) . .    | 4 Wed. .  | 3 57 30                       | 28 Feb. (57) . .                                                                | 2 Mon. .  | 32-0248                                        | 3620       |

† As a mean tithi Chaitra Śukla 1 was suppressed. The civil day corresponding to it, i.e., the first day of the mean luni-solar year, was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mūshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                   | 7                   | 8a                                               |
| 3621             | 442   | 577                |                                  |         | 519-20  | 29 Manmatha . .     | ...                 |                                                  |
| 3622             | 443   | 578                |                                  |         | *520-21 | 30 Durmukha . .     | ...                 |                                                  |
| 3623             | 444   | 579                |                                  |         | 521-22  | 31 Hēmalamba . .    | 5 Śrāvapa .         |                                                  |
| 3624             | 445   | 580                |                                  |         | 522-23  | 32 Vilamba . .      | ...                 |                                                  |
| 3625             | 446   | 581                |                                  |         | 523-24  | 33 Vikārin . .      | ...                 |                                                  |
| 3626             | 447   | 582                |                                  |         | *524-25 | 34 Śārvarin . .     | 1 Chaitra .         |                                                  |
| 3627             | 448   | 583                |                                  |         | 525-26  | 35 Plava . .        | ...                 |                                                  |
| 3628             | 449   | 584                |                                  |         | 526-27  | 36 Subhakrit . .    | 10 Pausa .          |                                                  |
| 3629             | 450   | 585                |                                  |         | 527-28  | 37 Śobhana . .      | ...                 |                                                  |
| 3630             | 451   | 586                |                                  |         | *528-29 | 38 Krōddhin . .     | ...                 |                                                  |
| 3631             | 452   | 587                |                                  |         | 529-30  | 39 Viśvāvasu . .    | 7 Āśvina .          |                                                  |
| 3632             | 453   | 588                |                                  |         | 530-31  | 40 Parābhava . .    | ...                 |                                                  |
| 3633             | 454   | 589                |                                  |         | 531-32  | 41 Plavaṅga . .     | ...                 |                                                  |
| 3634             | 455   | 590                |                                  |         | *532-33 | 42 Kilaka . .       | 3 Jyēṣṭha .         |                                                  |
| 3635             | 456   | 591                |                                  |         | 533-34  | 43 Saumya . .       | ...                 |                                                  |
| 3636             | 457   | 592                |                                  |         | 534-35  | 44 Sādhāraṇa . .    | 12 Phālguna .       |                                                  |
| 3637             | 458   | 593                |                                  |         | 535-36  | 45 Virōdhakrit . .  | ...                 |                                                  |
| 3638             | 459   | 594                |                                  |         | *536-37 | 46 Paridhāvin . .   | ...                 |                                                  |
| 3639             | 460   | 595                |                                  |         | 537-38  | 47 Pramādin . .     | 8 Kārttika .        |                                                  |
| 3640             | 461   | 596                |                                  |         | 538-39  | 48 Ananda . .       | ...                 |                                                  |
| 3641             | 462   | 597                |                                  |         | 539-40  | 49 Rākshasa . .     | ...                 |                                                  |
| 3642             | 463   | 598                |                                  |         | *540-41 | 50 Anala . .        | 5 Śrāvapa .         |                                                  |
| 3643             | 464   | 599                |                                  |         | 541-42  | 51 Piṅgala . .      | ...                 |                                                  |
| 3644             | 465   | 600                |                                  |         | 542-43  | 52 Kālayukta . .    | ...                 |                                                  |
| 3645             | 466   | 601                |                                  |         | 543-44  | 53 Siddhārthin . .  | 1 Chaitra .         |                                                  |

LXXVI—Contd.

I Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                              |            |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|----------------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                              | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | a (here= <i>t</i> , the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                           | 1          |
|                     |             | H. M. S.                      |                                                                                 |             |                                              |            |
| 21 Mar. (80) . .    | 5 Thur. . . | 10 10 0                       | 17 Mar. (76) . .                                                                | 1 Sun. . .  | 66-6644                                      | 3621       |
| 20 Mar. (80) . .    | 6 Fri. . .  | 16 22 30                      | 6 Mar. (66) . .                                                                 | 6 Fri. . .  | 280-9797                                     | 3622       |
| 20 Mar. (79) . .    | 0 Sat. . .  | 22 35 0                       | 23 Feb. (54) . .                                                                | 3 Tues. . . | 156-6631                                     | 3623       |
| 21 Mar. (80) . .    | 2 Mon. . .  | 4 47 30                       | 14 Mar. (73) . .                                                                | 2 Mon. . .  | 191-3027                                     | 3624       |
| 21 Mar. (80) . .    | 3 Tues. . . | 11 0 0                        | 3 Mar. (62) . .                                                                 | 6 Fri. . .  | 66-9860                                      | 3625       |
| 20 Mar. (80) . .    | 4 Wed. . .  | 17 12 30                      | 21 Feb. (52) . .                                                                | 4 Wed. . .  | 281-3013                                     | 3626       |
| 20 Mar. (79) . .    | 5 Thur. . . | 23 25 0                       | 11 Mar. (70) . .                                                                | 3 Tues. . . | 315-9409                                     | 3627       |
| 21 Mar. (80) . .    | 0 Sat. . .  | 5 37 30                       | 28 Feb. (59) . .                                                                | 0 Sat. . .  | 191-6243                                     | 3628       |
| 21 Mar. (80) . .    | 1 Sun. . .  | 11 50 0                       | 19 Mar. (78) . .                                                                | 6 Fri. . .  | 226-2640                                     | 3629       |
| 20 Mar. (80) . .    | 2 Mon. . .  | 18 2 30                       | 7 Mar. (67) . .                                                                 | 3 Tues. . . | 101-9473                                     | 3630       |
| 21 Mar. (80) . .    | 4 Wed. . .  | 0 15 0                        | 25 Feb. (56) . .                                                                | 1 Sun. . .  | 316-2626                                     | 3631       |
| 21 Mar. (80) . .    | 5 Thur. . . | 6 27 30                       | 16 Mar. (74) . .                                                                | 6 Fri. . .  | 12-2703                                      | 3632       |
| 21 Mar. (80) . .    | 6 Fri. . .  | 12 40 0                       | 5 Mar. (64) . .                                                                 | 4 Wed. . .  | 226-5856                                     | 3633       |
| 20 Mar. (80) . .    | 0 Sat. . .  | 18 52 30                      | 22 Feb. (53) . .                                                                | 1 Sun. . .  | 102-2690                                     | 3634       |
| 21 Mar. (80) . .    | 2 Mon. . .  | 1 5 0                         | 12 Mar. (71) . .                                                                | 0 Sat. . .  | 136-9086                                     | 3635       |
| 21 Mar. (80) . .    | 3 Tues. . . | 7 17 30                       | 1 Mar. (60) . .                                                                 | 4 Wed. . .  | 12-5920                                      | 3636       |
| 21 Mar. (80) . .    | 4 Wed. . .  | 13 30 0                       | 20 Mar. (79) . .                                                                | 3 Tues. . . | 47-2316                                      | 3637       |
| 20 Mar. (80) . .    | 5 Thur. . . | 19 42 30                      | 9 Mar. (69) . .                                                                 | 1 Sun. . .  | 261-5469                                     | 3638       |
| 21 Mar. (80) . .    | 0 Sat. . .  | 1 55 0                        | 26 Feb. (57) . .                                                                | 5 Thur. . . | 137-2303                                     | 3639       |
| 21 Mar. (90) . .    | 1 Sun. . .  | 8 7 30                        | 17 Mar. (76) . .                                                                | 4 Wed. . .  | 171-8699                                     | 3640       |
| 21 Mar. (80) . .    | 2 Mon. . .  | 14 20 0                       | 6 Mar. (65) . .                                                                 | 1 Sun. . .  | 47-5533                                      | 3641       |
| 20 Mar. (80) . .    | 3 Tues. . . | 20 32 30                      | 24 Feb. (55) . .                                                                | 6 Fri. . .  | 261-8686                                     | 3642       |
| 21 Mar. (80) . .    | 5 Thur. . . | 2 45 0                        | 14 Mar. (73) . .                                                                | 5 Thur. . . | 296-5082                                     | 3643       |
| 21 Mar. (80) . .    | 6 Fri. . .  | 8 57 30                       | 3 Mar. (62) . .                                                                 | 2 Mon. . .  | 172-1916                                     | 3644       |
| 21 Mar. (80) . .    | 0 Sat. . .  | 15 10 0                       | 20 Feb. (51) . .                                                                | 8 Fri. . .  | 47-8749                                      | 3645       |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                        |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.     |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system.    | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                      | 7                   | 8a                                               |
| 3646             | 467   | 602                |                                  |         | *544-45 | 54 Raudra . . .        |                     | ...                                              |
| 3647             | 468   | 603                |                                  |         | 545-46  | 55 Durmati . . .       |                     | 10 Pausa .                                       |
| 3648             | 469   | 604                |                                  |         | 546-47  | 56 Dundubhi . . .      |                     | ...                                              |
| 3649             | 470   | 605                |                                  |         | 547-48  | 57 Rudhirōdgārin . . . |                     | ...                                              |
| 3650             | 471   | 606                |                                  |         | *548-49 | 58 Raktāksha . . .     |                     | 6 Bhādrapada                                     |
| 3651             | 472   | 607                |                                  |         | 549-50  | 59 Krōdhana . . .      |                     | ...                                              |
| 3652             | 473   | 608                |                                  |         | 550-51  | 60 Kshaya . . .        |                     | ...                                              |
| 3653             | 474   | 609                |                                  |         | 551-52  | 1 Prabhava . . .       |                     | 3 Jyēshtha .                                     |
| 3654             | 475   | 610                |                                  |         | *552-53 | 2 Vibhava . . .        |                     | ...                                              |
| 3655             | 476   | 611                |                                  |         | 553-54  | 3 Śukla . . .          |                     | 11 Māgha .                                       |
| 3656             | 477   | 612                |                                  |         | 554-55  | 4 Pramōda . . .        |                     | ...                                              |
| 3657             | 478   | 613                |                                  |         | 555-56  | 5 Prajāpati . . .      |                     | ...                                              |
| 3658             | 479   | 614                |                                  |         | *556-57 | 6 Āngiras . . .        |                     | 8 Kārttika .                                     |
| 3659             | 480   | 615                |                                  |         | 557-58  | 7 Śrīmukha . . .       |                     | ...                                              |
| 3660             | 481   | 616                |                                  |         | 558-59  | 8 Bhāva . . .          |                     | ...                                              |
| 3661             | 482   | 617                |                                  |         | 559-60  | 9 Yuva . . .           |                     | 4 Āshāḍha .                                      |
| 3662             | 483   | 618                |                                  |         | *560-61 | 10 Dhātri . . .        |                     | ...                                              |
| 3663             | 484   | 619                |                                  |         | 561-62  | 11 Īsvara . . .        |                     | ...                                              |
| 3664             | 485   | 620                |                                  |         | 562-63  | 12 Bahudhānya . . .    |                     | 1 Chaitra .                                      |
| 3665             | 486   | 621                |                                  |         | 563-64  | 13 Pramāthin† . . .    |                     | ...                                              |
| 3666             | 487   | 622                |                                  |         | *564-65 | 15 Vṛiṣha . . .        |                     | 10 Pausa .                                       |
| 3667             | 488   | 623                |                                  |         | 565-66  | 16 Chitrabhānu . . .   |                     | ...                                              |
| 3668             | 489   | 624                |                                  |         | 566-67  | 17 Subhānu . . .       |                     | ...                                              |
| 3669             | 490   | 625                |                                  |         | 567-68  | 18 Tārana . . .        |                     | 6 Bhādrapada.                                    |
| 3670             | 491   | 626                |                                  |         | *568-69 | 19 Pārthiva . . .      |                     | ...                                              |

† By I Ārya Siddhānta mean system 14 Vikrama was expunged, and A.D. 564-65 corresponded to 15 Vṛiṣha. By the same authority true system A.D. 564-65 corresponded to 14 Vikrama, and 15 Vṛiṣha was expunged. A.D. 565-66 was 16 Chitrabhānu by both systems.

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1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                       |      | Kali year. |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|---------------------------------------|------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                       |      |            |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | a (here = t, the index of the tithi). |      |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                    | 1    |            |
|                     |           | H. M. S.                      |                                                                                 |           |                                       |      |            |
| 20 Mar. (80) . .    | 1 Sun. .  | 21 22 30                      | 10 Mar. (70) . .                                                                | 5 Thur. . | 82-6145                               | 3646 |            |
| 21 Mar. (80) . .    | 3 Tues. . | 3 35 0                        | 28 Feb. (59) . .                                                                | 3 Tues. . | 296-8298                              | 3647 |            |
| 21 Mar. (80) . .    | 4 Wed. .  | 9 47 30                       | 19 Mar. (78) . .                                                                | 2 Mon. .  | 331-4694                              | 3648 |            |
| 21 Mar. (80) . .    | 5 Thur. . | 16 0 0                        | 8 Mar. (67) . .                                                                 | 6 Fri. .  | 207-1528                              | 3649 |            |
| 20 Mar. (80) . .    | 6 Fri. .  | 22 12 30                      | 25 Feb. (56) . .                                                                | 3 Tues. . | 82-8361                               | 3650 |            |
| 21 Mar. (80) . .    | 1 Sun. .  | 4 25 0                        | 15 Mar. (74) . .                                                                | 2 Mon. .  | 117-4757                              | 3651 |            |
| 21 Mar. (80) . .    | 2 Mon. .  | 10 37 30                      | 5 Mar. (64) . .                                                                 | 0 Sat. .  | 331-7910                              | 3652 |            |
| 21 Mar. (80) . .    | 3 Tues. . | 16 50 0                       | 22 Feb. (53) . .                                                                | 4 Wed. .  | 207-4744                              | 3653 |            |
| 20 Mar. (80) . .    | 4 Wed. .  | 23 2 30                       | 12 Mar. (72) . .                                                                | 3 Tues. . | 242-1140                              | 3654 |            |
| 21 Mar. (80) . .    | 6 Fri. .  | 5 15 0                        | 1 Mar. (60) . .                                                                 | 0 Sat. .  | 117-7974                              | 3655 |            |
| 21 Mar. (80) . .    | 0 Sat. .  | 11 27 30                      | 20 Mar. (79) . .                                                                | 6 Fri. .  | 152-4370                              | 3656 |            |
| 21 Mar. (80) . .    | 1 Sun. .  | 17 40 0                       | 9 Mar. (68) . .                                                                 | 3 Tues. . | 28-1204                               | 3657 |            |
| 20 Mar. (80) . .    | 2 Mon. .  | 23 52 30                      | 27 Feb. (58) . .                                                                | 1 Sun. .  | 242-4357                              | 3658 |            |
| 21 Mar. (80) . .    | 4 Wed. .  | 6 5 0                         | 17 Mar. (76) . .                                                                | 0 Sat. .  | 277-0753                              | 3659 |            |
| 21 Mar. (80) . .    | 5 Thur. . | 12 17 30                      | 6 Mar. (65) . .                                                                 | 4 Wed. .  | 152-7587                              | 3660 |            |
| 21 Mar. (80) . .    | 6 Fri. .  | 18 30 0                       | 23 Feb. (54) . .                                                                | 1 Sun. .  | 28-4421                               | 3661 |            |
| 21 Mar. (81) . .    | 1 Sun. .  | 0 42 30                       | 13 Mar. (73) . .                                                                | 0 Sat. .  | 63-0817                               | 3662 |            |
| 21 Mar. (80) . .    | 2 Mon. .  | 6 55 0                        | 3 Mar. (62) . .                                                                 | 5 Thur. . | 277-3970                              | 3663 |            |
| 21 Mar. (80) . .    | 3 Tues. . | 13 7 30                       | 20 Feb. (51) . .                                                                | 2 Mon. .  | 153-0803                              | 3664 |            |
| 21 Mar. (80) . .    | 4 Wed. .  | 19 30 0                       | 11 Mar. (70) . .                                                                | 1 Sun. .  | 187-7200                              | 3665 |            |
| 21 Mar. (81) . .    | 6 Fri. .  | 1 32 30                       | 28 Feb. (59) . .                                                                | 5 Thur. . | 63-4034                               | 3666 |            |
| 21 Mar. (80) . .    | 0 Sat. .  | 7 45 0                        | 18 Mar. (77) . .                                                                | 4 Wed. .  | 98-0430                               | 3667 |            |
| 21 Mar. (80) . .    | 1 Sun. .  | 13 57 30                      | 8 Mar. (67) . .                                                                 | 2 Mon. .  | 312-3582                              | 3668 |            |
| 21 Mar. (80) . .    | 2 Mon. .  | 20 10 0                       | 25 Feb. (56) . .                                                                | 6 Fri. .  | 188-0416                              | 3669 |            |
| 21 Mar (81) . .     | 4 Wed. .  | 2 22 30                       | 15 Mar. (75) . .                                                                | 5 Thur. . | 222-6813                              | 3670 |            |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                      |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system.  | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                    | 7                   | 8a                                               |
| 3671             | 492   | 627                |                                  |         | 569-70  | 20 Vyaya . . .       |                     | ...                                              |
| 3672             | 493   | 628                |                                  |         | 570-71  | 21 Sarvajit . . .    |                     | 3 Jyēshtha .                                     |
| 3673             | 494   | 629                |                                  |         | 571-72  | 22 Sarvadhārin . . . |                     | ...                                              |
| 3674             | 495   | 630                |                                  |         | *572-73 | 23 Virōdhin . . .    |                     | 11 Māgha .                                       |
| 3675             | 496   | 631                |                                  |         | 573-74  | 24 Vikrita . . .     |                     | ...                                              |
| 3676             | 497   | 632                |                                  |         | 574-75  | 25 Khara . . .       |                     | ...                                              |
| 3677             | 498   | 633                |                                  |         | 575-76  | 26 Nandana . . .     |                     | 8 Kārttika .                                     |
| 3678             | 499   | 634                |                                  |         | *576-77 | 27 Vijaya . . .      |                     | ...                                              |
| 3679             | 500   | 635                |                                  |         | 577-78  | 28 Jaya . . .        |                     | ...                                              |
| 3680             | 501   | 636                |                                  |         | 578-79  | 29 Manmatha . . .    |                     | 4 Āshādha .                                      |
| 3681             | 502   | 637                |                                  |         | 579-80  | 30 Durmukha . . .    |                     | ...                                              |
| 3682             | 503   | 638                |                                  |         | *580-81 | 31 Hēmalamba . . .   |                     | ...                                              |
| 3683             | 504   | 639                |                                  |         | 581-82  | 32 Vilamba . . .     |                     | 1 Chaitra .                                      |
| 3684             | 505   | 640                |                                  |         | 582-83  | 33 Vikārin . . .     |                     | ...                                              |
| 3685             | 506   | 641                |                                  |         | 583-84  | 34 Sārvarin . . .    |                     | 9 Mārgasīra .                                    |
| 3686             | 507   | 642                |                                  |         | *584-85 | 35 Plava . . .       |                     | ...                                              |
| 3687             | 508   | 643                |                                  |         | 585-86  | 36 Subhakrit . . .   |                     | ...                                              |
| 3688             | 509   | 644                |                                  |         | 586-87  | 37 Sōbhana . . .     |                     | 6 Bhādrapada.                                    |
| 3689             | 510   | 645                |                                  |         | 587-88  | 38 Krōdhin . . .     |                     | ...                                              |
| 3690             | 511   | 646                |                                  |         | *588-89 | 39 Viśvāvasu . . .   |                     | ...                                              |
| 3691             | 512   | 647                |                                  |         | 589-90  | 40 Parābhava . . .   |                     | 2 Vaiśākha .                                     |
| 3692             | 513   | 648                |                                  |         | 590-91  | 41 Plavaṅga . . .    |                     | ...                                              |
| 3693             | 514   | 649                |                                  |         | 591-92  | 42 Kilaka . . .      |                     | 11 Māgha .                                       |
| 3694             | 515   | 650                |                                  |         | *592-93 | 43 Saumya . . .      |                     | ...                                              |
| 3695             | 516   | 651                |                                  |         | 593-94  | 44 Sādhārana . . .   |                     | ...                                              |

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1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                       |            |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|---------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                       | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-saṅkrānti. | Day and month, A.D.                                                             | Week-day. | a (here = t, the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                    | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                       |            |
| 21 Mar. (80) . .    | 5 Thur. . | 8 35 0                        | 4 Mar. (63) . .                                                                 | 2 Mon. .  | 98-3646                               | 3671       |
| 21 Mar. (80) . .    | 6 Fri. .  | 14 47 30                      | 22 Feb. (53) . .                                                                | 0 Sat. .  | 312-6799                              | 3672       |
| 21 Mar. (80) . .    | 0 Sat. .  | 21 0 0                        | 12 Mar. (71) . .                                                                | 5 Thur. . | 8-6876                                | 3673       |
| 21 Mar. (81) . .    | 2 Mon. .  | 3 12 30                       | 1 Mar. (61) . .                                                                 | 3 Tues. . | 223-0029                              | 3674       |
| 21 Mar. (80) . .    | 3 Tues. . | 9 25 0                        | 20 Mar. (79) . .                                                                | 2 Mon. .  | 257-6425                              | 3675       |
| 21 Mar. (80) . .    | 4 Wed. .  | 15 37 30                      | 9 Mar. (68) . .                                                                 | 6 Fri. .  | 133-3259                              | 3676       |
| 21 Mar. (80) . .    | 5 Thur. . | 21 50 0                       | 28 Feb. (57) . .                                                                | 3 Tues. . | 9-0092                                | 3677       |
| 21 Mar. (81) . .    | 0 Sat. .  | 4 2 30                        | 16 Mar. (76) . .                                                                | 2 Mon. .  | 43-6488                               | 3678       |
| 21 Mar. (80) . .    | 1 Sun. .  | 10 15 0                       | 6 Mar. (65) . .                                                                 | 0 Sat. .  | 257-9641                              | 3679       |
| 21 Mar. (80) . .    | 2 Mon. .  | 16 27 30                      | 23 Feb. (54) . .                                                                | 4 Wed. .  | 133-6476                              | 3680       |
| 21 Mar. (80) . .    | 3 Tues. . | 22 40 0                       | 14 Mar. (73) . .                                                                | 3 Tues. . | 168-2871                              | 3681       |
| 21 Mar. (81) . .    | 5 Thur. . | 4 52 30                       | 2 Mar. (62) . .                                                                 | 0 Sat. .  | 43-9705                               | 3682       |
| 21 Mar. (80) . .    | 6 Fri. .  | 11 5 0                        | 20 Feb. (51) . .                                                                | 5 Thur. . | 258-2857                              | 3683       |
| 21 Mar. (80) . .    | 0 Sat. .  | 17 17 30                      | 11 Mar. (70) . .                                                                | 4 Wed. .  | 292-9254                              | 3684       |
| 21 Mar. (80) . .    | 1 Sun. .  | 23 30 0                       | 28 Feb. (59) . .                                                                | 1 Sun. .  | 168-6087                              | 3685       |
| 21 Mar. (81) . .    | 3 Tues. . | 5 42 30                       | 18 Mar. (78) . .                                                                | 0 Sat. .  | 203-2484                              | 3686       |
| 21 Mar. (80) . .    | 4 Wed. .  | 11 55 0                       | 7 Mar. (66) . .                                                                 | 4 Wed. .  | 78-9317                               | 3687       |
| 21 Mar. (80) . .    | 5 Thur. . | 18 7 30                       | 25 Feb. (56) . .                                                                | 2 Mon. .  | 293-2470                              | 3688       |
| 22 Mar. (81) . .    | 0 Sat. .  | 0 20 0                        | 16 Mar. (75) . .                                                                | 1 Sun. .  | 327-8867                              | 3689       |
| 21 Mar. (81) . .    | 1 Sun. .  | 6 32 30                       | 4 Mar. (64) . .                                                                 | 5 Thur. . | 203-5700                              | 3690       |
| 21 Mar. (80) . .    | 2 Mon. .  | 12 45 0                       | 21 Feb. (52) . .                                                                | 2 Mon. .  | 79-2534                               | 3691       |
| 21 Mar. (80) . .    | 3 Tues. . | 18 57 30                      | 12 Mar. (71) . .                                                                | 1 Sun. .  | 113-8930                              | 3692       |
| 22 Mar. (81) . .    | 5 Thur. . | 1 10 0                        | 2 Mar. (61) . .                                                                 | 6 Fri. .  | 328-2083                              | 3693       |
| 21 Mar. (81) . .    | 6 Fri. .  | 7 22 30                       | 19 Mar. (79) . .                                                                | 4 Wed. .  | 24-2160                               | 3694       |
| 21 Mar. (80) . .    | 0 Sat. .  | 13 35 0                       | 9 Mar. (68) . .                                                                 | 2 Mon. .  | 238-5313                              | 3695       |

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |         |                      |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|---------|----------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māhādī solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                     |                                                  |
|                  |       |                    |                                 |         |         | Southern<br>system.  | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                              | 4       | 5       | 6                    | 7                   | 8a                                               |
| 3696             | 517   | 652                | 1                               |         | 594-95  | 45 Virōdhakṛit . .   |                     | 7 Āsvina                                         |
| 3697             | 518   | 653                | 2                               |         | 595-96  | 46 Paridhāvin . .    |                     | ...                                              |
| 3698             | 519   | 654                | 3                               |         | *596-97 | 47 Pramādin . .      |                     | ...                                              |
| 3699             | 520   | 655                | 4                               |         | 597-98  | 48 Ananda . .        |                     | 4 Āshādha .                                      |
| 3700             | 521   | 656                | 5                               |         | 598-99  | 49 Rākshasa . .      |                     | ...                                              |
| 3701             | 522   | 657                | 6                               |         | 599-600 | 50 Anala . .         |                     | 12 Phālguna .                                    |
| 3702             | 523   | 658                | 7                               |         | *600-01 | 51 Piṅgala . .       |                     | ...                                              |
| 3703             | 524   | 659                | 8                               |         | 601-02  | 52 Kālayukta . .     |                     | ...                                              |
| 3704             | 525   | 660                | 9                               |         | 602-03  | 53 Siddhārthina . .  |                     | 9 Mārgaśīra .                                    |
| 3705             | 526   | 661                | 10                              |         | 603-04  | 54 Raudra . .        |                     | ...                                              |
| 3706             | 527   | 662                | 11                              |         | *604-05 | 55 Durmatī . .       |                     | ...                                              |
| 3707             | 528   | 663                | 12                              |         | 605-06  | 56 Durdubhi . .      |                     | 6 Bhādrapada.                                    |
| 3708             | 529   | 664                | 13                              |         | 606-07  | 57 Rudhirōdgārīn . . |                     | ...                                              |
| 3709             | 530   | 665                | 14                              |         | 607-08  | 58 Raktāksha . .     |                     | ...                                              |
| 3710             | 531   | 666                | 15                              |         | *608-09 | 59 Krōdhana . .      |                     | 2 Vaiśākha .                                     |
| 3711             | 532   | 667                | 16                              |         | 609-10  | 60 Kshaya . .        |                     | ...                                              |
| 3712             | 533   | 668                | 17                              |         | 610-11  | 1 Prabhave . .       |                     | 11 Māgha .                                       |
| 3713             | 534   | 669                | 18                              |         | 611-12  | 2 Vibhava . .        |                     | ...                                              |
| 3714             | 535   | 670                | 19                              |         | *612-13 | 3 Sukla . .          |                     | ...                                              |
| 3715             | 536   | 671                | 20                              |         | 613-14  | 4 Pramōda . .        |                     | 7 Āsvina .                                       |
| 3716             | 537   | 672                | 21                              |         | 614-15  | 5 Prajāpati . .      |                     | ...                                              |
| 3717             | 538   | 673                | 22                              |         | 615-16  | 6 Aṅgiras . .        |                     | ...                                              |
| 3718             | 539   | 674                | 23                              |         | *616-17 | 7 Śrīmukha . .       |                     | 4 Āshādha                                        |
| 3719             | 540   | 675                | 24                              |         | 617-18  | 8 Bhāva . .          |                     | ...                                              |
| 3720             | 541   | 676                | 25                              |         | 618-19  | 9 Yuvan . .          |                     | 12 Phālguna                                      |

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1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                                | Kali year. |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|------------------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |                                                |            |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | $\alpha$ (here= $t$ , the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                             | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                                |            |
| 21 Mar. (80) . .    | 1 Sun. .  | 19 47 30                      | 28 Feb. (57) .                                                                  | 6 Fri. .  | 114-2147                                       | 3696       |
| 22 Mar. (81) . .    | 3 Tues. . | 2 0 0                         | 17 Mar. (76) .                                                                  | 5 Thur. . | 148-8543                                       | 3697       |
| 21 Mar. (81) . .    | 4 Wed. .  | 8 12 30                       | 5 Mar. (65) .                                                                   | 2 Mon. .  | 24-5377                                        | 3698       |
| 21 Mar. (80) . .    | 5 Thur. . | 14 25 0                       | 23 Feb. (54) .                                                                  | 0 Sat. .  | 238-8530                                       | 3699       |
| 21 Mar. (80) . .    | 6 Fri. .  | 20 37 30                      | 14 Mar. (73) .                                                                  | 6 Fri. .  | 273-4926                                       | 3700       |
| 22 Mar. (81) . .    | 1 Sun. .  | 2 50 0                        | 3 Mar. (62) .                                                                   | 3 Tues. . | 149-1760                                       | 3701       |
| 21 Mar. (81) . .    | 2 Mon. .  | 9 2 30                        | 21 Mar. (81) .                                                                  | 2 Mon. .  | 183-8156                                       | 3702       |
| 21 Mar. (80) . .    | 3 Tues. . | 15 15 0                       | 10 Mar. (69) .                                                                  | 6 Fri. .  | 59-4990                                        | 3703       |
| 21 Mar. (80) . .    | 4 Wed. .  | 21 27 30                      | 28 Feb. (59) .                                                                  | 4 Wed. .  | 273-8142                                       | 3704       |
| 22 Mar. (81) . .    | 6 Fri. .  | 3 40 0                        | 19 Mar. (78) .                                                                  | 3 Tues. . | 308-4539                                       | 3705       |
| 21 Mar. (81) . .    | 0 Sat. .  | 9 52 30                       | 7 Mar. (67) .                                                                   | 0 Sat. .  | 184-1373                                       | 3706       |
| 21 Mar. (80) . .    | 1 Sun. .  | 16 5 0                        | 24 Feb. (55) .                                                                  | 4 Wed. .  | 59-8207                                        | 3707       |
| 21 Mar. (80) . .    | 2 Mon. .  | 22 17 30                      | 15 Mar. (74) .                                                                  | 3 Tues. . | 94-4608                                        | 3708       |
| 22 Mar. (81) . .    | 4 Wed. .  | 4 30 0                        | 5 Mar. (64) .                                                                   | 1 Sun. .  | 308-7756                                       | 3709       |
| 21 Mar. (81) . .    | 5 Thur. . | 10 42 30                      | 22 Feb. (53) .                                                                  | 5 Thur. . | 184-4589                                       | 3710       |
| 21 Mar. (80) . .    | 6 Fri. .  | 16 55 0                       | 12 Mar. (71) .                                                                  | 4 Wed. .  | 219-0985                                       | 3711       |
| 21 Mar. (80) . .    | 0 Sat. .  | 23 7 30                       | 1 Mar. (60) .                                                                   | 1 Sun. .  | 94-7819                                        | 3712       |
| 22 Mar. (81) . .    | 2 Mon. .  | 5 20 0                        | 20 Mar. (79) .                                                                  | 0 Sat. .  | 129-4216                                       | 3713       |
| 21 Mar. (81) . .    | 3 Tues. . | 11 32 30                      | 8 Mar. (68) .                                                                   | 4 Wed. .  | 5-1049                                         | 3714       |
| 21 Mar. (80) . .    | 4 Wed. .  | 17 45 0                       | 28 Feb. (57) .                                                                  | 2 Mon. .  | 219-4201                                       | 3715       |
| 21 Mar. (80) . .    | 5 Thur. . | 23 57 30                      | 17 Mar. (76) .                                                                  | 1 Sun. .  | 254-0697                                       | 3716       |
| 22 Mar. (81) . .    | 0 Sat. .  | 6 10 0                        | 6 Mar. (65) .                                                                   | 5 Thur. . | 129-7432                                       | 3717       |
| 21 Mar. (81) . .    | 1 Sun. .  | 12 22 30                      | 23 Feb. (54) .                                                                  | 2 Mon. .  | 5-4266                                         | 3718       |
| 21 Mar. (80) . .    | 2 Mon. .  | 18 35 0                       | 13 Mar. (72) .                                                                  | 1 Sun. .  | 40-0661                                        | 3719       |
| 22 Mar. (81) . .    | 4 Wed. .  | 0 47 30                       | 3 Mar. (62) .                                                                   | 6 Fri. .  | 254-3814                                       | 3720       |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                   | 7                   | 8a                                               |
| 3721             | 542   | 677                | 28                               |         | 619-20  | 10 Dhātṛi . . .     |                     | ...                                              |
| 3722             | 543   | 678                | 27                               |         | *620-21 | 11 Iśvara . . .     |                     | ...                                              |
| 3723             | 544   | 679                | 28                               |         | 621-22  | 12 Bahudhānya . .   |                     | 9 Mārgaśīra .                                    |
| 3724             | 545   | 680                | 29                               |         | 622-23  | 13 Pramāthin . .    |                     | ...                                              |
| 3725             | 546   | 681                | 30                               |         | 623-24  | 14 Vikrama . . .    |                     | ...                                              |
| 3726             | 547   | 682                | 31                               |         | *624-25 | 15 Vṛisha . . .     |                     | 5 Śrāvaṇa .                                      |
| 3727             | 548   | 683                | 32                               |         | 625-26  | 16 Chitrabhānu . .  |                     | ...                                              |
| 3728             | 549   | 684                | 33                               |         | 626-27  | 17 Subhānu . . .    |                     | ...                                              |
| 3729             | 550   | 685                | 34                               |         | 627-28  | 18 Tāraṇa . . .     |                     | 2 Vaiśākha .                                     |
| 3730             | 551   | 686                | 35                               |         | *628-29 | 19 Pārthiva . . .   |                     | ...                                              |
| 3731             | 552   | 687                | 36                               |         | 629-30  | 20 Vyaya . . .      |                     | 10 Pausa .                                       |
| 3732             | 553   | 688                | 37                               |         | 630-31  | 21 Sarvajit . . .   |                     | ...                                              |
| 3733             | 554   | 689                | 38                               |         | 631-32  | 22 Sarvadhārin . .  |                     | ...                                              |
| 3734             | 555   | 690                | 39                               |         | *632-33 | 23 Virōdhin . . .   |                     | 7 Āśvina .                                       |
| 3735             | 556   | 691                | 40                               |         | 633-34  | 24 Vikṛita . . .    |                     | ...                                              |
| 3736             | 557   | 692                | 41                               |         | 634-35  | 25 Khara . . .      |                     | ...                                              |
| 3737             | 558   | 693                | 42                               |         | 635-36  | 26 Nandana . . .    |                     | 3 Jyēshṭha .                                     |
| 3738             | 559   | 694                | 43                               |         | *636-37 | 27 Vijaya . . .     |                     | ...                                              |
| 3739             | 560   | 695                | 44                               |         | 637-38  | 28 Jaya . . .       |                     | 12 Phālguna .                                    |
| 3740             | 561   | 696                | 45                               |         | 638-39  | 29 Manmatha . .     |                     | ...                                              |
| 3741             | 562   | 697                | 46                               |         | 639-40  | 30 Durmukha . .     |                     | ...                                              |
| 3742             | 563   | 698                | 47                               |         | *640-41 | 31 Hāmālamba . .    |                     | 9 Mārgaśīra .                                    |
| 3743             | 564   | 699                | 48                               |         | 641-42  | 32 Vilamba . . .    |                     | ...                                              |
| 3744             | 565   | 700                | 49                               |         | 642-43  | 33 Vikārin . . .    |                     | ...                                              |
| 3745             | 566   | 701                | 50                               |         | 643-44  | 34 Śārvarin . . .   |                     | 5 Śrāvaṇa .                                      |

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I Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                              |                                                                                 |           |                                         |            |
|---------------------|-----------|------------------------------|---------------------------------------------------------------------------------|-----------|-----------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                              | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |                                         | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mésa-samkrānti. | Day and month, A.D.                                                             | Week-day. | a (here= $t$ , the index of the tithi). |            |
| 13                  | 14        | 17                           | 19                                                                              | 20        | 23                                      | 1          |
|                     |           | H. M. S.                     |                                                                                 |           |                                         |            |
| 22 Mar. (81) . .    | 5 Thur. . | 7 0 0                        | 22 Mar. (81) . .                                                                | 5 Thur. . | 289-0209                                | 3721       |
| 21 Mar. (81) . .    | 6 Fri. .  | 13 12 30                     | 10 Mar. (70) . .                                                                | 2 Mon. .  | 164-7044                                | 3722       |
| 21 Mar. (80) . .    | 0 Sat. .  | 19 25 0                      | 27 Feb. (58) . .                                                                | 6 Fri. .  | 40-3877                                 | 3723       |
| 22 Mar. (81) . .    | 2 Mon. .  | 1 37 30                      | 18 Mar. (77) . .                                                                | 5 Thur. . | 75-0274                                 | 3724       |
| 22 Mar. (81) . .    | 3 Tues. . | 7 50 0                       | 8 Mar. (67) . .                                                                 | 3 Tues. . | 289-3427                                | 3725       |
| 21 Mar. (81) . .    | 4 Wed. .  | 14 2 30                      | 25 Feb. (56) . .                                                                | 0 Sat. .  | 165-0261                                | 3726       |
| 21 Mar. (80) . .    | 5 Thur. . | 20 15 0                      | 15 Mar. (74) . .                                                                | 6 Fri. .  | 199-6657                                | 3727       |
| 22 Mar. (81) . .    | 0 Sat. .  | 2 27 30                      | 4 Mar. (63) . .                                                                 | 3 Tues. . | 75-3491                                 | 3728       |
| 22 Mar. (81) . .    | 1 Sun. .  | 8 40 0                       | 22 Feb. (53) . .                                                                | 1 Sun. .  | 289-6643                                | 3729       |
| 21 Mar. (81) . .    | 2 Mon. .  | 14 52 30                     | 12 Mar. (72) . .                                                                | 0 Sat. .  | 324-3039                                | 3730       |
| 21 Mar. (80) . .    | 3 Tues. . | 21 5 0                       | 1 Mar. (60) . .                                                                 | 4 Wed. .  | 199-9873                                | 3731       |
| 22 Mar. (81) . .    | 5 Thur. . | 3 17 30                      | 20 Mar. (79) . .                                                                | 3 Tues. . | 234-6269                                | 3732       |
| 22 Mar. (81) . .    | 6 Fri. .  | 9 30 0                       | 9 Mar. (68) . .                                                                 | 0 Sat. .  | 110-3103                                | 3733       |
| 21 Mar. (81) . .    | 0 Sat. .  | 15 42 30                     | 27 Feb. (58) . .                                                                | 5 Thur. . | 324-6256                                | 3734       |
| 21 Mar. (80) . .    | 1 Sun. .  | 21 55 0                      | 16 Mar. (75) . .                                                                | 3 Tues. . | 20-6333                                 | 3735       |
| 22 Mar. (81) . .    | 3 Tues. . | 4 7 30                       | 6 Mar. (65) . .                                                                 | 1 Sun. .  | 234-9486                                | 3736       |
| 22 Mar. (81) . .    | 4 Wed. .  | 16 20 0                      | 23 Feb. (54) . .                                                                | 5 Thur. . | 110-6320                                | 3737       |
| 21 Mar. (81) . .    | 5 Thur. . | 16 32 30                     | 13 Mar. (73) . .                                                                | 4 Wed. .  | 145-2716                                | 3738       |
| 21 Mar. (80) . .    | 6 Fri. .  | 22 45 0                      | 2 Mar. (61) . .                                                                 | 1 Sun. .  | 20-9550                                 | 3739       |
| 22 Mar. (81) . .    | 1 Sun. .  | 4 57 30                      | 21 Mar. (80) . .                                                                | 0 Sat. .  | 55-5946                                 | 3740       |
| 22 Mar. (81) . .    | 2 Mon. .  | 11 10 0                      | 11 Mar. (70) . .                                                                | 5 Thur. . | 269-9099                                | 3741       |
| 21 Mar. (81) . .    | 3 Tues. . | 17 22 30                     | 28 Feb. (59) . .                                                                | 2 Mon. .  | 145-5933                                | 3742       |
| 21 Mar. (80) . .    | 4 Wed. .  | 23 35 0                      | 18 Mar. (77) . .                                                                | 1 Sun. .  | 180-2329                                | 3743       |
| 22 Mar. (81) . .    | 6 Fri. .  | 5 47 30                      | 7 Mar. (66) . .                                                                 | 5 Thur. . | 55-9163                                 | 3744       |
| 22 Mar. (81) . .    | 0 Sat. .  | 12 0 0                       | 25 Feb. (56) . .                                                                | 3 Tues. . | 270-2316                                | 3745       |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                        |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--------------------------------------------------|
| Kali             | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.     |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system.    | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                      | 7.                  | 8a                                               |
| 3746             | 587   | 702                | 51                               |         | *644-45 | 35 Plava . . .         |                     | ...                                              |
| 3747             | 588   | 703                | 52                               |         | 645-46  | 36 Subhakṛit . . .     |                     | ...                                              |
| 3748             | 589   | 704                | 53                               |         | 646-47  | 37 Śobhana . . .       |                     | 2 Vaiśākha .                                     |
| 3749             | 590   | 705                | 54                               |         | 647-48  | 38 Krōdhin . . .       |                     | ...                                              |
| 3750             | 591   | 706                | 55                               |         | *648-49 | 39 Viśvāvasu . . .     |                     | 10 Pausa .                                       |
| 3751             | 592   | 707                | 56                               |         | 649-50  | 40 Parābhava† . . .    |                     | ...                                              |
| 3752             | 593   | 708                | 57                               |         | 650-51  | 42 Kāṭaka . . .        |                     | ...                                              |
| 3753             | 594   | 709                | 58                               |         | 651-52  | 43 Saumya . . .        |                     | 7 Āsvina .                                       |
| 3754             | 595   | 710                | 59                               |         | *652-53 | 44 Sādhārāya . . .     |                     | ...                                              |
| 3755             | 596   | 711                | 60                               |         | 653-54  | 45 Viśvādhakṛit . . .  |                     | ...                                              |
| 3756             | 597   | 712                | 61                               |         | 654-55  | 46 Paridhāvin . . .    |                     | 3 Jyēṣṭha .                                      |
| 3757             | 598   | 713                | 62                               |         | 655-56  | 47 Pramādin . . .      |                     | ...                                              |
| 3758             | 599   | 714                | 63                               |         | *656-57 | 48 Ānanda . . .        |                     | 12 Phālguna .                                    |
| 3759             | 600   | 715                | 64                               |         | 657-58  | 49 Rākṣaṣa . . .       |                     | ...                                              |
| 3760             | 601   | 716                | 65                               |         | 658-59  | 50 Ānala . . .         |                     | ...                                              |
| 3761             | 602   | 717                | 66                               |         | 659-60  | 51 Piṅgala . . .       |                     | 8 Kārttika .                                     |
| 3762             | 603   | 718                | 67                               |         | *660-61 | 52 Kālayukta . . .     |                     | ...                                              |
| 3763             | 604   | 719                | 68                               |         | 661-62  | 53 Siddhārthī . . .    |                     | ...                                              |
| 3764             | 605   | 720                | 69                               |         | 662-63  | 54 Raudra . . .        |                     | 5 Śrāvaṇa .                                      |
| 3765             | 606   | 721                | 70                               |         | 663-64  | 55 Durmati . . .       |                     | ...                                              |
| 3766             | 607   | 722                | 71                               |         | *664-65 | 56 Dundubhi . . .      |                     | ...                                              |
| 3767             | 608   | 723                | 72                               |         | 665-66  | 57 Rudhirōdgārin . . . |                     | 1 Chaitra .                                      |
| 3768             | 609   | 724                | 73                               |         | 666-67  | 58 Raktāksha . . .     |                     | ...                                              |
| 3769             | 610   | 725                | 74                               |         | 667-68  | 59 Krōdhana . . .      |                     | 10 Pausa .                                       |
| 3770             | 611   | 726                | 75                               |         | *668-69 | 60 Kābaya . . .        |                     | ...                                              |

† By the mean system 41 Plavaṅga was expunged, as also by the true system.

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1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                              |            |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|----------------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |                                              | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | a (here= <i>t</i> , the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                           | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                              |            |
| 21 Mar. (81) . .    | 1 Sun. .  | 18 12 30                      | 15 Mar. (75) . .                                                                | 2 Mon. .  | 304-8711                                     | 3746       |
| 22 Mar. (81) . .    | 3 Tues. . | 0 25 0                        | 4 Mar. (83) . .                                                                 | 6 Fri. .  | 180-5545                                     | 3747       |
| 22 Mar. (81) . .    | 4 Wed. .  | 6 37 30                       | 21 Feb. (52) . .                                                                | 3 Tues. . | 56-2378                                      | 3748       |
| 22 Mar. (81) . .    | 5 Thur. . | 12 50 0                       | 12 Mar. (71) . .                                                                | 2 Mon. .  | 90-8775                                      | 3749       |
| 21 Mar. (81) . .    | 6 Fri. .  | 19 2 30                       | 1 Mar. (61) . .                                                                 | 0 Sat. .  | 305-1927                                     | 3750       |
| 22 Mar. (81) . .    | 1 Sun. .  | 1 15 0                        | 19 Mar. (78) . .                                                                | 5 Thur. . | 1-2005                                       | 3751       |
| 22 Mar. (81) . .    | 2 Mon. .  | 7 27 30                       | 9 Mar. (68) . .                                                                 | 3 Tues. . | 215-5167                                     | 3752       |
| 22 Mar. (81) . .    | 3 Tues. . | 13 40 0                       | 28 Feb. (57) . .                                                                | 0 Sat. .  | 91-1991                                      | 3753       |
| 21 Mar. (81) . .    | 4 Wed. .  | 19 52 30                      | 18 Mar. (76) . .                                                                | 6 Fri. .  | 125-8387                                     | 3754       |
| 22 Mar. (81) . .    | 6 Fri. .  | 2 5 0                         | 5 Mar. (64) . .                                                                 | 3 Tues. . | 1-5221                                       | 3755       |
| 22 Mar. (81) . .    | 0 Sat. .  | 8 17 30                       | 23 Feb. (54) . .                                                                | 1 Sun. .  | 215-8374                                     | 3756       |
| 22 Mar. (81) . .    | 1 Sun. .  | 14 30 0                       | 14 Mar. (73) . .                                                                | 0 Sat. .  | 250-4770                                     | 3757       |
| 21 Mar. (81) . .    | 2 Mon. .  | 20 42 30                      | 2 Mar. (62) . .                                                                 | 4 Wed. .  | 126-1604                                     | 3758       |
| 22 Mar. (81) . .    | 4 Wed. .  | 2 55 0                        | 21 Mar. (80) . .                                                                | 3 Tues. . | 160-8000                                     | 3759       |
| 22 Mar. (81) . .    | 5 Thur. . | 9 7 30                        | 10 Mar. (69) . .                                                                | 0 Sat. .  | 36-4834                                      | 3760       |
| 22 Mar. (81) . .    | 6 Fri. .  | 15 20 0                       | 28 Feb. (59) . .                                                                | 5 Thur. . | 250-7987                                     | 3761       |
| 21 Mar. (81) . .    | 0 Sat. .  | 21 32 30                      | 18 Mar. (78) . .                                                                | 4 Wed. .  | 285-4383                                     | 3762       |
| 22 Mar. (81) . .    | 2 Mon. .  | 3 45 0                        | 7 Mar. (86) . .                                                                 | 1 Sun. .  | 161-1217                                     | 3763       |
| 22 Mar. (81) . .    | 3 Tues. . | 9 57 30                       | 24 Feb. (55) . .                                                                | 5 Thur. . | 36-8051                                      | 3764       |
| 22 Mar. (81) . .    | 4 Wed. .  | 16 10 0                       | 15 Mar. (74) . .                                                                | 4 Wed. .  | 71-4447                                      | 3765       |
| 21 Mar. (81) . .    | 5 Thur. . | 22 22 30                      | 4 Mar. (84) . .                                                                 | 2 Mon. .  | 285-7599                                     | 3766       |
| 22 Mar. (81) . .    | 0 Sat. .  | 4 35 0                        | 21 Feb. (52) . .                                                                | 6 Fri. .  | 131-4433                                     | 3767       |
| 22 Mar. (81) . .    | 1 Sun. .  | 10 47 30                      | 12 Mar. (71) . .                                                                | 5 Thur. . | 196-0830                                     | 3768       |
| 22 Mar. (81) . .    | 2 Mon. .  | 17 0 0                        | 1 Mar. (60) . .                                                                 | 2 Mon. .  | 71-7663                                      | 3769       |
| 21 Mar. (81) . .    | 3 Tues. . | 23 12 30                      | 18 Mar. (78) . .                                                                | 1 Sun. .  | 106-4060                                     | 3770       |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                      |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SĀMVATSARA.   |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system.  | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                    | 7                   | 8a                                               |
| 3771             | 592   | 727                | 76                               |         | 669-70  | 1 Prabhava . . .     |                     | ...                                              |
| 3772             | 593   | 728                | 77                               |         | 670-71  | 2 Vibhava . . .      |                     | 6 Bhādrapada                                     |
| 3773             | 594   | 729                | 78                               |         | 671-72  | 3 Śukla . . .        |                     | ...                                              |
| 3774             | 595   | 730                | 79                               |         | *672-73 | 4 Pramōda . . .      |                     | ...                                              |
| 3775             | 596   | 731                | 80                               |         | 673-74  | 5 Prajāpati . . .    |                     | 3 Jyēshtha .                                     |
| 3776             | 597   | 732                | 81                               |         | 674-75  | 6 Āngiras . . .      |                     | ...                                              |
| 3777             | 598   | 733                | 82                               |         | 675-76  | 7 Śrīmukha . . .     |                     | 11 Māgha .                                       |
| 3778             | 599   | 734                | 83                               |         | *676-77 | 8 Bhāva . . .        |                     | ...                                              |
| 3779             | 600   | 735                | 84                               |         | 677-78  | 9 Yuvan . . .        |                     | ...                                              |
| 3780             | 601   | 736                | 85                               |         | 678-79  | 10 Dhātṛi . . .      |                     | 8 Kārttika .                                     |
| 3781             | 602   | 737                | 86                               |         | 679-80  | 11 Jāvara . . .      |                     | ...                                              |
| 3782             | 603   | 738                | 87                               |         | *680-81 | 12 Bahudhānya . . .  |                     | ...                                              |
| 3783             | 604   | 739                | 88                               |         | 681-82  | 13 Pramāthin . . .   |                     | 5 Śrāvana .                                      |
| 3784             | 605   | 740                | 89                               |         | 682-83  | 14 Vikrama . . .     |                     | ...                                              |
| 3785             | 606   | 741                | 90                               |         | 683-84  | 15 Vṛisha . . .      |                     | ...                                              |
| 3786             | 607   | 742                | 91                               |         | *684-85 | 16 Chitrabhānu . . . |                     | 1 Chaitra .                                      |
| 3787             | 608   | 743                | 92                               |         | 685-86  | 17 Subhānu . . .     |                     | ...                                              |
| 3788             | 609   | 744                | 93                               |         | 686-87  | 18 Tārana . . .      |                     | 10 Pausha .                                      |
| 3789             | 610   | 745                | 94                               |         | 687-88  | 19 Pārthiva . . .    |                     | ...                                              |
| 3790             | 611   | 746                | 95                               |         | *688-89 | 20 Vyaya . . .       |                     | ...                                              |
| 3791             | 612   | 747                | 96                               |         | 689-90  | 21 Sarvajit . . .    |                     | 6 Bhādrapada                                     |
| 3792             | 613   | 748                | 97                               |         | 690-91  | 22 Sarvadhārin . . . |                     | ...                                              |
| 3793             | 614   | 749                | 98                               |         | 691-92  | 23 Virōdhin . . .    |                     | ...                                              |
| 3794             | 615   | 750                | 99                               |         | *692-93 | 24 Vikṛita . . .     |                     | 3 Jyēshtha .                                     |
| 3795             | 616   | 751                | 100                              |         | 693-94  | 25 Khara . . .       |                     | ...                                              |

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1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                               |            |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|-----------------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                               | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | α (here = <i>l</i> , the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                            | 1          |
|                     |             | H. M. S.                      |                                                                                 |             |                                               |            |
| 22 Mar. (81) . .    | 5 Thur. . . | 5 25 0                        | 9 Mar. (68) . .                                                                 | 6 Fri. . .  | 320-7213                                      | 3771       |
| 22 Mar. (81) . .    | 6 Fri. . .  | 11 37 30                      | 26 Feb. (57) . .                                                                | 3 Tues. . . | 196-4046                                      | 3772       |
| 22 Mar. (81) . .    | 0 Sat. . .  | 17 50 0                       | 17 Mar. (76) . .                                                                | 2 Mon. . .  | 231-0442                                      | 3773       |
| 22 Mar. (82) . .    | 2 Mon. . .  | 0 2 30                        | 5 Mar. (65) . .                                                                 | 6 Fri. . .  | 100-7276                                      | 3774       |
| 22 Mar. (81) . .    | 3 Tues. . . | 6 15 0                        | 23 Feb. (54) . .                                                                | 4 Wed. . .  | 321-0429                                      | 3775       |
| 22 Mar. (81) . .    | 4 Wed. . .  | 12 27 30                      | 13 Mar. (72) . .                                                                | 2 Mon. . .  | 17-0608                                       | 3776       |
| 22 Mar. (81) . .    | 5 Thur. . . | 18 40 0                       | 3 Mar. (62) . .                                                                 | 0 Sat. . .  | 231-3658                                      | 3777       |
| 22 Mar. (82) . .    | 0 Sat. . .  | 0 52 30                       | 21 Mar. (81) . .                                                                | 6 Fri. . .  | 266-0054                                      | 3778       |
| 22 Mar. (81) . .    | 1 Sun. . .  | 7 5 0                         | 10 Mar. (69) . .                                                                | 3 Tues. . . | 141-6888                                      | 3779       |
| 22 Mar. (81) . .    | 2 Mon. . .  | 13 17 30                      | 27 Feb. (58) . .                                                                | 0 Sat. . .  | 17-3723                                       | 3780       |
| 22 Mar. (81) . .    | 3 Tues. . . | 19 30 0                       | 18 Mar. (77) . .                                                                | 6 Fri. . .  | 52-0118                                       | 3781       |
| 22 Mar. (82) . .    | 5 Thur. . . | 1 42 30                       | 7 Mar. (67) . .                                                                 | 4 Wed. . .  | 266-3271                                      | 3782       |
| 22 Mar. (81) . .    | 6 Fri. . .  | 7 55 0                        | 24 Feb. (55) . .                                                                | 1 Sun. . .  | 142-0105                                      | 3783       |
| 22 Mar. (81) . .    | 0 Sat. . .  | 14 7 30                       | 15 Mar. (74) . .                                                                | 0 Sat. . .  | 176-6501                                      | 3784       |
| 22 Mar. (81) . .    | 1 Sun. . .  | 20 20 0                       | 4 Mar. (63) . .                                                                 | 4 Wed. . .  | 52-3334                                       | 3785       |
| 22 Mar. (82) . .    | 3 Tues. . . | 2 32 30                       | 22 Feb. (53) . .                                                                | 2 Mon. . .  | 266-6487                                      | 3786       |
| 22 Mar. (81) . .    | 4 Wed. . .  | 8 45 0                        | 12 Mar. (71) . .                                                                | 1 Sun. . .  | 301-2884                                      | 3787       |
| 22 Mar. (81) . .    | 5 Thur. . . | 14 57 30                      | 1 Mar. (60) . .                                                                 | 5 Thur. . . | 176-9717                                      | 3788       |
| 22 Mar. (81) . .    | 6 Fri. . .  | 21 10 0                       | 20 Mar. (79) . .                                                                | 4 Wed. . .  | 211-6114                                      | 3789       |
| 22 Mar. (82) . .    | 1 Sun. . .  | 3 22 30                       | 8 Mar. (68) . .                                                                 | 1 Sun. . .  | 87-2948                                       | 3790       |
| 22 Mar. (81) . .    | 2 Mon. . .  | 9 35 0                        | 26 Feb. (57) . .                                                                | 6 Fri. . .  | 301-6100                                      | 3791       |
| 22 Mar. (81) . .    | 3 Tues. . . | 15 47 30                      | 16 Mar. (75) . .                                                                | 4 Wed. . .  | 9907-6177†                                    | 3792       |
| 22 Mar. (81) . .    | 4 Wed. . .  | 22 0 0                        | 6 Mar. (65) . .                                                                 | 2 Mon. . .  | 211-9330                                      | 3793       |
| 22 Mar. (82) . .    | 6 Fri. . .  | 4 12 30                       | 23 Feb. (54) . .                                                                | 6 Fri. . .  | 87-6164                                       | 3794       |
| 22 Mar. (81) . .    | 0 Sat. . .  | 10 25 0                       | 13 Mar. (72) . .                                                                | 5 Thur. . . | 122-2560                                      | 3795       |

† As a mean tithi Chaitra Śukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the mean luni-solar year, was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                      |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitradi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system.  | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                    | 7                   | 8a                                               |
| 3796             | 617   | 752                | 101                              |         | 694-95  | 26 Nandana . . .     |                     | 11 Māgha .                                       |
| 3797             | 618   | 753                | 102                              |         | 695-96  | 27 Vijaya . . .      |                     | ...                                              |
| 3798             | 619   | 754                | 103                              |         | *696-97 | 28 Jayā . . .        |                     | ...                                              |
| 3799             | 620   | 755                | 104                              |         | 697-98  | 29 Manmatha . . .    |                     | 8 Kārttika .                                     |
| 3800             | 621   | 756                | 105                              |         | 698-99  | 30 Durmukha . . .    |                     | ...                                              |
| 3801             | 622   | 757                | 106                              |         | 699-700 | 31 Hēmalamba . . .   |                     | ...                                              |
| 3802             | 623   | 758                | 107                              |         | *700-01 | 32 Vilamba . . .     |                     | 4 Āshāḍha .                                      |
| 3803             | 624   | 759                | 108                              |         | 701-02  | 33 Vikārin . . .     |                     | ...                                              |
| 3804             | 625   | 760                | 109                              |         | 702-03  | 34 Śārvarin . . .    |                     | ...                                              |
| 3805             | 626   | 761                | 110                              |         | 703-04  | 35 Plava . . .       |                     | 1 Chaitra .                                      |
| 3806             | 627   | 762                | 111                              |         | *704-05 | 36 Subhakṛit . . .   |                     | ...                                              |
| 3807             | 628   | 763                | 112                              |         | 705-06  | 37 Śobhana . . .     |                     | 9 Mārgaśīra .                                    |
| 3808             | 629   | 764                | 113                              |         | 706-07  | 38 Krōḍhin . . .     |                     | ...                                              |
| 3809             | 630   | 765                | 114                              |         | 707-08  | 39 Viśvāvasu . . .   |                     | ...                                              |
| 3810             | 631   | 766                | 115                              |         | *708-09 | 40 Parābhava . . .   |                     | 6 Bhādrapada                                     |
| 3811             | 632   | 767                | 116                              |         | 709-10  | 41 Plavaṅga . . .    |                     | ...                                              |
| 3812             | 633   | 768                | 117                              |         | 710-11  | 42 Kilaka . . .      |                     | ...                                              |
| 3813             | 634   | 769                | 118                              |         | 711-12  | 43 Saumya . . .      |                     | 2 Vaisākha .                                     |
| 3814             | 635   | 770                | 119                              |         | *712-13 | 44 Sādhārana . . .   |                     | ...                                              |
| 3815             | 636   | 771                | 120                              |         | 713-14  | 45 Virōdhakṛit . . . |                     | 11 Māgha .                                       |
| 3816             | 637   | 772                | 121                              |         | 714-15  | 46 Paridhāvin . . .  |                     | ...                                              |
| 3817             | 638   | 773                | 122                              |         | 715-16  | 47 Pramādin . . .    |                     | ...                                              |
| 3818             | 639   | 774                | 123                              |         | *716-17 | 48 Ānanda . . .      |                     | 8 Kārttika† .                                    |
| 3819             | 640   | 775                | 124                              |         | 717-18  | 49 Rākshasa . . .    |                     | ...                                              |
| 3820             | 641   | 776                | 125                              |         | 718-19  | 50 Anala . . .       |                     | ...                                              |

† By the "Indian Calendar" 7 Āśvina was intercalated but the case was a close one.

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1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                                | Kali year. |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|------------------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                                |            |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | $\alpha$ (here= $t$ , the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                             | 1          |
|                     |             | H. M. S.                      |                                                                                 |             |                                                |            |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 16 37 30                      | 2 Mar. (61) . . .                                                               | 2 Mon. . .  | 9997-9394†                                     | 3796       |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 22 50 0                       | 21 Mar. (80) . . .                                                              | 1 Sun. . .  | 32-5790                                        | 3797       |
| 22 Mar. (82) . . .  | 4 Wed. . .  | 5 2 30                        | 10 Mar. (70) . . .                                                              | 6 Fri. . .  | 246-8943                                       | 3798       |
| 22 Mar. (81) . . .  | 5 Thur. . . | 11 15 0                       | 27 Feb. (58) . . .                                                              | 3 Tues. . . | 122-5777                                       | 3799       |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 17 27 30                      | 18 Mar. (77) . . .                                                              | 2 Mon. . .  | 157-2173                                       | 3800       |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 23 40 0                       | 7 Mar. (66) . . .                                                               | 6 Fri. . .  | 32-9006                                        | 3801       |
| 22 Mar. (82) . . .  | 2 Mon. . .  | 5 52 30                       | 25 Feb. (56) . . .                                                              | 4 Wed. . .  | 247-2159                                       | 3802       |
| 22 Mar. (81) . . .  | 3 Tues. . . | 12 5 0                        | 15 Mar. (74) . . .                                                              | 3 Tues. . . | 281-8555                                       | 3803       |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 18 37 30                      | 4 Mar. (63) . . .                                                               | 0 Sat. . .  | 157-5389                                       | 3804       |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 0 30 0                        | 21 Feb. (52) . . .                                                              | 4 Wed. . .  | 33-2223                                        | 3805       |
| 22 Mar. (82) . . .  | 0 Sat. . .  | 6 42 30                       | 11 Mar. (71) . . .                                                              | 3 Tues. . . | 67-8619                                        | 3806       |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 12 55 0                       | 1 Mar. (60) . . .                                                               | 1 Sun. . .  | 282-1771                                       | 3807       |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 19 7 30                       | 20 Mar. (79) . . .                                                              | 0 Sat. . .  | 316-8168                                       | 3808       |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 1 20 0                        | 9 Mar. (68) . . .                                                               | 4 Wed. . .  | 192-5002                                       | 3809       |
| 22 Mar. (82) . . .  | 5 Thur. . . | 7 32 30                       | 26 Feb. (57) . . .                                                              | 1 Sun. . .  | 68-1835                                        | 3810       |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 13 45 0                       | 16 Mar. (75) . . .                                                              | 0 Sat. . .  | 102-8231                                       | 3811       |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 19 57 30                      | 6 Mar. (65)] . . .                                                              | 5 Thur. . . | 317-1384                                       | 3812       |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 2 10 0                        | 23 Feb. (54) . . .                                                              | 2 Mon. . .  | 192-8218                                       | 3813       |
| 22 Mar. (82) . . .  | 3 Tues. . . | 8 22 30                       | 13 Mar. (73) . . .                                                              | 1 Sun. . .  | 227-4614                                       | 3814       |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 14 35 0                       | 2 Mar. (61) . . .                                                               | 5 Thur. . . | 103-1447                                       | 3815       |
| 22 Mar. (81) . . .  | 5 Thur. . . | 20 47 30                      | 21 Mar. (80) . . .                                                              | 4 Wed. . .  | 137-7843                                       | 3816       |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 3 0 0                         | 10 Mar. (69) . . .                                                              | 1 Sun. . .  | 13-4678                                        | 3817       |
| 22 Mar. (82) . . .  | 1 Sun. . .  | 9 12 30                       | 28 Feb. (59) . . .                                                              | 6 Fri. . .  | 227-7831                                       | 3818       |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 15 25 0                       | 18 Mar. (77) . . .                                                              | 5 Thur. . . | 262-4226                                       | 3819       |
| 22 Mar. (81) . . .  | 3 Tues. . . | 21 37 30                      | 7 Mar. (66) . . .                                                               | 2 Mon. . .  | 138-1060                                       | 3820       |

As a mean tithi Chaitra Śukla 1 was suppressed. The civil day corresponding to it, i.e., the first day of the mean luni-solar year, was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                        |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.     |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system.    | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                      | 8                   | 8a                                               |
| 3821             | 642   | 777                | 126                              |         | 719-20  | 51 Pīṅgala . . .       |                     | 4 Āshāḍha .                                      |
| 3822             | 643   | 778                | 127                              |         | *720-21 | 52 Kālayukta . . .     |                     | ...                                              |
| 3823             | 644   | 779                | 128                              |         | 721-22  | 53 Siddhārthin . . .   |                     | ...                                              |
| 3824             | 645   | 780                | 129                              |         | 722-23  | 54 Raudra . . .        |                     | 1 Chaitra                                        |
| 3825             | 646   | 781                | 130                              |         | 723-24  | 55 Durmati . . .       |                     | ...                                              |
| 3826             | 647   | 782                | 131                              |         | *724-25 | 56 Dundubhi . . .      |                     | 9 Mārgasīra                                      |
| 3827             | 648   | 783                | 132                              |         | 725-26  | 57 Rudhīrōdgārin . . . |                     | ...                                              |
| 3828             | 649   | 784                | 133                              |         | 726-27  | 58 Raktāksha . . .     |                     | ...                                              |
| 3829             | 650   | 785                | 134                              |         | 727-28  | 59 Krōdhana . . .      |                     | 6 Bhādrapada                                     |
| 3830             | 651   | 786                | 135                              |         | *728-29 | 60 Kshaya . . .        |                     | ...                                              |
| 3831             | 652   | 787                | 136                              |         | 729-30  | 1 Prabhava . . .       |                     | ...                                              |
| 3832             | 653   | 788                | 137                              |         | 730-31  | 2 Vibhava . . .        |                     | 2 Vaiśākha                                       |
| 3833             | 654   | 789                | 138                              |         | 731-32  | 3 Śukla . . .          |                     | ...                                              |
| 3834             | 655   | 790                | 139                              |         | *732-33 | 4 Pramōda . . .        |                     | 11 Māgha                                         |
| 3835             | 656   | 791                | 140                              |         | 733-34  | 5 Prajāpati . . .      |                     | ...                                              |
| 3836             | 657   | 792                | 141                              |         | 734-35  | 6 Arāgīras† . . .      |                     | ...                                              |
| 3837             | 658   | 793                | 142                              |         | 735-36  | 8 Bhāva . . .          |                     | 7 Āsvina .                                       |
| 3838             | 659   | 794                | 143                              |         | *736-37 | 9 Yuvan . . .          |                     | ...                                              |
| 3839             | 660   | 795                | 144                              |         | 737-38  | 10 Dhātṛi . . .        |                     | ...                                              |
| 3840             | 661   | 796                | 145                              |         | 738-39  | 11 Īvara . . .         |                     | 4 Āshāḍha .                                      |
| 3841             | 662   | 797                | 146                              |         | 739-40  | 12 Bahudhānya . . .    |                     | ...                                              |
| 3842             | 663   | 798                | 147                              |         | *740-41 | 13 Pramāthin . . .     |                     | 12 Phālguna .                                    |
| 3843             | 664   | 799                | 148                              |         | 741-42  | 14 Vikrama . . .       |                     | ...                                              |
| 3844             | 665   | 800                | 149                              |         | 742-43  | 15 Vṛisha . . .        |                     | ...                                              |
| 3845             | 666   | 801                | 150                              |         | 743-44  | 16 Chitrabhānn . . .   |                     | 9 Mārgasīra .                                    |

† By the mean system, as well as by the true system, 7 Śrīmukha was expunged.

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1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                           |            |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|-------------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                           | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha samkrānti. | Day and month, A.D.                                                             | Week-day.   | $a$ (here= $t$ , the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                        | 1          |
|                     |             | H. M. S.                      |                                                                                 |             |                                           |            |
| 23 Mar. (82) . .    | 5 Thur. . . | 3 50 0                        | 24 Feb. (55) . .                                                                | 6 Fri. . .  | 13-7894                                   | 3821       |
| 22 Mar. (82) . .    | 6 Fri. . .  | 10 2 30                       | 14 Mar. (74) . .                                                                | 5 Thur. . . | 48-4290                                   | 3822       |
| 22 Mar. (81) . .    | 0 Sat. . .  | 16 15 0                       | 4 Mar. (63) . .                                                                 | 3 Tues. . . | 262-7443                                  | 3823       |
| 22 Mar. (81) . .    | 1 Sun. . .  | 22 27 30                      | 21 Feb. (52) . .                                                                | 0 Sat. . .  | 138-4276                                  | 3824       |
| 23 Mar. (82) . .    | 3 Tues. . . | 4 40 0                        | 12 Mar. (71) . .                                                                | 6 Fri. . .  | 173-0673                                  | 3825       |
| 22 Mar. (82) . .    | 4 Wed. . .  | 10 52 30                      | 29 Feb. (60) . .                                                                | 3 Tues. . . | 48-7506                                   | 3826       |
| 22 Mar. (81) . .    | 5 Thur. . . | 17 5 0                        | 19 Mar. (78) . .                                                                | 2 Mon. . .  | 83-3903                                   | 3827       |
| 22 Mar. (81) . .    | 6 Fri. . .  | 23 17 30                      | 9 Mar. (68) . .                                                                 | 0 Sat. . .  | 297-7055                                  | 3828       |
| 23 Mar. (82) . .    | 1 Sun. . .  | 5 30 0                        | 26 Feb. (57) . .                                                                | 4 Wed. . .  | 173-3890                                  | 3829       |
| 22 Mar. (82) . .    | 2 Mon. . .  | 11 42 30                      | 16 Mar. (76) . .                                                                | 3 Tues. . . | 208-0286                                  | 3830       |
| 22 Mar. (81) . .    | 3 Tues. . . | 17 55 0                       | 5 Mar. (64) . .                                                                 | 0 Sat. . .  | 83-7119                                   | 3831       |
| 23 Mar. (82) . .    | 5 Thur. . . | 0 7 30                        | 23 Feb. (54) . .                                                                | 5 Thur. . . | 298-0272                                  | 3832       |
| 23 Mar. (82) . .    | 6 Fri. . .  | 6 20 0                        | 14 Mar. (73) . .                                                                | 4 Wed. . .  | 332-6669                                  | 3833       |
| 22 Mar. (82) . .    | 0 Sat. . .  | 12 32 30                      | 2 Mar. (62) . .                                                                 | 1 Sun. . .  | 208-3502                                  | 3834       |
| 22 Mar. (81) . .    | 1 Sun. . .  | 18 45 0                       | 21 Mar. (80) . .                                                                | 0 Sat. . .  | 242-9898                                  | 3835       |
| 23 Mar. (82) . .    | 3 Tues. . . | 0 57 30                       | 10 Mar. (69) . .                                                                | 4 Wed. . .  | 118-6732                                  | 3836       |
| 23 Mar. (82) . .    | 4 Wed. . .  | 7 10 0                        | 28 Feb. (59) . .                                                                | 2 Mon. . .  | 232-9885                                  | 3837       |
| 22 Mar. (82) . .    | 5 Thur. . . | 13 22 30                      | 17 Mar. (77) . .                                                                | 0 Sat. . .  | 28-9962                                   | 3838       |
| 22 Mar. (81) . .    | 6 Fri. . .  | 19 35 0                       | 7 Mar. (66) . .                                                                 | 5 Thur. . . | 243-3115                                  | 3839       |
| 23 Mar. (82) . .    | 1 Sun. . .  | 1 47 30                       | 24 Feb. (55) . .                                                                | 2 Mon. . .  | 118-9049                                  | 3840       |
| 23 Mar. (82) . .    | 2 Mon. . .  | 8 0 0                         | 15 Mar. (74) . .                                                                | 1 Sun. . .  | 153-6345                                  | 3841       |
| 22 Mar. (82) . .    | 3 Tues. . . | 14 12 30                      | 3 Mar. (63) . .                                                                 | 5 Thur. . . | 29-3179                                   | 3842       |
| 22 Mar. (81) . .    | 4 Wed. . .  | 20 25 0                       | 22 Mar. (81) . .                                                                | 4 Wed. . .  | 63-9575                                   | 3843       |
| 23 Mar. (82) . .    | 6 Fri. . .  | 2 37 30                       | 12 Mar. (71) . .                                                                | 2 Mon. . .  | 278-2728                                  | 3844       |
| 23 Mar. (82) . .    | 0 Sat. . .  | 8 50 0                        | 1 Mar. (60) . .                                                                 | 6 Fri. . .  | 153-9561                                  | 3845       |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                      |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system.  | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                    | 7                   | 8a                                               |
| 3846             | 667   | 802                | 151                              |         | *744-45 | 17 Subhānu . . .     |                     | ...                                              |
| 3847             | 668   | 803                | 152                              |         | 745-46  | 18 Tārāṇa . . .      |                     | ...                                              |
| 3848             | 669   | 804                | 153                              |         | 746-47  | 19 Pārthiva . . .    |                     | 5 Śrāvaṇa .                                      |
| 3849             | 670   | 805                | 154                              |         | 747-48  | 20 Vyaya . . .       |                     | ...                                              |
| 3850             | 671   | 806                | 155                              |         | *748-49 | 21 Sarvajit . . .    |                     | ...                                              |
| 3851             | 672   | 807                | 156                              |         | 749-50  | 22 Sarvadhārin . . . |                     | 2 Vaiśākha .                                     |
| 3852             | 673   | 808                | 157                              |         | 750-51  | 23 Virōdhin . . .    |                     | ...                                              |
| 3853             | 674   | 809                | 158                              |         | 751-52  | 24 Vikṛita . . .     |                     | 10 Pausa .                                       |
| 3854             | 675   | 810                | 159                              |         | *752-53 | 25 Khara . . .       |                     | ...                                              |
| 3855             | 676   | 811                | 160                              |         | 753-54  | 26 Nandana . . .     |                     | ...                                              |
| 3856             | 677   | 812                | 161                              |         | 754-55  | 27 Vijaya . . .      |                     | 7 Āśvina .                                       |
| 3857             | 678   | 813                | 162                              |         | 755-56  | 28 Jaya . . .        |                     | ...                                              |
| 3858             | 679   | 814                | 163                              |         | *756-57 | 29 Manmatha . . .    |                     | ...                                              |
| 3859             | 680   | 815                | 164                              |         | 757-58  | 30 Durmukha . . .    |                     | 4 Āshāḍha .                                      |
| 3860             | 681   | 816                | 165                              |         | 758-59  | 31 Hēmalamba . . .   |                     | ...                                              |
| 3861             | 682   | 817                | 166                              |         | 759-60  | 32 Vilamba . . .     |                     | 12 Phālguna .                                    |
| 3862             | 683   | 818                | 167                              |         | *760-61 | 33 Vikārin . . .     |                     | ...                                              |
| 3863             | 684   | 819                | 168                              |         | 761-62  | 34 Śārvarin . . .    |                     | ...                                              |
| 3864             | 685   | 820                | 169                              |         | 762-63  | 35 Plava . . .       |                     | 9 Mārgaśīra .                                    |
| 3865             | 686   | 821                | 170                              |         | 763-64  | 36 Subhakrit . . .   |                     | ...                                              |
| 3866             | 687   | 822                | 171                              |         | *764-65 | 37 Śobhana . . .     |                     | ...                                              |
| 3867             | 688   | 823                | 172                              |         | 765-66  | 38 Krōdhin . . .     |                     | 5 Śrāvaṇa .                                      |
| 3868             | 689   | 824                | 173                              |         | 766-67  | 39 Viśvāvasu . . .   |                     | ...                                              |
| 3869             | 690   | 825                | 174                              |         | 767-68  | 40 Parābhava . . .   |                     | ...                                              |
| 3870             | 691   | 826                | 175                              |         | *768-69 | 41 Plavaṅga . . .    |                     | 2 Vaiśākha .                                     |

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1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                              |            |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|----------------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                              | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | a (here= <i>t</i> , the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                           | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                              |            |
| 22 Mar. (82) . .    | 1 Sun. .  | 15 2 30                       | 19 Mar. (79) .                                                                  | 5 Thur. . | 188-5957                                     | 3846       |
| 22 Mar. (81) . .    | 2 Mon. .  | 21 15 0                       | 8 Mar. (67) .                                                                   | 2 Mon. .  | 64-2790                                      | 3847       |
| 23 Mar. (82) . .    | 4 Wed. .  | 3 27 30                       | 26 Feb. (57) .                                                                  | 0 Sat. .  | 278-5944                                     | 3848       |
| 23 Mar. (82) . .    | 5 Thur. . | 9 40 0                        | 17 Mar. (76) .                                                                  | 6 Fri. .  | 313-2341                                     | 3849       |
| 22 Mar. (82) . .    | 6 Fri. .  | 15 52 30                      | 5 Mar. (65) .                                                                   | 3 Tues. . | 188-9173                                     | 3850       |
| 22 Mar. (81) . .    | 0 Sat. .  | 22 5 0                        | 22 Feb. (53) .                                                                  | 0 Sat. .  | 64-6007                                      | 3851       |
| 23 Mar. (82) . .    | 2 Mon. .  | 4 17 30                       | 13 Mar. (72) .                                                                  | 6 Fri. .  | 99-2404                                      | 3852       |
| 23 Mar. (82) . .    | 3 Tues. . | 10 30 0                       | 3 Mar. (62) .                                                                   | 4 Wed. .  | 313-5556                                     | 3853       |
| 22 Mar. (82) . .    | 4 Wed. .  | 16 42 30                      | 20 Mar. (80) .                                                                  | 2 Mon. .  | 9-5633                                       | 3854       |
| 22 Mar. (81) . .    | 5 Thur. . | 22 55 0                       | 10 Mar. (69) .                                                                  | 0 Sat. .  | 223-8786                                     | 3855       |
| 23 Mar. (82) . .    | 0 Sat. .  | 5 7 30                        | 27 Feb. (58) .                                                                  | 4 Wed. .  | 99-5620                                      | 3856       |
| 23 Mar. (82) . .    | 1 Sun. .  | 11 20 0                       | 18 Mar. (77) .                                                                  | 3 Tues. . | 134-2016                                     | 3857       |
| 22 Mar. (82) . .    | 2 Mon. .  | 17 32 30                      | 6 Mar. (66) .                                                                   | 0 Sat. .  | 9-8850                                       | 3858       |
| 22 Mar. (81) . .    | 3 Tues. . | 23 45 0                       | 24 Feb. (55) .                                                                  | 5 Thur. . | 224-2003                                     | 3859       |
| 23 Mar. (82) . .    | 5 Thur. . | 5 57 30                       | 15 Mar. (74) .                                                                  | 4 Wed. .  | 258-8399                                     | 3860       |
| 23 Mar. (82) . .    | 6 Fri. .  | 12 10 0                       | 4 Mar. (63) .                                                                   | 1 Sun. .  | 134-5233                                     | 3861       |
| 22 Mar. (82) . .    | 0 Sat. .  | 18 22 30                      | 22 Mar. (82) .                                                                  | 0 Sat. .  | 169-1626                                     | 3862       |
| 23 Mar. (82) . .    | 2 Mon. .  | 0 35 0                        | 11 Mar. (70) .                                                                  | 4 Wed. .  | 44-8463                                      | 3863       |
| 23 Mar. (82) . .    | 3 Tues. . | 6 47 30                       | 1 Mar. (60) .                                                                   | 2 Mon. .  | 259-1616                                     | 3864       |
| 23 Mar. (82) . .    | 4 Wed. .  | 13 0 0                        | 20 Mar. (79) .                                                                  | 1 Sun. .  | 293-8012                                     | 3865       |
| 22 Mar. (82) . .    | 5 Thur. . | 19 12 30                      | 8 Mar. (68) .                                                                   | 5 Thur. . | 169-4846                                     | 3866       |
| 23 Mar. (82) . .    | 0 Sat. .  | 1 25 0                        | 25 Feb. (56) .                                                                  | 2 Mon. .  | 45-1680                                      | 3867       |
| 23 Mar. (82) . .    | 1 Sun. .  | 7 37 30                       | 16 Mar. (75) .                                                                  | Sun .     | 79-8076                                      | 3868       |
| 23 Mar. (82) . .    | 2 Mon. .  | 13 50 0                       | 6 Mar. (65) .                                                                   | 6 Fri. .  | 294-1223                                     | 3869       |
| 22 Mar. (82) . .    | 3 Tues. . | 20 2 30                       | 23 Feb. (54) .                                                                  | 3 Tues. . | 169-8062                                     | 3870       |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                        |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.     |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system.    | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                      | 7                   | 8a                                               |
| 3871             | 692   | 827                | 176                              |         | 769-70  | 42 Kilaka . . .        |                     | ...                                              |
| 3872             | 693   | 828                | 177                              |         | 770-71  | 43 Saumya . . .        |                     | 10 Pausha .                                      |
| 3873             | 694   | 829                | 178                              |         | 771-72  | 44 Sādhārāṇa . . .     |                     | ...                                              |
| 3874             | 695   | 830                | 179                              |         | *772-73 | 45 Virōdhakṛit . . .   |                     | ...                                              |
| 3875             | 696   | 831                | 180                              |         | 773-74  | 46 Paridhāvin . . .    |                     | 7 Āśvina .                                       |
| 3876             | 697   | 832                | 181                              |         | 774-75  | 47 Pramādin . . .      |                     | ...                                              |
| 3877             | 698   | 833                | 182                              |         | 775-76  | 48 Ānanda . . .        |                     | ...                                              |
| 3878             | 699   | 834                | 183                              |         | *776-77 | 49 Rākshasa . . .      |                     | 3 Jyēṣṭha .                                      |
| 3879             | 700   | 835                | 184                              |         | 777-78  | 50 Anala . . .         |                     | ...                                              |
| 3880             | 701   | 836                | 185                              |         | 778-79  | 51 Piṅgala . . .       |                     | 12 Phālguna .                                    |
| 3881             | 702   | 837                | 186                              |         | 779-80  | 52 Kālayukta . . .     |                     | ...                                              |
| 3882             | 703   | 838                | 187                              |         | *780-81 | 53 Siddhārthin . . .   |                     | ...                                              |
| 3883             | 704   | 839                | 188                              |         | 781-82  | 54 Raudra . . .        |                     | 8 Kārttika .                                     |
| 3884             | 705   | 840                | 189                              |         | 782-83  | 55 Durmati . . .       |                     | ...                                              |
| 3885             | 706   | 841                | 190                              |         | 783-84  | 56 Dundubhi . . .      |                     | ...                                              |
| 3886             | 707   | 842                | 191                              |         | *784-85 | 57 Rudhirōdgārin . . . |                     | 5 Śrāvaṇa .                                      |
| 3887             | 708   | 843                | 192                              |         | 785-86  | 58 Raktāksha . . .     |                     | ...                                              |
| 3888             | 709   | 844                | 193                              |         | 786-87  | 59 Krōdhana . . .      |                     | ...                                              |
| 3889             | 710   | 845                | 194                              |         | 787-88  | 60 Kshaya . . .        |                     | 1 Chaitra .                                      |
| 3890             | 711   | 846                | 195                              |         | *788-89 | 1 Prabhava . . .       |                     | ...                                              |
| 3891             | 712   | 847                | 196                              |         | 789-90  | 2 Vibhava . . .        |                     | 10 Pausha .                                      |
| 3892             | 713   | 848                | 197                              |         | 790-91  | 3 Śukla . . .          |                     | ...                                              |
| 3893             | 714   | 849                | 198                              |         | 791-92  | 4 Pramōda . . .        |                     | ...                                              |
| 3894             | 715   | 850                | 199                              |         | *792-93 | 5 Prajāpati . . .      |                     | 7 Āśvina† .                                      |
| 3895             | 716   | 851                | 200                              |         | 793-94  | 6 Angiras . . .        |                     | ...                                              |

† By the "Indian Calendar" 6 Bhādrapada was intercalated.

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1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                              |            |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|----------------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SŪKLA 1 ENDS). |             |                                              | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | a (here= <i>t</i> , the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                           |            |
|                     |             | H. M. S.                      |                                                                                 |             |                                              |            |
| 23 Mar. (82) . .    | 5 Thur. . . | 2 15 0                        | 13 Mar. (72) . .                                                                | 2 Mon. . .  | 204-4459                                     | 3871       |
| 23 Mar. (82) . .    | 6 Fri. . .  | 8 27 30                       | 2 Mar. (61) . .                                                                 | 6 Fri. . .  | 80-1292                                      | 3872       |
| 23 Mar. (82) . .    | 0 Sat. . .  | 14 40 0                       | 21 Mar. (80) . .                                                                | 5 Thur. . . | 114-7688                                     | 3873       |
| 22 Mar. (82) . .    | 1 Sun. . .  | 20 52 30                      | 10 Mar. (70) . .                                                                | 3 Tues. . . | 329-0841                                     | 3874       |
| 23 Mar. (82) . .    | 3 Tues. . . | 3 5 0                         | 27 Feb. (58) . .                                                                | 0 Sat. . .  | 204-7675                                     | 3875       |
| 23 Mar. (82) . .    | 4 Wed. . .  | 9 17 30                       | 18 Mar. (77) . .                                                                | 6 Fri. . .  | 239-4071                                     | 3876       |
| 23 Mar. (82) . .    | 5 Thur. . . | 15 36 0                       | 7 Mar. (66) . .                                                                 | 3 Tues. . . | 115-0904                                     | 3877       |
| 22 Mar. (82) . .    | 6 Fri. . .  | 21 42 30                      | 25 Feb. (56) . .                                                                | 1 Sun. . .  | 329-4057                                     | 3878       |
| 23 Mar. (82) . .    | 1 Sun. . .  | 3 55 0                        | 14 Mar. (73) . .                                                                | 6 Fri. . .  | 25-4134                                      | 3879       |
| 23 Mar. (82) . .    | 2 Mon. . .  | 10 7 30                       | 4 Mar. (63) . .                                                                 | 4 Wed. . .  | 239-7288                                     | 3880       |
| 23 Mar. (82) . .    | 3 Tues. . . | 16 20 0                       | 23 Mar. (82) . .                                                                | 3 Tues. . . | 274-3682                                     | 3881       |
| 22 Mar. (82) . .    | 4 Wed. . .  | 22 32 30                      | 11 Mar. (71) . .                                                                | 0 Sat. . .  | 150-0517                                     | 3882       |
| 23 Mar. (82) . .    | 6 Fri. . .  | 4 45 0                        | 28 Feb. (59) . .                                                                | 4 Wed. . .  | 25-7351                                      | 3883       |
| 23 Mar. (82) . .    | 0 Sat. . .  | 10 57 30                      | 19 Mar. (78) . .                                                                | 3 Tues. . . | 60-3747                                      | 3884       |
| 23 Mar. (82) . .    | 1 Sun. . .  | 17 10 0                       | 9 Mar. (68) . .                                                                 | 1 Sun. . .  | 274-6900                                     | 3885       |
| 22 Mar. (82) . .    | 2 Mon. . .  | 23 22 30                      | 26 Feb. (57) . .                                                                | 5 Thur. . . | 150-3734                                     | 3886       |
| 23 Mar. (82) . .    | 4 Wed. . .  | 5 35 0                        | 16 Mar. (75) . .                                                                | 4 Wed. . .  | 185-0130                                     | 3887       |
| 23 Mar. (82) . .    | 5 Thur. . . | 11 47 30                      | 5 Mar. (64) . .                                                                 | 1 Sun. . .  | 60-6963                                      | 3888       |
| 23 Mar. (82) . .    | 6 Fri. . .  | 18 0 0                        | 23 Feb. (54) . .                                                                | 6 Fri. . .  | 276-0116                                     | 3889       |
| 23 Mar. (83) . .    | 1 Sun. . .  | 9 12 30                       | 13 Mar. (73) . .                                                                | 5 Thur. . . | 309-6513                                     | 3890       |
| 23 Mar. (82) . .    | 2 Mon. . .  | 6 25 0                        | 2 Mar. (61) . .                                                                 | 2 Mon. . .  | 185-3346                                     | 3891       |
| 23 Mar. (82) . .    | 3 Tues. . . | 12 37 30                      | 21 Mar. (80) . .                                                                | 1 Sun. . .  | 219-9743                                     | 3892       |
| 23 Mar. (82) . .    | 4 Wed. . .  | 18 50 0                       | 10 Mar. (69) . .                                                                | 5 Thur. . . | 95-6576                                      | 3893       |
| 23 Mar. (83) . .    | 6 Fri. . .  | 1 2 30                        | 28 Feb. (59) . .                                                                | 3 Tues. . . | 309-9730                                     | 3894       |
| 23 Mar. (82) . .    | 0 Sat. . .  | 7 15 0                        | 17 Mar. (76) . .                                                                | 1 Sun. . .  | 5-9807                                       | 3895       |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                      |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system.  | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                    | 7                   | 8a                                               |
| 3896             | 717   | 852                | 201                              |         | 704-95  | 7 Śrīmukha . . .     |                     | ...                                              |
| 3897             | 718   | 853                | 202                              |         | 795-96  | 8 Bhāva . . .        |                     | 3 Jyēṣṭha .                                      |
| 3898             | 719   | 854                | 203                              |         | *796-97 | 9 Yuvan . . .        |                     | ...                                              |
| 3899             | 720   | 855                | 204                              |         | 797-98  | 10 Dhātṛi . . .      |                     | 12 Phālguna .                                    |
| 3900             | 721   | 856                | 205                              |         | 798-99  | 11 Isvara . . .      |                     | ...                                              |
| 3901             | 722   | 857                | 206                              |         | 799-800 | 12 Bahuchānya . . .  |                     | ...                                              |
| 3902             | 723   | 858                | 207                              |         | *800-01 | 13 Pramāthin . . .   |                     | 8 Kārttika .                                     |
| 3903             | 724   | 859                | 208                              |         | 801-02  | 14 Vikrama . . .     |                     | ...                                              |
| 3904             | 725   | 860                | 209                              |         | 802-03  | 15 Vṛisha . . .      |                     | ...                                              |
| 3905             | 726   | 861                | 210                              |         | 803-04  | 16 Chitrabhānu . . . |                     | 5 Śrāvaṇa .                                      |
| 3906             | 727   | 862                | 211                              |         | *804-05 | 17 Subhānu . . .     |                     | ...                                              |
| 3907             | 728   | 863                | 212                              |         | 805-06  | 18 Tāraka . . .      |                     | ...                                              |
| 3908             | 729   | 864                | 213                              |         | 806-07  | 19 Pārthiva . . .    |                     | 1 Chaitra .                                      |
| 3909             | 730   | 865                | 214                              |         | 807-08  | 20 Vyaya . . .       |                     | ...                                              |
| 3910             | 731   | 866                | 215                              |         | *808-09 | 21 Sarvajit . . .    |                     | 10 Pausa .                                       |
| 3911             | 732   | 867                | 216                              |         | 809-10  | 22 Sarvadhārin . . . |                     | ...                                              |
| 3912             | 733   | 868                | 217                              |         | 810-11  | 23 Virōdhin . . .    |                     | ...                                              |
| 3913             | 734   | 869                | 218                              |         | 811-12  | 24 Vikṛita . . .     |                     | 6 Bhādrapada.                                    |
| 3914             | 735   | 870                | 219                              |         | *812-13 | 25 Khara . . .       |                     | ...                                              |
| 3915             | 736   | 871                | 220                              |         | 813-14  | 26 Nandana . . .     |                     | ...                                              |
| 3916             | 737   | 872                | 221                              |         | 814-15  | 27 Vijaya . . .      |                     | 3 Jyēṣṭha .                                      |
| 3917             | 738   | 873                | 222                              |         | 815-16  | 28 Jaya . . .        |                     | ...                                              |
| 3918             | 739   | 874                | 223                              |         | *816-17 | 29 Manmatha . . .    |                     | 11 Māgha .                                       |
| 3919             | 740   | 875                | 224                              |         | 817-18  | 30 Durmukha . . .    |                     | ...                                              |
| 3920             | 741   | 876                | 225                              |         | 818-19  | 31 Hēmalamba . . .   |                     | ...                                              |

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1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                              |      | Kali year. |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|----------------------------------------------|------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                              |      |            |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | a (here= <i>t</i> , the index of the tithi). |      |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                           | 1    |            |
|                     |             | H. M. S.                      |                                                                                 |             |                                              |      |            |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 13 27 30                      | 7 Mar. (86) . . .                                                               | 6 Fri. . .  | 220-2969                                     | 3896 |            |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 19 40 0                       | 24 Feb. (55) . . .                                                              | 3 Tues. . . | 95-9793                                      | 3897 |            |
| 23 Mar. (83) . . .  | 4 Wed. . .  | 1 52 30                       | 14 Mar. (74) . . .                                                              | 2 Mon. . .  | 130-6189                                     | 3898 |            |
| 23 Mar. (82) . . .  | 5 Thur. . . | 8 5 0                         | 3 Mar. (82) . . .                                                               | 6 Fri. . .  | 6-3023                                       | 3899 |            |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 14 17 30                      | 22 Mar. (81) . . .                                                              | 5 Thur. . . | 40-9419                                      | 3900 |            |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 20 30 0                       | 12 Mar. (71) . . .                                                              | 3 Tues. . . | 255-2572                                     | 3901 |            |
| 23 Mar. (83) . . .  | 2 Mon. . .  | 2 42 30                       | 29 Feb. (60) . . .                                                              | 0 Sat. . .  | 130-9406                                     | 3902 |            |
| 23 Mar. (82) . . .  | 3 Tues. . . | 8 55 0                        | 19 Mar. (78) . . .                                                              | 6 Fri. . .  | 165-5802                                     | 3903 |            |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 15 7 30                       | 8 Mar. (67) . . .                                                               | 3 Tues. . . | 41-2636                                      | 3904 |            |
| 23 Mar. (82) . . .  | 5 Thur. . . | 21 20 0                       | 26 Feb. (57) . . .                                                              | 1 Sun. . .  | 255-6789                                     | 3905 |            |
| 23 Mar. (83) . . .  | 0 Sat. . .  | 3 32 30                       | 16 Mar. (76) . . .                                                              | 0 Sat. . .  | 290-2185                                     | 3906 |            |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 9 45 0                        | 5 Mar. (64) . . .                                                               | 4 Wed. . .  | 165-9018                                     | 3907 |            |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 15 57 30                      | 22 Feb. (53) . . .                                                              | 1 Sun. . .  | 41-5852                                      | 3908 |            |
| 23 Mar. (82) . . .  | 3 Tues. . . | 22 10 0                       | 13 Mar. (72) . . .                                                              | 0 Sat. . .  | 76-2248                                      | 3909 |            |
| 23 Mar. (83) . . .  | 5 Thur. . . | 4 22 30                       | 2 Mar. (62) . . .                                                               | 5 Thur. . . | 290-5401                                     | 3910 |            |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 10 35 0                       | 21 Mar. (80) . . .                                                              | 4 Wed. . .  | 325-1798                                     | 3911 |            |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 16 47 30                      | 10 Mar. (69) . . .                                                              | 1 Sun. . .  | 200-8631                                     | 3912 |            |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 23 0 0                        | 27 Feb. (58) . . .                                                              | 5 Thur. . . | 76-5465                                      | 3913 |            |
| 23 Mar. (83) . . .  | 3 Tues. . . | 5 12 30                       | 17 Mar. (77) . . .                                                              | 4 Wed. . .  | 111-1862                                     | 3914 |            |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 11 25 0                       | 7 Mar. (66) . . .                                                               | 2 Mon. . .  | 325-5013                                     | 3915 |            |
| 23 Mar. (82) . . .  | 5 Thur. . . | 17 37 30                      | 24 Feb. (55) . . .                                                              | 6 Fri. . .  | 201-1847                                     | 3916 |            |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 23 50 0                       | 15 Mar. (74) . . .                                                              | 5 Thur. . . | 235-8244                                     | 3917 |            |
| 23 Mar. (83) . . .  | 1 Sun. . .  | 6 2 30                        | 3 Mar. (63) . . .                                                               | 2 Mon. . .  | 111-5078                                     | 3918 |            |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 12 15 0                       | 22 Mar. (81) . . .                                                              | 1 Sun. . .  | 146-1473                                     | 3919 |            |
| 23 Mar. (82) . . .  | 3 Tues. . . | 18 27 30                      | 11 Mar. (70) . . .                                                              | 5 Thur. . . | 21-8307                                      | 3920 |            |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                        |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mābhādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.     |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system.    | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                      | 7                   | 8a                                               |
| 3921             | 742   | 877                | 226                              |         | 819-20  | 32 Vilamba† . . .      |                     | 8 Kārttika .                                     |
| 3922             | 743   | 878                | 227                              |         | *820-21 | 34 Śāruvarin . . .     |                     | ...                                              |
| 3923             | 744   | 879                | 228                              |         | 821-22  | 35 Plava . . .         |                     | ...                                              |
| 3924             | 745   | 880                | 229                              |         | 822-23  | 36 Śubhakṛit . . .     |                     | 4 Āshāḍha .                                      |
| 3925             | 746   | 881                | 230                              |         | 823-24  | 37 Śobhana . . .       |                     | ...                                              |
| 3926             | 747   | 882                | 231                              |         | *824-25 | 38 Krōdhin . . .       |                     | ...                                              |
| 3927             | 748   | 883                | 232                              | 0-1     | 825-26  | 39 Viśvāvasu . . .     |                     | 1 Chaitra .                                      |
| 3928             | 749   | 884                | 233                              | 1-2     | 826-27  | 40 Parābhava . . .     |                     | ...                                              |
| 3929             | 750   | 885                | 234                              | 2-3     | 827-28  | 41 Plavaṅga . . .      |                     | 10 Pausa                                         |
| 3930             | 751   | 886                | 235                              | 3-4     | *828-29 | 42 Kilaka . . .        |                     | ...                                              |
| 3931             | 752   | 887                | 236                              | 4-5     | 829-30  | 43 Saumya . . .        |                     | ...                                              |
| 3932             | 753   | 888                | 237                              | 5-6     | 830-31  | 44 Sādhāraṇa . . .     |                     | 6 Bhādrapada.                                    |
| 3933             | 754   | 889                | 238                              | 6-7     | 831-32  | 45 Virōdhakṛit . . .   |                     | ...                                              |
| 3934             | 755   | 890                | 239                              | 7-8     | *832-33 | 46 Paridhāvin . . .    |                     | ...                                              |
| 3935             | 756   | 891                | 240                              | 8-9     | 833-34  | 47 Pramādin . . .      |                     | 3 Jyēṣṭha .                                      |
| 3936             | 757   | 892                | 241                              | 9-10    | 834-35  | 48 Ānanda . . .        |                     | ...                                              |
| 3937             | 758   | 893                | 242                              | 10-11   | *835-36 | 49 Rākshasa . . .      |                     | 11 Māgha .                                       |
| 3938             | 759   | 894                | 243                              | 11-12   | *836-37 | 50 Anala . . .         |                     | ...                                              |
| 3939             | 760   | 895                | 244                              | 12-13   | 837-38  | 51 Piṅgala . . .       |                     | ...                                              |
| 3940             | 761   | 896                | 245                              | 13-14   | 838-39  | 52 Kālayukta . . .     |                     | 8 Kārttika .                                     |
| 3941             | 762   | 897                | 246                              | 14-15   | 839-40  | 53 Siddhārthin . . .   |                     | ...                                              |
| 3942             | 763   | 898                | 247                              | 15-16   | *840-41 | 5 Raudra . . .         |                     | ...                                              |
| 3943             | 764   | 899                | 248                              | 16-17   | 841-42  | 56 Durmati . . .       |                     | 4 Āshāḍha .                                      |
| 3944             | 765   | 900                | 249                              | 17-18   | 842-43  | 56 Dundubhi . . .      |                     | ...                                              |
| 3945             | 766   | 901                | 250                              | 18-19   | 843-44  | 57 Rudhirōdgārin . . . |                     | ...                                              |

† By both mean and true systems 32 Vikārin was expunged.

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1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |              |                               |                                                                                 |             |                                       |            |
|---------------------|--------------|-------------------------------|---------------------------------------------------------------------------------|-------------|---------------------------------------|------------|
| MEAN SOLAR YEAR.    |              |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                       | Kali year. |
| Day and Month, A.D. | Week-day.    | Time of mean Mēsha-samkrānti. | Day and month, A. D.                                                            | Week-day.   | a (here = 1, the index of the tithi). |            |
| 13                  | 14           | 17                            | 19                                                                              | 20          | 23                                    |            |
| 24 Mar. (83) . .    | 5 Thur. . .  | H. M. S.<br>0 40 0            | 1 Mar. (60) . .                                                                 | 3 Tues. . . | 236-1460                              | 3921       |
| 23 Mar. (83) . .    | 6 Fri. . .   | 6 52 30                       | 19 Mar. (79) . .                                                                | 2 Mon. . .  | 270-7856                              | 3922       |
| 23 Mar. (82) . .    | 0 Sat. . .   | 13 5 0                        | 8 Mar. (67) . .                                                                 | 6 Fri. . .  | 146-4690                              | 3923       |
| 23 Mar. (82) . .    | 1 Sun. . .   | 19 17 30                      | 25 Feb. (56) . .                                                                | 3 Tues. . . | 22-1524                               | 3924       |
| 24 Mar. (83) . .    | 3 Tues. . .  | 1 30 0                        | 16 Mar. (73) . .                                                                | 2 Mon. . .  | 56-7920                               | 3925       |
| 23 Mar. (83) . .    | 4 Wed. . .   | 7 42 30                       | 5 Mar. (65) . .                                                                 | 0 Sat. . .  | 271-1073                              | 3926       |
| 23 Mar. (82) . .    | 5 Thur. . .  | 13 55 0                       | 22 Feb. (53) . .                                                                | 4 Wed. . .  | 146-7906                              | 3927       |
| 23 Mar. (82) . .    | 6 Fri. . .   | 20 7 30                       | 13 Mar. (72) . .                                                                | 3 Tues. . . | 181-4303                              | 3928       |
| 24 Mar. (83) . .    | 1 Sun. . .   | 2 20 0                        | 2 Mar. (61) . .                                                                 | 0 Sat. . .  | 57-1137                               | 3929       |
| 23 Mar. (83) . .    | 2 Mon. . .   | 8 32 30                       | 20 Mar. (80) . .                                                                | 6 Fri. . .  | 91-7533                               | 3930       |
| 23 Mar. (82) . .    | 3 Tues. . .  | 14 45 0                       | 10 Mar. (69) . .                                                                | 4 Wed. . .  | 306-0686                              | 3931       |
| 23 Mar. (82) . .    | 4 Wed. . .   | 20 57 30                      | 27 Feb. (58) . .                                                                | 1 Sun. . .  | 181-7519                              | 3932       |
| 24 Mar. (83) . .    | 6 Fri. . .   | 3 10 0                        | 18 Mar. (77) . .                                                                | 0 Sat. . .  | 216-3916                              | 3933       |
| 23 Mar. (83) . .    | 0 Sat. . .   | 9 22 30                       | 6 Mar. (66) . .                                                                 | 4 Wed. . .  | 92-0749                               | 3934       |
| 23 Mar. (82) . .    | 1 Sun. . .   | 15 35 0                       | 24 Feb. (55) . .                                                                | 2 Mon. . .  | 306-3902                              | 3935       |
| 23 Mar. (82) . .    | 2 Mon. . .   | 21 47 30                      | 14 Mar. (73) . .                                                                | 0 Sat. . .  | 2-3979                                | 3936       |
| 24 Mar. (83) . .    | 4 Wed. . .   | 4 0 0                         | 4 Mar. (63) . .                                                                 | 5 Thur. . . | 216-7132                              | 3937       |
| 23 Mar. (83) . .    | 5 Thur. . .  | 10 12 30                      | 22 Mar. (82) . .                                                                | 4 Wed. . .  | 251-3528                              | 3938       |
| 23 Mar. (82) . .    | 6 Fri. . .   | 16 25 0                       | 11 Mar. (70) . .                                                                | 1 Sun. . .  | 127-0362                              | 3939       |
| 23 Mar. (82) . .    | 0 Sat. . .   | 22 37 30                      | 28 Feb. (59) . .                                                                | 5 Thur. . . | 2-7176                                | 3940       |
| 24 Mar. (83) . .    | 2 Mon. . .   | 4 50 0                        | 19 Mar. (78) . .                                                                | 4 Wed. . .  | 37-3592                               | 3941       |
| 23 Mar. (83) . .    | 3 Tues. . .  | 11 2 30                       | 8 Mar. (68) . .                                                                 | 2 Mon. . .  | 251-6745                              | 3942       |
| 23 Mar. (82) . .    | 4 Wed. . .   | 17 15 0                       | 25 Feb. (56) . .                                                                | 6 Fri. . .  | 127-3579                              | 3943       |
| 23 Mar. (82) . .    | 5 Thurs. . . | 23 17 30                      | 16 Mar. (75) . .                                                                | 5 Thur. . . | 161-9975                              | 3944       |
| 24 Mar. (83) . .    | 0 Sat. . .   | 5 40 0                        | 5 Mar. (64) . .                                                                 | 2 Mon. . .  | 37-6800                               | 3945       |



TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |         |                      |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|---------|----------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēśādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATARA.    |                     |                                                  |
|                  |       |                    |                                 |         |         | Southern<br>system.  | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                              | 4       | 5       | 6                    | 7                   | 8a                                               |
| 3946             | 767   | 902                | 251                             | 19-20   | *844-45 | 58 Rakṣakeśa . . .   |                     | 1 Chaitra                                        |
| 3947             | 768   | 903                | 252                             | 20-21   | 845-46  | 59 Kródhana . . .    |                     | ...                                              |
| 3948             | 769   | 904                | 253                             | 21-22   | 846-47  | 60 Kshaya . . .      |                     | 9 Mārgasīra                                      |
| 3949             | 770   | 905                | 254                             | 22-23   | 847-48  | 1 Prabhava . . .     |                     | ...                                              |
| 3950             | 771   | 906                | 255                             | 23-24   | *848-49 | 2 Vibhava . . .      |                     | ...                                              |
| 3951             | 772   | 907                | 256                             | 24-25   | 849-50  | 3 Śukla . . .        |                     | 6 Bhādrapada.                                    |
| 3952             | 773   | 908                | 257                             | 25-26   | 850-51  | 4 Pramōda . . .      |                     | ...                                              |
| 3953             | 774   | 909                | 258                             | 26-27   | 851-52  | 5 Prajāpati . . .    |                     | ...                                              |
| 3954             | 775   | 910                | 259                             | 27-28   | *852-53 | 6 Angiras . . .      |                     | 2 Vaiśākha                                       |
| 3955             | 776   | 911                | 260                             | 28-29   | 853-54  | 7 Śrīmukha . . .     |                     | ...                                              |
| 3956             | 777   | 912                | 261                             | 29-30   | 854-55  | 8 Bhāva . . .        |                     | 11 Māgha .                                       |
| 3957             | 778   | 913                | 262                             | 30-31   | 855-56  | 9 Yuvan . . .        |                     | ...                                              |
| 3958             | 779   | 914                | 263                             | 31-32   | *856-57 | 10 Dhātri . . .      |                     | ...                                              |
| 3959             | 780   | 915                | 264                             | 32-33   | 857-58  | 11 Jēvara . . .      |                     | 7 Āśvin                                          |
| 3960             | 781   | 916                | 265                             | 33-34   | 858-59  | 12 Bahudhānya . . .  |                     | ...                                              |
| 3961             | 782   | 917                | 266                             | 34-35   | 859-60  | 13 Pramāthin . . .   |                     | ...                                              |
| 3962             | 783   | 918                | 267                             | 35-36   | *860-61 | 14 Vikrama . . .     |                     | 4 Āshāḍha .                                      |
| 3963             | 784   | 919                | 268                             | 36-37   | 861-62  | 15 Vṛisha . . .      |                     | ...                                              |
| 3964             | 785   | 920                | 269                             | 37-38   | 862-63  | 16 Chitrabhānu . . . |                     | 12 Phālguna .                                    |
| 3965             | 786   | 921                | 270                             | 38-39   | 863-64  | 17 Subhānu . . .     |                     | ...                                              |
| 3966             | 787   | 922                | 271                             | 39-40   | *864-65 | 18 Tārana . . .      |                     | ...                                              |
| 3967             | 788   | 923                | 272                             | 40-41   | 865-66  | 19 Pārthiva . . .    |                     | 9 Mārgasīra .                                    |
| 3968             | 789   | 924                | 273                             | 41-42   | 866-67  | 20 Vyaya . . .       |                     | ...                                              |
| 3969             | 790   | 925                | 274                             | 42-43   | 867-68  | 21 Sarvajit . . .    |                     | ...                                              |
| 3970             | 791   | 926                | 275                             | 43-44   | *868-69 | 22 Sarvadhārīn . . . |                     | 6 Bhādrapada.†                                   |

† By the " Indian Calendar " 5 Śrāvaṇa was intercalated.

LXXVI—Contd.

1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                  |             |                                                |            |
|---------------------|-------------|-------------------------------|----------------------------------------------------------------------------------|-------------|------------------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SURELA 1 ENDS). |             |                                                | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                              | Week-day.   | $\alpha$ (here= $t$ , the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                               | 20          | 23                                             |            |
|                     |             | H. M. S.                      |                                                                                  |             |                                                |            |
| 23 Mar. (83) . . .  | 1 Sun. . .  | 11 52 30                      | 23 Feb. (54) . . .                                                               | 0 Sat. . .  | 251-9960                                       | 3946       |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 18 5 0                        | 13 Mar. (72) . . .                                                               | 6 Fri. . .  | 286-6357                                       | 3947       |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 0 17 30                       | 2 Mar. (61) . . .                                                                | 3 Tues. . . | 162-3191                                       | 3948       |
| 24 Mar. (83) . . .  | 5 Thur. . . | 6 30 0                        | 21 Mar. (80) . . .                                                               | 2 Mon. . .  | 196-9588                                       | 3949       |
| 23 Mar. (83) . . .  | 6 Fri. . .  | 12 42 30                      | 9 Mar. (69) . . .                                                                | 6 Fri. . .  | 72-6421                                        | 3950       |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 18 55 0                       | 27 Feb. (58) . . .                                                               | 4 Wed. . .  | 286-9573                                       | 3951       |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 1 7 30                        | 18 Mar. (77) . . .                                                               | 3 Tues. . . | 321-5970                                       | 3952       |
| 24 Mar. (83) . . .  | 3 Tues. . . | 7 20 0                        | 7 Mar. (66) . . .                                                                | 0 Sat. . .  | 197-2563                                       | 3953       |
| 23 Mar. (83) . . .  | 4 Wed. . .  | 13 32 30                      | 24 Feb. (55) . . .                                                               | 4 Wed. . .  | 72-9637                                        | 3954       |
| 23 Mar. (82) . . .  | 5 Thur. . . | 19 45 0                       | 14 Mar. (73) . . .                                                               | 3 Tues. . . | 107-6033                                       | 3955       |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 1 57 30                       | 4 Mar. (63) . . .                                                                | 1 Sun. . .  | 321-9186                                       | 3956       |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 8 10 0                        | 22 Mar. (81) . . .                                                               | 6 Fri. . .  | 17-9263                                        | 3957       |
| 23 Mar. (83) . . .  | 2 Mon. . .  | 14 22 30                      | 11 Mar. (71) . . .                                                               | 4 Wed. . .  | 232-2416                                       | 3958       |
| 23 Mar. (82) . . .  | 3 Tues. . . | 20 25 0                       | 28 Feb. (59) . . .                                                               | 1 Sun. . .  | 107-9250                                       | 3959       |
| 24 Mar. (83) . . .  | 5 Thur. . . | 2 47 30                       | 19 Mar. (78) . . .                                                               | 0 Sat. . .  | 142-5646                                       | 3960       |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 9 0 0                         | 8 Mar. (67) . . .                                                                | 4 Wed. . .  | 18-2480                                        | 3961       |
| 23 Mar. (83) . . .  | 0 Sat. . .  | 15 12 30                      | 26 Feb. (57) . . .                                                               | 2 Mon. . .  | 232-5683                                       | 3962       |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 21 25 0                       | 16 Mar. (75) . . .                                                               | 1 Sun. . .  | 237-2029                                       | 3963       |
| 24 Mar. (83) . . .  | 3 Tues. . . | 3 37 30                       | 5 Mar. (64) . . .                                                                | 5 Thur. . . | 142-6863                                       | 3964       |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 9 50 0                        | 24 Mar. (83) . . .                                                               | 4 Wed. . .  | 177-5259                                       | 3965       |
| 23 Mar. (83) . . .  | 5 Thur. . . | 16 2 30                       | 12 Mar. (72) . . .                                                               | 1 Sun. . .  | 53-2093                                        | 3966       |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 22 15 0                       | 2 Mar. (61) . . .                                                                | 6 Fri. . .  | 267-6245                                       | 3967       |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 4 27 30                       | 21 Mar. (80) . . .                                                               | 5 Thur. . . | 302-1642                                       | 3968       |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 10 40 0                       | 10 Mar. (69) . . .                                                               | 2 Mon. . .  | 177-8476                                       | 3969       |
| 23 Mar. (83) . . .  | 3 Tues. . . | 16 52 30                      | 27 Feb. (58) . . .                                                               | 6 Fri. . .  | 53-6309                                        | 3970       |

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |         |                      |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|---------|----------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēhādī solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                     |                                                  |
|                  |       |                    |                                 |         |         | Southern<br>system.  | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                              | 4       | 5       | 6                    | 7                   | 8a                                               |
| 3971             | 792   | 927                | 276                             | 44-45   | 869-70  | 23 Virōdhin . . .    |                     | ...                                              |
| 3972             | 793   | 928                | 277                             | 45-46   | 870-71  | 24 Vikṛita . . .     |                     | ...                                              |
| 3973             | 794   | 929                | 278                             | 46-47   | 871-72  | 25 Khara . . .       |                     | 2 Vaiśākha .                                     |
| 3974             | 795   | 930                | 279                             | 47-48   | *872-73 | 26 Nandana . . .     |                     | ...                                              |
| 3975             | 796   | 931                | 280                             | 48-49   | 873-74  | 27 Vijaya . . .      |                     | 11 Māgha .                                       |
| 3976             | 797   | 932                | 281                             | 49-50   | 874-75  | 28 Jaya . . .        |                     | ...                                              |
| 3977             | 798   | 933                | 282                             | 50-51   | 875-76  | 29 Manmathe . . .    |                     | ...                                              |
| 3978             | 799   | 934                | 283                             | 51-52   | *876-77 | 30 Durmukha . . .    |                     | 7 Āsvina .                                       |
| 3979             | 800   | 935                | 284                             | 52-53   | 877-78  | 31 Hōmalamba . . .   |                     | ...                                              |
| 3980             | 801   | 936                | 285                             | 53-54   | 878-79  | 32 Vilamba . . .     |                     | ...                                              |
| 3981             | 802   | 937                | 286                             | 54-55   | 879-80  | 33 Vikārin . . .     |                     | 4 Āśādhā .                                       |
| 3982             | 803   | 938                | 287                             | 55-56   | *880-81 | 34 Śārvarin . . .    |                     | ...                                              |
| 3983             | 804   | 939                | 288                             | 56-57   | 881-82  | 35 Plava . . .       |                     | 12 Phālguna .                                    |
| 3984             | 805   | 940                | 289                             | 57-58   | 882-83  | 36 Subhakṛit . . .   |                     | ...                                              |
| 3985             | 806   | 941                | 290                             | 58-59   | 883-84  | 37 Śōbhana . . .     |                     | ...                                              |
| 3986             | 807   | 942                | 291                             | 59-60   | *884-85 | 38 Krōdhin . . .     |                     | 9 Mārgaśīra .                                    |
| 3987             | 808   | 943                | 292                             | 60-61   | 885-86  | 39 Viśvāvasu . . .   |                     | ...                                              |
| 3988             | 809   | 944                | 293                             | 61-62   | 886-87  | 40 Parābhava . . .   |                     | ...                                              |
| 3989             | 810   | 945                | 294                             | 62-63   | 887-88  | 41 Plavaṅga . . .    |                     | 5 Śrāvana .                                      |
| 3990             | 811   | 946                | 295                             | 63-64   | *888-89 | 42 Kīlaka . . .      |                     | ...                                              |
| 3991             | 812   | 947                | 296                             | 64-65   | 889-90  | 43 Saumya . . .      |                     | ...                                              |
| 3992             | 813   | 948                | 297                             | 65-66   | 890-91  | 44 Sādhāraṇa . . .   |                     | 2 Vaiśākha .                                     |
| 3993             | 814   | 949                | 298                             | 66-67   | 891-92  | 45 Virōdhakṛit . . . |                     | ...                                              |
| 3994             | 815   | 950                | 299                             | 67-68   | *892-93 | 46 Paridhāvin . . .  |                     | 10 Pausa .                                       |
| 3995             | 816   | 951                | 300                             | 68-69   | 893-94  | 47 Pramādin . . .    |                     | ...                                              |

LXXXVI—*contd.*

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |           |                              |                                                                                 |           |                                                 |             |
|---------------------|-----------|------------------------------|---------------------------------------------------------------------------------|-----------|-------------------------------------------------|-------------|
| MEAN SOLAR YEAR.    |           |                              | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |                                                 | Kali year.] |
| Day and month, A.D. | Week-day. | Time of mean Mésa-samkrānti. | Day and month, A.D.                                                             | Week-day. | $\alpha$ (here = $t$ , the index of the tithi). |             |
| 13                  | 14        | 17                           | 19                                                                              | 20        | 23                                              | 1           |
| 23 Mar. (82) .      | 4 Wed. .  | H. M. S.<br>23 5 0           | 17 Mar. (76) .                                                                  | 5 Thur. . | 88-1705                                         | 3971        |
| 24 Mar. (83) .      | 6 Fri. .  | 5 17 30                      | 7 Mar. (66) .                                                                   | 3 Tues. . | 302-4858                                        | 3972        |
| 24 Mar. (83) .      | 0 Sat. .  | 11 30 0                      | 24 Feb. (55) .                                                                  | 0 Sat. .  | 178-1692                                        | 3973        |
| 23 Mar. (83) .      | 1 Sun. .  | 17 42 30                     | 14 Mar. (74) .                                                                  | 6 Fri. .  | 212-8088                                        | 3974        |
| 23 Mar. (82) .      | 2 Mon. .  | 23 55 0                      | 3 Mar. (62) .                                                                   | 3 Tues. . | 88-4922                                         | 3975        |
| 24 Mar. (83) .      | 4 Wed. .  | 6 7 30                       | 22 Mar. (81) .                                                                  | 2 Mon. .  | 123-1318                                        | 3976        |
| 24 Mar. (83) .      | 5 Thur. . | 12 20 0                      | 11 Mar. (70) .                                                                  | 6 Fri. .  | 9998-8151†                                      | 3977        |
| 23 Mar. (83) .      | 6 Fri. .  | 18 32 30                     | 29 Feb. (60) .                                                                  | 4 Wed. .  | 213-1304                                        | 3978        |
| 24 Mar. (83) .      | 1 Sun. .  | 0 45 0                       | 19 Mar. (78) .                                                                  | 3 Tues. . | 247-7700                                        | 3979        |
| 24 Mar. (83) .      | 2 Mon. .  | 6 57 30                      | 8 Mar. (67) .                                                                   | 0 Sat. .  | 123-4535                                        | 3980        |
| 24 Mar. (83) .      | 3 Tues. . | 13 10 0                      | 25 Feb. (56) .                                                                  | 4 Wed. .  | 9999-1368†                                      | 3981        |
| 23 Mar. (83) .      | 4 Wed. .  | 19 22 30                     | 15 Mar. (75) .                                                                  | 3 Tues. . | 33-7764                                         | 3982        |
| 24 Mar. (83) .      | 6 Fri. .  | 1 35 0                       | 5 Mar. (64) .                                                                   | 1 Sun. .  | 248-0917                                        | 3983        |
| 24 Mar. (83) .      | 0 Sat. .  | 7 47 30                      | 24 Mar. (83) .                                                                  | 0 Sat. .  | 282-7313                                        | 3984        |
| 24 Mar. (83) .      | 1 Sun. .  | 14 0 0                       | 13 Mar. (72) .                                                                  | 4 Wed. .  | 158-4147                                        | 3985        |
| 23 Mar. (83) .      | 2 Mon. .  | 20 12 30                     | 1 Mar. (61) .                                                                   | 1 Sun. .  | 34-0980                                         | 3986        |
| 24 Mar. (83) .      | 4 Wed. .  | 2 25 0                       | 20 Mar. (79) .                                                                  | 0 Sat. .  | 68-7377                                         | 3987        |
| 24 Mar. (83) .      | 5 Thur. . | 8 37 30                      | 10 Mar. (69) .                                                                  | 5 Thur. . | 283-0530                                        | 3988        |
| 24 Mar. (83) .      | 6 Fri. .  | 14 50 0                      | 27 Feb. (58) .                                                                  | 2 Mon. .  | 158-7364                                        | 3989        |
| 23 Mar. (83) .      | 0 Sat. .  | 21 2 30                      | 17 Mar. (77) .                                                                  | 1 Sun. .  | 193-3760                                        | 3990        |
| 24 Mar. (83) .      | 2 Mon. .  | 3 15 0                       | 6 Mar. (65) .                                                                   | 5 Thur. . | 69-0594                                         | 3991        |
| 24 Mar. (83) .      | 3 Tues. . | 9 27 30                      | 24 Feb. (55) .                                                                  | 3 Tues. . | 283-3746                                        | 3992        |
| 24 Mar. (83) .      | 4 Wed. .  | 15 40 0                      | 15 Mar. (74) .                                                                  | 2 Mon. .  | 318-0143                                        | 3993        |
| 23 Mar. (83) .      | 5 Thur. . | 21 52 30                     | 3 Mar. (63) .                                                                   | 6 Fri. .  | 193-6976                                        | 3994        |
| 24 Mar. (83) .      | 0 Sat. .  | 4 5 0                        | 22 Mar. (81) .                                                                  | 5 Thur. . | 228-3372                                        | 3995        |

† As a mean tithi Chaitra śukla 1 was suppressed. The civil day corresponding to it, i.e., the first day of the mean luni-solar year, was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |         |                        |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|---------|------------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēhādī solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.     |                     |                                                  |
|                  |       |                    |                                 |         |         | Southern<br>system.    | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                              | 4       | 5       | 6                      | 7                   | 8a                                               |
| 3996             | 817   | 952                | 301                             | 69-70   | 894-95  | 48 Ānanda . . .        |                     | ...                                              |
| 3997             | 818   | 953                | 302                             | 70-71   | 895-96  | 49 Rākshasa . . .      |                     | 7 Āśvina .                                       |
| 3998             | 819   | 954                | 303                             | 71-72   | *896-97 | 50 Anala . . .         |                     | ...                                              |
| 3999             | 820   | 955                | 304                             | 72-73   | 897-98  | 51 Piṅgala . . .       |                     | ...                                              |
| 4000             | 821   | 956                | 305                             | 73-74   | 898-99  | 52 Kālayukta . . .     |                     | 3 Jyēṣṭha .                                      |
| 4001             | 822   | 957                | 306                             | 74-75   | 899-900 | 53 Siddhārthin . . .   |                     | ...                                              |
| 4002             | 823   | 958                | 307                             | 75-76   | *900-01 | 54 Raudra . . .        |                     | 12 Phālguna .                                    |
| 4003             | 824   | 959                | 308                             | 76-77   | 901-02  | 55 Durmati . . .       |                     | ...                                              |
| 4004             | 825   | 960                | 309                             | 77-78   | 902-03  | 56 Dundubhi . . .      |                     | ...                                              |
| 4005             | 826   | 961                | 310                             | 78-79   | 903-04  | 57 Rudhirōdgārin . . . |                     | 9 Mārgaśīra § .                                  |
| 4006             | 827   | 962                | 311                             | 79-80   | *904-05 | 58 Raktākṣaḥ . . .     |                     | ...                                              |
| 4007             | 828   | 963                | 312                             | 80-81   | 905-06  | 59 Krōdhana . . .      | 60 Kṣhaya .         | ...                                              |
| 4008             | 829   | 964                | 313                             | 81-82   | 906-07  | 60 Kṣhayaḥ . . .       | 1 Prabhava .        | 5 Śrāvaṇa .                                      |
| 4009             | 830   | 965                | 314                             | 82-83   | 907-08  | 1 Prabhava . . .       | 2 Vibhava .         | ...                                              |
| 4010             | 831   | 966                | 315                             | 83-84   | *908-09 | 2 Vibhava . . .        | 3 Śukla .           | ...                                              |
| 4011             | 832   | 967                | 316                             | 84-85   | 909-10  | 3 Śukla . . .          | 4 Pramōda .         | 2 Vaiśākha .                                     |
| 4012             | 833   | 968                | 317                             | 85-86   | 910-11  | 4 Pramōda . . .        | 5 Prajāpati .       | ...                                              |
| 4013             | 834   | 969                | 318                             | 86-87   | 911-12  | 5 Prajāpati . . .      | 6 Āngiras .         | 10 Pausa .                                       |
| 4014             | 835   | 970                | 319                             | 87-88   | *912-13 | 6 Āngiras . . .        | 7 Śrīmukha .        | ...                                              |
| 4015             | 836   | 971                | 320                             | 88-89   | 913-14  | 7 Śrīmukha . . .       | 8 Bhāva .           | ...                                              |
| 4016             | 837   | 972                | 321                             | 89-90   | 914-15  | 8 Bhāva . . .          | 9 Yuvan .           | 7 Āśvina .                                       |
| 4017             | 838   | 973                | 322                             | 90-91   | 915-16  | 9 Yuvan . . .          | 10 Dhātṛi .         | ...                                              |
| 4018             | 839   | 974                | 323                             | 91-92   | *916-17 | 10 Dhātṛi . . .        | 11 Īvara .          | ...                                              |
| 4019             | 840   | 975                | 324                             | 92-93   | 917-18  | 11 Īvara . . .         | 12 Bahudhānya .     | 3 Jyēṣṭha .                                      |
| 4020             | 841   | 976                | 325                             | 93-94   | 918-19  | 12 Bahudhānya .        | 13 Pramāthin .      | ...                                              |

† By the mean system 59 Krōdhana was expunged ; by the true system 60 Kahaya was the expunged samvatsara and the year A.D. 905-6 was called "Krodhana."

‡ By southern reckoning there was no suppression after this year

§ By the "Indian Calendar" 8 Kārttika was intercalated.

LXXVI—contd.

1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                                 |            |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|-------------------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                                 | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A. D.                                                            | Week-day.   | $\alpha$ (here = $t$ , the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                              |            |
|                     |             | H. M. S.                      |                                                                                 |             |                                                 |            |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 10 17 30                      | 11 Mar. (70) . . .                                                              | 2 Mon. . .  | 104-0206                                        | 3996       |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 16 30 0                       | 1 Mar. (60) . . .                                                               | 0 Sat. . .  | 318-3359                                        | 3997       |
| 23 Mar. (83) . . .  | 3 Tues. . . | 22 42 30                      | 18 Mar. (78) . . .                                                              | 5 Thur. . . | 14-3436                                         | 3998       |
| 24 Mar. (83) . . .  | 5 Thur. . . | 4 55 0                        | 8 Mar. (67) . . .                                                               | 3 Tues. . . | 228-6589                                        | 3999       |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 11 7 30                       | 25 Feb. (56) . . .                                                              | 0 Sat. . .  | 104-3423                                        | 4000       |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 17 20 0                       | 16 Mar. (75) . . .                                                              | 6 Fri. . .  | 138-9819                                        | 4001       |
| 23 Mar. (83) . . .  | 1 Sun. . .  | 23 32 30                      | 4 Mar. (64) . . .                                                               | 3 Tues. . . | 14-6653                                         | 4002       |
| 24 Mar. (83) . . .  | 3 Tues. . . | 5 45 0                        | 22 Mar. (82) . . .                                                              | 2 Mon. . .  | 49-3049                                         | 4003       |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 11 57 30                      | 13 Mar. (72) . . .                                                              | 0 Sat. . .  | 263-6202                                        | 4004       |
| 24 Mar. (83) . . .  | 5 Thur. . . | 18 10 0                       | 2 Mar. (61) . . .                                                               | 4 Wed. . .  | 139-3034                                        | 4005       |
| 24 Mar. (84) . . .  | 0 Sat. . .  | 0 22 30                       | 20 Mar. (80) . . .                                                              | 3 Tues. . . | 173-9431                                        | 4006       |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 6 35 0                        | 9 Mar. (68) . . .                                                               | 0 Sat. . .  | 49-6264                                         | 4007       |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 12 47 30                      | 27 Feb. (58) . . .                                                              | 5 Thur. . . | 263-9418                                        | 4008       |
| 24 Mar. (83) . . .  | 3 Tues. . . | 19 0 0                        | 18 Mar. (77) . . .                                                              | 4 Wed. . .  | 298-5814                                        | 4009       |
| 24 Mar. (84) . . .  | 5 Thur. . . | 1 12 30                       | 6 Mar. (66) . . .                                                               | 1 Sun. . .  | 174-2647                                        | 4010       |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 7 25 0                        | 23 Feb. (54) . . .                                                              | 5 Thur. . . | 49-9481                                         | 4011       |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 13 37 30                      | 14 Mar. (73) . . .                                                              | 4 Wed. . .  | 84-5878                                         | 4012       |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 19 50 0                       | 4 Mar. (63) . . .                                                               | 2 Mon. . .  | 298-9030                                        | 4013       |
| 24 Mar. (84) . . .  | 3 Tues. . . | 2 2 30                        | 21 Mar. (81) . . .                                                              | 0 Sat. . .  | 9994-9109†                                      | 4014       |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 8 15 0                        | 11 Mar. (70) . . .                                                              | 5 Thur. . . | 209-2259                                        | 4015       |
| 24 Mar. (83) . . .  | 5 Thur. . . | 14 27 30                      | 28 Feb. (59) . . .                                                              | 2 Mon. . .  | 84-9093                                         | 4016       |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 20 40 0                       | 19 Mar. (78) . . .                                                              | 1 Sun. . .  | 119-5490                                        | 4017       |
| 24 Mar. (84) . . .  | 1 Sun. . .  | 2 52 30                       | 7 Mar. (67) . . .                                                               | 5 Thur. . . | 9995-2324†                                      | 4018       |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 9 5 0                         | 25 Feb. (56) . . .                                                              | 3 Tues. . . | 209-5476                                        | 4019       |
| 24 Mar. (83) . . .  | 3 Tues. . . | 15 17 30                      | 16 Mar. (75) . . .                                                              | 2 Mon. . .  | 244-1872                                        | 4020       |

† As a mean tithi Chaitra Sukla 1 was suppressed. The civil day corresponding to it, i.e., the first day of the luni-solar year was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. |       |                   |                                  |         |         |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|-------------------|----------------------------------|---------|---------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chatrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                   |                                  |         |         | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                 | 3a                               | 4       | 5       | 6                   | 7                   | 8a                                               |
| 4021             | 842   | 977               | 326                              | 94-95   | 919-20  | 13 Pramāthin .      | 14 Vikrama .        | 12 Phālguna .                                    |
| 4022             | 843   | 978               | 327                              | 95-96   | *920-21 | 14 Vikrama .        | 15 Vṛiṣha .         | ...                                              |
| 4023             | 844   | 979               | 328                              | 96-97   | 921-22  | 15 Vṛiṣha .         | 16 Chitrabhānu .    | ...                                              |
| 4024             | 845   | 980               | 329                              | 97-98   | 922-23  | 16 Chitrabhānu .    | 17 Subhānu .        | 8 Kārttika .                                     |
| 4025             | 846   | 981               | 330                              | 98-99   | 923-24  | 17 Subhānu .        | 18 Tāraṇa .         | ...                                              |
| 4026             | 847   | 982               | 331                              | 99-00   | *924-25 | 18 Tāraṇa .         | 19 Pārthiva .       | ...                                              |
| 4027             | 848   | 983               | 332                              | 100-01  | 925-26  | 19 Pārthiva .       | 20 Vyaya .          | 5 Śrāvaṇa .                                      |
| 4028             | 849   | 984               | 333                              | 101-02  | 926-27  | 20 Vyaya .          | 21 Sarvajit .       | ...                                              |
| 4029             | 850   | 985               | 334                              | 102-03  | 927-28  | 21 Sarvajit .       | 22 Sarvadhārin .    | ...                                              |
| 4030             | 851   | 986               | 335                              | 103-04  | *928-29 | 22 Sarvadhārin .    | 23 Virōdhin .       | 1 Chaitra .                                      |
| 4031             | 852   | 987               | 336                              | 104-05  | 929-30  | 23 Virōdhin .       | 24 Vikṛita .        | ...                                              |
| 4032             | 853   | 988               | 337                              | 105-06  | 930-31  | 24 Vikṛita .        | 25 Khara .          | 10 Pausha .                                      |
| 4033             | 854   | 989               | 338                              | 106-07  | 931-32  | 25 Khara .          | 26 Nandana .        | ...                                              |
| 4034             | 855   | 990               | 339                              | 107-08  | *932-33 | 26 Nandana .        | 27 Vijaya .         | ...                                              |
| 4035             | 856   | 991               | 340                              | 108-09  | 933-34  | 27 Vijaya .         | 28 Jaya .           | 6 Bhādrapada .                                   |
| 4036             | 857   | 992               | 341                              | 109-10  | 934-35  | 28 Jaya .           | 29 Manmatha .       | ...                                              |
| 4037             | 858   | 993               | 342                              | 110-11  | 935-36  | 29 Manmatha .       | 30 Durmukha .       | ...                                              |
| 4038             | 859   | 994               | 343                              | 111-12  | *936-37 | 30 Durmukha .       | 31 Hēmalamba .      | 3 Jyēṣṭha .                                      |
| 4039             | 860   | 995               | 344                              | 112-13  | 937-38  | 31 Hēmalamba .      | 32 Vilamba .        | ...                                              |
| 4040             | 861   | 996               | 345                              | 113-14  | 938-39  | 32 Vilamba .        | 33 Vikārin .        | 11 Māgha .                                       |
| 4041             | 862   | 997               | 346                              | 114-15  | 939-40  | 33 Vikārin .        | 34 Śārvarin .       | ...                                              |
| 4042             | 863   | 998               | 347                              | 115-16  | *940-41 | 34 Śārvarin .       | 35 Plava .          | ...                                              |
| 4043             | 864   | 999               | 348                              | 116-17  | 941-42  | 35 Plava .          | 36 Subhakrit .      | 8 Kārttika .                                     |
| 4044             | 865   | 1000              | 349                              | 117-18  | 942-43  | 36 Subhakrit .      | 37 Śobhana .        | ...                                              |
| 4045             | 866   | 1001              | 350                              | 118-19  | 943-44  | 37 Śobhana .        | 38 Krōdhin .        | ...                                              |

LXXVI—contd.

1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                     |            |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|-------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN-SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                     | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | a (here=t, the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                  |            |
|                     |             | H. M. S.                      |                                                                                 |             |                                     |            |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 21 30 0                       | 5 Mar. (84) . . .                                                               | 6 Fri. . .  | 119-8706                            | 4021       |
| 24 Mar. (84) . . .  | 6 Fri. . .  | 3 42 30                       | 23 Mar. (83) . . .                                                              | 5 Thur. . . | 154-5102                            | 4022       |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 9 55 0                        | 12 Mar. (71) . . .                                                              | 2 Mon. . .  | 30-1936                             | 4023       |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 16 7 30                       | 2 Mar. (61) . . .                                                               | 0 Sat. . .  | 244-5089                            | 4024       |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 22 20 0                       | 21 Mar. (80) . . .                                                              | 6 Fri. . .  | 279-1485                            | 4025       |
| 24 Mar. (84) . . .  | 4 Wed. . .  | 4 32 30                       | 9 Mar. (69) . . .                                                               | 3 Tues. . . | 154-8319                            | 4026       |
| 24 Mar. (83) . . .  | 5 Thur. . . | 10 45 0                       | 26 Feb. (57) . . .                                                              | 0 Sat. . .  | 30-5153                             | 4027       |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 16 57 30                      | 17 Mar. (76) . . .                                                              | 6 Fri. . .  | 65-1549                             | 4028       |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 23 10 0                       | 7 Mar. (66) . . .                                                               | 4 Wed. . .  | 279-4701                            | 4029       |
| 24 Mar. (84) . . .  | 2 Mon. . .  | 5 22 30                       | 24 Feb. (55) . . .                                                              | 1 Sun. . .  | 155-1535                            | 4030       |
| 24 Mar. (83) . . .  | 3 Tues. . . | 11 35 0                       | 14 Mar. (73) . . .                                                              | 0 Sat. . .  | 189-7932                            | 4031       |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 17 47 30                      | 3 Mar. (62) . . .                                                               | 4 Wed. . .  | 65-4765                             | 4032       |
| 25 Mar. (84) . . .  | 6 Fri. . .  | 0 0 0                         | 22 Mar. (81) . . .                                                              | 3 Tues. . . | 100-1162                            | 4033       |
| 24 Mar. (84) . . .  | 0 Sat. . .  | 6 12 30                       | 11 Mar. (71) . . .                                                              | 1 Sun. . .  | 314-4314                            | 4034       |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 12 25 0                       | 28 Feb. (59) . . .                                                              | 5 Thur. . . | 190-1148                            | 4035       |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 18 37 30                      | 19 Mar. (78) . . .                                                              | 4 Wed. . .  | 224-7544                            | 4036       |
| 25 Mar. (84) . . .  | 4 Wed. . .  | 0 50 0                        | 8 Mar. (67) . . .                                                               | 1 Sun. . .  | 190-4378                            | 4037       |
| 24 Mar. (84) . . .  | 5 Thur. . . | 7 2 30                        | 26 Feb. (57) . . .                                                              | 6 Fri. . .  | 314-7531                            | 4038       |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 13 15 0                       | 15 Mar. (74) . . .                                                              | 4 Wed. . .  | 10-7608                             | 4039       |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 19 27 30                      | 5 Mar. (64) . . .                                                               | 2 Mon. . .  | 225-0661                            | 4040       |
| 25 Mar. (84) . . .  | 2 Mon. . .  | 1 40 0                        | 24 Mar. (83) . . .                                                              | 1 Sun. . .  | 259-7156                            | 4041       |
| 24 Mar. (84) . . .  | 3 Tues. . . | 7 52 30                       | 12 Mar. (72) . . .                                                              | 5 Thur. . . | 135-3991                            | 4042       |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 14 5 0                        | 1 Mar. (60) . . .                                                               | 2 Mon. . .  | 11-0825                             | 4043       |
| 24 Mar. (83) . . .  | 5 Thur. . . | 20 17 30                      | 20 Mar. (79) . . .                                                              | 1 Sun. . .  | 45-7222                             | 4044       |
| 25 Mar. (84) . . .  | 0 Sat. . .  | 2 30 0                        | 10 Mar. (69) . . .                                                              | 6 Fri. . .  | 260-0474                            | 4045       |



TABLE

| CONCURRENT YEAR. |       |                       |                                  |         |         |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|-----------------------|----------------------------------|---------|---------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitradi<br>Vikrama. | Mēshadi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                       |                                  |         |         | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                     | 3a                               | 4       | 5       | 6                   | 7                   | 8a                                               |
| 4046             | 867   | 1002                  | 351                              | 119-20  | *944-45 | 38 Krōdhin .        | 39 Viśvāvasu .      | 5 Śrāvaṇa† .                                     |
| 4047             | 868   | 1003                  | 352                              | 120-21  | 945-46  | 39 Viśvāvasu .      | 40 Parābhava .      | ...                                              |
| 4048             | 869   | 1004                  | 353                              | 121-22  | 946-47  | 40 Parābhava .      | 41 Plavaṅga .       | ...                                              |
| 4049             | 870   | 1005                  | 354                              | 122-23  | 947-48  | 41 Plavaṅga .       | 42 Kilaka .         | 1 Chaitra .                                      |
| 4050             | 871   | 1006                  | 355                              | 123-24  | *948-49 | 42 Kilaka .         | 43 Saumya .         | ...                                              |
| 4051             | 872   | 1007                  | 356                              | 124-25  | 949-50  | 43 Saumya .         | 44 Sādhārana .      | 10 Pausa .                                       |
| 4052             | 873   | 1008                  | 357                              | 125-26  | 950-51  | 44 Sādhārana .      | 45 Virōdhakṛit .    | ...                                              |
| 4053             | 874   | 1009                  | 358                              | 126-27  | 951-52  | 45 Virōdhakṛit .    | 46 Paridhāvin .     | ...                                              |
| 4054             | 875   | 1010                  | 359                              | 127-28  | *952-53 | 46 Paridhāvin .     | 47 Pramādin .       | 6 Bhādrapada .                                   |
| 4055             | 876   | 1011                  | 360                              | 128-29  | 953-54  | 47 Pramādin .       | 48 Ānanda .         | ...                                              |
| 4056             | 877   | 1012                  | 361                              | 129-30  | 954-55  | 48 Ānanda .         | 49 Rākshasa .       | ...                                              |
| 4057             | 878   | 1013                  | 362                              | 130-31  | 955-56  | 49 Rākshasa .       | 50 Anala .          | 3 Jyēṣṭha .                                      |
| 4058             | 879   | 1014                  | 363                              | 131-32  | *956-57 | 50 Anala .          | 51 Piṅgala .        | ...                                              |
| 4059             | 880   | 1015                  | 364                              | 132-33  | 957-58  | 51 Piṅgala .        | 52 Kālayukta .      | 11 Māgha .                                       |
| 4060             | 881   | 1016                  | 365                              | 133-34  | 958-59  | 52 Kālayukta .      | 53 Siddhārthin .    | ...                                              |
| 4061             | 882   | 1017                  | 366                              | 134-35  | 959-60  | 53 Siddhārthin .    | 54 Raudra .         | ...                                              |
| 4062             | 883   | 1018                  | 367                              | 135-36  | *960-61 | 54 Raudra .         | 55 Durmati .        | 8 Kārttika .                                     |
| 4063             | 884   | 1019                  | 368                              | 136-37  | 961-62  | 55 Durmati .        | 56 Dundubhi .       | ...                                              |
| 4064             | 885   | 1020                  | 369                              | 137-38  | 962-63  | 56 Dundubhi .       | 57 Rudhirōdgārin .  | ...                                              |
| 4065             | 886   | 1021                  | 370                              | 138-39  | 963-64  | 57 Rudhirōdgārin .  | 58 Raktāksha .      | 4 Āśāḍha .                                       |
| 4066             | 887   | 1022                  | 371                              | 139-40  | *964-65 | 58 Raktāksha .      | 59 Krōdhana .       | ...                                              |
| 4067             | 888   | 1023                  | 372                              | 140-41  | 965-66  | 59 Krōdhana .       | 60 Kshaya .         | ...                                              |
| 4068             | 889   | 1024                  | 373                              | 141-42  | 966-67  | 60 Kshaya .         | 1 Prabhava .        | 1 Chaitra .                                      |
| 4069             | 890   | 1025                  | 374                              | 142-43  | 967-68  | 1 Prabhava .        | 2 Vibhava .         | ...                                              |
| 4070             | 891   | 1026                  | 375                              | 143-44  | *968-69 | 2 Vibhava .         | 3 Sukla .           | 9 Mārgaśīra .                                    |

† By the "Indian Calendar" the intercalated month was 4 Āśāḍha.

LXXVI—*contd.*

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                                     |            |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|-----------------------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                                     | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mōsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | <i>a</i> (here= <i>i</i> , the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                                  | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                                     |            |
| 24 Mar. (84) .      | 1 Sun. .  | 8 42 30                       | 27 Feb. (58) .                                                                  | 3 Tues. . | 135-7207                                            | 4046       |
| 24 Mar. (83) .      | 2 Mon. .  | 14 55 0                       | 17 Mar. (76) .                                                                  | 2 Mon. .  | 170-3803                                            | 4047       |
| 24 Mar. (83) .      | 3 Tues. . | 21 7 30                       | 6 Mar. (65) .                                                                   | 6 Fri. .  | 48-0436                                             | 4048       |
| 25 Mar. (84) .      | 5 Thur. . | 3 20 0                        | 24 Feb. (55) .                                                                  | 4 Wed. .  | 260-3590                                            | 4049       |
| 24 Mar. (84) .      | 6 Fri. .  | 9 32 30                       | 14 Mar. (74) .                                                                  | 3 Tues. . | 294-9986                                            | 4050       |
| 24 Mar. (83) .      | 0 Sat. .  | 15 45 0                       | 3 Mar. (62) .                                                                   | 0 Sat. .  | 170-6819                                            | 4051       |
| 24 Mar. (83) .      | 1 Sun. .  | 21 57 30                      | 22 Mar. (81) .                                                                  | 6 Fri. .  | 205-3216                                            | 4052       |
| 25 Mar. (84) .      | 3 Tues. . | 4 10 0                        | 11 Mar. (70) .                                                                  | 3 Tues. . | 81-0049                                             | 4053       |
| 24 Mar. (84) .      | 4 Wed. .  | 10 22 30                      | 29 Feb. (60) .                                                                  | 1 Sun. .  | 295-3203                                            | 4054       |
| 24 Mar. (83) .      | 5 Thur. . | 16 35 0                       | 19 Mar. (78) .                                                                  | 0 Sat. .  | 329-9599                                            | 4055       |
| 24 Mar. (83) .      | 6 Fri. .  | 22 47 30                      | 8 Mar. (67) .                                                                   | 4 Wed. .  | 205-6432                                            | 4056       |
| 25 Mar. (84) .      | 1 Sun. .  | 5 0 0                         | 25 Feb. (56) .                                                                  | 1 Sun. .  | 81-3266                                             | 4057       |
| 24 Mar. (84) .      | 2 Mon. .  | 11 12 30                      | 15 Mar. (75) .                                                                  | 0 Sat. .  | 115-9662                                            | 4058       |
| 24 Mar. (83) .      | 3 Tues. . | 17 25 0                       | 5 Mar. (64) .                                                                   | 5 Thur. . | 330-2815                                            | 4059       |
| 24 Mar. (83) .      | 4 Wed. .  | 23 37 30                      | 23 Mar. (82) .                                                                  | 3 Tues. . | 26-2892                                             | 4060       |
| 25 Mar. (84) .      | 6 Fri. .  | 5 50 0                        | 13 Mar. (72) .                                                                  | 1 Sun. .  | 240-6045                                            | 4061       |
| 24 Mar. (84) .      | 0 Sat. .  | 12 2 30                       | 1 Mar. (61) .                                                                   | 5 Thur. . | 118-2879                                            | 4062       |
| 24 Mar. (83) .      | 1 Sun. .  | 18 15 0                       | 20 Mar. (79) .                                                                  | 4 Wed. .  | 150-9275                                            | 4063       |
| 25 Mar. (84) .      | 3 Tues. . | 0 27 30                       | 9 Mar. (68) .                                                                   | 1 Sun. .  | 26-6109                                             | 4064       |
| 25 Mar. (84) .      | 4 Wed. .  | 6 40 0                        | 27 Feb. (58) .                                                                  | 6 Fri. .  | 240-9262                                            | 4065       |
| 24 Mar. (84) .      | 5 Thur. . | 12 52 30                      | 17 Mar. (77) .                                                                  | 5 Thur. . | 275-5658                                            | 4066       |
| 24 Mar. (83) .      | 6 Fri. .  | 19 5 0                        | 6 Mar. (65) .                                                                   | 2 Mon. .  | 151-2491                                            | 4067       |
| 25 Mar. (84) .      | 1 Sun. .  | 1 17 30                       | 23 Feb. (54) .                                                                  | 6 Fri. .  | 26-9325                                             | 4068       |
| 25 Mar. (84) .      | 2 Mon. .  | 7 30 0                        | 14 Mar. (73) .                                                                  | 5 Thur. . | 61-5721                                             | 4069       |
| 24 Mar. (84) .      | 3 Tues. . | 13 42 30                      | 3 Mar. (63) .                                                                   | 3 Tues. . | 275-8874                                            | 4070       |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                     |                     | Mean<br>Intercalated<br>(adhikā) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARĀ.  |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                   | 8                   | 3a                                               |
| 4071             | 892   | 1027               | 376                              | 144.45  | 989.70  | 3 Sukla . .         | 4 Pramōda .         | ...                                              |
| 4072             | 893   | 1028               | 377                              | 145.46  | 970.71  | 4 Pramōda . .       | 5 Prajāpati .       | ...                                              |
| 4073             | 894   | 1029               | 378                              | 146.47  | 971.72  | 5 Prajāpati . .     | 6 Āngiras . .       | 6 Bhādrapada                                     |
| 4074             | 895   | 1030               | 379                              | 147.48  | *972.73 | 6 Āngiras . .       | 7 Śrīmukha .        | ...                                              |
| 4075             | 896   | 1031               | 380                              | 148.49  | 973.74  | 7 Śrīmukha . .      | 8 Bhāva . .         | ...                                              |
| 4076             | 897   | 1032               | 381                              | 149.50  | 974.75  | 8 Bhāva . .         | 9 Yuvaṇ . .         | 2 Vaiśākha .                                     |
| 4077             | 898   | 1033               | 382                              | 150.51  | 975.76  | 9 Yuvaṇ . .         | 10 Dhātṛi . .       | ...                                              |
| 4078             | 899   | 1034               | 383                              | 151.52  | *976.77 | 10 Dhātṛi . .       | 11 Īvara . .        | 11 Māgha .                                       |
| 4079             | 900   | 1035               | 384                              | 152.53  | 977.78  | 11 Īvara . .        | 12 Bahudhānya .     | ...                                              |
| 4080             | 901   | 1036               | 385                              | 153.54  | 978.79  | 12 Bahudhānya .     | 13 Pramāthin .      | ...                                              |
| 4081             | 902   | 1037               | 386                              | 154.55  | 979.80  | 13 Pramāthin .      | 14 Vikrama . .      | 8 Kārttika † .                                   |
| 4082             | 903   | 1038               | 387                              | 155.56  | *980.81 | 14 Vikrama . .      | 15 Vṛisha . .       | ...                                              |
| 4083             | 904   | 1039               | 388                              | 156.57  | 981.82  | 15 Vṛisha . .       | 16 Chitrabhānu .    | ...                                              |
| 4084             | 905   | 1040               | 389                              | 157.58  | 982.83  | 16 Chitrabhānu .    | 17 Subhānu . .      | 4 Āshādha .                                      |
| 4085             | 906   | 1041               | 390                              | 158.59  | 983.84  | 17 Subhānu . .      | 18 Tārāṇa . .       | ...                                              |
| 4086             | 907   | 1042               | 391                              | 159.60  | *984.85 | 18 Tārāṇa . .       | 19 Pārthiva . .     | ...                                              |
| 4087             | 908   | 1043               | 392                              | 160.61  | 985.86  | 19 Pārthiva . .     | 20 Vyaya . .        | 1 Chaitra .                                      |
| 4088             | 909   | 1044               | 393                              | 161.62  | 986.87  | 20 Vyaya . .        | 21 Sarvajit . .     | ...                                              |
| 4089             | 910   | 1045               | 394                              | 162.63  | 987.88  | 21 Sarvajit . .     | 22 Sarvadhārin .    | 9 Mārgasīra .                                    |
| 4090             | 911   | 1046               | 395                              | 163.64  | *988.89 | 22 Sarvadhārin .    | 23 Virōdhin . .     | ...                                              |
| 4091             | 912   | 1047               | 396                              | 164.65  | 989.90  | 23 Virōdhin . .     | 24 Vikṛita † .      | ...                                              |
| 4092             | 913   | 1048               | 397                              | 165.66  | 990.91  | 24 Vikṛita . .      | 26 Nandana . .      | 6 Bhādrapada                                     |
| 4093             | 914   | 1049               | 398                              | 166.67  | 991.92  | 25 Khara . .        | 27 Vijaya . .       | ...                                              |
| 4094             | 915   | 1050               | 399                              | 167.68  | *992.93 | 26 Nandana . .      | 28 Jaya . .         | ...                                              |
| 4095             | 916   | 1051               | 400                              | 168.69  | 993.94  | 27 Vijaya . .       | 29 Manmatha .       | 2 Vaiśākha .                                     |

† By the "Indian Calendar" 7 Āsvina was intercalated.

† 26 Khara was expunged in the north by the mean system, but 26 Nandana by the true system. By the true system the year A.D. 990-91 was, in the north, called "Khara."

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1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                     |            |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|-------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                     | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | a (here=t, the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                  | 1          |
|                     |             | H. M. S.                      |                                                                                 |             |                                     |            |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 19 55 0                       | 22 Mar. (81) . . .                                                              | 2 Mon. . .  | 310-5271                            | 4071       |
| 25 Mar. (84) . . .  | 6 Fri. . .  | 2 7 30                        | 11 Mar. (70) . . .                                                              | 6 Fri. . .  | 186-2104                            | 4072       |
| 25 Mar. (84) . . .  | 0 Sat. . .  | 8 20 0                        | 28 Feb. (59) . . .                                                              | 3 Tues. . . | 61-8939                             | 4073       |
| 24 Mar. (84) . . .  | 1 Sun. . .  | 14 32 30                      | 18 Mar. (78) . . .                                                              | 2 Mon. . .  | 96-5335                             | 4074       |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 20 45 0                       | 8 Mar. (67) . . .                                                               | 0 Sat. . .  | 310-8487                            | 4075       |
| 25 Mar. (84) . . .  | 4 Wed. . .  | 2 57 30                       | 25 Feb. (56) . . .                                                              | 4 Wed. . .  | 186-5321                            | 4076       |
| 25 Mar. (84) . . .  | 5 Thur. . . | 9 10 0                        | 16 Mar. (75) . . .                                                              | 3 Tues. . . | 221-1716                            | 4077       |
| 24 Mar. (84) . . .  | 6 Fri. . .  | 15 22 30                      | 4 Mar. (64) . . .                                                               | 0 Sat. . .  | 96-8550                             | 4078       |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 21 35 0                       | 23 Mar. (82) . . .                                                              | 6 Fri. . .  | 131-4946                            | 4079       |
| 25 Mar. (84) . . .  | 2 Mon. . .  | 3 47 30                       | 12 Mar. (71) . . .                                                              | 3 Tues. . . | 7-1781                              | 4080       |
| 25 Mar. (84) . . .  | 3 Tues. . . | 10 0 0                        | 2 Mar. (61) . . .                                                               | 1 Sun. . .  | 221-4933                            | 4081       |
| 24 Mar. (84) . . .  | 4 Wed. . .  | 16 12 30                      | 20 Mar. (80) . . .                                                              | 0 Sat. . .  | 256-1329                            | 4082       |
| 24 Mar. (83) . . .  | 5 Thur. . . | 22 25 0                       | 9 Mar. (68) . . .                                                               | 4 Wed. . .  | 131-8163                            | 4083       |
| 25 Mar. (84) . . .  | 0 Sat. . .  | 4 37 30                       | 26 Feb. (57) . . .                                                              | 1 Sun. . .  | 7-4998                              | 4084       |
| 25 Mar. (84) . . .  | 1 Sun. . .  | 10 50 0                       | 17 Mar. (76) . . .                                                              | 0 Sat. . .  | 41-1393                             | 4085       |
| 24 Mar. (84) . . .  | 2 Mon. . .  | 17 2 30                       | 6 Mar. (66) . . .                                                               | 5 Thur. . . | 256-4546                            | 4086       |
| 24 Mar. (83) . . .  | 3 Tues. . . | 23 15 0                       | 23 Feb. (54) . . .                                                              | 2 Mon. . .  | 132-1379                            | 4087       |
| 25 Mar. (84) . . .  | 5 Thur. . . | 5 27 30                       | 14 Mar. (73) . . .                                                              | 1 Sun. . .  | 166-7776                            | 4088       |
| 25 Mar. (84) . . .  | 6 Fri. . .  | 11 40 0                       | 3 Mar. (62) . . .                                                               | 5 Thur. . . | 42-4610                             | 4089       |
| 24 Mar. (84) . . .  | 0 Sat. . .  | 17 52 30                      | 21 Mar. (81) . . .                                                              | 4 Wed. . .  | 77-1006                             | 4090       |
| 25 Mar. (84) . . .  | 2 Mon. . .  | 0 5 0                         | 11 Mar. (70) . . .                                                              | 2 Mon. . .  | 291-4158                            | 4091       |
| 25 Mar. (84) . . .  | 3 Tues. . . | 6 17 30                       | 28 Feb. (59) . . .                                                              | 6 Fri. . .  | 167-0992                            | 4092       |
| 25 Mar. (84) . . .  | 4 Wed. . .  | 12 30 0                       | 19 Mar. (78) . . .                                                              | 5 Thur. . . | 201-7389                            | 4093       |
| 24 Mar. (84) . . .  | 5 Thur. . . | 18 42 30                      | 7 Mar. (67) . . .                                                               | 2 Mon. . .  | 77-4222                             | 4094       |
| 25 Mar. (84) . . .  | 0 Sat. . .  | 0 55 0                        | 25 Feb. (56) . . .                                                              | 0 Sat. . .  | 291-7375                            | 4095       |

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māhādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATARA.   |                     |                                                  |
|                  |       |                    |                                 |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                              | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4096             | 917   | 1052               | 401                             | 169-70  | 994-95   | 28 Jaya . .         | 30 Durmukha .       | ...                                              |
| 4097             | 918   | 1053               | 402                             | 170-71  | 995-96   | 29 Manmatha .       | 31 Hāmāmba .        | 11 Māgha .                                       |
| 4098             | 919   | 1054               | 403                             | 171-72  | *996-97  | 30 Durmukha .       | 32 Vilamba .        | ...                                              |
| 4099             | 920   | 1055               | 404                             | 172-73  | 997-98   | 31 Hāmāmba .        | 33 Vikārin .        | ...                                              |
| 4100             | 921   | 1056               | 405                             | 173-74  | 998-99   | 32 Vilamba .        | 34 Śārvarin .       | 7 Āsvina .                                       |
| 4101             | 922   | 1057               | 406                             | 174-75  | 999-000  | 33 Vikārin .        | 35 Plava . .        | ...                                              |
| 4102             | 923   | 1058               | 407                             | 175-76  | *1000-01 | 34 Śārvarin .       | 36 Subhakṛit .      | ...                                              |
| 4103             | 924   | 1059               | 408                             | 176-77  | 1001-02  | 35 Plava . .        | 37 Śobhana .        | 4 Āshāḍha .                                      |
| 4104             | 925   | 1060               | 409                             | 177-78  | 1002-03  | 36 Subhakṛit .      | 38 Krōdhin .        | ...                                              |
| 4105             | 926   | 1061               | 410                             | 178-79  | 1003-04  | 37 Śobhana .        | 39 Viśvāvasu .      | 12 Phālguna .                                    |
| 4106             | 927   | 1062               | 411                             | 179-80  | *1004-05 | 38 Krōdhin .        | 40 Parābhava .      | ...                                              |
| 4107             | 928   | 1063               | 412                             | 180-81  | 1005-06  | 39 Viśvāvasu .      | 41 Plavaṅga .       | ...                                              |
| 4108             | 929   | 1064               | 413                             | 181-82  | 1006-07  | 40 Parābhava .      | 42 Kṛlaka . .       | 9 Mārgaśīra .                                    |
| 4109             | 930   | 1065               | 414                             | 182-83  | 1007-08  | 41 Plavaṅga .       | 43 Saumya .         | ...                                              |
| 4110             | 931   | 1066               | 415                             | 183-84  | *1008-09 | 42 Kṛlaka . .       | 44 Sādhāraṇa .      | ...                                              |
| 4111             | 932   | 1067               | 416                             | 184-85  | 1009-10  | 43 Saumya .         | 45 Virōdhakṛit .    | 5 Śrāvaṇa .                                      |
| 4112             | 933   | 1068               | 417                             | 185-86  | 1010-11  | 44 Sādhāraṇa .      | 46 Paridhāvin .     | ...                                              |
| 4113             | 934   | 1069               | 418                             | 186-87  | 1011-12  | 45 Virōdhakṛit .    | 47 Pramādin .       | ...                                              |
| 4114             | 935   | 1070               | 419                             | 187-88  | *1012-13 | 46 Paridhāvin .     | 48 Ānanda .         | 2 Vaiśākha .                                     |
| 4115             | 936   | 1071               | 420                             | 188-89  | 1013-14  | 47 Pramādin .       | 49 Rākhaṣa .        | ...                                              |
| 4116             | 937   | 1072               | 421                             | 189-90  | 1014-15  | 48 Ānanda .         | 50 Anala . .        | 10 Pausa .                                       |
| 4117             | 938   | 1073               | 422                             | 190-91  | 1015-16  | 49 Rākhaṣa .        | 51 Piṅgala .        | ...                                              |
| 4118             | 939   | 1074               | 423                             | 191-92  | *1016-17 | 50 Anala . .        | 52 Kālayukta .      | ...                                              |
| 4119             | 940   | 1075               | 424                             | 192-93  | 1017-18  | 51 Piṅgala .        | 53 Siddhārthin .    | 7 Āsvina .                                       |
| 4120             | 941   | 1076               | 425                             | 193-94  | 1018-19  | 52 Kālayukta .      | 54 Raudra . .       | ...                                              |

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1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                              |                                                                                 |           |                                     |            |
|---------------------|-----------|------------------------------|---------------------------------------------------------------------------------|-----------|-------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                              | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |                                     | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mésa-samkrānti. | Day and month, A.D.                                                             | Week-day. | s (here=t, the index of the tithi). |            |
| 13                  | 14        | 17                           | 19                                                                              | 20        | 23                                  |            |
|                     |           | H. M. S.                     |                                                                                 |           |                                     |            |
| 25 Mar. (84) .      | 1 Sun. .  | 7 7 30                       | 16 Mar. (75) .                                                                  | 5 Fri. .  | 326-2771                            | 4096       |
| 25 Mar. (84) .      | 2 Mon. .  | 13 20 0                      | 5 Mar. (64) .                                                                   | 3 Tues. . | 202-0805                            | 4097       |
| 24 Mar. (84) .      | 3 Tues. . | 19 32 30                     | 23 Mar. (83) .                                                                  | 2 Mon. .  | 236-7001                            | 4098       |
| 25 Mar. (84) .      | 5 Thur. . | 1 45 0                       | 12 Mar. (71) .                                                                  | 6 Fri. .  | 112-3835                            | 4099       |
| 25 Mar. (84) .      | 6 Fri. .  | 7 57 30                      | 2 Mar. (61) .                                                                   | 4 Wed. .  | 326-6988                            | 4100       |
| 25 Mar. (84) .      | 0 Sat. .  | 14 10 0                      | 20 Mar. (79) .                                                                  | 2 Mon. .  | 22-7065                             | 4101       |
| 24 Mar. (84) .      | 1 Sun. .  | 20 22 30                     | 9 Mar. (69) .                                                                   | 0 Sat. .  | 237-0218                            | 4102       |
| 25 Mar. (84) .      | 3 Tues. . | 2 35 0                       | 23 Feb. (57) .                                                                  | 4 Wed. .  | 112-7052                            | 4103       |
| 25 Mar. (84) .      | 4 Wed. .  | 8 47 30                      | 17 Mar. (76) .                                                                  | 3 Tues. . | 147-2448                            | 4104       |
| 25 Mar. (84) .      | 5 Thur. . | 15 0 0                       | 6 Mar. (66) .                                                                   | 0 Sat. .  | 23-0272                             | 4105       |
| 24 Mar. (84) .      | 6 Fri. .  | 21 12 30                     | 24 Mar. (84) .                                                                  | 6 Fri. .  | 57-6667                             | 4106       |
| 25 Mar. (84) .      | 1 Sun. .  | 3 25 0                       | 14 Mar. (73) .                                                                  | 4 Wed. .  | 271-9631                            | 4107       |
| 25 Mar. (84) .      | 2 Mon. .  | 9 37 30                      | 3 Mar. (62) .                                                                   | 1 Sun. .  | 147-6685                            | 4108       |
| 25 Mar. (84) .      | 3 Tues. . | 15 50 0                      | 22 Mar. (81) .                                                                  | 0 Sat. .  | 182-3061                            | 4109       |
| 24 Mar. (84) .      | 4 Wed. .  | 22 2 30                      | 10 Mar. (70) .                                                                  | 4 Wed. .  | 57-9894                             | 4110       |
| 25 Mar. (84) .      | 6 Fri. .  | 4 15 0                       | 28 Feb. (59) .                                                                  | 2 Mon. .  | 272-3047                            | 4111       |
| 25 Mar. (84) .      | 0 Sat. .  | 10 27 30                     | 19 Mar. (78) .                                                                  | 1 Sun. .  | 306-9444                            | 4112       |
| 25 Mar. (84) .      | 1 Sun. .  | 16 40 0                      | 8 Mar. (67) .                                                                   | 5 Thur. . | 183-6277                            | 4113       |
| 24 Mar. (84) .      | 2 Mon. .  | 22 52 30                     | 25 Feb. (58) .                                                                  | 2 Mon. .  | 58-3111                             | 4114       |
| 25 Mar. (84) .      | 4 Wed. .  | 5 5 0                        | 15 Mar. (74) .                                                                  | 1 Sun. .  | 92-9507                             | 4115       |
| 25 Mar. (84) .      | 5 Thur. . | 11 17 30                     | 5 Mar. (64) .                                                                   | 6 Fri. .  | 397-2659                            | 4116       |
| 25 Mar. (84) .      | 6 Fri. .  | 17 30 0                      | 23 Mar. (82) .                                                                  | 4 Wed. .  | 3-2737                              | 4117       |
| 24 Mar. (84) .      | 0 Sat. .  | 23 42 30                     | 12 Mar. (72) .                                                                  | 2 Mon. .  | 217-5890                            | 4118       |
| 25 Mar. (84) .      | 2 Mon. .  | 5 55 0                       | 1 Mar. (60) .                                                                   | 6 Fri. .  | 93-2723                             | 4119       |
| 25 Mar. (84) .      | 3 Tues. . | 12 7 30                      | 20 Mar. (79) .                                                                  | 5 Thur. . | 127-9119                            | 4120       |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māghādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SĀMVATARA.   |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4121             | 942   | 1077               | 426                              | 194-95  | 1019-20  | 53 Siddhārthin .    | 55 Durmati .        | ...                                              |
| 4122             | 943   | 1078               | 427                              | 195-96  | *1020-21 | 54 Raudra .         | 56 Dundubhi .       | 4 Āshāḍha ‡ .                                    |
| 4123             | 944   | 1079               | 428                              | 196-97  | 1021-22  | 55 Durmati .        | 57 Rudhirōdgārin    | ...                                              |
| 4124             | 945   | 1080               | 429                              | 197-98  | 1022-23  | 56 Dundubhi .       | 58 Raktāksha .      | 12 Phālguna .                                    |
| 4125             | 946   | 1081               | 430                              | 198-99  | 1023-24  | 57 Rudhirōdgārin    | 59 Krōdhana .       | ...                                              |
| 4126             | 947   | 1082               | 431                              | 199-00  | *1024-25 | 58 Raktāksha .      | 60 Kahaya .         | ...                                              |
| 4127             | 948   | 1083               | 432                              | 200-01  | 1025-26  | 59 Krōdhana .       | 1 Prabhava .        | 9 Mārgaśīra .                                    |
| 4128             | 949   | 1084               | 433                              | 201-02  | 1026-27  | 60 Kahaya .         | 2 Vibhava .         | ...                                              |
| 4129             | 950   | 1085               | 434                              | 202-03  | 1027-28  | 1 Prabhava .        | 3 Śukla .           | ...                                              |
| 4130             | 951   | 1086               | 435                              | 203-04  | *1028-29 | 2 Vibhava .         | 4 Pramōda .         | 5 Śrāvaṇa .                                      |
| 4131             | 952   | 1087               | 436                              | 204-05  | 1029-30  | 3 Śukla .           | 5 Prajāpati .       | ...                                              |
| 4132             | 953   | 1088               | 437                              | 205-06  | 1030-31  | 4 Pramōda .         | 6 Āngiras .         | ...                                              |
| 4133             | 954   | 1089               | 438                              | 206-07  | 1031-32  | 5 Prajāpati .       | 7 Śrīmukha .        | 2 Vaiśākha .                                     |
| 4134             | 955   | 1090               | 439                              | 207-08  | *1032-33 | 6 Āngiras .         | 8 Bhāva .           | ...                                              |
| 4135             | 956   | 1091               | 440                              | 208-09  | 1033-34  | 7 Śrīmukha .        | 9 Yuvan .           | 10 Pausa .                                       |
| 4136             | 957   | 1092               | 441                              | 209-10  | 1034-35  | 8 Bhāva .           | 10 Dhātṛi .         | ...                                              |
| 4137             | 958   | 1093               | 442                              | 210-11  | 1035-36  | 9 Yuvan .           | 11 Ívara .          | ...                                              |
| 4138             | 959   | 1094               | 443                              | 211-12  | *1036-37 | 10 Dhātṛi .         | 12 Bahudhānya .     | 7 Āśvina .                                       |
| 4139             | 960   | 1095               | 444                              | 212-13  | 1037-38  | 11 Ívara .          | 13 Pramāthin .      | ...                                              |
| 4140             | 961   | 1096               | 445                              | 213-14  | 1038-39  | 12 Bahudhānya .     | 14 Vikrama .        | ...                                              |
| 4141             | 962   | 1097               | 446                              | 214-15  | 1039-40  | 13 Pramāthin .      | 15 Vṛiṣha .         | 3 Jyēṣṭha .                                      |
| 4142             | 963   | 1098               | 447                              | 215-16  | *1040-41 | 14 Vikrama .        | 16 Chitrabhānu .    | ...                                              |
| 4143             | 964   | 1099               | 448                              | 216-17  | 1041-42  | 15 Vṛiṣha .         | 17 Subhānu .        | 12 Phālguna .                                    |
| 4144             | 965   | 1100               | 449                              | 217-18  | 1042-43  | 16 Chitrabhānu .    | 18 Tārava .         | ...                                              |
| 4145             | 966   | 1101               | 450                              | 218-19  | 1043-44  | 17 Subhānu .        | 19 Pārthiva .       | ...                                              |

‡ By the "Indian Calendar" 3 Jyēṣṭha was intercalated.

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1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                           |            |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|-------------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                           | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | $a$ (here= $t$ , the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                        | 1          |
|                     |             | H. M. S.                      |                                                                                 |             |                                           |            |
| 25 Mar. (84) . .    | 4 Wed. . .  | 18 20 0                       | 9 Mar. (88) . .                                                                 | 2 Mon. . .  | 3-5953                                    | 4121       |
| 25 Mar. (85) . .    | 6 Fri. . .  | 0 32 30                       | 27 Feb. (58) . .                                                                | 0 Sat. . .  | 217-8106                                  | 4122       |
| 25 Mar. (84) . .    | 0 Sat. . .  | 6 45 0                        | 17 Mar. (76) . .                                                                | 6 Fri. . .  | 252-5502                                  | 4123       |
| 25 Mar. (84) . .    | 1 Sun. . .  | 12 57 30                      | 6 Mar. (65) . .                                                                 | 3 Tues. . . | 128-2336                                  | 4124       |
| 25 Mar. (84) . .    | 2 Mon. . .  | 19 10 0                       | 25 Mar. (84) . .                                                                | 2 Mon. . .  | 162-8732                                  | 4125       |
| 25 Mar. (85) . .    | 4 Wed. . .  | 1 22 30                       | 13 Mar. (73) . .                                                                | 6 Fri. . .  | 38-5566                                   | 4126       |
| 25 Mar. (84) . .    | 5 Thur. . . | 7 35 0                        | 3 Mar. (62) . .                                                                 | 4 Wed. . .  | 252-8719                                  | 4127       |
| 25 Mar. (84) . .    | 6 Fri. . .  | 13 47 30                      | 22 Mar. (81) . .                                                                | 3 Tues. . . | 287-5115                                  | 4128       |
| 25 Mar. (84) . .    | 0 Sat. . .  | 20 0 0                        | 11 Mar. (70) . .                                                                | 0 Sat. . .  | 163-1948                                  | 4129       |
| 25 Mar. (85) . .    | 2 Mon. . .  | 2 12 30                       | 28 Feb. (59) . .                                                                | 4 Wed. . .  | 38-8782                                   | 4130       |
| 25 Mar. (84) . .    | 3 Tues. . . | 8 25 0                        | 18 Mar. (77) . .                                                                | 3 Tues. . . | 73-5179                                   | 4131       |
| 25 Mar. (84) . .    | 4 Wed. . .  | 14 37 30                      | 8 Mar. (67) . .                                                                 | 1 Sun. . .  | 287-8331                                  | 4132       |
| 25 Mar. (84) . .    | 5 Thur. . . | 20 50 0                       | 25 Feb. (56) . .                                                                | 5 Thur. . . | 163-5165                                  | 4133       |
| 25 Mar. (85) . .    | 0 Sat. . .  | 3 2 30                        | 15 Mar. (75) . .                                                                | 4 Wed. . .  | 198-1561                                  | 4134       |
| 25 Mar. (84) . .    | 1 Sun. . .  | 9 15 0                        | 4 Mar. (63) . .                                                                 | 1 Sun. . .  | 73-8395                                   | 4135       |
| 25 Mar. (84) . .    | 2 Mon. . .  | 15 27 30                      | 23 Mar. (82) . .                                                                | 0 Sat. . .  | 108-4791                                  | 4136       |
| 25 Mar. (84) . .    | 3 Tues. . . | 21 40 0                       | 13 Mar. (72) . .                                                                | 5 Thur. . . | 322-7944                                  | 4137       |
| 25 Mar. (85) . .    | 5 Thur. . . | 3 52 30                       | 1 Mar. (61) . .                                                                 | 2 Mon. . .  | 198-4778                                  | 4138       |
| 25 Mar. (84) . .    | 6 Fri. . .  | 10 5 0                        | 20 Mar. (79) . .                                                                | 1 Sun. . .  | 233-1174                                  | 4139       |
| 25 Mar. (84) . .    | 0 Sat. . .  | 16 17 30                      | 9 Mar. (68) . .                                                                 | 5 Thur. . . | 108-8008                                  | 4140       |
| 25 Mar. (84) . .    | 1 Sun. . .  | 22 30 0                       | 27 Feb. (58) . .                                                                | 3 Tues. . . | 323-1161                                  | 4141       |
| 25 Mar. (85) . .    | 3 Tues. . . | 4 42 30                       | 16 Mar. (76) . .                                                                | 1 Sun. . .  | 19-1238                                   | 4142       |
| 25 Mar. (84) . .    | 4 Wed. . .  | 10 55 0                       | 6 Mar. (65) . .                                                                 | 6 Fri. . .  | 233-4391                                  | 4143       |
| 25 Mar. (84) . .    | 5 Thur. . . | 17 7 30                       | 25 Mar. (84) . .                                                                | 5 Thur. . . | 208-0787                                  | 4144       |
| 25 Mar. (84) . .    | 6 Fri. . .  | 23 20 0                       | 14 Mar. (73) . .                                                                | 2 Mon. . .  | 143-7631                                  | 4145       |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSAHA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4146             | 967   | 1102               | 451                              | 219-20  | *1044-45 | 18 Tārāṇa .         | 20 Vyaya .          | 8 Kārttika .                                     |
| 4147             | 968   | 1103               | 452                              | 220-21  | 1045-46  | 19 Pārthiva .       | 21 Sarvajit .       | ...                                              |
| 4148             | 969   | 1104               | 453                              | 221-22  | 1046-47  | 20 Vyaya .          | 22 Sarvadhārin .    | ...                                              |
| 4149             | 970   | 1105               | 454                              | 222-23  | 1047-48  | 21 Sarvajit .       | 23 Virōdhin .       | 5 Śrāvāṇa .                                      |
| 4150             | 971   | 1106               | 455                              | 223-24  | *1048-49 | 22 Sarvadhārin .    | 24 Vikṛita .        | ...                                              |
| 4151             | 972   | 1107               | 456                              | 224-25  | 1049-50  | 23 Virōdhin .       | 25 Khara .          | ...                                              |
| 4152             | 973   | 1108               | 457                              | 225-26  | 1050-51  | 24 Vikṛita .        | 26 Nandana .        | 1 Chaitra .                                      |
| 4153             | 974   | 1109               | 458                              | 226-27  | 1051-52  | 25 Khara .          | 27 Vijaya .         | ...                                              |
| 4154             | 975   | 1110               | 459                              | 227-28  | *1052-53 | 26 Nandana .        | 28 Jaya .           | 10 Pausa .                                       |
| 4155             | 976   | 1111               | 460                              | 228-29  | 1053-54  | 27 Vijaya .         | 29 Manmatha .       | ...                                              |
| 4156             | 977   | 1112               | 461                              | 229-30  | 1054-55  | 28 Jaya .           | 30 Durmukha .       | ...                                              |
| 4157             | 978   | 1113               | 462                              | 230-31  | 1055-56  | 29 Manmatha .       | 31 Hēmalamba .      | 7 Āśvina† .                                      |
| 4158             | 979   | 1114               | 463                              | 231-32  | *1056-57 | 30 Durmukha .       | 32 Vilamba .        | ...                                              |
| 4159             | 980   | 1115               | 464                              | 232-33  | 1057-58  | 31 Hēmalamba .      | 33 Vikārin .        | ...                                              |
| 4160             | 981   | 1116               | 465                              | 233-34  | 1058-59  | 32 Vilamba .        | 34 Śarvarin .       | 3 Jyēṣṭha .                                      |
| 4161             | 982   | 1117               | 466                              | 234-35  | 1059-60  | 33 Vikārin .        | 35 Plava .          | ...                                              |
| 4162             | 983   | 1118               | 467                              | 235-36  | *1060-61 | 34 Śarvarin .       | 36 Subhakṛit .      | 12 Phālguna .                                    |
| 4163             | 984   | 1119               | 468                              | 236-37  | 1061-62  | 35 Plava .          | 37 Śōbhana .        | ...                                              |
| 4164             | 985   | 1120               | 469                              | 237-38  | 1062-63  | 36 Subhakṛit .      | 38 Krōdhin .        | ...                                              |
| 4165             | 986   | 1121               | 470                              | 238-39  | 1063-64  | 37 Śōbhana .        | 39 Viśvāvasu .      | 8 Kārttika .                                     |
| 4166             | 987   | 1122               | 471                              | 239-40  | *1064-65 | 38 Krōdhin .        | 40 Parābhava .      | ...                                              |
| 4167             | 988   | 1123               | 472                              | 240-41  | 1065-66  | 39 Viśvāvasu .      | 41 Plavaṅga .       | ...                                              |
| 4168             | 989   | 1124               | 473                              | 241-42  | 1066-67  | 40 Parābhava .      | 42 Kilaka .         | 5 Śrāvāṇa .                                      |
| 4169             | 990   | 1125               | 474                              | 242-43  | 1067-68  | 41 Plavaṅga .       | 43 Saumya .         | ...                                              |
| 4170             | 991   | 1126               | 475                              | 243-44  | *1068-69 | 42 Kilaka .         | 44 Sādhārana .      | ...                                              |

† By the "Indian Calendar" 6 Bhādrapada was the intercalated month.

LXXVI—Contd.

1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                         |            |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|-----------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |                                         | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | a (here= $t$ , the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                      | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                         |            |
| 25 Mar. (85) . .    | 1 Sun. .  | 5 32 30                       | 2 Mar. (82) . .                                                                 | 6 Fri. .  | 19-4454                                 | 4146       |
| 25 Mar. (84) . .    | 2 Mon. .  | 11 45 0                       | 21 Mar. (80) . .                                                                | 5 Thur. . | 54-0850                                 | 4147       |
| 25 Mar. (84) . .    | 3 Tues. . | 17 57 30                      | 11 Mar. (70) . .                                                                | 3 Tues. . | 268-4003                                | 4148       |
| 26 Mar. (85) . .    | 5 Thur. . | 0 10 0                        | 28 Feb. (59) . .                                                                | 0 Sat. .  | 144-0838                                | 4149       |
| 25 Mar. (85) . .    | 6 Fri. .  | 6 22 30                       | 18 Mar. (78) . .                                                                | 6 Fri. .  | 178-7233                                | 4150       |
| 25 Mar. (84) . .    | 0 Sat. .  | 12 35 0                       | 7 Mar. (66) . .                                                                 | 3 Tues. . | 54-4067                                 | 4151       |
| 25 Mar. (84) . .    | 1 Sun. .  | 18 47 30                      | 25 Feb. (56) . .                                                                | 1 Sun. .  | 268-7219                                | 4152       |
| 26 Mar. (85) . .    | 3 Tues. . | 1 0 0                         | 16 Mar. (75) . .                                                                | 0 Sat. .  | 303-3615                                | 4153       |
| 25 Mar. (85) . .    | 4 Wed. .  | 7 12 30                       | 4 Mar. (64) . .                                                                 | 4 Wed. .  | 179-0449                                | 4154       |
| 25 Mar. (84) . .    | 5 Thur. . | 13 25 0                       | 23 Mar. (82) . .                                                                | 3 Tues. . | 213-6845                                | 4155       |
| 25 Mar. (84) . .    | 6 Fri. .  | 19 37 30                      | 12 Mar. (71) . .                                                                | 0 Sat. .  | 89-3679                                 | 4156       |
| 26 Mar. (85) . .    | 1 Sun. .  | 1 50 0                        | 2 Mar. (61) . .                                                                 | 5 Thur. . | 303-6832                                | 4157       |
| 25 Mar. (85) . .    | 2 Mon. .  | 8 2 30                        | 19 Mar. (79) . .                                                                | 3 Tues. . | 9999-6909 §                             | 4158       |
| 25 Mar. (84) . .    | 3 Tues. . | 14 15 0                       | 9 Mar. (68) . .                                                                 | 1 Sun. .  | 214-0062                                | 4159       |
| 25 Mar. (84) . .    | 4 Wed. .  | 20 27 30                      | 28 Feb. (57) . .                                                                | 5 Thur. . | 89-6896                                 | 4160       |
| 26 Mar. (85) . .    | 6 Fri. .  | 2 40 0                        | 17 Mar. (76) . .                                                                | 4 Wed. .  | 124-3292                                | 4161       |
| 25 Mar. (85) . .    | 0 Sat. .  | 8 52 30                       | 5 Mar. (65) . .                                                                 | 1 Sun. .  | 0-0126                                  | 4162       |
| 25 Mar. (84) . .    | 1 Sun. .  | 15 5 0                        | 24 Mar. (83) . .                                                                | 0 Sat. .  | 34-6522                                 | 4163       |
| 25 Mar. (84) . .    | 2 Mon. .  | 21 17 30                      | 14 Mar. (73) . .                                                                | 5 Thur. . | 248-9675                                | 4164       |
| 26 Mar. (85) . .    | 4 Wed. .  | 3 30 0                        | 3 Mar. (62) . .                                                                 | 2 Mon. .  | 124-6508                                | 4165       |
| 25 Mar. (85) . .    | 5 Thur. . | 9 42 30                       | 21 Mar. (61) . .                                                                | 1 Sun. .  | 159-2908                                | 4166       |
| 25 Mar. (84) . .    | 6 Fri. .  | 15 55 0                       | 10 Mar. (69) . .                                                                | 5 Thur. . | 34-9739                                 | 4167       |
| 25 Mar. (84) . .    | 0 Sat. .  | 22 7 30                       | 28 Feb. (59) . .                                                                | 3 Tues. . | 249-2892                                | 4168       |
| 26 Mar. (85) . .    | 2 Mon. .  | 4 20 0                        | 19 Mar. (78) . .                                                                | 2 Mon. .  | 293-9288                                | 4169       |
| 25 Mar. (85) . .    | 3 Tues. . | 10 32 30                      | 7 Mar. (67) . .                                                                 | 6 Fri. .  | 169-6122                                | 4170       |

§ As a mean tithi Chaitra Sukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the luni-solar year was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollem. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4171             | 992   | 1127               | 476                              | 244-45  | 1069-70  | 43 Saumya .         | 45 Virōdhakṛit .    | 1 Chaitra .                                      |
| 4172             | 993   | 1128               | 477                              | 245-46  | 1070-71  | 44 Sādhāraṇa .      | 46 Paridhāvin .     | ...                                              |
| 4173             | 994   | 1129               | 478                              | 246-47  | 1071-72  | 45 Virōdhakṛit .    | 47 Pramādin .       | 10 Pausa .                                       |
| 4174             | 995   | 1130               | 479                              | 247-48  | *1072-73 | 46 Paridhāvin .     | 48 Ānanda .         | ...                                              |
| 4175             | 996   | 1131               | 480                              | 248-49  | 1073-74  | 47 Pramādin .       | 49 Rākshasa .       | ...                                              |
| 4176             | 997   | 1132               | 481                              | 249-50  | 1074-75  | 48 Ānanda .         | 50 Anala .          | 6 Bhādrapada                                     |
| 4177             | 998   | 1133               | 482                              | 250-51  | 1075-76  | 49 Rākshasa .       | 51 Pingala † .      | ...                                              |
| 4178             | 999   | 1134               | 483                              | 251-52  | *1076-77 | 50 Anala .          | 53 Siddhārthin .    | ...                                              |
| 4179             | 1000  | 1135               | 484                              | 252-53  | 1077-78  | 51 Pingala .        | 54 Raudra .         | 3 Jyēṣṭha .                                      |
| 4180             | 1001  | 1136               | 485                              | 253-54  | 1078-79  | 52 Kālayukta .      | 55 Durmati .        | ...                                              |
| 4181             | 1002  | 1137               | 486                              | 254-55  | 1079-80  | 53 Siddhārthin .    | 56 Dundubhi .       | 11 Māgha .                                       |
| 4182             | 1003  | 1138               | 487                              | 255-56  | *1080-81 | 54 Raudra .         | 57 Rudhirōdgārin .  | ...                                              |
| 4183             | 1004  | 1139               | 488                              | 256-57  | 1081-82  | 55 Durmati .        | 58 Raktāksha .      | ...                                              |
| 4184             | 1005  | 1140               | 489                              | 257-58  | 1082-83  | 56 Dundubhi .       | 59 Krōdhana .       | 8 Kārttika .                                     |
| 4185             | 1006  | 1141               | 490                              | 258-59  | 1083-84  | 57 Rudhirōdgārin .  | 60 Kshaya .         | ...                                              |
| 4186             | 1007  | 1142               | 491                              | 259-60  | *1084-85 | 58 Raktāksha .      | 1 Prabhava .        | ...                                              |
| 4187             | 1008  | 1143               | 492                              | 260-61  | 1085-86  | 59 Krōdhana .       | 2 Vibhava .         | 4 Āshāḍha .                                      |
| 4188             | 1009  | 1144               | 493                              | 261-62  | 1086-87  | 60 Kshaya .         | 3 Sukla .           | ...                                              |
| 4189             | 1010  | 1145               | 494                              | 262-63  | 1087-88  | 1 Prabhava .        | 4 Pramōda .         | ...                                              |
| 4190             | 1011  | 1146               | 495                              | 263-64  | *1088-89 | 2 Vibhava .         | 5 Prajāpati .       | 1 Chaitra .                                      |
| 4191             | 1012  | 1147               | 496                              | 264-65  | 1089-90  | 3 Sukla .           | 6 Āngiras .         | ...                                              |
| 4192             | 1013  | 1148               | 497                              | 265-66  | 1090-91  | 4 Pramōda .         | 7 Śrīmukha .        | 9 Mārgaśīra .                                    |
| 4193             | 1014  | 1149               | 498                              | 266-67  | 1091-92  | 5 Prajāpati .       | 8 Bhāva .           | ...                                              |
| 4194             | 1015  | 1150               | 499                              | 267-68  | *1092-93 | 6 Āngiras .         | 9 Yuvan .           | ...                                              |
| 4195             | 1016  | 1151               | 500                              | 268-69  | 1093-94  | 7 Śrīmukha .        | 10 Dhātṛi .         | 6 Bhādrapada                                     |

† 52 Kālayukta was suppressed in the north.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                     |            |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|-------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SŪKLA 1 ENDS). |             |                                     | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | a (here=t, the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                  |            |
|                     |             | H. M. S.                      |                                                                                 |             |                                     |            |
| 25 Mar. (84) . . .  | 4 Wed. . .  | 16 45 0                       | 24 Feb. (55) . . .                                                              | 3 Tues. . . | 35-2955                             | 4171       |
| 25 Mar. (84) . . .  | 5 Thur. . . | 22 57 30                      | 15 Mar. (74) . . .                                                              | 2 Mon. . .  | 69-9351                             | 4172       |
| 26 Mar. (85) . . .  | 0 Sat. . .  | 5 10 0                        | 5 Mar. (64) . . .                                                               | 0 Sat. . .  | 284-2504                            | 4173       |
| 25 Mar. (85) . . .  | 1 Sun. . .  | 11 22 30                      | 23 Mar. (83) . . .                                                              | 6 Fri. . .  | 318-8901                            | 4174       |
| 25 Mar. (84) . . .  | 2 Mon. . .  | 17 35 0                       | 12 Mar. (71) . . .                                                              | 3 Tues. . . | 194-5734                            | 4175       |
| 25 Mar. (84) . . .  | 3 Tues. . . | 23 47 30                      | 1 Mar. (60) . . .                                                               | 0 Sat. . .  | 70-2568                             | 4176       |
| 26 Mar. (85) . . .  | 5 Thur. . . | 8 0 0                         | 20 Mar. (79) . . .                                                              | 6 Fri. . .  | 104-8964                            | 4177       |
| 25 Mar. (85) . . .  | 6 Fri. . .  | 12 12 30                      | 9 Mar. (69) . . .                                                               | 4 Wed. . .  | 319-2116                            | 4178       |
| 25 Mar. (84) . . .  | 0 Sat. . .  | 18 25 0                       | 26 Feb. (57) . . .                                                              | 1 Sun. . .  | 194-8950                            | 4179       |
| 26 Mar. (85) . . .  | 2 Mon. . .  | 0 37 30                       | 17 Mar. (76) . . .                                                              | 0 Sat. . .  | 229-5347                            | 4180       |
| 26 Mar. (85) . . .  | 3 Tues. . . | 6 50 0                        | 6 Mar. (85) . . .                                                               | 4 Wed. . .  | 105-2180                            | 4181       |
| 25 Mar. (85) . . .  | 4 Wed. . .  | 13 2 30                       | 24 Mar. (84) . . .                                                              | 3 Tues. . . | 139-8576                            | 4182       |
| 25 Mar. (84) . . .  | 5 Thur. . . | 19 15 0                       | 13 Mar. (72) . . .                                                              | 0 Sat. . .  | 15-5410                             | 4183       |
| 26 Mar. (85) . . .  | 0 Sat. . .  | 1 27 30                       | 3 Mar. (62) . . .                                                               | 5 Thur. . . | 229-8563                            | 4184       |
| 26 Mar. (85) . . .  | 1 Sun. . .  | 7 40 0                        | 22 Mar. (81) . . .                                                              | 4 Wed. . .  | 264-4959                            | 4185       |
| 25 Mar. (85) . . .  | 2 Mon. . .  | 13 52 30                      | 10 Mar. (70) . . .                                                              | 1 Sun. . .  | 140-1793                            | 4186       |
| 25 Mar. (84) . . .  | 3 Tues. . . | 20 5 0                        | 27 Feb. (58) . . .                                                              | 5 Thur. . . | 15-8627                             | 4187       |
| 26 Mar. (85) . . .  | 5 Thur. . . | 2 17 30                       | 18 Mar. (77) . . .                                                              | 4 Wed. . .  | 50-5023                             | 4188       |
| 26 Mar. (85) . . .  | 6 Fri. . .  | 8 30 0                        | 8 Mar. (67) . . .                                                               | 2 Mon. . .  | 264-8176                            | 4189       |
| 25 Mar. (85) . . .  | 0 Sat. . .  | 14 42 30                      | 25 Feb. (56) . . .                                                              | 6 Fri. . .  | 140-5009                            | 4190       |
| 25 Mar. (84) . . .  | 1 Sun. . .  | 20 55 0                       | 15 Mar. (74) . . .                                                              | 5 Thur. . . | 175-1405                            | 4191       |
| 26 Mar. (85) . . .  | 3 Tues. . . | 3 7 30                        | 4 Mar. (63) . . .                                                               | 2 Mon. . .  | 50-8239                             | 4192       |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 9 20 0                        | 23 Mar. (82) . . .                                                              | 1 Sun. . .  | 85-4636                             | 4193       |
| 25 Mar. (85) . . .  | 5 Thur. . . | 15 32 30                      | 12 Mar. (72) . . .                                                              | 6 Fri. . .  | 299-7788                            | 4194       |
| 25 Mar. (84) . . .  | 6 Fri. . .  | 21 45 0                       | 1 Mar. (60) . . .                                                               | 3 Tues. . . | 175-4622                            | 4195       |

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māhādī solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                 |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                              | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4196             | 1017  | 1152               | 501                             | 269-70  | 1094-95  | 8 Bhāva . .         | 11 Isvara . .       | ...                                              |
| 4197             | 1018  | 1153               | 502                             | 270-71  | 1095-96  | 9 Yuva . .          | 12 Bahudhānya .     | ...                                              |
| 4198             | 1019  | 1154               | 503                             | 271-72  | *1096-97 | 10 Dhātṛi . .       | 13 Pramāthin .      | 3 Jyēsthā † .                                    |
| 4199             | 1020  | 1155               | 504                             | 272-73  | 1097-98  | 11 Isvara . .       | 14 Vikrama . .      | ...                                              |
| 4200             | 1021  | 1156               | 505                             | 273-74  | 1098-99  | 12 Bahudhānya .     | 15 Vṛisha . .       | 11 Māgha .                                       |
| 4201             | 1022  | 1157               | 506                             | 274-75  | 1099-00  | 13 Pramāthin .      | 16 Chitrabhānu .    | ...                                              |
| 4202             | 1023  | 1158               | 507                             | 275-76  | *1100-01 | 14 Vikrama . .      | 17 Subhānu . .      | ...                                              |
| 4203             | 1024  | 1159               | 508                             | 276-77  | 1101-02  | 15 Vṛisha . .       | 18 Tārana . .       | 8 Kārttika .                                     |
| 4204             | 1025  | 1160               | 509                             | 277-78  | 1102-03  | 16 Chitrabhānu .    | 19 Pārthiva . .     | ...                                              |
| 4205             | 1026  | 1161               | 510                             | 278-79  | 1103-04  | 17 Subhānu . .      | 20 Vyaya . .        | ...                                              |
| 4206             | 1027  | 1162               | 511                             | 279-80  | *1104-05 | 18 Tārana . .       | 21 Sarvajit . .     | 4 Āshādha .                                      |
| 4207             | 1028  | 1163               | 512                             | 280-81  | 1105-06  | 19 Pārthiva . .     | 22 Sarvadhārin .    | ...                                              |
| 4208             | 1029  | 1164               | 513                             | 281-82  | 1106-07  | 20 Vyaya . .        | 23 Virōdhin . .     | ...                                              |
| 4209             | 1030  | 1165               | 514                             | 282-83  | 1107-08  | 21 Sarvajit . .     | 24 Vikṛita . .      | 1 Chaitra .                                      |
| 4210             | 1031  | 1166               | 515                             | 283-84  | *1108-09 | 22 Sarvadhārin .    | 25 Khara . .        | ...                                              |
| 4211             | 1032  | 1167               | 516                             | 284-85  | 1109-10  | 23 Virōdhin . .     | 26 Nandana . .      | 9 Mārgasira .                                    |
| 4212             | 1033  | 1168               | 517                             | 285-86  | 1110-11  | 24 Vikṛita . .      | 27 Vijaya . .       | ...                                              |
| 4213             | 1034  | 1169               | 518                             | 286-87  | 1111-12  | 25 Khara . .        | 28 Jaya . .         | ...                                              |
| 4214             | 1035  | 1170               | 519                             | 287-88  | *1112-13 | 26 Nandana . .      | 29 Manmatha .       | 6 Bhādrapada                                     |
| 4215             | 1036  | 1171               | 520                             | 288-89  | 1113-14  | 27 Vijaya . .       | 30 Durmukha .       | ...                                              |
| 4216             | 1037  | 1172               | 521                             | 289-90  | 1114-15  | 28 Jaya . .         | 31 Hēmalamba .      | ...                                              |
| 4217             | 1038  | 1173               | 522                             | 290-91  | 1115-16  | 29 Manmatha .       | 32 Vilamba . .      | 2 Vaiśākha .                                     |
| 4218             | 1039  | 1174               | 523                             | 291-92  | *1116-17 | 30 Durmukha .       | 33 Vikārin . .      | ...                                              |
| 4219             | 1040  | 1175               | 524                             | 292-93  | 1117-18  | 31 Hēmalamba .      | 34 Sārvarin . .     | 11 Māgha .                                       |
| 4220             | 1041  | 1176               | 525                             | 293-94  | 1118-19  | 32 Vilamba . .      | 35 Piava . .        | ...                                              |

By the "Indian Calendar" 2 Vaiśākha was intercalated.

LXXVI—Contd.

1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                              | Kali year. |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|----------------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                              |            |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | a (here= <i>t</i> , the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                           | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                              |            |
| 26 Mar. (85) . .    | 1 Sun. .  | 3 57 30                       | 20 Mar. (79) . .                                                                | 2 Mon. .  | 210-1018                                     | 4196       |
| 26 Mar. (85) . .    | 2 Mon. .  | 10 10 0                       | 9 Mar. (68) . .                                                                 | 6 Fri. .  | 85-7852                                      | 4197       |
| 25 Mar. (85) . .    | 3 Tues. . | 16 22 30                      | 27 Feb. (58) . .                                                                | 4 Wed. .  | 300-1005                                     | 4198       |
| 25 Mar. (84) . .    | 4 Wed. .  | 22 35 0                       | 16 Mar. (75) . .                                                                | 2 Mon. .  | 9996-1082†                                   | 4199       |
| 26 Mar. (85) . .    | 6 Fri. .  | 4 47 30                       | 6 Mar. (65) . .                                                                 | 0 Sat. .  | 210-4235                                     | 4200       |
| 26 Mar. (85) . .    | 0 Sat. .  | 11 0 0                        | 25 Mar. (84) . .                                                                | 6 Fri. .  | 245-0630                                     | 4201       |
| 25 Mar. (85) . .    | 1 Sun. .  | 17 12 30                      | 13 Mar. (73) . .                                                                | 3 Tues. . | 120-7464                                     | 4202       |
| 25 Mar. (84) . .    | 2 Mon. .  | 23 25 0                       | 2 Mar. (61) . .                                                                 | 0 Sat. .  | 9996-4298†                                   | 4203       |
| 26 Mar. (85) . .    | 4 Wed. .  | 5 37 30                       | 21 Mar. (80) . .                                                                | 6 Fri. .  | 31-0694                                      | 4204       |
| 26 Mar. (85) . .    | 5 Thur. . | 11 50 0                       | 11 Mar. (70) . .                                                                | 4 Wed. .  | 245-3847                                     | 4205       |
| 25 Mar. (85) . .    | 6 Fri. .  | 18 2 30                       | 28 Feb. (59) . .                                                                | 1 Sun. .  | 121-0681                                     | 4206       |
| 26 Mar. (85) . .    | 1 Sun. .  | 0 15 0                        | 18 Mar. (77) . .                                                                | 0 Sat. .  | 155-7077                                     | 4207       |
| 26 Mar. (85) . .    | 2 Mon. .  | 6 27 30                       | 7 Mar. (66) . .                                                                 | 4 Wed. .  | 31-3911                                      | 4208       |
| 26 Mar. (85) . .    | 3 Tues. . | 12 40 0                       | 25 Feb. (56) . .                                                                | 2 Mon. .  | 245-7063                                     | 4209       |
| 25 Mar. (85) . .    | 4 Wed. .  | 18 52 30                      | 15 Mar. (75) . .                                                                | 1 Sun. .  | 280-3460                                     | 4210       |
| 26 Mar. (85) . .    | 6 Fri. .  | 1 5 0                         | 4 Mar. (63) . .                                                                 | 5 Thur. . | 156-0293                                     | 4211       |
| 26 Mar. (85) . .    | 0 Sat. .  | 7 17 30                       | 23 Mar. (82) . .                                                                | 4 Wed. .  | 190-6690                                     | 4212       |
| 26 Mar. (85) . .    | 1 Sun. .  | 13 30 0                       | 12 Mar. (71) . .                                                                | 1 Sun. .  | 66-3524                                      | 4213       |
| 25 Mar. (85) . .    | 2 Mon. .  | 19 42 30                      | 1 Mar. (61) . .                                                                 | 6 Fri. .  | 280-6876                                     | 4214       |
| 26 Mar. (85) . .    | 4 Wed. .  | 1 55 0                        | 20 Mar. (79) . .                                                                | 5 Thur. . | 315-3072                                     | 4215       |
| 26 Mar. (85) . .    | 5 Thur. . | 8 7 30                        | 9 Mar. (68) . .                                                                 | 2 Mon. .  | 190-9905                                     | 4216       |
| 26 Mar. (85) . .    | 6 Fri. .  | 14 20 0                       | 26 Feb. (57) . .                                                                | 6 Fri. .  | 66-6740                                      | 4217       |
| 25 Mar. (85) . .    | 0 Sat. .  | 20 32 30                      | 16 Mar. (76) . .                                                                | 5 Thur. . | 101-3136                                     | 4218       |
| 26 Mar. (85) . .    | 2 Mon. .  | 2 45 0                        | 6 Mar. (65) . .                                                                 | 3 Tues. . | 315-6288                                     | 4219       |
| 26 Mar. (85) . .    | 3 Tues. . | 8 57 30                       | 24 Mar. (83) . .                                                                | 1 Sun. .  | 11-6365                                      | 4220       |

† As a mean tithi Chaitra Śukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the luni-solar year was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4221             | 1042  | 1177               | 526                              | 294-95  | 1119-20  | 33 Vikārin .        | 36 Subhakrit .      | ...                                              |
| 4222             | 1043  | 1178               | 527                              | 295-96  | *1120-21 | 34 Sārvarin .       | 37 Śōbhana .        | 7 Āsvina                                         |
| 4223             | 1044  | 1179               | 528                              | 296-97  | 1121-22  | 35 Plava .          | 38 Krōdhin .        | ...                                              |
| 4224             | 1045  | 1180               | 529                              | 297-98  | 1122-23  | 36 Subhakrit .      | 39 Viśvāvasu .      | ...                                              |
| 4225             | 1046  | 1181               | 530                              | 298-99  | 1123-24  | 37 Śōbhana .        | 40 Parābhava .      | 4 Āshādha .                                      |
| 4226             | 1047  | 1182               | 531                              | 299-00  | *1124-25 | 38 Krōdhin .        | 41 Plavaṅga .       | ...                                              |
| 4227             | 1048  | 1183               | 532                              | 300-01  | 1125-26  | 39 Viśvāvasu .      | 42 Kilaka .         | 12 Phālguna .                                    |
| 4228             | 1049  | 1184               | 533                              | 301-02  | 1126-27  | 40 Parābhava .      | 43 Saumya .         | ...                                              |
| 4229             | 1050  | 1185               | 534                              | 302-03  | 1127-28  | 41 Plavaṅga .       | 44 Śādhāraṇa .      | ...                                              |
| 4230             | 1051  | 1186               | 535                              | 303-04  | *1128-29 | 42 Kilaka .         | 45 Virōdhakrit .    | 9 Mārgaśīra .                                    |
| 4231             | 1052  | 1187               | 536                              | 304-05  | 1129-30  | 43 Saumya .         | 46 Paridhāvin .     | ...                                              |
| 4232             | 1053  | 1188               | 537                              | 305-06  | 1130-31  | 44 Śādhāraṇa .      | 47 Pramādin .       | ...                                              |
| 4233             | 1054  | 1189               | 538                              | 306-07  | 1131-32  | 45 Virōdhakrit .    | 48 Ānanda .         | 6 Bhādrapada                                     |
| 4234             | 1055  | 1190               | 539                              | 307-08  | *1132-33 | 46 Paridhāvin .     | 49 Rākshasa .       | ...                                              |
| 4235             | 1056  | 1191               | 540                              | 308-09  | 1133-34  | 47 Pramādin .       | 50 Anala .          | ...                                              |
| 4236             | 1057  | 1192               | 541                              | 309-10  | 1134-35  | 48 Ānanda .         | 51 Piṅgala .        | 2 Vaiśākha .                                     |
| 4237             | 1058  | 1193               | 542                              | 310-11  | 1135-36  | 49 Rākshasa .       | 52 Kālayukta .      | ...                                              |
| 4238             | 1059  | 1194               | 543                              | 311-12  | *1136-37 | 50 Anala .          | 53 Siddhārthin .    | 11 Māgha .                                       |
| 4239             | 1060  | 1195               | 544                              | 312-13  | 1137-38  | 51 Piṅgala .        | 54 Raudra .         | ...                                              |
| 4240             | 1061  | 1196               | 545                              | 313-14  | 1138-39  | 52 Kālayukta .      | 55 Durmati .        | ...                                              |
| 4241             | 1062  | 1197               | 546                              | 314-15  | 1139-40  | 53 Siddhārthin .    | 56 Dundubhi .       | 7 Āsvina .                                       |
| 4242             | 1063  | 1198               | 547                              | 315-16  | *1140-41 | 54 Raudra .         | 57 Rudhirōdgārin    | ...                                              |
| 4243             | 1064  | 1199               | 548                              | 316-17  | 1141-42  | 55 Durmati .        | 58 Raktāksha .      | ...                                              |
| 4244             | 1065  | 1200               | 549                              | 317-18  | 1142-43  | 56 Dundubhi .       | 59 Krōdhana .       | 4 Āshādha .                                      |
| 4245             | 1066  | 1201               | 550                              | 318-19  | 1143-44  | 57 Rudhirōdgārin    | 60 Kabaya .         | ...                                              |

LXXVI—Contd.

1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                     |           |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|-------------------------------------|-----------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |                                     | Kali year |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | a (here=t, the index of the tithi). |           |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                  |           |
|                     |           | H. M. S.                      |                                                                                 |           |                                     |           |
| 26 Mar. (85) . .    | 4 Wed. .  | 15 10 0                       | 14 Mar. (73) . .                                                                | 6 Fri. .  | 225-9518                            | 4221      |
| 26 Mar. (85) . .    | 5 Thur. . | 21 22 30                      | 2 Mar. (62) . .                                                                 | 3 Tues. . | 101-6352                            | 4222      |
| 26 Mar. (85) . .    | 0 Sat. .  | 3 35 0                        | 21 Mar. (80) . .                                                                | 2 Mon. .  | 136-2748                            | 4223      |
| 26 Mar. (85) . .    | 1 Sun. .  | 9 47 30                       | 10 Mar. (69) . .                                                                | 6 Fri. .  | 11-9582                             | 4224      |
| 26 Mar. (85) . .    | 2 Mon. .  | 16 0 0                        | 28 Feb. (59) . .                                                                | 4 Wed. .  | 226-2735                            | 4225      |
| 26 Mar. (85) . .    | 3 Tues. . | 22 12 30                      | 18 Mar. (78) . .                                                                | 3 Tues. . | 260-9131                            | 4226      |
| 26 Mar. (85) . .    | 5 Thur. . | 4 25 0                        | 7 Mar. (66) . .                                                                 | 0 Sat. .  | 136-5965                            | 4227      |
| 26 Mar. (85) . .    | 6 Fri. .  | 10 37 30                      | 26 Mar. (85) . .                                                                | 6 Fri. .  | 171-2360                            | 4228      |
| 26 Mar. (85) . .    | 0 Sat. .  | 16 50 0                       | 15 Mar. (74) . .                                                                | 3 Tues. . | 46-9195                             | 4229      |
| 26 Mar. (85) . .    | 1 Sun. .  | 23 2 30                       | 4 Mar. (64) . .                                                                 | 1 Sun. .  | 261-2348                            | 4230      |
| 26 Mar. (85) . .    | 3 Tues. . | 5 15 0                        | 23 Mar. (82) . .                                                                | 0 Sat. .  | 295-8744                            | 4231      |
| 26 Mar. (85) . .    | 4 Wed. .  | 11 27 30                      | 12 Mar. (71) . .                                                                | 4 Wed. .  | 171-5578                            | 4232      |
| 26 Mar. (85) . .    | 5 Thur. . | 17 40 0                       | 1 Mar. (60) . .                                                                 | 1 Sun. .  | 47-2411                             | 4233      |
| 26 Mar. (85) . .    | 6 Fri. .  | 23 52 30                      | 19 Mar. (79) . .                                                                | 0 Sat. .  | 81-8807                             | 4234      |
| 26 Mar. (85) . .    | 1 Sun. .  | 6 5 0                         | 9 Mar. (68) . .                                                                 | 5 Thur. . | 296-1960                            | 4235      |
| 26 Mar. (85) . .    | 2 Mon. .  | 12 17 30                      | 26 Feb. (57) . .                                                                | 2 Mon. .  | 171-8794                            | 4236      |
| 26 Mar. (85) . .    | 3 Tues. . | 18 30 0                       | 17 Mar. (76) . .                                                                | 1 Sun. .  | 206-5190                            | 4237      |
| 26 Mar. (86) . .    | 5 Thur. . | 0 42 30                       | 5 Mar. (65) . .                                                                 | 5 Thur. . | 82-2024                             | 4238      |
| 26 Mar. (85) . .    | 6 Fri. .  | 6 55 0                        | 24 Mar. (83) . .                                                                | 4 Wed. .  | 116-8420                            | 4239      |
| 26 Mar. (85) . .    | 0 Sat. .  | 13 7 30                       | 14 Mar. (73) . .                                                                | 2 Mon. .  | 331-1573                            | 4240      |
| 26 Mar. (85) . .    | 1 Sun. .  | 19 20 0                       | 3 Mar. (62) . .                                                                 | 6 Fri. .  | 206-8407                            | 4241      |
| 26 Mar. (86) . .    | 3 Tues. . | 1 32 30                       | 21 Mar. (81) . .                                                                | 5 Thur. . | 241-4803                            | 4242      |
| 26 Mar. (85) . .    | 4 Wed. .  | 7 45 0                        | 10 Mar. (69) . .                                                                | 2 Mon. .  | 117-1637                            | 4243      |
| 26 Mar. (85) . .    | 5 Thur. . | 13 57 30                      | 28 Feb. (59) . .                                                                | 0 Sat. .  | 331-4790                            | 4244      |
| 26 Mar. (85) . .    | 6 Fri. .  | 20 10 0                       | 18 Mar. (77) . .                                                                | 5 Thur. . | 27-4867                             | 4245      |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4246             | 1067  | 1202               | 551                              | 319-20  | *1144-45 | 58 Raktāksha .      | 1 Prabhava .        | 12 Phālguna .                                    |
| 4247             | 1068  | 1203               | 552                              | 320-21  | 1145-46  | 59 Krōdhana .       | 2 Vibhava .         | ...                                              |
| 4248             | 1069  | 1204               | 553                              | 321-22  | 1146-47  | 60 Kshaya .         | 3 Sukla .           | ...                                              |
| 4249             | 1070  | 1205               | 554                              | 322-23  | 1147-48  | 1 Prabhava .        | 4 Pramōda .         | 9 Mārgaśīra .                                    |
| 4250             | 1071  | 1206               | 555                              | 323-24  | *1148-49 | 2 Vibhava .         | 5 Prajāpati .       | ...                                              |
| 4251             | 1072  | 1207               | 556                              | 324-25  | 1149-50  | 3 Sukla .           | 6 Aṅgīras .         | ...                                              |
| 4252             | 1073  | 1208               | 557                              | 325-26  | 1150-51  | 4 Pramōda .         | 7 Śrīmukha .        | 5 Śrāvaṇa .                                      |
| 4253             | 1074  | 1209               | 558                              | 326-27  | 1151-52  | 5 Prajāpati .       | 8 Bhāva .           | ...                                              |
| 4254             | 1075  | 1210               | 559                              | 327-28  | *1152-53 | 6 Aṅgīras .         | 9 Yuva .            | ...                                              |
| 4255             | 1076  | 1211               | 560                              | 328-29  | 1153-54  | 7 Śrīmukha .        | 10 Dhātṛi .         | 2 Vaiśākha .                                     |
| 4256             | 1077  | 1212               | 561                              | 329-30  | 1154-55  | 8 Bhāva .           | 11 Jēvara .         | ...                                              |
| 4257             | 1078  | 1213               | 562                              | 330-31  | 1155-56  | 9 Yuva .            | 12 Bahudhānya .     | 10 Pausa .                                       |
| 4258             | 1079  | 1214               | 563                              | 331-32  | *1156-57 | 10 Dhātṛi .         | 13 Pramāthin .      | ...                                              |
| 4259             | 1080  | 1215               | 564                              | 332-33  | 1157-58  | 11 Jēvara .         | 14 Vikrama .        | ...                                              |
| 4260             | 1081  | 1216               | 565                              | 333-34  | 1158-59  | 12 Bahudhānya .     | 15 Vṛisha .         | 7 Āsvina .                                       |
| 4261             | 1082  | 1217               | 566                              | 334-35  | 1159-60  | 13 Pramāthin .      | 16 Chitrabhānu .    | ...                                              |
| 4262             | 1083  | 1218               | 567                              | 335-36  | *1160-61 | 14 Vikrama .        | 17 Subhānu*         | ...                                              |
| 4263             | 1084  | 1219               | 568                              | 336-37  | 1161-62  | 15 Vṛisha .         | 19 Pārthiva .       | 3 Jyēsthā .                                      |
| 4264             | 1085  | 1220               | 569                              | 337-38  | 1162-63  | 16 Chitrabhānu .    | 20 Vyaya .          | ...                                              |
| 4265             | 1086  | 1221               | 570                              | 338-39  | 1163-64  | 17 Subhānu .        | 21 Sarvajit .       | 12 Phālguna .                                    |
| 4266             | 1087  | 1222               | 571                              | 339-40  | *1164-65 | 18 Tārā .           | 22 Sarvadhārin .    | ...                                              |
| 4267             | 1088  | 1223               | 572                              | 340-41  | 1165-66  | 19 Pārthiva .       | 23 Virōdhin .       | ...                                              |
| 4268             | 1089  | 1224               | 573                              | 341-42  | 1166-67  | 20 Vyaya .          | 24 Vikṛita .        | 8 Kārttika .                                     |
| 4269             | 1090  | 1225               | 574                              | 342-43  | 1167-68  | 21 Sarvajit .       | 25 Khara .          | ...                                              |
| 4270             | 1091  | 1226               | 575                              | 343-44  | *1168-69 | 22 Sarvadhārin .    | 26 Nandana .        | ...                                              |

\* 18 Tārā was suppressed in the north.

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1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                     |            |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|-------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |                                     | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | a (here=t, the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                  | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                     |            |
| 26 Mar. (86) .      | 1 Sun. .  | 2 22 30                       | 7 Mar. (67) .                                                                   | 3 Tues. . | 241-8019                            | 4246       |
| 26 Mar. (85) .      | 2 Mon. .  | 8 35 0                        | 26 Mar. (85) .                                                                  | 2 Mon. .  | 276-4415                            | 4247       |
| 26 Mar. (85) .      | 3 Tues. . | 14 47 30                      | 15 Mar. (74) .                                                                  | 6 Fri. .  | 152-1249                            | 4248       |
| 26 Mar. (85) .      | 4 Wed. .  | 21 0 0                        | 4 Mar. (63) .                                                                   | 3 Tues. . | 27-8084                             | 4249       |
| 26 Mar. (86) .      | 6 Fri. .  | 3 12 30                       | 22 Mar. (82) .                                                                  | 2 Mon. .  | 62-4479                             | 4250       |
| 26 Mar. (85) .      | 0 Sat. .  | 9 25 0                        | 12 Mar. (71) .                                                                  | 0 Sat. .  | 276-7631                            | 4251       |
| 26 Mar. (85) .      | 1 Sun. .  | 15 37 30                      | 1 Mar. (60) .                                                                   | 4 Wed. .  | 152-4485                            | 4252       |
| 26 Mar. (85) .      | 2 Mon. .  | 21 50 0                       | 20 Mar. (79) .                                                                  | 3 Tues. . | 187-0861                            | 4253       |
| 26 Mar. (86) .      | 4 Wed. .  | 4 2 30                        | 8 Mar. (68) .                                                                   | 0 Sat. .  | 62-7695                             | 4254       |
| 26 Mar. (85) .      | 5 Thur. . | 10 15 0                       | 26 Feb. (57) .                                                                  | 5 Thur. . | 277-0848                            | 4255       |
| 26 Mar. (85) .      | 6 Fri. .  | 16 27 30                      | 17 Mar. (76) .                                                                  | 4 Wed. .  | 311-7245                            | 4256       |
| 26 Mar. (85) .      | 0 Sat. .  | 22 40 0                       | 6 Mar. (65) .                                                                   | 1 Sun. .  | 187-4078                            | 4257       |
| 26 Mar. (86) .      | 2 Mon. .  | 4 52 30                       | 24 Mar. (84) .                                                                  | 0 Sat. .  | 222-0474                            | 4258       |
| 26 Mar. (85) .      | 3 Tues. . | 11 5 0                        | 13 Mar. (72) .                                                                  | 4 Wed. .  | 98-1308                             | 4259       |
| 26 Mar. (85) .      | 4 Wed. .  | 17 17 30                      | 3 Mar. (62) .                                                                   | 2 Mon. .  | 312-0461                            | 4260       |
| 26 Mar. (85) .      | 5 Thur. . | 23 30 0                       | 21 Mar. (80) .                                                                  | 0 Sat. .  | 8-0538                              | 4261       |
| 26 Mar. (86) .      | 0 Sat. .  | 5 42 30                       | 10 Mar. (70) .                                                                  | 5 Thur. . | 222-3891                            | 4262       |
| 26 Mar. (85) .      | 1 Sun. .  | 11 55 0                       | 27 Feb. (58) .                                                                  | 2 Mon. .  | 98-4525                             | 4263       |
| 26 Mar. (85) .      | 2 Mon. .  | 18 7 30                       | 18 Mar. (77) .                                                                  | 1 Sun. .  | 132-6822                            | 4264       |
| 27 Mar. (86) .      | 4 Wed. .  | 6 20 0                        | 7 Mar. (66) .                                                                   | 5 Thur. . | 8-3755                              | 4265       |
| 26 Mar. (86) .      | 5 Thur. . | 6 32 30                       | 25 Mar. (85) .                                                                  | 4 Wed. .  | 43-0151                             | 4266       |
| 26 Mar. (85) .      | 6 Fri. .  | 12 45 0                       | 15 Mar. (74) .                                                                  | 2 Mon. .  | 257-3504                            | 4267       |
| 26 Mar. (85) .      | 0 Sat. .  | 18 57 30                      | 4 Mar. (63) .                                                                   | 6 Fri. .  | 133-0138                            | 4268       |
| 27 Mar. (86) .      | 2 Mon. .  | 1 10 0                        | 23 Mar. (82) .                                                                  | 5 Thur. . | 167-8434                            | 4269       |
| 26 Mar. (86) .      | 3 Tues. . | 7 22 30                       | 11 Mar. (71) .                                                                  | 2 Mon. .  | 43-3368                             | 4270       |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4271             | 1092  | 1227               | 576                              | 344-45  | 1169-70  | 23 Virōdhin .       | 27 Vijaya . .       | 5 Śrāvapa .                                      |
| 4272             | 1093  | 1228               | 577                              | 345-46  | 1170-71  | 24 Vikṛita . .      | 28 Jaya . .         | ...                                              |
| 4273             | 1094  | 1229               | 578                              | 346-47  | 1171-72  | 25 Khara . .        | 29 Manmatha .       | ...                                              |
| 4274             | 1095  | 1230               | 579                              | 347-48  | *1172-73 | 26 Nandana .        | 30 Durmukha .       | 2 Vaiśakha .                                     |
| 4275             | 1096  | 1231               | 580                              | 348-49  | 1173-74  | 27 Vijaya . .       | 31 Hēmalamba .      | ...                                              |
| 4276             | 1097  | 1232               | 581                              | 349-50  | 1174-75  | 28 Jaya . .         | 32 Vilamba .        | 10 Pausa .                                       |
| 4277             | 1098  | 1233               | 582                              | 350-51  | 1175-76  | 29 Manmatha .       | 33 Vikārin .        | ...                                              |
| 4278             | 1099  | 1234               | 583                              | 351-52  | *1176-77 | 30 Durmukha .       | 34 Sārvarin .       | ...                                              |
| 4279             | 1100  | 1235               | 584                              | 352-53  | 1177-78  | 31 Hēmalamba .      | 35 Plava . .        | 7 Āsvina .                                       |
| 4280             | 1101  | 1236               | 585                              | 353-54  | 1178-79  | 32 Vilamba .        | 36 Subhakṛit .      | ...                                              |
| 4281             | 1102  | 1237               | 586                              | 354-55  | 1179-80  | 33 Vikārin .        | 37 Śōbhana .        | ...                                              |
| 4282             | 1103  | 1238               | 587                              | 355-56  | *1180-81 | 34 Sārvarin .       | 38 Krōdhin .        | 3 Jyēsthā .                                      |
| 4283             | 1104  | 1239               | 588                              | 356-57  | 1181-82  | 35 Plava . .        | 39 Viśvāvasu .      | ...                                              |
| 4284             | 1105  | 1240               | 589                              | 357-58  | 1182-83  | 36 Subhakṛit .      | 40 Parābhava .      | 12 Phālguna .                                    |
| 4285             | 1106  | 1241               | 590                              | 358-59  | 1183-84  | 37 Śōbhana .        | 41 Plavaṅga .       | ...                                              |
| 4286             | 1107  | 1242               | 591                              | 359-60  | *1184-85 | 38 Krōdhin .        | 42 Kilaka . .       | ...                                              |
| 4287             | 1108  | 1243               | 592                              | 360-61  | 1185-86  | 39 Viśvāvasu .      | 43 Saumya .         | 8 Kārttika .                                     |
| 4288             | 1109  | 1244               | 593                              | 361-62  | 1186-87  | 40 Parābhava .      | 44 Sādhāraṇa .      | ...                                              |
| 4289             | 1110  | 1245               | 594                              | 362-63  | 1187-88  | 41 Plavaṅga .       | 45 Virōdhakṛit .    | ...                                              |
| 4290             | 1111  | 1246               | 595                              | 363-64  | *1188-89 | 42 Kilaka . .       | 46 Paridhāvin .     | 5 Śrāvapa .                                      |
| 4291             | 1112  | 1247               | 596                              | 364-65  | 1189-90  | 43 Saumya .         | 47 Pramādin .       | ...                                              |
| 4292             | 1113  | 1248               | 597                              | 365-66  | 1190-91  | 44 Sādhāraṇa .      | 48 Ānanda .         | ...                                              |
| 4293             | 1114  | 1249               | 598                              | 366-67  | 1191-92  | 45 Virōdhakṛit .    | 49 Rākshasa .       | 1 Chaitra .                                      |
| 4294             | 1115  | 1250               | 599                              | 367-68  | *1192-93 | 46 Paridhāvin .     | 50 Anala . .        | ...                                              |
| 4295             | 1116  | 1251               | 600                              | 368-69  | 1193-94  | 47 Pramādin .       | 51 Pīṅgala .        | 10 Pausa .                                       |

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1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                                |            |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|------------------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                                | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | $\alpha$ (here= $t$ , the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                             | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                                |            |
| 26 Mar. (85) .      | 4 Wed. .  | 13 35 0                       | 1 Mar. (80) .                                                                   | 0 Sat. .  | 257-6521                                       | 4271       |
| 26 Mar. (85) .      | 5 Thur. . | 19 47 30                      | 20 Mar. (79) .                                                                  | 6 Fri. .  | 292-2917                                       | 4272       |
| 27 Mar. (86) .      | 0 Sat. .  | 2 0 0                         | 9 Mar. (88) .                                                                   | 3 Tues. . | 167-9751                                       | 4273       |
| 26 Mar. (86) .      | 1 Sun. .  | 8 12 30                       | 26 Feb. (57) .                                                                  | 0 Sat. .  | 43-6684                                        | 4274       |
| 26 Mar. (85) .      | 2 Mon. .  | 14 25 0                       | 16 Mar. (75) .                                                                  | 6 Fri. .  | 78-2981                                        | 4275       |
| 26 Mar. (85) .      | 3 Tues. . | 20 37 30                      | 6 Mar. (65) .                                                                   | 4 Wed. .  | 292-6133                                       | 4276       |
| 27 Mar. (86) .      | 5 Thur. . | 2 50 0                        | 25 Mar. (84) .                                                                  | 3 Tues. . | 327-2528                                       | 4277       |
| 26 Mar. (86) .      | 6 Fri. .  | 9 2 30                        | 13 Mar. (73) .                                                                  | 0 Sat. .  | 202-9372                                       | 4278       |
| 26 Mar. (85) .      | 0 Sat. .  | 15 15 0                       | 2 Mar. (61) .                                                                   | 4 Wed. .  | 78-6196                                        | 4279       |
| 26 Mar. (85) .      | 1 Sun. .  | 21 27 30                      | 21 Mar. (80) .                                                                  | 3 Tues. . | 113-2593                                       | 4280       |
| 27 Mar. (86) .      | 3 Tues. . | 3 40 0                        | 11 Mar. (70) .                                                                  | 1 Sun. .  | 327-5745                                       | 4281       |
| 26 Mar. (86) .      | 4 Wed. .  | 9 52 30                       | 28 Feb. (59) .                                                                  | 5 Thur. . | 203-2579                                       | 4282       |
| 26 Mar. (85) .      | 5 Thur. . | 16 5 0                        | 18 Mar. (77) .                                                                  | 4 Wed. .  | 237-8975                                       | 4283       |
| 26 Mar. (85) .      | 6 Fri. .  | 22 17 30                      | 7 Mar. (66) .                                                                   | 1 Sun. .  | 113-5809                                       | 4284       |
| 27 Mar. (86) .      | 1 Sun. .  | 4 30 0                        | 26 Mar. (85) .                                                                  | 0 Sat. .  | 148-2205                                       | 4285       |
| 26 Mar. (86) .      | 2 Mon. .  | 10 42 30                      | 14 Mar. (74) .                                                                  | 4 Wed. .  | 23-9039                                        | 4286       |
| 26 Mar. (85) .      | 3 Tues. . | 16 55 0                       | 4 Mar. (63) .                                                                   | 2 Mon. .  | 238-2192                                       | 4287       |
| 26 Mar. (85) .      | 4 Wed. .  | 23 7 30                       | 23 Mar. (82) .                                                                  | 1 Sun. .  | 272-8588                                       | 4288       |
| 27 Mar. (86) .      | 6 Fri. .  | 5 20 0                        | 12 Mar. (71) .                                                                  | 5 Thur. . | 148-5422                                       | 4289       |
| 26 Mar. (86) .      | 0 Sat. .  | 11 32 30                      | 29 Feb. (60) .                                                                  | 2 Mon. .  | 24-2256                                        | 4290       |
| 26 Mar. (85) .      | 1 Sun. .  | 17 45 0                       | 19 Mar. (78) .                                                                  | 1 Sun. .  | 58-8452                                        | 4291       |
| 26 Mar. (85) .      | 2 Mon. .  | 23 57 30                      | 9 Mar. (68) .                                                                   | 6 Fri. .  | 273-1805                                       | 4292       |
| 27 Mar. (86) .      | 4 Wed. .  | 6 10 0                        | 26 Feb. (57) .                                                                  | 3 Tues. . | 148-8638                                       | 4293       |
| 26 Mar. (86) .      | 5 Thur. . | 12 22 30                      | 16 Mar. (76) .                                                                  | 2 Mon. .  | 183-5035                                       | 4294       |
| 26 Mar. (85) .      | 6 Fri. .  | 18 35 0                       | 5 Mar. (64) .                                                                   | 6 Fri. .  | 59-1868                                        | 4295       |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SĀMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4296             | 1117  | 1252               | 601                              | 369-70  | 1194-95  | 48 Ananda .         | 52 Kālayukta .      | ...                                              |
| 4297             | 1118  | 1253               | 602                              | 370-71  | 1195-96  | 49 Rākshasa .       | 53 Siddhārthin .    | ...                                              |
| 4298             | 1119  | 1254               | 603                              | 371-72  | *1196-97 | 50 Anala .          | 54 Raudra .         | 6 Bhādrapada                                     |
| 4299             | 1120  | 1255               | 604                              | 372-73  | 1197-98  | 51 Piṅgala .        | 55 Durmati .        | ...                                              |
| 4300             | 1121  | 1256               | 605                              | 373-74  | 1198-99  | 52 Kālayukta .      | 56 Dundubhi .       | ...                                              |
| 4301             | 1122  | 1257               | 606                              | 374-75  | 1199-00  | 53 Siddhārthin .    | 57 Rudhirōdgārin .  | 3 Jyēshtha                                       |
| 4302             | 1123  | 1258               | 607                              | 375-76  | *1200-01 | 54 Raudra .         | 58 Raktāksha .      | ...                                              |
| 4303             | 1124  | 1259               | 608                              | 376-77  | 1201-02  | 55 Durmati .        | 59 Krōdhana .       | 11 Māgha .                                       |
| 4304             | 1125  | 1260               | 609                              | 377-78  | 1202-03  | 56 Dundubhi .       | 60 Kshaya .         | ...                                              |
| 4305             | 1126  | 1261               | 610                              | 378-79  | 1203-04  | 57 Rudhirōdgārin .  | 1 Prabhava .        | ...                                              |
| 4306             | 1127  | 1262               | 611                              | 379-80  | *1204-05 | 58 Raktāksha .      | 2 Vibhava .         | 8 Kārttika .                                     |
| 4307             | 1128  | 1263               | 612                              | 380-81  | 1205-06  | 59 Krōdhana .       | 3 Śukla .           | ...                                              |
| 4308             | 1129  | 1264               | 613                              | 381-82  | 1206-07  | 60 Kshaya .         | 4 Pramōda .         | ...                                              |
| 4309             | 1130  | 1265               | 614                              | 382-83  | 1207-08  | 1 Prabhava .        | 5 Prajāpati .       | 5 Śrāvapa .                                      |
| 4310             | 1131  | 1266               | 615                              | 383-84  | *1208-09 | 2 Vibhava .         | 6 Aṅgiras .         | ...                                              |
| 4311             | 1132  | 1267               | 616                              | 384-85  | 1209-10  | 3 Śukla .           | 7 Śrīmukha .        | ...                                              |
| 4312             | 1133  | 1268               | 617                              | 385-86  | 1210-11  | 4 Pramōda .         | 8 Bhāva .           | 1 Chaitra .                                      |
| 4313             | 1134  | 1269               | 618                              | 386-87  | 1211-12  | 5 Prajāpati .       | 9 Yuvan .           | ...                                              |
| 4314             | 1135  | 1270               | 619                              | 387-88  | *1212-13 | 6 Aṅgiras .         | 10 Dhātṛi .         | 10 Pauṣa .                                       |
| 4315             | 1136  | 1271               | 620                              | 388-89  | 1213-14  | 7 Śrīmukha .        | 11 Śvara .          | ...                                              |
| 4316             | 1137  | 1272               | 621                              | 389-90  | 1214-15  | 8 Bhāva .           | 12 Bahudhānya .     | ...                                              |
| 4317             | 1138  | 1273               | 622                              | 390-91  | 1215-16  | 9 Yuvan .           | 13 Pramāthin .      | 6 Bhādrapada                                     |
| 4318             | 1139  | 1274               | 623                              | 391-92  | *1216-17 | 10 Dhātṛi .         | 14 Vikrama .        | ...                                              |
| 4319             | 1140  | 1275               | 624                              | 392-93  | 1217-18  | 11 Śvara .          | 15 Vṛisha .         | ...                                              |
| 4320             | 1141  | 1276               | 625                              | 393-94  | 1218-19  | 12 Bahudhānya .     | 16 Chitrabhānu .    | 3 Jyēshtha .                                     |

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1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                     | Kali year. |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|-------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                     |            |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | a (here=1, the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                  | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                     |            |
| 27 Mar. (86) . .    | 1 Sun. .  | 0 47 30                       | 24 Mar. (83) . .                                                                | 5 Thur. . | 93-8264                             | 4296       |
| 27 Mar. (86) . .    | 2 Mon. .  | 7 0 0                         | 14 Mar. (73) . .                                                                | 3 Tues. . | 308-1417                            | 4297       |
| 26 Mar. (86) . .    | 3 Tues. . | 13 12 30                      | 2 Mar. (62) . .                                                                 | 0 Sat. .  | 183-8251                            | 4298       |
| 26 Mar. (85) . .    | 4 Wed. .  | 19 25 0                       | 21 Mar. (80) . .                                                                | 6 Fri. .  | 218-4647                            | 4299       |
| 27 Mar. (86) . .    | 6 Fri. .  | 1 37 30                       | 10 Mar. (69) . .                                                                | 3 Tues. . | 94-1481                             | 4300       |
| 27 Mar. (86) . .    | 0 Sat. .  | 7 50 0                        | 28 Feb. (59) . .                                                                | 1 Sun. .  | 308-4634                            | 4301       |
| 26 Mar. (86) . .    | 1 Sun. .  | 14 2 30                       | 17 Mar. (77) . .                                                                | 6 Fri. .  | 4-4711                              | 4302       |
| 26 Mar. (85) . .    | 2 Mon. .  | 20 15 0                       | 7 Mar. (66) . .                                                                 | 4 Wed. .  | 218-7864                            | 4303       |
| 27 Mar. (86) . .    | 4 Wed. .  | 2 27 30                       | 26 Mar. (85) . .                                                                | 3 Tues. . | 253-4359                            | 4304       |
| 27 Mar. (86) . .    | 5 Thur. . | 8 40 0                        | 15 Mar. (74) . .                                                                | 0 Sat. .  | 129-1094                            | 4305       |
| 26 Mar. (86) . .    | 6 Fri. .  | 14 52 30                      | 4 Mar. (63) . .                                                                 | 4 Wed. .  | 4-7927                              | 4306       |
| 26 Mar. (85) . .    | 0 Sat. .  | 21 5 0                        | 22 Mar. (81) . .                                                                | 3 Tues. . | 39-4324                             | 4307       |
| 27 Mar. (86) . .    | 2 Mon. .  | 3 17 30                       | 12 Mar. (71) . .                                                                | 1 Sun. .  | 253-7477                            | 4308       |
| 27 Mar. (86) . .    | 3 Tues. . | 9 30 0                        | 1 Mar. (60) . .                                                                 | 5 Thur. . | 129-4311                            | 4309       |
| 26 Mar. (86) . .    | 4 Wed. .  | 15 42 30                      | 19 Mar. (79) . .                                                                | 4 Wed. .  | 164-0707                            | 4310       |
| 26 Mar. (85) . .    | 5 Thur. . | 21 55 0                       | 8 Mar. (67) . .                                                                 | 1 Sun. .  | 39-7540                             | 4311       |
| 27 Mar. (86) . .    | 0 Sat. .  | 4 7 30                        | 26 Feb. (57) . .                                                                | 6 Fri. .  | 254-0693                            | 4312       |
| 27 Mar. (86) . .    | 1 Sun. .  | 10 20 0                       | 17 Mar. (76) . .                                                                | 5 Thur. . | 289-7089                            | 4313       |
| 26 Mar. (86) . .    | 2 Mon. .  | 16 32 30                      | 5 Mar. (65) . .                                                                 | 2 Mon. .  | 164-3923                            | 4314       |
| 26 Mar. (85) . .    | 3 Tues. . | 22 45 0                       | 24 Mar. (63) . .                                                                | 1 Sun. .  | 199-0319                            | 4315       |
| 27 Mar. (86) . .    | 5 Thur. . | 4 57 30                       | 13 Mar. (72) . .                                                                | 5 Thur. . | 74-7152                             | 4316       |
| 27 Mar. (86) . .    | 6 Fri. .  | 11 10 0                       | 3 Mar. (62) . .                                                                 | 3 Tues. . | 289-0306                            | 4317       |
| 26 Mar. (86) . .    | 0 Sat. .  | 17 22 30                      | 21 Mar. (81) . .                                                                | 2 Mon. .  | 323-6702                            | 4318       |
| 26 Mar. (85) . .    | 1 Sun. .  | 23 35 0                       | 10 Mar. (69) . .                                                                | 6 Fri. .  | 199-3535                            | 4319       |
| 27 Mar. (86) . .    | 3 Tues. . | 5 47 30                       | 27 Feb. (58) . .                                                                | 3 Tues. . | 75-0369                             | 4320       |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAKVATSABA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4321             | 1142  | 1277               | 626                              | 394.95  | 1219.20  | 13 Pramāthin .      | 17 Subhānu .        | ...                                              |
| 4322             | 1143  | 1278               | 627                              | 395.96  | *1220.21 | 14 Vikrama .        | 18 Tāraṇa .         | 11 Māgha .                                       |
| 4323             | 1144  | 1279               | 628                              | 396.97  | 1221.22  | 15 Vṛisha .         | 19 Pārthiva .       | ...                                              |
| 4324             | 1145  | 1280               | 629                              | 397.98  | 1222.23  | 16 Chitrabhānu .    | 20 Vyaya .          | ...                                              |
| 4325             | 1146  | 1281               | 630                              | 398.99  | 1223.24  | 17 Subhānu .        | 21 Sarvajit .       | 8 Kārttika .                                     |
| 4326             | 1147  | 1282               | 631                              | 399.00  | *1224.25 | 18 Tāraṇa .         | 22 Sarvadhārin .    | ...                                              |
| 4327             | 1148  | 1283               | 632                              | 400.01  | 1225.26  | 19 Pārthiva .       | 23 Virōdhin .       | ...                                              |
| 4328             | 1149  | 1284               | 633                              | 401.02  | 1226.27  | 20 Vyaya .          | 24 Vikṛita .        | 4 Āshādha .                                      |
| 4329             | 1150  | 1285               | 634                              | 402.03  | 1227.28  | 21 Sarvajit .       | 25 Khara .          | ...                                              |
| 4330             | 1151  | 1286               | 635                              | 403.04  | *1228.29 | 22 Sarvadhārin .    | 26 Nandana .        | ...                                              |
| 4331             | 1152  | 1287               | 636                              | 404.05  | 1229.30  | 23 Virōdhin .       | 27 Vijaya .         | 1 Chaitra .                                      |
| 4332             | 1153  | 1288               | 637                              | 405.06  | 1230.31  | 24 Vikṛita .        | 28 Jaya .           | ...                                              |
| 4333             | 1154  | 1289               | 638                              | 406.07  | 1231.32  | 25 Khara .          | 29 Manmatha .       | 9 Mārgasīra .                                    |
| 4334             | 1155  | 1290               | 639                              | 407.08  | *1232.33 | 26 Nandana .        | 30 Durmukha .       | ...                                              |
| 4335             | 1156  | 1291               | 640                              | 408.09  | 1233.34  | 27 Vijaya .         | 31 Hēmalamba .      | ...                                              |
| 4336             | 1157  | 1292               | 641                              | 409.10  | 1234.35  | 28 Jaya .           | 32 Vilamba .        | 6 Bhādrapada                                     |
| 4337             | 1158  | 1293               | 642                              | 410.11  | 1235.36  | 29 Manmatha .       | 33 Vikārin .        | ...                                              |
| 4338             | 1159  | 1294               | 643                              | 411.12  | *1236.37 | 30 Durmukha .       | 34 Śārvarin .       | ...                                              |
| 4339             | 1160  | 1295               | 644                              | 412.13  | 1237.38  | 31 Hēmalamba .      | 35 Plava .          | 2 Vaiśākha .                                     |
| 4340             | 1161  | 1296               | 645                              | 413.14  | 1238.39  | 32 Vilamba .        | 36 Subhakṛit .      | ...                                              |
| 4341             | 1162  | 1297               | 646                              | 414.15  | 1239.40  | 33 Vikārin .        | 37 Śōbhana .        | 11 Māgha .                                       |
| 4342             | 1163  | 1298               | 647                              | 415.16  | *1240.41 | 34 Śārvarin .       | 38 Krōdhin .        | ...                                              |
| 4343             | 1164  | 1299               | 648                              | 416.17  | 1241.42  | 35 Plava .          | 39 Viśvāvasu .      | ...                                              |
| 4344             | 1165  | 1300               | 649                              | 417.18  | 1242.43  | 36 Subhakṛit .      | 40 Parābhava .      | 7 Āśvina .                                       |
| 4345             | 1166  | 1301               | 650                              | 418.19  | 1243.44  | 37 Śōbhana .        | 41 Plavanga .       | ...                                              |

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1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |           |                              |                                                                                 |           |                                       |            |
|---------------------|-----------|------------------------------|---------------------------------------------------------------------------------|-----------|---------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                              | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                       | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti | Day and month, A.D.                                                             | Week-day. | a (here = t, the index of the tithi). |            |
| 13                  | 14        | 17                           | 19                                                                              | 20        | 23                                    | 1          |
|                     |           | H. M. S.                     |                                                                                 |           |                                       |            |
| 27 Mar. (86) . .    | 4 Wed. .  | 12 0 0                       | 18 Mar. (77) .                                                                  | 2 Mon. .  | 109-8785                              | 4321       |
| 26 Mar. (86) . .    | 5 Thur. . | 18 12 30                     | 7 Mar. (67) .                                                                   | 0 Sat. .  | 323-9918                              | 4322       |
| 27 Mar. (86) . .    | 0 Sat. .  | 0 25 0                       | 25 Mar. (84) .                                                                  | 5 Thur. . | 19-9995                               | 4323       |
| 27 Mar. (86) . .    | 1 Sun. .  | 6 37 30                      | 15 Mar. (74) .                                                                  | 3 Tues. . | 234-3148                              | 4324       |
| 27 Mar. (86) . .    | 2 Mon. .  | 12 50 0                      | 4 Mar. (63) .                                                                   | 0 Sat. .  | 109-9982                              | 4325       |
| 26 Mar. (86) . .    | 3 Tues. . | 19 2 30                      | 22 Mar. (82) .                                                                  | 6 Fri. .  | 144-6378                              | 4326       |
| 27 Mar. (86) . .    | 5 Thur. . | 1 15 0                       | 11 Mar. (70) .                                                                  | 3 Tues. . | 20-3212                               | 4327       |
| 27 Mar. (86) . .    | 6 Fri. .  | 7 27 30                      | 1 Mar. (60) .                                                                   | 1 Sun. .  | 234-6365                              | 4328       |
| 27 Mar. (86) . .    | 0 Sat. .  | 13 40 0                      | 20 Mar. (79) .                                                                  | 0 Sat. .  | 269-2761                              | 4329       |
| 26 Mar. (86) . .    | 1 Sun. .  | 19 52 30                     | 8 Mar. (68) .                                                                   | 4 Wed. .  | 144-9594                              | 4330       |
| 27 Mar. (86) . .    | 3 Tues. . | 2 5 0                        | 25 Feb. (56) .                                                                  | 1 Sun. .  | 20-6428                               | 4331       |
| 27 Mar. (86) . .    | 4 Wed. .  | 8 17 30                      | 16 Mar. (75) .                                                                  | 0 Sat. .  | 55-2824                               | 4332       |
| 27 Mar. (86) . .    | 5 Thur. . | 14 30 0                      | 6 Mar. (65) .                                                                   | 5 Thur. . | 269-5977                              | 4333       |
| 26 Mar. (86) . .    | 6 Fri. .  | 20 42 30                     | 24 Mar. (84) .                                                                  | 4 Wed. .  | 304-2373                              | 4334       |
| 27 Mar. (86) . .    | 1 Sun. .  | 2 55 0                       | 13 Mar. (72) .                                                                  | 1 Sun. .  | 179-9207                              | 4335       |
| 27 Mar. (86) . .    | 2 Mon. .  | 9 7 30                       | 2 Mar. (61) .                                                                   | 5 Thur. . | 55-6041                               | 4336       |
| 27 Mar. (86) . .    | 3 Tues. . | 15 20 0                      | 21 Mar. (80) .                                                                  | 4 Wed. .  | 90-2437                               | 4337       |
| 26 Mar. (86) . .    | 4 Wed. .  | 21 32 30                     | 10 Mar. (70) .                                                                  | 2 Mon. .  | 304-5590                              | 4338       |
| 27 Mar. (86) . .    | 6 Fri. .  | 3 45 0                       | 27 Feb. (58) .                                                                  | 6 Fri. .  | 180-2424                              | 4339       |
| 27 Mar. (86) . .    | 0 Sat. .  | 9 57 30                      | 18 Mar. (77) .                                                                  | 5 Thur. . | 214-8820                              | 4340       |
| 27 Mar. (86) . .    | 1 Sun. .  | 16 10 0                      | 7 Mar. (66) .                                                                   | 2 Mon. .  | 90-5654                               | 4341       |
| 26 Mar. (86) . .    | 2 Mon. .  | 22 22 30                     | 25 Mar. (85) .                                                                  | 1 Sun. .  | 125-2049                              | 4342       |
| 27 Mar. (86) . .    | 4 Wed. .  | 4 35 0                       | 14 Mar. (73) .                                                                  | 5 Thur. . | 0-8884                                | 4343       |
| 27 Mar. (86) . .    | 5 Thur. . | 10 47 30                     | 4 Mar. (63) .                                                                   | 3 Tues. . | 215-2037                              | 4344       |
| 27 Mar. (86) . .    | 6 Fri. .  | 17 0 0                       | 23 Mar. (82) .                                                                  | 2 Mon. .  | 249-8433                              | 4345       |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mōchādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4346             | 1167  | 1302               | 651                              | 419-20  | *1244-45 | 38 Krōdhin .        | 42 Kīlaka .         | ...                                              |
| 4347             | 1168  | 1303               | 652                              | 420-21  | 1245-46  | 39 Viśvāvasu .      | 43 Saumya† .        | 4 Āshādha .                                      |
| 4348             | 1169  | 1304               | 653                              | 421-22  | 1246-47  | 40 Parābhava .      | 45 Virōdhakṛit .    | ...                                              |
| 4349             | 1170  | 1305               | 654                              | 422-23  | 1247-48  | 41 Plavaṅga .       | 46 Paridhāvin .     | ...                                              |
| 4350             | 1171  | 1306               | 655                              | 423-24  | *1248-49 | 42 Kīlaka .         | 47 Pramādin .       | 1 Chaitra .                                      |
| 4351             | 1172  | 1307               | 656                              | 424-25  | 1249-50  | 43 Saumya .         | 48 Ānanda .         | ...                                              |
| 4352             | 1173  | 1308               | 657                              | 425-26  | 1250-51  | 44 Sādhāraṇa .      | 49 Rākṣasa .        | 9 Mārgaśīra .                                    |
| 4353             | 1174  | 1309               | 658                              | 426-27  | 1251-52  | 45 Virōdhakṛit .    | 50 Ānala .          | ...                                              |
| 4354             | 1175  | 1310               | 659                              | 427-28  | *1252-53 | 46 Paridhāvin .     | 51 Piṅgala .        | ...                                              |
| 4355             | 1176  | 1311               | 660                              | 428-29  | 1253-54  | 47 Pramādin .       | 52 Kālayukta .      | 6 Bhādrapada                                     |
| 4356             | 1177  | 1312               | 661                              | 429-30  | 1254-55  | 48 Ānanda .         | 53 Siddhārthin .    | ...                                              |
| 4357             | 1178  | 1313               | 662                              | 430-31  | 1255-56  | 49 Rākṣasa .        | 54 Raudra .         | ...                                              |
| 4358             | 1179  | 1314               | 663                              | 431-32  | *1256-57 | 50 Ānala .          | 55 Durmati .        | 2 Vaiśākha .                                     |
| 4359             | 1180  | 1315               | 664                              | 432-33  | 1257-58  | 51 Piṅgala .        | 56 Dundubhi .       | ...                                              |
| 4360             | 1181  | 1316               | 665                              | 433-34  | 1258-59  | 52 Kālayukta .      | 57 Rudhirōdgārin    | 11 Māgha .                                       |
| 4361             | 1182  | 1317               | 666                              | 434-35  | 1259-60  | 53 Siddhārthin .    | 58 Raktāksha .      | ...                                              |
| 4362             | 1183  | 1318               | 667                              | 435-36  | *1260-61 | 54 Raudra .         | 59 Krōdhana .       | ...                                              |
| 4363             | 1184  | 1319               | 668                              | 436-37  | 1261-62  | 55 Durmati .        | 60 Kṣhaya .         | 7 Āśvina .                                       |
| 4364             | 1185  | 1320               | 669                              | 437-38  | 1262-63  | 56 Dundubhi .       | 1 Prabhava .        | ...                                              |
| 4365             | 1186  | 1321               | 670                              | 438-39  | 1263-64  | 57 Rudhirōdgārin    | 2 Vibhava .         | ...                                              |
| 4366             | 1187  | 1322               | 671                              | 439-40  | *1264-65 | 58 Raktāksha .      | 3 Śukla .           | 4 Āshādha .                                      |
| 4367             | 1188  | 1323               | 672                              | 440-41  | 1265-66  | 59 Krōdhana .       | 4 Pramōda .         | ...                                              |
| 4368             | 1189  | 1324               | 673                              | 441-42  | 1266-67  | 60 Kṣhaya .         | 5 Prajāpati .       | 12 Phālguna .                                    |
| 4369             | 1190  | 1325               | 674                              | 442-43  | 1267-68  | 1 Prabhava .        | 6 Āṅgīras .         | ...                                              |
| 4370             | 1191  | 1326               | 675                              | 443-44  | *1268-69 | 2 Vibhava .         | 7 Śrīmukha .        | ...                                              |

† 44, Sādhāraṇa, was suppressed in the north by the mean system, but 45 Virōdhakṛit by the true system. By the latter system the year A.D. 1246-47 was called in the north, "Sādhāraṇa."

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1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                                 |            |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|-------------------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SŪKLA 1 ENDS). |             |                                                 | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | $\alpha$ (here = $t$ , the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                              | 1          |
|                     |             | H. M. S.                      |                                                                                 |             |                                                 |            |
| 26 Mar. (86) . .    | 0 Sat. . .  | 23 12 30                      | 11 Mar. (71) . .                                                                | 6 Fri. . .  | 125-5266                                        | 4346       |
| 27 Mar. (86) . .    | 2 Mon. . .  | 5 25 0                        | 28 Feb. (59) . .                                                                | 3 Tues. . . | 1-2100                                          | 4347       |
| 27 Mar. (86) . .    | 3 Tues. . . | 11 37 30                      | 19 Mar. (78) . .                                                                | 2 Mon. . .  | 35-8196                                         | 4348       |
| 27 Mar. (86) . .    | 4 Wed. . .  | 17 50 0                       | 9 Mar. (88) . .                                                                 | 0 Sat. . .  | 250-1649                                        | 4349       |
| 27 Mar. (87) . .    | 6 Fri. . .  | 0 2 30                        | 26 Feb. (57) . .                                                                | 4 Wed. . .  | 125-8482                                        | 4350       |
| 27 Mar. (86) . .    | 0 Sat. . .  | 6 15 0                        | 16 Mar. (75) . .                                                                | 3 Tues. . . | 160-4878                                        | 4351       |
| 27 Mar. (86) . .    | 1 Sun. . .  | 12 27 30                      | 5 Mar. (64) . .                                                                 | 0 Sat. . .  | 36-1712                                         | 4352       |
| 27 Mar. (86) . .    | 2 Mon. . .  | 18 40 0                       | 24 Mar. (83) . .                                                                | 6 Fri. . .  | 70-8109                                         | 4353       |
| 27 Mar. (87) . .    | 4 Wed. . .  | 0 52 30                       | 13 Mar. (73) . .                                                                | 4 Wed. . .  | 285-1262                                        | 4354       |
| 27 Mar. (86) . .    | 5 Thur. . . | 7 5 0                         | 2 Mar. (81) . .                                                                 | 1 Sun. . .  | 160-8095                                        | 4355       |
| 27 Mar. (86) . .    | 6 Fri. . .  | 13 17 30                      | 21 Mar. (80) . .                                                                | 0 Sat. . .  | 195-4491                                        | 4356       |
| 27 Mar. (86) . .    | 0 Sat. . .  | 19 30 0                       | 10 Mar. (69) . .                                                                | 4 Wed. . .  | 71-1325                                         | 4357       |
| 27 Mar. (87) . .    | 2 Mon. . .  | 1 42 30                       | 28 Feb. (59) . .                                                                | 2 Mon. . .  | 285-4478                                        | 4358       |
| 27 Mar. (86) . .    | 3 Tues. . . | 7 55 0                        | 18 Mar. (77) . .                                                                | 1 Sun. . .  | 320-0874                                        | 4359       |
| 27 Mar. (86) . .    | 4 Wed. . .  | 14 7 30                       | 7 Mar. (66) . .                                                                 | 5 Thur. . . | 195-7708                                        | 4360       |
| 27 Mar. (86) . .    | 5 Thur. . . | 20 20 0                       | 26 Mar. (85) . .                                                                | 4 Wed. . .  | 230-4104                                        | 4361       |
| 27 Mar. (87) . .    | 0 Sat. . .  | 2 32 30                       | 14 Mar. (74) . .                                                                | 1 Sun. . .  | 106-0938                                        | 4362       |
| 27 Mar. (86) . .    | 1 Sun. . .  | 8 45 0                        | 4 Mar. (63) . .                                                                 | 6 Fri. . .  | 320-4091                                        | 4363       |
| 27 Mar. (86) . .    | 2 Mon. . .  | 14 57 30                      | 22 Mar. (81) . .                                                                | 4 Wed. . .  | 16-4168                                         | 4364       |
| 27 Mar. (86) . .    | 3 Tues. . . | 21 10 0                       | 12 Mar. (71) . .                                                                | 2 Mon. . .  | 230-7321                                        | 4365       |
| 27 Mar. (87) . .    | 5 Thur. . . | 3 22 30                       | 29 Feb. (60) . .                                                                | 6 Fri. . .  | 106-4155                                        | 4366       |
| 27 Mar. (86) . .    | 6 Fri. . .  | 9 35 0                        | 19 Mar. (78) . .                                                                | 5 Thur. . . | 141-0551                                        | 4367       |
| 27 Mar. (86) . .    | 0 Sat. . .  | 15 47 30                      | 8 Mar. (67) . .                                                                 | 2 Mon. . .  | 16-7384                                         | 4368       |
| 27 Mar. (86) . .    | 1 Sun. . .  | 22 0 0                        | 27 Mar. (86) . .                                                                | 1 Sun. . .  | 51-3780                                         | 4369       |
| 27 Mar. (87) . .    | 3 Tues. . . | 4 12 30                       | 16 Mar. (76) . .                                                                | 6 Fri. . .  | 265-6934                                        | 4370       |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māghādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4371             | 1192  | 1327               | 676                              | 444.45  | 1269.70  | 3 Śukla . .         | 8 Bhāva . .         | 9 Mārgaśīra .                                    |
| 4372             | 1193  | 1328               | 677                              | 445.46  | 1270.71  | 4 Pramōda . .       | 9 Yuva . .          | ...                                              |
| 4373             | 1194  | 1329               | 678                              | 446.47  | 1271.72  | 5 Prajāpati . .     | 10 Dhātṛi . .       | ...                                              |
| 4374             | 1195  | 1330               | 679                              | 447.48  | *1272.73 | 6 Āṅgiras . .       | 11 Īsvara . .       | 5 Śrāvaṇa .                                      |
| 4375             | 1196  | 1331               | 680                              | 448.49  | 1273.74  | 7 Śrīmukha . .      | 12 Bahudhānya .     | ...                                              |
| 4376             | 1197  | 1332               | 681                              | 449.50  | 1274.75  | 8 Bhāva . .         | 13 Pramāthin . .    | ...                                              |
| 4377             | 1198  | 1333               | 682                              | 450.51  | 1275.76  | 9 Yuva . .          | 14 Vikrama . .      | 2 Vaiśākha .                                     |
| 4378             | 1199  | 1334               | 683                              | 451.52  | *1276.77 | 10 Dhātṛi . .       | 15 Vṛisha . .       | ...                                              |
| 4379             | 1200  | 1335               | 684                              | 452.53  | 1277.78  | 11 Īsvara . .       | 16 Chitrabhānu .    | 10 Pausha .                                      |
| 4380             | 1201  | 1336               | 685                              | 453.54  | 1278.79  | 12 Bahudhānya .     | 17 Subhānu . .      | ...                                              |
| 4381             | 1202  | 1337               | 686                              | 454.55  | 1279.80  | 13 Pramāthin . .    | 18 Tāraṇa . .       | ...                                              |
| 4382             | 1203  | 1338               | 687                              | 455.56  | *1280.81 | 14 Vikrama . .      | 19 Pārthiva . .     | 7 Āśvina .                                       |
| 4383             | 1204  | 1339               | 688                              | 456.57  | 1281.82  | 15 Vṛisha . .       | 20 Vyaya . .        | ...                                              |
| 4384             | 1205  | 1340               | 689                              | 457.58  | 1282.83  | 16 Chitrabhānu .    | 21 Sarvajit . .     | ...                                              |
| 4385             | 1206  | 1341               | 690                              | 458.59  | 1283.84  | 17 Subhānu . .      | 22 Sarvadhārin .    | 4 Āśmādhā .                                      |
| 4386             | 1207  | 1342               | 691                              | 459.60  | *1284.85 | 18 Tāraṇa . .       | 23 Virōdhin . .     | ...                                              |
| 4387             | 1208  | 1343               | 692                              | 460.61  | 1285.86  | 19 Pārthiva . .     | 24 Vikṛita . .      | 12 Phālguna .                                    |
| 4388             | 1209  | 1344               | 693                              | 461.62  | 1286.87  | 20 Vyaya . .        | 25 Khara . .        | ...                                              |
| 4389             | 1210  | 1345               | 694                              | 462.63  | 1287.88  | 21 Sarvajit . .     | 26 Nandana . .      | ...                                              |
| 4390             | 1211  | 1346               | 695                              | 463.64  | *1288.89 | 22 Sarvadhārin .    | 27 Vijaya . .       | 9 Mārgaśīra .                                    |
| 4391             | 1212  | 1347               | 696                              | 464.65  | 1289.90  | 23 Virōdhin . .     | 28 Jaya . .         | ...                                              |
| 4392             | 1213  | 1348               | 697                              | 465.66  | 1290.91  | 24 Vikṛita . .      | 29 Manmatha . .     | ...                                              |
| 4393             | 1214  | 1349               | 698                              | 466.67  | 1291.92  | 25 Khara . .        | 30 Durmukha . .     | 5 Śrāvaṇa .                                      |
| 4394             | 1215  | 1350               | 699                              | 467.68  | *1292.93 | 26 Nandana . .      | 31 Hēmalamba .      | ...                                              |
| 4395             | 1216  | 1351               | 700                              | 468.69  | 1293.94  | 27 Vijaya . .       | 32 Vilamba . .      | ...                                              |

LXXXVI—Contd.

I Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                              |            |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|----------------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                              | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | a (here= <i>t</i> , the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                           | 1          |
| 27 Mar. (86) .      | 4 Wed. .  | H. M. S.<br>10 25 0           | 5 Mar. (64) .                                                                   | 3 Tues. . | 141-3767                                     | 4371       |
| 27 Mar. (86) .      | 5 Thur. . | 16 37 30                      | 24 Mar. (83) .                                                                  | 2 Mon. .  | 176-0164                                     | 4372       |
| 27 Mar. (86) .      | 6 Fri. .  | 22 50 0                       | 13 Mar. (72) .                                                                  | 6 Fri. .  | 51-6998                                      | 4373       |
| 27 Mar. (87) .      | 1 Sun. .  | 5 2 30                        | 2 Mar. (62) .                                                                   | 4 Wed. .  | 266-0150                                     | 4374       |
| 27 Mar. (86) .      | 2 Mon. .  | 11 15 0                       | 21 Mar. (80) .                                                                  | 3 Tues. . | 300-6546                                     | 4375       |
| 27 Mar. (86) .      | 3 Tues. . | 17 27 30                      | 10 Mar. (69) .                                                                  | 0 Sat. .  | 176-3380                                     | 4376       |
| 27 Mar. (86) .      | 4 Wed. .  | 23 40 0                       | 27 Feb. (58) .                                                                  | 4 Wed. .  | 52-0213                                      | 4377       |
| 27 Mar. (87) .      | 6 Fri. .  | 5 52 30                       | 17 Mar. (77) .                                                                  | 3 Tues. . | 86-6609                                      | 4378       |
| 27 Mar. (86) .      | 0 Sat. .  | 12 5 0                        | 7 Mar. (66) .                                                                   | 1 Sun. .  | 300-9762                                     | 4379       |
| 27 Mar. (86) .      | 1 Sun. .  | 18 17 30                      | 25 Mar. (84) .                                                                  | 6 Fri. .  | 9996-9840*                                   | 4380       |
| 28 Mar. (87) .      | 3 Tues. . | 0 30 0                        | 15 Mar. (74) .                                                                  | 4 Wed. .  | 211-2992                                     | 4381       |
| 27 Mar. (87) .      | 4 Wed. .  | 6 42 30                       | 3 Mar. (63) .                                                                   | 1 Sun. .  | 86-9826                                      | 4382       |
| 27 Mar. (86) .      | 5 Thur. . | 12 55 0                       | 22 Mar. (81) .                                                                  | 0 Sat. .  | 121-6222                                     | 4383       |
| 27 Mar. (86) .      | 6 Fri. .  | 19 7 30                       | 11 Mar. (70) .                                                                  | 4 Wed. .  | 9997-3056*                                   | 4384       |
| 28 Mar. (87) .      | 1 Sun. .  | 1 20 0                        | 1 Mar. (60) .                                                                   | 2 Mon. .  | 211-6209                                     | 4385       |
| 27 Mar. (87) .      | 2 Mon. .  | 7 32 30                       | 19 Mar. (79) .                                                                  | 1 Sun. .  | 246-2605                                     | 4386       |
| 27 Mar. (86) .      | 3 Tues. . | 13 45 0                       | 8 Mar. (67) .                                                                   | 5 Thur. . | 121-9439                                     | 4387       |
| 27 Mar. (86) .      | 4 Wed. .  | 19 57 30                      | 27 Mar. (86) .                                                                  | 4 Wed. .  | 156-5834                                     | 4388       |
| 28 Mar. (87) .      | 6 Fri. .  | 2 10 0                        | 16 Mar. (75) .                                                                  | 1 Sun. .  | 32-2669                                      | 4389       |
| 27 Mar. (87) .      | 0 Sat. .  | 8 22 30                       | 5 Mar. (65) .                                                                   | 6 Fri. .  | 246-5821                                     | 4390       |
| 27 Mar. (86) .      | 1 Sun. .  | 14 35 0                       | 24 Mar. (83) .                                                                  | 5 Thur. . | 281-2218                                     | 4391       |
| 27 Mar. (86) .      | 2 Mon. .  | 20 47 30                      | 13 Mar. (72) .                                                                  | 2 Mon. .  | 156-9051                                     | 4392       |
| 28 Mar. (87) .      | 4 Wed. .  | 3 0 0                         | 2 Mar. (61) .                                                                   | 6 Fri. .  | 32-5885                                      | 4393       |
| 27 Mar. (87) .      | 5 Thur. . | 9 12 30                       | 20 Mar. (80) .                                                                  | 5 Thur. . | 67-2281                                      | 4394       |
| 27 Mar. (86) .      | 6 Fri. .  | 15 25 0                       | 10 Mar. (69) .                                                                  | 3 Tues. . | 281-5434                                     | 4395       |

\* As a mean tithi Chaitra Śukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the luni-solar year was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Nūshādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4396             | 1217  | 1352               | 701                              | 469-70  | 1294-95  | 28 Jaya . .         | 33 Vikārin .        | 2 Vaiśākha .                                     |
| 4397             | 1218  | 1353               | 702                              | 470-71  | 1295-96  | 29 Manmatha .       | 34 Śārvarin .       | ...                                              |
| 4398             | 1219  | 1354               | 703                              | 471-72  | *1296-97 | 30 Durmukha .       | 35 Plava . .        | 10 Pausa .                                       |
| 4399             | 1220  | 1355               | 704                              | 472-73  | 1297-98  | 31 Hōmalamba .      | 36 Subhakṛit .      | ...                                              |
| 4400             | 1221  | 1356               | 705                              | 473-74  | 1298-99  | 32 Vilamba .        | 37 Śōbhana .        | ...                                              |
| 4401             | 1222  | 1357               | 706                              | 474-75  | 1299-00  | 33 Vikārin .        | 38 Krōdhin .        | 7 Āśvina .                                       |
| 4402             | 1223  | 1358               | 707                              | 475-76  | *1300-01 | 34 Śārvarin .       | 39 Viśvāvasu .      | ...                                              |
| 4403             | 1224  | 1359               | 708                              | 476-77  | 1301-02  | 35 Plava . .        | 40 Parābhava .      | ...                                              |
| 4404             | 1225  | 1360               | 709                              | 477-78  | 1302-03  | 36 Subhakṛit .      | 41 Plavaṅga .       | 3 Jyēshtha .                                     |
| 4405             | 1226  | 1361               | 710                              | 478-79  | 1303-04  | 37 Śōbhana .        | 42 Kilaka . .       | ...                                              |
| 4406             | 1227  | 1362               | 711                              | 479-80  | *1304-05 | 38 Krōdhin .        | 43 Saumya .         | 12 Phālguna .                                    |
| 4407             | 1228  | 1363               | 712                              | 480-81  | 1305-06  | 39 Viśvāvasu .      | 44 Sādhāraṇa .      | ...                                              |
| 4408             | 1229  | 1364               | 713                              | 481-82  | 1306-07  | 40 Parābhava .      | 45 Virōdhakṛit .    | ...                                              |
| 4409             | 1230  | 1365               | 714                              | 482-83  | 1307-08  | 41 Plavaṅga .       | 46 Paridhāvin .     | 8 Kārttika .                                     |
| 4410             | 1231  | 1366               | 715                              | 483-84  | *1308-09 | 42 Kilaka . .       | 47 Pramādin .       | ...                                              |
| 4411             | 1232  | 1367               | 716                              | 484-85  | 1309-10  | 43 Saumya .         | 48 Ānanda .         | ...                                              |
| 4412             | 1233  | 1368               | 717                              | 485-86  | 1310-11  | 44 Sādhāraṇa .      | 49 Rākshasa .       | 5 Śrāvaṇa .                                      |
| 4413             | 1234  | 1369               | 718                              | 486-87  | 1311-12  | 45 Virōdhakṛit .    | 50 Anala . .        | ...                                              |
| 4414             | 1235  | 1370               | 719                              | 487-88  | *1312-13 | 46 Paridhāvin .     | 51 Piṅgala .        | ...                                              |
| 4415             | 1236  | 1371               | 720                              | 488-89  | 1313-14  | 47 Pramādin .       | 52 Kālayukta .      | 1 Chaitra .                                      |
| 4416             | 1237  | 1372               | 721                              | 489-90  | 1314-15  | 48 Ānanda .         | 53 Siddhārthin .    | ...                                              |
| 4417             | 1238  | 1373               | 722                              | 490-91  | 1315-16  | 49 Rākshasa .       | 54 Raudra .         | 10 Pausa .                                       |
| 4418             | 1239  | 1374               | 723                              | 491-92  | *1316-17 | 50 Anala . .        | 55 Durmati .        | ...                                              |
| 4419             | 1240  | 1375               | 724                              | 492-93  | 1317-18  | 51 Piṅgala .        | 56 Dumlubhi .       | ...                                              |
| 4420             | 1241  | 1376               | 725                              | 493-94  | 1318-19  | 52 Kālayukta .      | 57 Rudhirōdgārin .  | 7 Āśvina .                                       |

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1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                              |            |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|----------------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                              | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day. | a (here= <i>t</i> , the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                           | 1          |
|                     |           | H. M. S.                      |                                                                                 |           |                                              |            |
| 27 Mar. (86) .      | 0 Sat. .  | 21 37 40                      | 27 Feb. (58) .                                                                  | 0 Sat. .  | 157-2268                                     | 4396       |
| 28 Mar. (87) .      | 2 Mon. .  | 3 50 0                        | 18 Mar. (77) .                                                                  | 6 Fri. .  | 191-8664                                     | 4397       |
| 27 Mar. (87) .      | 3 Tues. . | 10 2 30                       | 6 Mar. (66) .                                                                   | 3 Tues. . | 67-5498                                      | 4398       |
| 27 Mar. (86) .      | 4 Wed. .  | 16 15 0                       | 25 Mar. (84) .                                                                  | 2 Mon. .  | 102-1894                                     | 4399       |
| 27 Mar. (86) .      | 5 Thur. . | 22 27 30                      | 15 Mar. (74) .                                                                  | 0 Sat. .  | 316-5047                                     | 4400       |
| 28 Mar. (87) .      | 0 Sat. .  | 4 40 0                        | 4 Mar. (63) .                                                                   | 4 Wed. .  | 192-1881                                     | 4401       |
| 27 Mar. (87) .      | 1 Sun. .  | 10 52 30                      | 22 Mar. (82) .                                                                  | 3 Tues. . | 226-8277                                     | 4402       |
| 27 Mar. (86) .      | 2 Mon. .  | 17 5 0                        | 11 Mar. (70) .                                                                  | 0 Sat. .  | 102-6111                                     | 4403       |
| 27 Mar. (86) .      | 3 Tues. . | 23 17 30                      | 1 Mar. (60) .                                                                   | 5 Thur. . | 316-8264                                     | 4404       |
| 28 Mar. (87) .      | 5 Thur. . | 5 30 0                        | 19 Mar. (78) .                                                                  | 3 Tues. . | 12-8341                                      | 4405       |
| 27 Mar. (87) .      | 6 Fri. .  | 11 42 30                      | 8 Mar. (68) .                                                                   | 1 Sun. .  | 227-1494                                     | 4406       |
| 27 Mar. (86) .      | 0 Sat. .  | 17 55 0                       | 27 Mar. (86) .                                                                  | 0 Sat. .  | 261-7889                                     | 4407       |
| 28 Mar. (87) .      | 2 Mon. .  | 0 7 30                        | 16 Mar. (75) .                                                                  | 4 Wed. .  | 137-4728                                     | 4408       |
| 28 Mar. (87) .      | 3 Tues. . | 6 20 0                        | 5 Mar. (64) .                                                                   | 1 Sun. .  | 13-1558                                      | 4409       |
| 27 Mar. (87) .      | 4 Wed. .  | 12 32 30                      | 23 Mar. (93) .                                                                  | 0 Sat. .  | 47-7954                                      | 4410       |
| 27 Mar. (86) .      | 5 Thur. . | 18 45 0                       | 13 Mar. (72) .                                                                  | 5 Thur. . | 262-1106                                     | 4411       |
| 28 Mar. (87) .      | 0 Sat. .  | 0 57 30                       | 2 Mar. (61) .                                                                   | 2 Mon. .  | 137-7940                                     | 4412       |
| 28 Mar. (87) .      | 1 Sun. .  | 7 10 0                        | 21 Mar. (80) .                                                                  | 1 Sun. .  | 172-4337                                     | 4413       |
| 27 Mar. (87) .      | 2 Mon. .  | 13 22 30                      | 9 Mar. (69) .                                                                   | 5 Thur. . | 48-1170                                      | 4414       |
| 27 Mar. (86) .      | 3 Tues. . | 19 35 0                       | 27 Feb. (58) .                                                                  | 3 Tues. . | 262-4322                                     | 4415       |
| 28 Mar. (87) .      | 5 Thur. . | 1 47 30                       | 18 Mar. (77) .                                                                  | 2 Mon. .  | 297-0719                                     | 4416       |
| 28 Mar. (87) .      | 6 Fri. .  | 8 0 0                         | 7 Mar. (66) .                                                                   | 6 Fri. .  | 172-7553                                     | 4417       |
| 27 Mar. (87) .      | 0 Sat. .  | 14 12 30                      | 25 Mar. (85) .                                                                  | 5 Thur. . | 207-3949                                     | 4418       |
| 27 Mar. (86) .      | 1 Sun. .  | 20 25 0                       | 14 Mar. (73) .                                                                  | 2 Mon. .  | 83-0782                                      | 4419       |
| 28 Mar. (87) .      | 3 Tues. . | 2 37 30                       | 4 Mar. (63) .                                                                   | 0 Sat. .  | 297-3935                                     | 4420       |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikramā. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4421             | 1242  | 1377               | 726                              | 494-95  | 1319-20  | 53 Siddhārthia .    | 58 Raktāksha .      | ...                                              |
| 4422             | 1243  | 1378               | 727                              | 495-96  | *1320-21 | 54 Raudra .         | 59 Krōdhana .       | ...                                              |
| 4423             | 1244  | 1379               | 728                              | 496-97  | 1321-22  | 55 Durmati .        | 60 Kshaya .         | 3 Jyēshṭha .                                     |
| 4424             | 1245  | 1380               | 729                              | 497-98  | 1322-23  | 56 Dundubhi .       | 1 Prabhava .        | ...                                              |
| 4425             | 1246  | 1381               | 730                              | 498-99  | 1323-24  | 57 Rudhirōdgārin    | 2 Vibhava .         | 12 Phālguna .                                    |
| 4426             | 1247  | 1382               | 731                              | 499-00  | *1324-25 | 58 Raktāksha .      | 3 Śukla .           | ...                                              |
| 4427             | 1248  | 1383               | 732                              | 500-01  | 1325-26  | 59 Krōdhana .       | 4 Pramōda .         | ...                                              |
| 4428             | 1249  | 1384               | 733                              | 501-02  | 1326-27  | 60 Kshaya .         | 5 Prajāpati .       | 8 Kārttika .                                     |
| 4429             | 1250  | 1385               | 734                              | 502-03  | 1327-28  | 1 Prabhava .        | 6 Aṅgiras .         | ...                                              |
| 4430             | 1251  | 1386               | 735                              | 503-04  | *1328-29 | 2 Vibhava .         | 7 Śrīmukha .        | ...                                              |
| 4431             | 1252  | 1387               | 736                              | 504-05  | 1329-30  | 3 Śukla .           | 8 Bhāva .           | 5 Śrāvapa .                                      |
| 4432             | 1253  | 1388               | 737                              | 505-06  | 1330-31  | 4 Pramōda .         | 9 Yuvan† .          | ...                                              |
| 4433             | 1254  | 1389               | 738                              | 506-07  | 1331-32  | 5 Prajāpati .       | 11 Isvara .         | ...                                              |
| 4434             | 1255  | 1390               | 739                              | 507-08  | *1332-33 | 6 Aṅgiras .         | 12 Bahudhānya .     | 1 Chaitra .                                      |
| 4435             | 1256  | 1391               | 740                              | 508-09  | 1333-34  | 7 Śrīmukha .        | 13 Pramāthin .      | ...                                              |
| 4436             | 1257  | 1392               | 741                              | 509-10  | 1334-35  | 8 Bhāva .           | 14 Vikrama .        | 10 Pausa .                                       |
| 4437             | 1258  | 1393               | 742                              | 510-11  | 1335-36  | 9 Yuvan .           | 15 Vṛisha .         | ...                                              |
| 4438             | 1259  | 1394               | 743                              | 511-12  | *1336-37 | 10 Dhātṛi .         | 16 Chitrabhānu .    | ...                                              |
| 4439             | 1260  | 1395               | 744                              | 512-13  | 1337-38  | 11 Isvara .         | 17 Subhānu .        | 6 Bhādrapada                                     |
| 4440             | 1261  | 1396               | 745                              | 513-14  | 1338-39  | 12 Bahudhānya .     | 18 Tārāpa .         | ...                                              |
| 4441             | 1262  | 1397               | 746                              | 514-15  | 1339-40  | 13 Pramāthin .      | 19 Pārthiva .       | ...                                              |
| 4442             | 1263  | 1398               | 747                              | 515-16  | *1340-41 | 14 Vikrama .        | 20 Vyaya .          | 3 Jyēshṭha .                                     |
| 4443             | 1264  | 1399               | 748                              | 516-17  | 1341-42  | 15 Vṛisha .         | 21 Sarvajit .       | ...                                              |
| 4444             | 1265  | 1400               | 749                              | 517-18  | 1342-43  | 16 Chitrabhānu .    | 22 Sarvadhārin .    | 11 Māgha .                                       |
| 4445             | 1266  | 1401               | 750                              | 518-19  | 1343-44  | 17 Subhānu .        | 23 Virōdhin .       | ...                                              |

† 10 Dhātṛi was suppressed in the north by the mean system, but 11 Isvara by the true system. The year A.D. 1331-32 was by the latter system called "10 Dhātṛi" in the north.

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1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                                     |      | Kali year. |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|-----------------------------------------------------|------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                                     |      |            |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | <i>a</i> (here= <i>t</i> , the index of the tithi). |      |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                                  | 1    |            |
|                     |             | H. M. S.                      |                                                                                 |             |                                                     |      |            |
| 28 Mar. (87) . . .  | 4 Wed. . .  | 8 50 0                        | 23 Mar. (82) . . .                                                              | 6 Fri. . .  | 332-0331                                            | 4421 |            |
| 27 Mar. (87) . . .  | 5 Thur. . . | 15 2 30                       | 11 Mar. (71) . . .                                                              | 3 Tues. . . | 207-7165                                            | 4422 |            |
| 27 Mar. (86) . . .  | 6 Fri. . .  | 21 15 0                       | 28 Feb. (59) . . .                                                              | 0 Sat. . .  | 83-3999                                             | 4423 |            |
| 28 Mar. (87) . . .  | 1 Sun. . .  | 3 27 30                       | 19 Mar. (78) . . .                                                              | 6 Fri. . .  | 118-0395                                            | 4424 |            |
| 28 Mar. (87) . . .  | 2 Mon. . .  | 9 40 0                        | 9 Mar. (68) . . .                                                               | 4 Wed. . .  | 332-3547                                            | 4425 |            |
| 27 Mar. (87) . . .  | 3 Tues. . . | 15 52 30                      | 26 Mar. (86) . . .                                                              | 2 Mon. . .  | 28-3624                                             | 4426 |            |
| 27 Mar. (86) . . .  | 4 Wed. . .  | 22 5 0                        | 16 Mar. (75) . . .                                                              | 0 Sat. . .  | 242-6778                                            | 4427 |            |
| 28 Mar. (87) . . .  | 6 Fri. . .  | 4 17 30                       | 5 Mar. (64) . . .                                                               | 4 Wed. . .  | 118-3612                                            | 4428 |            |
| 28 Mar. (87) . . .  | 0 Sat. . .  | 10 30 0                       | 24 Mar. (83) . . .                                                              | 3 Tues. . . | 153-0008                                            | 4429 |            |
| 27 Mar. (87) . . .  | 1 Sun. . .  | 16 42 30                      | 12 Mar. (72) . . .                                                              | 0 Sat. . .  | 28-7841                                             | 4430 |            |
| 27 Mar. (86) . . .  | 2 Mon. . .  | 22 55 0                       | 2 Mar. (61) . . .                                                               | 5 Thur. . . | 242-9995                                            | 4431 |            |
| 28 Mar. (87) . . .  | 4 Wed. . .  | 5 7 30                        | 21 Mar. (80) . . .                                                              | 4 Wed. . .  | 277-6391                                            | 4432 |            |
| 28 Mar. (87) . . .  | 5 Thur. . . | 11 20 0                       | 10 Mar. (69) . . .                                                              | 1 Sun. . .  | 153-3224                                            | 4433 |            |
| 27 Mar. (87) . . .  | 6 Fri. . .  | 17 32 30                      | 27 Feb. (58) . . .                                                              | 5 Thur. . . | 29-0058                                             | 4434 |            |
| 27 Mar. (86) . . .  | 0 Sat. . .  | 23 45 0                       | 17 Mar. (76) . . .                                                              | 4 Wed. . .  | 63-6455                                             | 4435 |            |
| 28 Mar. (87) . . .  | 2 Mon. . .  | 5 57 30                       | 7 Mar. (66) . . .                                                               | 2 Mon. . .  | 277-0607                                            | 4436 |            |
| 28 Mar. (87) . . .  | 3 Tues. . . | 12 10 0                       | 25 Mar. (85) . . .                                                              | 1 Sun. . .  | 312-6003                                            | 4437 |            |
| 27 Mar. (87) . . .  | 4 Wed. . .  | 18 22 30                      | 14 Mar. (74) . . .                                                              | 5 Thur. . . | 188-2837                                            | 4438 |            |
| 28 Mar. (87) . . .  | 6 Fri. . .  | 0 35 0                        | 3 Mar. (62) . . .                                                               | 2 Mon. . .  | 63-9689                                             | 4439 |            |
| 28 Mar. (87) . . .  | 0 Sat. . .  | 6 47 30                       | 22 Mar. (81) . . .                                                              | 1 Sun. . .  | 98-6067                                             | 4440 |            |
| 28 Mar. (87) . . .  | 1 Sun. . .  | 13 0 0                        | 12 Mar. (71) . . .                                                              | 6 Fri. . .  | 312-9231                                            | 4441 |            |
| 27 Mar. (87) . . .  | 2 Mon. . .  | 19 12 30                      | 29 Feb. (60) . . .                                                              | 3 Tues. . . | 188-8054                                            | 4442 |            |
| 28 Mar. (87) . . .  | 4 Wed. . .  | 1 25 0                        | 19 Mar. (78) . . .                                                              | 2 Mon. . .  | 223-2350                                            | 4443 |            |
| 28 Mar. (87) . . .  | 5 Thur. . . | 7 37 30                       | 8 Mar. (67) . . .                                                               | 6 Fri. . .  | 98-9284                                             | 4444 |            |
| 28 Mar. (87) . . .  | 6 Fri. . .  | 13 60 0                       | 27 Mar. (86) . . .                                                              | 5 Thur. . . | 133-5879                                            | 4445 |            |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4446             | 1267  | 1402               | 751                              | 519-20  | *1344-45 | 18 Tārāṇa .         | 24 Vikṛita .        | ...                                              |
| 4447             | 1268  | 1403               | 752                              | 520-21  | 1345-46  | 19 Pārthiva .       | 25 Khara .          | 8 Kārttika .                                     |
| 4448             | 1269  | 1404               | 753                              | 521-22  | 1346-47  | 20 Vyaya .          | 26 Nandana .        | ...                                              |
| 4449             | 1270  | 1405               | 754                              | 522-23  | 1347-48  | 21 Sarvajit .       | 27 Vijaya .         | ...                                              |
| 4450             | 1271  | 1406               | 755                              | 523-24  | *1348-49 | 22 Sarvadhārin .    | 28 Jaya .           | 4 Āshāḍha .                                      |
| 4451             | 1272  | 1407               | 756                              | 524-25  | 1349-50  | 23 Virōdhin .       | 29 Manmatha .       | ...                                              |
| 4452             | 1273  | 1408               | 757                              | 525-26  | 1350-51  | 24 Vikṛita .        | 30 Durmukha .       | ...                                              |
| 4453             | 1274  | 1409               | 758                              | 526-27  | 1351-52  | 25 Khara .          | 31 Hēmalamba .      | 1 Chaitra .                                      |
| 4454             | 1275  | 1410               | 759                              | 527-28  | *1352-53 | 26 Nandana .        | 32 Vilamba .        | ...                                              |
| 4455             | 1276  | 1411               | 760                              | 528-29  | 1353-54  | 27 Vijaya .         | 33 Vikārin .        | 9 Mārgaśīra .                                    |
| 4456             | 1277  | 1412               | 761                              | 529-30  | 1354-55  | 28 Jaya .           | 34 Śārvarin .       | ...                                              |
| 4457             | 1278  | 1413               | 762                              | 530-31  | 1355-56  | 29 Manmatha .       | 35 Plava .          | ...                                              |
| 4458             | 1279  | 1414               | 763                              | 531-32  | *1356-57 | 30 Durmukha .       | 36 Subhākṛit .      | 6 Bhādrapada .                                   |
| 4459             | 1280  | 1415               | 764                              | 532-33  | 1357-58  | 31 Hēmalamba .      | 37 Śōbhana .        | ...                                              |
| 4460             | 1281  | 1416               | 765                              | 533-34  | 1358-59  | 32 Vilamba .        | 38 Krōdhin .        | ...                                              |
| 4461             | 1282  | 1417               | 766                              | 534-35  | 1359-60  | 33 Vikārin .        | 39 Viśvāvasu .      | 3 Jyēshtha .                                     |
| 4462             | 1283  | 1418               | 767                              | 535-36  | *1360-61 | 34 Śārvarin .       | 40 Parābhava .      | ...                                              |
| 4463             | 1284  | 1419               | 768                              | 536-37  | 1361-62  | 35 Plava .          | 41 Plavaṅga .       | 11 Māgha .                                       |
| 4464             | 1285  | 1420               | 769                              | 537-38  | 1362-63  | 36 Subhākṛit .      | 42 Kilaka .         | ...                                              |
| 4465             | 1286  | 1421               | 770                              | 538-39  | 1363-64  | 37 Śōbhana .        | 43 Saumya .         | ...                                              |
| 4466             | 1287  | 1422               | 771                              | 539-40  | *1364-65 | 38 Krōdhin .        | 44 Sādhārāṇa .      | 8 Kārttika .                                     |
| 4467             | 1288  | 1423               | 772                              | 540-41  | 1365-66  | 39 Viśvāvasu .      | 45 Virōdhākṛit .    | ...                                              |
| 4468             | 1289  | 1424               | 773                              | 541-42  | 1366-67  | 40 Parābhava .      | 46 Paridhāvin .     | ...                                              |
| 4469             | 1290  | 1425               | 774                              | 542-43  | 1367-68  | 41 Plavaṅga .       | 47 Pramādin .       | 4 Āshāḍha .                                      |
| 4470             | 1291  | 1426               | 775                              | 543-44  | *1368-69 | 42 Kilaka .         | 48 Ānanda .         | ...                                              |

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1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                |             |                                                |      | Kali year. |
|---------------------|-------------|-------------------------------|--------------------------------------------------------------------------------|-------------|------------------------------------------------|------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS) |             |                                                |      |            |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                            | Week-day.   | $\alpha$ (here= $t$ , the index of the titli). |      |            |
| 13                  | 14          | 17                            | 19                                                                             | 20          | 23                                             | 1    |            |
|                     |             | H. M. S.                      |                                                                                |             |                                                |      |            |
| 27 Mar. (87) . . .  | 0 Sat. . .  | 20 2 30                       | 15 Mar. (75) . . .                                                             | 2 Mon. . .  | 9-2513                                         | 4446 |            |
| 28 Mar. (87) . . .  | 2 Mon. . .  | 2 15 0                        | 5 Mar. (64) . . .                                                              | 0 Sat. . .  | 223-5666                                       | 4447 |            |
| 28 Mar. (87) . . .  | 3 Tues. . . | 8 27 30                       | 24 Mar. (83) . . .                                                             | 6 Fri. . .  | 258-2062                                       | 4448 |            |
| 28 Mar. (87) . . .  | 4 Wed. . .  | 14 40 0                       | 13 Mar. (72) . . .                                                             | 3 Tues. . . | 133-8897                                       | 4449 |            |
| 27 Mar. (87) . . .  | 5 Thur. . . | 20 52 30                      | 1 Mar. (61) . . .                                                              | 0 Sat. . .  | 9-5730                                         | 4450 |            |
| 28 Mar. (87) . . .  | 0 Sat. . .  | 3 5 0                         | 20 Mar. (79) . . .                                                             | 6 Fri. . .  | 44-2126                                        | 4451 |            |
| 28 Mar. (87) . . .  | 1 Sun. . .  | 9 17 30                       | 10 Mar. (69) . . .                                                             | 4 Wed. . .  | 258-5279                                       | 4452 |            |
| 28 Mar. (87) . . .  | 2 Mon. . .  | 15 30 0                       | 27 Feb. (58) . . .                                                             | 1 Sun. . .  | 134-2112                                       | 4453 |            |
| 27 Mar. (87) . . .  | 3 Tues. . . | 21 42 30                      | 17 Mar. (77) . . .                                                             | 0 Sat. . .  | 168-8509                                       | 4454 |            |
| 28 Mar. (87) . . .  | 5 Thur. . . | 3 55 0                        | 6 Mar. (65) . . .                                                              | 4 Wed. . .  | 44-5342                                        | 4455 |            |
| 28 Mar. (87) . . .  | 6 Fri. . .  | 10 7 30                       | 25 Mar. (84) . . .                                                             | 3 Tues. . . | 79-1738                                        | 4456 |            |
| 28 Mar. (87) . . .  | 0 Sat. . .  | 16 20 0                       | 15 Mar. (74) . . .                                                             | 1 Sun. . .  | 293-4891                                       | 4457 |            |
| 27 Mar. (87) . . .  | 1 Sun. . .  | 22 32 30                      | 3 Mar. (63) . . .                                                              | 5 Thur. . . | 169-1725                                       | 4458 |            |
| 28 Mar. (87) . . .  | 3 Tues. . . | 4 45 0                        | 22 Mar. (81) . . .                                                             | 4 Wed. . .  | 203-8121                                       | 4459 |            |
| 28 Mar. (87) . . .  | 4 Wed. . .  | 10 57 30                      | 11 Mar. (70) . . .                                                             | 1 Sun. . .  | 79-4955                                        | 4460 |            |
| 28 Mar. (87) . . .  | 5 Thur. . . | 17 10 0                       | 1 Mar. (60) . . .                                                              | 6 Fri. . .  | 293-8108                                       | 4461 |            |
| 27 Mar. (87) . . .  | 6 Fri. . .  | 23 22 30                      | 19 Mar. (79) . . .                                                             | 5 Thur. . . | 328-4504                                       | 4462 |            |
| 28 Mar. (87) . . .  | 1 Sun. . .  | 5 35 0                        | 8 Mar. (67) . . .                                                              | 2 Mon. . .  | 204-1338                                       | 4463 |            |
| 28 Mar. (87) . . .  | 2 Mon. . .  | 11 47 30                      | 27 Mar. (86) . . .                                                             | 1 Sun. . .  | 238-7731                                       | 4464 |            |
| 28 Mar. (87) . . .  | 3 Tues. . . | 18 0 0                        | 16 Mar. (75) . . .                                                             | 5 Thur. . . | 114-4568                                       | 4465 |            |
| 28 Mar. (88) . . .  | 5 Thur. . . | 0 12 30                       | 5 Mar. (65) . . .                                                              | 3 Tues. . . | 328-7721                                       | 4466 |            |
| 28 Mar. (87) . . .  | 6 Fri. . .  | 6 25 0                        | 23 Mar. (82) . . .                                                             | 1 Sun. . .  | 24-7798                                        | 4467 |            |
| 28 Mar. (87) . . .  | 0 Sat. . .  | 12 37 30                      | 13 Mar. (72) . . .                                                             | 6 Fri. . .  | 239-0951                                       | 4468 |            |
| 28 Mar. (87) . . .  | 1 Sun. . .  | 18 50 0                       | 2 Mar. (61) . . .                                                              | 3 Tues. . . | 114-7785                                       | 4469 |            |
| 28 Mar. (88) . . .  | 3 Tues. . . | 1 2 30                        | 20 Mar. (80) . . .                                                             | 2 Mon. . .  | 149-4181                                       | 4470 |            |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4471             | 1292  | 1427               | 776                              | 544-45  | 1369-70  | 43 Saumya .         | 49 Rākshasa .       | ...                                              |
| 4472             | 1293  | 1428               | 777                              | 545-46  | 1370-71  | 44 Sādhārana .      | 50 Anala .          | 1 Chaitra .                                      |
| 4473             | 1294  | 1429               | 778                              | 546-47  | 1371-72  | 45 Virōdhakṛit .    | 51 Piṅgala .        | ...                                              |
| 4474             | 1295  | 1430               | 779                              | 547-48  | *1372-73 | 46 Paridhāvin .     | 52 Kālayukta .      | 9 Mārgasīra .                                    |
| 4475             | 1296  | 1431               | 780                              | 548-49  | 1373-74  | 47 Pramādin .       | 53 Siddhārthin .    | ...                                              |
| 4476             | 1297  | 1432               | 781                              | 549-50  | 1374-75  | 48 Ānanda .         | 54 Randra .         | ...                                              |
| 4477             | 1298  | 1433               | 782                              | 550-51  | 1375-76  | 49 Rākshasa .       | 55 Durmati .        | 6 Bhādrapada                                     |
| 4478             | 1299  | 1434               | 783                              | 551-52  | *1376-77 | 50 Anala .          | 56 Dundubhi .       | ...                                              |
| 4479             | 1300  | 1435               | 784                              | 552-53  | 1377-78  | 51 Piṅgala .        | 57 Rudhirōdgārin    | ...                                              |
| 4480             | 1301  | 1436               | 785                              | 553-54  | 1378-79  | 52 Kālayukta .      | 58 Raktāksha .      | 2 Vaiśakha .                                     |
| 4481             | 1302  | 1437               | 786                              | 554-55  | 1379-80  | 53 Siddhārthin .    | 59 Krōdhana .       | ...                                              |
| 4482             | 1303  | 1438               | 787                              | 555-56  | *1380-81 | 54 Raudra .         | 60 Kshaya .         | 11 Māgha .                                       |
| 4483             | 1304  | 1439               | 788                              | 556-57  | 1381-82  | 55 Durmati .        | 1 Prabhava .        | ...                                              |
| 4484             | 1305  | 1440               | 789                              | 557-58  | 1382-83  | 56 Dundubhi .       | 2 Vibhava .         | ...                                              |
| 4485             | 1306  | 1441               | 790                              | 558-59  | 1383-84  | 57 Rudhirōdgārin    | 3 Sukla .           | 7 Āśvina .                                       |
| 4486             | 1307  | 1442               | 791                              | 559-60  | *1384-85 | 58 Raktāksha .      | 4 Pramōda .         | ...                                              |
| 4487             | 1308  | 1443               | 792                              | 560-61  | 1385-86  | 59 Krōdhana .       | 5 Prajāpati .       | ...                                              |
| 4488             | 1309  | 1444               | 793                              | 561-62  | 1386-87  | 60 Kshaya .         | 6 Āngiras .         | 4 Āshādha .                                      |
| 4489             | 1310  | 1445               | 794                              | 562-63  | 1387-88  | 1 Prabhava .        | 7 Śrīmukha .        | ...                                              |
| 4490             | 1311  | 1446               | 795                              | 563-64  | *1388-89 | 2 Vibhava .         | 8 Bhāva .           | 12 Phālguna .                                    |
| 4491             | 1312  | 1447               | 796                              | 564-65  | 1389-90  | 3 Sukla .           | 9 Yuvan .           | ...                                              |
| 4492             | 1313  | 1448               | 797                              | 565-66  | 1390-91  | 4 Pramōda .         | 10 Dhātri .         | ...                                              |
| 4493             | 1314  | 1449               | 798                              | 566-67  | 1391-92  | 5 Prajāpati .       | 11 Isvara .         | 9 Mārgasīra .                                    |
| 4494             | 1315  | 1450               | 799                              | 567-68  | *1392-93 | 6 Āngiras .         | 12 Bahudhānya .     | ...                                              |
| 4495             | 1316  | 1451               | 800                              | 568-69  | 1393-94  | 7 Śrīmukha .        | 13 Pramāthin .      | ...                                              |

LXXVI—Contd.

1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |             |                               |                                                                                 |             |                                       |            |
|---------------------|-------------|-------------------------------|---------------------------------------------------------------------------------|-------------|---------------------------------------|------------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                       | Kali year. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                             | Week-day.   | a (here = t, the index of the tithi). |            |
| 13                  | 14          | 17                            | 19                                                                              | 20          | 23                                    |            |
|                     |             | H. M. S.                      |                                                                                 |             |                                       |            |
| 28 Mar. (87) . .    | 4 Wed. . .  | 7 15 0                        | 9 Mar. (68) . .                                                                 | 6 Fri. . .  | 25-1015                               | 4471       |
| 28 Mar. (87) . .    | 5 Thur. . . | 13 27 30                      | 27 Feb. (58) . .                                                                | 4 Wed. . .  | 239-4167                              | 4472       |
| 28 Mar. (87) . .    | 6 Fri. . .  | 19 40 0                       | 18 Mar. (77) . .                                                                | 3 Tues. . . | 274-0564                              | 4473       |
| 28 Mar. (88) . .    | 1 Sun. . .  | 1 52 30                       | 6 Mar. (66) . .                                                                 | 0 Sat. . .  | 149-7397                              | 4474       |
| 28 Mar. (87) . .    | 2 Mon. . .  | 8 5 0                         | 25 Mar. (84) . .                                                                | 6 Fri. . .  | 184-3794                              | 4475       |
| 28 Mar. (87) . .    | 3 Tues. . . | 14 17 30                      | 14 Mar. (73) . .                                                                | 3 Tues. . . | 60-0627                               | 4476       |
| 28 Mar. (87) . .    | 4 Wed. . .  | 20 30 0                       | 4 Mar. (63) . .                                                                 | 1 Sun. . .  | 274-3779                              | 4477       |
| 28 Mar. (88) . .    | 6 Fri. . .  | 2 42 30                       | 22 Mar. (82) . .                                                                | 0 Sat. . .  | 309-0176                              | 4478       |
| 28 Mar. (87) . .    | 0 Sat. . .  | 8 55 0                        | 11 Mar. (70) . .                                                                | 4 Wed. . .  | 184-7009                              | 4479       |
| 28 Mar. (87) . .    | 1 Sun. . .  | 15 7 30                       | 28 Feb. (59) . .                                                                | 1 Sun. . .  | 60-3844                               | 4480       |
| 28 Mar. (87) . .    | 2 Mon. . .  | 21 20 0                       | 19 Mar. (78) . .                                                                | 0 Sat. . .  | 95-0230                               | 4481       |
| 28 Mar. (88) . .    | 4 Wed. . .  | 3 32 30                       | 8 Mar. (68) . .                                                                 | 5 Thur. . . | 309-3392                              | 4482       |
| 28 Mar. (87) . .    | 5 Thur. . . | 9 45 0                        | 26 Mar. (85) . .                                                                | 3 Tues. . . | 5-3469                                | 4483       |
| 28 Mar. (87) . .    | 6 Fri. . .  | 15 57 30                      | 16 Mar. (75) . .                                                                | 1 Sun. . .  | 219-6622                              | 4484       |
| 28 Mar. (87) . .    | 0 Sat. . .  | 22 10 0                       | 5 Mar. (64) . .                                                                 | 5 Thur. . . | 95-3456                               | 4485       |
| 28 Mar. (88) . .    | 2 Mon. . .  | 4 22 30                       | 23 Mar. (83) . .                                                                | 4 Wed. . .  | 129-9852                              | 4486       |
| 28 Mar. (87) . .    | 3 Tues. . . | 10 35 0                       | 12 Mar. (71) . .                                                                | 1 Sun. . .  | 5-6086                                | 4487       |
| 28 Mar. (87) . .    | 4 Wed. . .  | 16 47 30                      | 2 Mar. (61) . .                                                                 | 6 Fri. . .  | 219-9839                              | 4488       |
| 28 Mar. (87) . .    | 5 Thur. . . | 23 0 0                        | 21 Mar. (80) . .                                                                | 5 Thur. . . | 254-6235                              | 4489       |
| 28 Mar. (88) . .    | 0 Sat. . .  | 5 12 30                       | 9 Mar. (69) . .                                                                 | 2 Mon. . .  | 130-3069                              | 4490       |
| 28 Mar. (87) . .    | 1 Sun. . .  | 11 25 0                       | 28 Mar. (87) . .                                                                | 1 Sun. . .  | 164-9464                              | 4491       |
| 28 Mar. (87) . .    | 2 Mon. . .  | 17 37 30                      | 17 Mar. (76) . .                                                                | 5 Thur. . . | 40-6298                               | 4492       |
| 28 Mar. (87) . .    | 3 Tues. . . | 23 50 0                       | 7 Mar. (66) . .                                                                 | 3 Tues. . . | 254-9451                              | 4493       |
| 28 Mar. (88) . .    | 5 Thur. . . | 6 2 30                        | 25 Mar. (85) . .                                                                | 2 Mon. . .  | 289-5848                              | 4494       |
| 28 Mar. (87) . .    | 6 Fri. . .  | 12 15 0                       | 14 Mar. (73) . .                                                                | 6 Fri. . .  | 165-2681                              | 4495       |

TABLE.

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>Intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshadi solar year<br>in Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4496             | 1317  | 1452               | 801                              | 569-70  | 1394-95  | 8 Bhāva . .         | 14 Vikrama . .      | 6 Bhādrapada                                     |
| 4497             | 1318  | 1453               | 802                              | 570-71  | 1395-96  | 9 Yuvan . .         | 15 Vṛisha . .       | ...                                              |
| 4498             | 1319  | 1454               | 803                              | 571-72  | *1396-97 | 10 Dhātṛi . .       | 16 Chitrabhanu . .  | ...                                              |
| 4499             | 1320  | 1455               | 804                              | 572-73  | 1397-98  | 11 Īsvara . .       | 17 Subbānu . .      | 2 Vaisākha .                                     |
| 4500             | 1321  | 1456               | 805                              | 573-74  | 1398-99  | 12 Bahudhanya . .   | 18 Tārāṇa . .       | ...                                              |
| 4501             | 1322  | 1457               | 806                              | 574-75  | 1399-00  | 13 Pramāthin . .    | 19 Pārthiva . .     | 11 Māgha .                                       |
| 4502             | 1323  | 1458               | 807                              | 575-76  | *1400-01 | 14 Vikrama . .      | 20 Vyaya . .        | ...                                              |

LXXVI—*Contd.*

1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE |           |                               |                                                                                 |           |                                           |            |
|---------------------|-----------|-------------------------------|---------------------------------------------------------------------------------|-----------|-------------------------------------------|------------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                           | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mṛ̥ṣa-samkrānti. | Day and month, A.D.                                                             | Week-day. | $a$ (here= $t$ , the index of the tithi). |            |
| 13                  | 14        | 17                            | 19                                                                              | 20        | 23                                        | 1          |
| 28 Mar. (87) . .    | 0 Sat. .  | H. M. S.<br>18 27 30          | 3 Mar. (62) . .                                                                 | 3 Tues. . | 40-9515                                   | 4496       |
| 29 Mar. (88) . .    | 2 Mon. .  | 0 40 0                        | 22 Mar. (81) . .                                                                | 2 Mon. .  | 75-5912                                   | 4497       |
| 28 Mar. (88) . .    | 3 Tues. . | 6 52 30                       | 11 Mar. (71) . .                                                                | 0 Sat. .  | 289-9064                                  | 4498       |
| 28 Mar. (87) . .    | 4 Wed. .  | 13 5 0                        | 28 Feb. (59) . .                                                                | 4 Wed. .  | 165-5898                                  | 4499       |
| 28 Mar. (87) . .    | 5 Thur. . | 19 17 30                      | 19 Mar. (78) . .                                                                | 3 Tues. . | 200-2294                                  | 4500       |
| 29 Mar. (88) . .    | 0 Sat. .  | 1 30 0                        | 8 Mar. (67) . .                                                                 | 0 Sat. .  | 75-9127                                   | 4501       |
| 28 Mar. (88) . .    | 1 Sun. .  | 7 42 30                       | 26 Mar. (86) . .                                                                | 6 Fri. .  | 110-5523                                  | 4502       |

TABLE LXXVII.

DURATION AND COLLECTIVE DURATION OF MEAN SOLAR MONTHS ACCORDING TO THE FIRST ĀRYA  
SIDDHĀNTA, WITH INCREASE OF  $a$  AT EACH SAMKRĀNTI.

| Mean luni-solar<br>month, ending after<br>the second of the two<br>solar samkrāntis<br>connected<br>with it. | At the mean solar<br>samkrāntis.    | Collective duration in time and collective<br>increase of $a$ from mean Mēsha-samkrānti<br>to the several samkrāntis. |               |           |            |
|--------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------|-----------|------------|
|                                                                                                              |                                     | Day.                                                                                                                  | Week-<br>day. | H. M. S.  | $a$        |
| 1                                                                                                            | 2                                   | 3                                                                                                                     |               |           | 4          |
| 1. Chaitra . . .                                                                                             | Mina-samk. (of pre-<br>vious year). |                                                                                                                       |               |           |            |
| 2. Vaiśākha . . .                                                                                            | Mēsha-samk. .                       | 0                                                                                                                     | 0             | 0 0 0     | 0          |
| 3. Jyēṣṭha . . .                                                                                             | Ṛishabha-samk. .                    | 30                                                                                                                    | (2)           | 10 31 2½  | 307-3526   |
| 4. Āṣāḍha . . .                                                                                              | Mithuna-samk. .                     | 60                                                                                                                    | (4)           | 21 2 5    | 614-7052   |
| 5. Śrāvaṇa . . .                                                                                             | Karka-samk. .                       | 91                                                                                                                    | (0)           | 7 33 7½   | 922-0579   |
| 6. Bhādrapada . . .                                                                                          | Simha-samk. .                       | 121                                                                                                                   | (2)           | 18 4 10   | 1229-4105  |
| 7. Āśvina . . .                                                                                              | Kanyā-samk. .                       | 152                                                                                                                   | (5)           | 4 35 12½  | 1536-7631  |
| 8. Kārttika . . .                                                                                            | Tulā-samk. .                        | 182                                                                                                                   | (0)           | 15 6 15   | 1844-1157  |
| 9. Mārgaśīra . . .                                                                                           | Ṛiśchika-samk. .                    | 213                                                                                                                   | (3)           | 1 37 17½  | 2151-4684  |
| 10. Pausa . . .                                                                                              | Dhanus-samk. .                      | 243                                                                                                                   | (5)           | 12 8 20   | 2458-8210  |
| 11. Māgha . . .                                                                                              | Makara-samk. .                      | 273                                                                                                                   | (0)           | 22 39 22½ | 2766-1736  |
| 12. Phālguna . . .                                                                                           | Kumbha-samk. .                      | 304                                                                                                                   | (3)           | 9 10 25   | 3073-5262  |
|                                                                                                              | Mina-samk. .                        | 334                                                                                                                   | (5)           | 19 41 27½ | 3380-8789  |
| 1. Chaitra (of fol-<br>lowing year).                                                                         | Mēsha-samk. (of<br>following year). | 365                                                                                                                   | (1)           | 6 12 30   | 3689-2315* |

The duration of  
each mean solar  
month is 30d.  
10h. 31m. 2½s.;  
and during this  
period in addition  
to one whole  
revolution, the  
mean moon in-  
creases her dis-  
tance from mean  
sun, in measure-  
ment by 10,000ths  
of circle by,  
(or in other words  
the monthly  
increase of  $a =$ )  
307-352623 726.

\* More fully 3689-231494714.

TABLE LXXVIII.

VALUE OF  $a$  ( $=t$ ) AT BEGINNING OF CENTURIES OF THE KALIYUGA, ACCORDING TO THE FIRST ARYA SIDDHANTA MEAN SYSTEM.

[The value of  $a$  to be added for beginning of odd years of centuries is given in Table LXXIII above. W.-D.=Week-day.]

| Century<br>K. Y. | W.-D. | $a$ ( $=t$ ). |
|------------------|-------|---------------|
| 36               | 1     | 7715-3525     |
| 37               | 1     | 8583-1816     |
| 38               | 0     | 5112-3787     |
| 39               | 0     | 3980-2078     |
| 40               | 0     | 2848-0369     |
| 41               | 0     | 1715-8659     |
| 42               | 0     | 583-6950      |
| 43               | 0     | 9451-5240     |
| 44               | 0     | 8319-3531     |
| 45               | 0     | 7187-1822     |
| 46               | 6     | 5716-3793     |
| 47               | 6     | 4584-2084     |
| 48               | 6     | 3452-0375     |

The duration of each mean solar month is 30d. 10h. 31m. 2 $\frac{1}{2}$ s., and during this period in addition to one whole revolution, the mean moon increases her distance from mean sun, in measurement by 10,000ths of circle by, (or in other words the monthly increase of  $a$ =) 307-352623726.

N.B.—These values of  $a$  agree generally with Professor Jacobi's values above (Vol. XI, p. 164). The apparent differences are due to two causes; (i) The present estimate of the sum of the greatest equations of moon and sun is about 0-4 greater than that of Professor Jacobi. (ii) The values here stated for the beginnings of centuries 38 to 42 are for mean sunrise on Saturdays, while his are for mean sunrise on the following Sundays.

TABLE LXXIX.

MEAN SUNRISE VALUES OF  $a$  (DISTANCE OF MEAN MOON FROM MEAN SUN), IN 10,000THS OF CIRCLE, FOR A MONTH PREVIOUS TO THE DAY OF MEAN MESHA-SAMKRĀNTI.

| Interval of<br>days from<br>mean Mēsha-<br>samkrānti<br>day. | W.-D. | $a$ .<br>(mean<br>sunrise<br>value). | Interval of<br>days from<br>mean Mēsha-<br>samkrānti<br>day. | W.-D. | $a$ .<br>(mean<br>sunrise<br>value). |
|--------------------------------------------------------------|-------|--------------------------------------|--------------------------------------------------------------|-------|--------------------------------------|
| 31                                                           | 4     | 9502-4119                            | 15                                                           | 6     | 4920-5219                            |
| 30                                                           | 5     | 9841-0438                            | 14                                                           | 0     | 5259-1538                            |
| 29                                                           | 6     | 179-6756                             | 13                                                           | 1     | 5597-7856                            |
| 28                                                           | 0     | 518-3075                             | 12                                                           | 2     | 5936-4175                            |
| 27                                                           | 1     | 856-9394                             | 11                                                           | 3     | 6275-0494                            |
| 26                                                           | 2     | 1195-5713                            | 10                                                           | 4     | 6613-6813                            |
| 25                                                           | 3     | 1534-2032                            | 9                                                            | 5     | 6952-3131                            |
| 24                                                           | 4     | 1872-8350                            | 8                                                            | 6     | 7290-9450                            |
| 23                                                           | 5     | 2211-4669                            | 7                                                            | 0     | 7629-5769                            |
| 22                                                           | 6     | 2550-0988                            | 6                                                            | 1     | 7968-2088                            |
| 21                                                           | 0     | 2888-7306                            | 5                                                            | 2     | 8306-8406                            |
| 20                                                           | 1     | 3227-3625                            | 4                                                            | 3     | 8645-4725                            |
| 19                                                           | 2     | 3565-9944                            | 3                                                            | 4     | 8984-1044                            |
| 18                                                           | 3     | 3904-6263                            | 2                                                            | 5     | 9322-7263                            |
| 17                                                           | 4     | 4243-2581                            | 1                                                            | 6     | 9661-3681                            |
| 16                                                           | 5     | 4581-8900                            | 0                                                            | 0     | 0                                    |

N.B.—The use of this Table is explained in example 1.



TABLE LXXX.

THE SUN'S MEAN LONGITUDE DURING THE HINDU SOLAR YEAR, IN 10,000THS OF CIRCLE, ACCORDING TO THE FIRST ĀRYA SIDDHĀNTA, AT PERIODS OF 24 HOURS EACH, MEASURED FROM THE MOMENT OF MEAN MESHA-SAMKRĀNTI.

The same in degrees, etc., can be calculated by Table XLIV, Vol. XIV above.

| 24-hour period.                       | Sun's mean longitude. | 24-hour period.                      | Sun's mean longitude. | 24-hour period.                     | Sun's mean longitude. | 24-hour period.                     | Sun's mean longitude. |
|---------------------------------------|-----------------------|--------------------------------------|-----------------------|-------------------------------------|-----------------------|-------------------------------------|-----------------------|
| 1                                     | 2                     | 1                                    | 2                     | 1                                   | 2                     | 1                                   | 2                     |
| At moment of mean M̄śha-samkrānti.    | 0                     | 42                                   | 1149-8700             | 87                                  | 2381-8736             | 127                                 | 3476-9879             |
|                                       |                       | 43                                   | 1177-2479             | 88                                  | 2409-2514             | 128                                 | 3504-3657             |
|                                       |                       | 44                                   | 1204-5237             | 89                                  | 2436-6293             | 129                                 | 3531-7436             |
|                                       |                       | 45                                   | 1232-0036             | 90                                  | 2464-0071             | 130                                 | 3559-1214             |
|                                       |                       | 46                                   | 1259-3814             | 91                                  | 2491-3850             | 131                                 | 3586-4993             |
|                                       |                       | 47                                   | 1286-7593             | At moment of mean K̄ṛka-samkrānti.  | 2500-0                | 132                                 | 3613-8772             |
|                                       |                       | 48                                   | 1314-1371             |                                     |                       | 133                                 | 3641-2550             |
|                                       |                       | 49                                   | 1341-5150             |                                     |                       | 134                                 | 3668-6329             |
|                                       |                       | 50                                   | 1368-8929             |                                     |                       | 135                                 | 3696-0107             |
|                                       |                       | 51                                   | 1396-2707             |                                     |                       | 136                                 | 3723-3886             |
|                                       |                       | 52                                   | 1423-6486             |                                     |                       | 137                                 | 3750-7664             |
|                                       |                       | 53                                   | 1451-0264             |                                     |                       | 138                                 | 3778-1443             |
|                                       |                       | 54                                   | 1478-4043             |                                     |                       | 139                                 | 3805-5222             |
|                                       |                       | 55                                   | 1505-7821             |                                     |                       | 140                                 | 3832-9000             |
|                                       |                       | 56                                   | 1533-1600             |                                     |                       | 141                                 | 3860-2779             |
| 1                                     | 27-3779               | 57                                   | 1560-5379             | 92                                  | 2518-7629             | 142                                 | 3887-6557             |
| 2                                     | 54-7557               | 58                                   | 1587-9157             | 93                                  | 2546-1407             | 143                                 | 3915-0336             |
| 3                                     | 82-1336               | 59                                   | 1615-2936             | 94                                  | 2573-5186             | 144                                 | 3942-4114             |
| 4                                     | 109-5114              | 60                                   | 1642-6714             | 95                                  | 2600-8964             | 145                                 | 3969-7893             |
| 5                                     | 136-8893              | At moment of mean M̄ihuna-samkrānti. | 1666-6                | 96                                  | 2628-2743             | 146                                 | 3997-1672             |
| 6                                     | 164-2671              |                                      |                       | 97                                  | 2655-6521             | 147                                 | 4024-5450             |
| 7                                     | 191-6450              |                                      |                       | 98                                  | 2683-0300             | 148                                 | 4051-9229             |
| 8                                     | 219-0229              |                                      |                       | 99                                  | 2710-4079             | 149                                 | 4079-3007             |
| 9                                     | 246-4007              |                                      |                       | 100                                 | 2737-7857             | 150                                 | 4106-6786             |
| 10                                    | 273-7786              |                                      |                       | 101                                 | 2765-1636             | 151                                 | 4134-0564             |
| 11                                    | 301-1564              |                                      |                       | 102                                 | 2792-5414             | 152                                 | 4161-4343             |
| 12                                    | 329-5343              |                                      |                       | 103                                 | 2819-9193             | At moment of mean K̄anya-samkrānti. | 4166-6                |
| 13                                    | 355-9121              |                                      |                       | 104                                 | 2847-2971             |                                     |                       |
| 14                                    | 383-2900              |                                      |                       | 105                                 | 2874-6750             |                                     |                       |
| 15                                    | 410-6679              |                                      |                       | 106                                 | 2902-0529             |                                     |                       |
| 16                                    | 438-0457              |                                      |                       | 107                                 | 2929-4307             |                                     |                       |
| 17                                    | 465-4236              |                                      |                       | 108                                 | 2956-8086             |                                     |                       |
| 18                                    | 492-8014              |                                      |                       | 109                                 | 2984-1864             |                                     |                       |
| 19                                    | 520-1793              |                                      |                       | 110                                 | 3011-5643             |                                     |                       |
| 20                                    | 547-5571              |                                      |                       | 111                                 | 3038-9421             |                                     |                       |
| 21                                    | 574-9350              |                                      |                       | 112                                 | 3066-3200             |                                     |                       |
| 22                                    | 602-3129              | 61                                   | 1670-0493             | 113                                 | 3093-6979             | 153                                 | 4188-8122             |
| 23                                    | 629-6907              | 62                                   | 1697-4271             | 114                                 | 3121-0757             | 154                                 | 4216-1900             |
| 24                                    | 657-0686              | 63                                   | 1724-8050             | 115                                 | 3148-4536             | 155                                 | 4243-5679             |
| 25                                    | 684-4464              | 64                                   | 1752-1829             | 116                                 | 3175-8314             | 156                                 | 4270-9457             |
| 26                                    | 711-8243              | 65                                   | 1779-5607             | 117                                 | 3203-2093             | 157                                 | 4298-3236             |
| 27                                    | 739-2021              | 66                                   | 1806-9386             | 118                                 | 3230-5872             | 158                                 | 4325-7014             |
| 28                                    | 766-5800              | 67                                   | 1834-3164             | 119                                 | 3257-9650             | 159                                 | 4353-0793             |
| 29                                    | 793-9579              | 68                                   | 1861-6943             | 120                                 | 3285-3429             | 160                                 | 4380-4572             |
| 30                                    | 821-3357              | 69                                   | 1889-0721             | 121                                 | 3312-7207             | 161                                 | 4407-8350             |
| At moment of mean V̄ṛṣabha-samkrānti. | 833-3                 | 70                                   | 1916-4500             | 122                                 | 3340-0986             | 162                                 | 4435-2129             |
|                                       |                       | 71                                   | 1943-8279             | At moment of mean Ś̄iṁha-samkrānti. | 3333-3                | 163                                 | 4462-5907             |
|                                       |                       | 72                                   | 1971-2057             |                                     |                       | 164                                 | 4489-9686             |
|                                       |                       | 73                                   | 1998-5836             |                                     |                       | 165                                 | 4517-3464             |
|                                       |                       | 74                                   | 2025-9614             |                                     |                       | 166                                 | 4544-7243             |
|                                       |                       | 75                                   | 2053-3393             |                                     |                       | 167                                 | 4572-1022             |
|                                       |                       | 76                                   | 2080-7171             |                                     |                       | 168                                 | 4599-4800             |
|                                       |                       | 77                                   | 2108-0950             |                                     |                       | 169                                 | 4626-8579             |
|                                       |                       | 78                                   | 2135-4729             |                                     |                       | 170                                 | 4654-2357             |
|                                       |                       | 79                                   | 2162-8507             |                                     |                       | 171                                 | 4681-6136             |
|                                       |                       | 80                                   | 2190-2286             |                                     |                       |                                     |                       |
| 31                                    | 848-7136              | 81                                   | 2217-6064             | 123                                 | 3367-4764             |                                     |                       |
| 32                                    | 876-0914              | 82                                   | 2244-9843             | 124                                 | 3394-8543             |                                     |                       |
| 33                                    | 903-4693              | 83                                   | 2272-3621             | 125                                 | 3422-2322             |                                     |                       |
| 34                                    | 930-8471              | 84                                   | 2299-7400             | 126                                 | 3449-6100             |                                     |                       |
| 35                                    | 958-2250              | 85                                   | 2327-1179             |                                     |                       |                                     |                       |
| 36                                    | 985-6029              | 86                                   | 2354-4957             |                                     |                       |                                     |                       |
| 37                                    | 1012-9807             |                                      |                       |                                     |                       |                                     |                       |
| 38                                    | 1040-3586             |                                      |                       |                                     |                       |                                     |                       |
| 39                                    | 1067-7364             |                                      |                       |                                     |                       |                                     |                       |
| 40                                    | 1095-1143             |                                      |                       |                                     |                       |                                     |                       |
| 41                                    | 1122-4921             |                                      |                       |                                     |                       |                                     |                       |

TABLE LXXX—Contd.

| 24-hour period.                     | Sun's mean longitude. | 24-hour period.                        | Sun's mean longitude. | 24-hour period.                     | Sun's mean longitude. | 24-hour period.                   | Sun's mean longitude. |
|-------------------------------------|-----------------------|----------------------------------------|-----------------------|-------------------------------------|-----------------------|-----------------------------------|-----------------------|
| 1                                   | 2                     | 1                                      | 2                     | 1                                   | 2                     | 1                                 | 2                     |
| 172                                 | 4708-0914             | 220                                    | 6023-1286             | 272                                 | 7446-7772             | 320                               | 8760-9143             |
| 173                                 | 4736-3693             | 221                                    | 6050-5064             | 273                                 | 7474-1550             | 321                               | 8788-2922             |
| 174                                 | 4763-7472             | 222                                    | 6077-8943             | At moment of mean Makara samkrānti. | 7500-0                | 322                               | 8815-6700             |
| 175                                 | 4791-1250             | 223                                    | 6105-2622             |                                     |                       | 323                               | 8843-0479             |
| 176                                 | 4818-5029             | 224                                    | 6132-6400             |                                     |                       | 324                               | 8870-4257             |
| 177                                 | 4845-8807             | 225                                    | 6160-0179             |                                     |                       | 325                               | 8897-8036             |
| 178                                 | 4873-2586             | 226                                    | 6187-3957             |                                     |                       | 326                               | 8925-1814             |
| 179                                 | 4900-6364             | 227                                    | 6214-7736             |                                     |                       | 327                               | 8952-5593             |
| 180                                 | 4928-0143             | 228                                    | 6242-1514             |                                     |                       | 328                               | 8979-9372             |
| 181                                 | 4955-3922             | 229                                    | 6269-0593             |                                     |                       | 329                               | 9007-3150             |
| 182                                 | 4982-7700             | 230                                    | 6296-9072             |                                     |                       | 330                               | 9034-6929             |
| At moment of mean Mula samkrānti.   | 5000-0                | 231                                    | 6324-2850             |                                     |                       | 331                               | 9062-0707             |
|                                     |                       | 232                                    | 6351-6629             |                                     |                       | 332                               | 9089-4486             |
|                                     |                       | 233                                    | 6379-0407             |                                     |                       | 333                               | 9116-8264             |
|                                     |                       | 234                                    | 6406-4186             |                                     |                       | 334                               | 9144-2043             |
|                                     |                       | 235                                    | 6433-7964             |                                     |                       | At moment of mean Mīna-samkrānti. | 9166-6                |
|                                     |                       | 236                                    | 6461-1743             |                                     |                       |                                   |                       |
|                                     |                       | 237                                    | 6488-5522             |                                     |                       |                                   |                       |
|                                     |                       | 238                                    | 6515-9300             |                                     |                       |                                   |                       |
|                                     |                       | 239                                    | 6543-3079             |                                     |                       |                                   |                       |
|                                     |                       | 240                                    | 6570-6857             |                                     |                       |                                   |                       |
|                                     |                       | 241                                    | 6598-0636             |                                     |                       |                                   |                       |
|                                     |                       | 242                                    | 6625-4414             |                                     |                       |                                   |                       |
|                                     |                       | 243                                    | 6652-8193             |                                     |                       |                                   |                       |
|                                     |                       | At moment of mean Dhanu samkrānti.     | 6666-6                | 283                                 | 7747-9336             |                                   |                       |
| 284                                 | 7775-3114             |                                        |                       | 336                                 | 9198-9600             |                                   |                       |
| 285                                 | 7802-6893             |                                        |                       | 337                                 | 9226-3379             |                                   |                       |
| 286                                 | 7830-0672             |                                        |                       | 338                                 | 9253-7157             |                                   |                       |
| 287                                 | 7857-4450             |                                        |                       | 339                                 | 9281-0936             |                                   |                       |
| 288                                 | 7884-8229             |                                        |                       | 340                                 | 9308-4715             |                                   |                       |
| 289                                 | 7912-2007             |                                        |                       | 341                                 | 9335-8493             |                                   |                       |
| 290                                 | 7939-5786             |                                        |                       | 342                                 | 9363-2272             |                                   |                       |
| 291                                 | 7966-9564             |                                        |                       | 343                                 | 9390-6050             |                                   |                       |
| 292                                 | 7994-3343             |                                        |                       | 344                                 | 9417-9829             |                                   |                       |
| 293                                 | 8021-7122             |                                        |                       | 345                                 | 9445-3607             |                                   |                       |
| 294                                 | 8049-0900             |                                        |                       | 346                                 | 9472-7386             |                                   |                       |
| 295                                 | 8076-4679             |                                        |                       | 347                                 | 9500-1165             |                                   |                       |
| 296                                 | 8103-8457             |                                        |                       | 348                                 | 9527-4943             |                                   |                       |
| 297                                 | 8131-2236             | 349                                    | 9554-8722             |                                     |                       |                                   |                       |
| 298                                 | 8158-6014             | 350                                    | 9582-2500             |                                     |                       |                                   |                       |
| 299                                 | 8185-9793             | 351                                    | 9609-6279             |                                     |                       |                                   |                       |
| 300                                 | 8213-3572             | 352                                    | 9637-0057             |                                     |                       |                                   |                       |
| 301                                 | 8240-7350             | 353                                    | 9664-3836             |                                     |                       |                                   |                       |
| 302                                 | 8268-1129             | 354                                    | 9691-7615             |                                     |                       |                                   |                       |
| 303                                 | 8295-4907             | 355                                    | 9719-1393             |                                     |                       |                                   |                       |
| 304                                 | 8322-8686             | 356                                    | 9746-5172             |                                     |                       |                                   |                       |
| At moment of mean Kumbha samkrānti. | 8333-3                | 357                                    | 9773-8950             |                                     |                       |                                   |                       |
|                                     |                       | 358                                    | 9801-2729             |                                     |                       |                                   |                       |
|                                     |                       | 359                                    | 9828-6507             |                                     |                       |                                   |                       |
|                                     |                       | 360                                    | 9856-0286             |                                     |                       |                                   |                       |
|                                     |                       | 361                                    | 9883-4065             |                                     |                       |                                   |                       |
|                                     |                       | 362                                    | 9910-7843             |                                     |                       |                                   |                       |
|                                     |                       | 363                                    | 9938-1622             |                                     |                       |                                   |                       |
|                                     |                       | 364                                    | 9965-5400             |                                     |                       |                                   |                       |
|                                     |                       | 365                                    | 9992-9179             |                                     |                       |                                   |                       |
|                                     |                       | At moment of mean Vrischika samkrānti. | 8333-3                | 10,000-0                            |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
|                                     |                       |                                        |                       |                                     |                       |                                   |                       |
| 214                                 | 5858-8614             |                                        |                       |                                     | 266                   | 7282-5100                         | 314                   |
| 215                                 | 5886-2393             | 267                                    | 7309-8879             | 315                                 | 8624-0250             |                                   |                       |
| 216                                 | 5913-6172             | 268                                    | 7337-2657             | 316                                 | 8651-4029             |                                   |                       |
| 217                                 | 5940-9950             | 269                                    | 7364-6436             | 317                                 | 8678-7807             |                                   |                       |
| 218                                 | 5968-3729             | 270                                    | 7392-0214             | 318                                 | 8706-1586             |                                   |                       |
| 219                                 | 5995-7507             | 271                                    | 7419-3993             | 319                                 | 8733-5364             |                                   |                       |

TABLE LXXXI.

SUN'S MEAN LONGITUDE. INCREASE IN FRACTIONS OF DAY ACCORDING TO THE FIRST ARYA SIDDHANTA.

(For the same in degrees, etc., see above, Vol. XIV, Table XLIV.)

| INCREASE PER HOUR. |                         | INCREASE PER MINUTE. |                         |     |                         | INCREASE PER SECOND. |                         |     |                         |
|--------------------|-------------------------|----------------------|-------------------------|-----|-------------------------|----------------------|-------------------------|-----|-------------------------|
| No.                | In 10,000ths of circle. | No.                  | In 10,000ths of circle. | No. | In 10,000ths of circle. | No.                  | In 10,000ths of circle. | No. | In 10,000ths of circle. |
| 1                  | 1-1407                  | 1                    | 0-0190                  | 31  | 0-5894                  | 1                    | 0-0003                  | 31  | 0-0098                  |
| 2                  | 2-2815                  | 2                    | 0-0380                  | 32  | 0-6084                  | 2                    | 0-0006                  | 32  | 0-0101                  |
| 3                  | 3-4222                  | 3                    | 0-0570                  | 33  | 0-6274                  | 3                    | 0-0010                  | 33  | 0-0105                  |
| 4                  | 4-5630                  | 4                    | 0-0760                  | 34  | 0-6464                  | 4                    | 0-0013                  | 34  | 0-0108                  |
| 5                  | 5-7037                  | 5                    | 0-0951                  | 35  | 0-6654                  | 5                    | 0-0016                  | 35  | 0-0111                  |
| 6                  | 6-8445                  | 6                    | 0-1141                  | 36  | 0-6844                  | 6                    | 0-0019                  | 36  | 0-0114                  |
| 7                  | 7-9852                  | 7                    | 0-1331                  | 37  | 0-7035                  | 7                    | 0-0022                  | 37  | 0-0117                  |
| 8                  | 9-1260                  | 8                    | 0-1521                  | 38  | 0-7225                  | 8                    | 0-0025                  | 38  | 0-0120                  |
| 9                  | 10-2667                 | 9                    | 0-1711                  | 39  | 0-7415                  | 9                    | 0-0029                  | 39  | 0-0124                  |
| 10                 | 11-4074                 | 10                   | 0-1901                  | 40  | 0-7605                  | 10                   | 0-0032                  | 40  | 0-0127                  |
| 11                 | 12-5482                 | 11                   | 0-2091                  | 41  | 0-7795                  | 11                   | 0-0035                  | 41  | 0-0130                  |
| 12                 | 13-6889                 | 12                   | 0-2281                  | 42  | 0-7985                  | 12                   | 0-0038                  | 42  | 0-0133                  |
| 13                 | 14-8297                 | 13                   | 0-2472                  | 43  | 0-8175                  | 13                   | 0-0041                  | 43  | 0-0136                  |
| 14                 | 15-9704                 | 14                   | 0-2662                  | 44  | 0-8365                  | 14                   | 0-0044                  | 44  | 0-0139                  |
| 15                 | 17-1112                 | 15                   | 0-2852                  | 45  | 0-8556                  | 15                   | 0-0048                  | 45  | 0-0143                  |
| 16                 | 18-2519                 | 16                   | 0-3042                  | 46  | 0-8746                  | 16                   | 0-0051                  | 46  | 0-0146                  |
| 17                 | 19-3926                 | 17                   | 0-3232                  | 47  | 0-8936                  | 17                   | 0-0054                  | 47  | 0-0149                  |
| 18                 | 20-5334                 | 18                   | 0-3422                  | 48  | 0-9126                  | 18                   | 0-0057                  | 48  | 0-0152                  |
| 19                 | 21-6741                 | 19                   | 0-3612                  | 49  | 0-9316                  | 19                   | 0-0060                  | 49  | 0-0155                  |
| 20                 | 22-8149                 | 20                   | 0-3802                  | 50  | 0-9506                  | 20                   | 0-0063                  | 50  | 0-0158                  |
| 21                 | 23-9556                 | 21                   | 0-3993                  | 51  | 0-9696                  | 21                   | 0-0067                  | 51  | 0-0162                  |
| 22                 | 25-0964                 | 22                   | 0-4183                  | 52  | 0-9886                  | 22                   | 0-0070                  | 52  | 0-0165                  |
| 23                 | 26-2371                 | 23                   | 0-4373                  | 53  | 1-0077                  | 23                   | 0-0073                  | 53  | 0-0168                  |
|                    |                         | 24                   | 0-4563                  | 54  | 1-0267                  | 24                   | 0-0076                  | 54  | 0-0171                  |
|                    |                         | 25                   | 0-4753                  | 55  | 1-0457                  | 25                   | 0-0079                  | 55  | 0-0174                  |
|                    |                         | 26                   | 0-4943                  | 56  | 1-0647                  | 26                   | 0-0082                  | 56  | 0-0177                  |
|                    |                         | 27                   | 0-5133                  | 57  | 1-0837                  | 27                   | 0-0086                  | 57  | 0-0181                  |
|                    |                         | 28                   | 0-5323                  | 58  | 1-1027                  | 28                   | 0-0089                  | 58  | 0-0184                  |
|                    |                         | 29                   | 0-5514                  | 59  | 1-1217                  | 29                   | 0-0092                  | 59  | 0-0187                  |
|                    |                         | 30                   | 0-5704                  |     |                         | 30                   | 0-0095                  |     |                         |

## No. 7.—TWO NEW GRANTS OF DHRUVASENA [I.] FROM PALITANA.

By V. S. SUKTHANKAR, PH.D.

I edit here two new Valabhi copper-plate grants (one complete and one incomplete) which were presented, in 1918, to the Trustees of the Prince of Wales Museum, Bombay, by the Bhāvnagar Darbar, which is ever ready to further the cause of epigraphic research by placing ungrudgingly the materials, as they are discovered, in the hands of students of Indian history for investigation and publication, and, when possible, by having them exhibited in centrally situated museums. The plates under reference were discovered at the bottom of a small tank outside the Śatruñjaya Gate at Palitana while the tank was being drained during the time of the late Thakor Saheb of that State.<sup>1</sup>

## A.—PLATES OF DHRUVASENA I.; [VALABHI]-SAM[VAT] 207.

The plates, which are inscribed on one side only, are two in number, each measuring roughly 11½" broad by 6½" high. The edges are just slightly raised in order to protect the writing, which (excepting portions of ll. 1-4) is in a state of perfect preservation. The plates are of fair thickness; but the letters, being deep, show through on the reverse sides. The engraving is well executed. Each of the plates has two holes bored in it. A ring of copper passing through one pair of them serves to hold the plates together at one end. The seal, which is an invariable accompaniment of such plates, is missing. The aggregate weight of the plates is about 102 tōlas. Each plate contains twelve lines of writing; the last line but one of the second plate contains the date.

From the foregoing description of the plates, as well as from the facsimiles of them appearing with this article, it will be evident that this record does not differ in any striking particular from any of the hitherto published records of the same king. Only in the portion dealing with the grant proper does the text of this inscription differ, for example, from that of other plates of this king which were discovered some years back also at Palitana, and have been edited by Dr. Sten Konow in a former issue of this Journal.<sup>2</sup> The royal donor, Dhruvasēna, as well as the *dātaka* Mammaka and the writer Kikkaka, are names well known to the Indian epigraphist. It will, therefore, be unnecessary to go here into a minute description of the characters and orthography of this inscription. It will suffice to observe that the alphabet offers a specimen of final *t* (l. 15), final *m* (l. 23) and the numerical ideograms 200, 7, and 5, and that the name of the founder of the dynasty is spelt as *Bhaṭakka* (l. 3). At the end of line 12 is to be found a horizontal stroke, about ½" long, evidently drawn with a view to fill up the empty space remaining at the end. The reason for leaving the space vacant appears to be that the writer did not wish to commence, at the end of the line, a long word the whole of which would not have been contained in the short space that was left over.

The inscription is one of the *Mahārāja Dhruvasēna* [I.] of the Maitraka dynasty, and the grant contained in it is issued from the city of Valabhi. The object of the inscription appears to be to record the confirmation by Dhruvasēna of the donee, a Brāhmaṇa named Mādhava, of the Śunaka *gōtra*, student of the Chhandōga School, and resident of the village of Jyēsthānaka (stated to be *Akshasāraka-prāvṛṣṭya*) in the Hastavapra-haraṇī in the possession of some

<sup>1</sup> My friend Pandit Girijānkar Vallabhji of Rajkot, Curator of the Prince of Wales Museum, Bombay, informs me that the five Palitana plates edited by Prof. Konow (above, Vol. XI, pp. 104 ff.) were discovered at the same place and at the same time as the plates here described.

<sup>2</sup> Above, Vol. XI, pp. 104 ff.

land already enjoyed by him in the village of which he was a resident. Besides Hastavapra, which is the modern **Hāthab** (6 miles south of Goghā in the Bhāvnagar State), and Valabhī, which is commonly identified with the modern Valā (situated in 21° 52' N. and 71° 57' E.), none of the places can be located. The date of the record is the year 207 (given as usual in numerical ideograms), and the 5th (*tithi*) of the dark fortnight of Vaiśākha. The year when referred to the Gupta-Valabhī era yields A.D. (207 + 320) = A.D. 527.

There are two expressions in this inscription, both occurring in the portion dealing with the grant proper, which deserve some comment: they are *Akshasaraka-prāvēśya* (l. 12) and *sa-saibaram* (l. 16). The latter we will consider first.

Being mentioned along with the well-known technical expressions *sa-hiraṇy-ādēyam* and *sa-bhūta-vāta*<sup>o</sup>, *sa-saibaram* must be a term of like nature, i.e. a technicality of the lawyers; but what its significance may be I am unable to surmise. There can be no question regarding the correctness of the reading; the letters are perfectly distinct. The word *saibara* is not to be found in dictionaries; nor have I come across it elsewhere. I can only think that it may be, as it stands, a clerical error; but I am unable to suggest any plausible emendation for it.

The word *prāvēśya* in the other expression referred to above is also one that presents some difficulty to the interpreter. Here it is used in compound with *Akshasaraka*, evidently a place-name, and serves to locate more definitely the village *Jyēsthānaka* situated in the *Hastavapra-haraṇi*. As far as I know, the word *prāvēśya* has been met with only twice before: once in another Valabhī grant, occurring there in a compound with the same place-name *Akshasaraka*, and once again in the Khariar grant of *Mahāsudēva*, compounded with the word *Navannaka*, which is also a place-name.

The former record forms one of the five Valabhī grants from *Pālitāna*<sup>1</sup> edited by Prof. Sten Konow, and is a grant of *Dhruvasēna* I., dated in *Samvat* 210. In that connection Prof. Konow rightly points out that the phrase *Akshasaraka-prāvēśya* of the grant corresponds to the *Akshasaraka-prāpiya* in a third Valabhī grant,<sup>2</sup> viz. the *Gaṇēśgaḍ* (Baroda) plates of *Dhruvasēna*, dated *Samvat* 207. Hultzsch, when editing the latter grant, translated the phrase by 'which belongs to the *Akshasaraka-prāpa*.' Prof. Konow, who regards *prāvēśya* and *prāpiya* as synonyms, rejects Hultzsch's rendering of *Akshasaraka-prāpiya* and advances the suggestion that *prāvēśya* in this connection means the same thing as in the phrase *a-chāṭa-bhaṭa-prāvēśya*, and accordingly translates the phrase by 'which can be entered from (i.e., which borders on) *Akshasaraka*.' I cannot, in the first place, admit that the expressions *a-chāṭa-bhaṭa-prāvēśya* and *Akshasaraka-prāvēśya* correspond exactly. For in the former the first member of the compound comprises the logical subject of the verb contained in *prāvēśya*; but such cannot be the case with the second expression, even if we assign to it the meaning which Prof. Konow does. Secondly, I do not understand what is meant by saying that a village could be 'entered' from such and such a place. If, moreover, *prāvēśya* meant the same thing as 'bordering on,' as Prof. Konow asserts, I cannot help thinking that the writer would have employed a simple word like *saṁtīpa* or *pārava-vartin*, which lie at hand, to express that simple idea of proximity rather than use the circumlocution of *prāvēśya* or *prāpiya*. Hultzsch, on the other hand, appears to me to be undoubtedly on the right track. He looks upon *prāpiya* as a derivative of *prāpa*, which he takes to be a word denoting a territorial division smaller than an *āhāra*. Similarly the analogous term *prāvēśya* should also be looked upon as a *taddhita* of *prāvēśa*. That this derivation is correct may be seen from the Khariar plates of *Mahāsudēva*, in which a village is described (l. 4) as *Kṣhitimad-āhāriya* and *Navannaka-etat-prāvēśya*. No one will dispute that *āhāriya* is derived from *āhāra* ('district,' 'province') by the addition of the suffix *-iya*. That supplies us with the clue to the explanation of the other words under consideration here. All these words are derived

<sup>1</sup> Above, Vol. XI, pp. 104 ff., and Plates.

<sup>2</sup> Above, Vol. III, p. 320, and Plate.

by the addition of the secondary -(i)ya to the strengthened forms of the roots *ā-hri*, *pra-(ā-)viś* and *pra-(ā-)āp* ('bring to,' 'carry to'), words with only minute differences of meaning. I feel, therefore, constrained to reject the interpretation of Prof. Konow in favour of the other. *Prāptya* I take to be 'that which belongs to the *prāpa*,' and *prāveśya* 'that which belongs to the *prāveśa* (or *prāveśa*)'; both *prāpa* and *prāveśa* I regard as territorial divisions smaller than the *dhāra*.

TEXT.<sup>1</sup>Plate A<sub>1</sub>.

- 10 <sup>2</sup>परमभहारकपादानुभ्या(ध्या) तो महाराजध्रुवसेनः कुमलो सन्निव खानादुक्त-  
नियुक्तकचाट-  
11 भट्टाद्रि<sup>3</sup>महत्तरध्रुवखानाधिकारणिकदाण्डपायिकादीनन्या<sup>4</sup> यथासंभवमान  
कननु-  
12 दर्शयत्यस्तु वक्षंविदितं यथा मया हस्तवप्रहरण्यमचसरकपावेश<sup>5</sup>

Plate A<sub>2</sub>.

- 13 ज्येष्ठानकग्रामे उत्तरसीन्नि पादावर्त्तयतं पञ्चदिकं तस्मिन्नव<sup>6</sup> ग्रामव<sup>7</sup>व्यगुनक-  
14 सगोचाराणां हृन्दोगसब्रह्मचारीणां<sup>8</sup> ब्रह्मण्यभाधवपूर्वभुज्यभुज्यमानकं<sup>9</sup>(:) मातापिचोः  
15 पुण्याप्यायनायात्मना<sup>10</sup> वैदिकामुक्तिकयथाभिसहितफलावाप्तिनिमित्ता<sup>11</sup>माचन्द्रार्का-  
रणवक्षितिसरित्-  
16 पर्वतस्थितिसमकालीनं पुत्रपौत्रान्वयभोज्य<sup>12</sup> सशैवरं सहि[र\*]ण्यादेयं सभूतवा-  
तप्रत्यायविशुद्धा<sup>13</sup>  
17 उदकातिसर्गणं ब्रह्मदेयं निरुद्ध<sup>14</sup>[1\*] यतः एषां ब्रह्मदेयस्थित्या भुजता<sup>15</sup>  
क्षपतां प्रदिशताम्<sup>16</sup>  
18 स्वस्थाप्यावधा<sup>17</sup> विचारणा वा न कार्यास्मदंशजैर<sup>18</sup>नामिभद्रपतिभिः<sup>19</sup>नित्या-  
न्यैश्वर्यास्वस्थिरं मानुष्यं  
19 सामान्य<sup>20</sup> च भूमिदानफलमवगच्छद्भिरयमस्मादायोनुमन्तव्य [1\*] (उ) यथास्मिन्त्या-  
दस्मिन्त्यमानं<sup>21</sup> वातुमोदे-

<sup>1</sup> From the original plates, and a set of estampages.

<sup>2</sup> Up to this, the text is practically identical with the text of the Pālitānā plate of Dhruvasēna I. (dated *saka* 1011 296), published above, Vol. XI, pp. 106 ff. The only *varia lectiones* are unimportant mistakes of orthography, which it would be unnecessary to register individually as the facsimiles are there for reference.

<sup>3</sup> Read °न्यां.

<sup>4</sup> Read °काननु-.

<sup>5</sup> In the original a short horizontal stroke after स्त.

<sup>6</sup> Read स्त.

<sup>7</sup> A short vacant space between व and व्य. Read ग्रामवासाव्य°.

<sup>8</sup> Read °चारिणां ब्राह्मण°.

<sup>9</sup> Read °पूर्वभुज्यभुज्यमान°. The *anuvāsa* is written over the line between क; and मा. The letters *pāreśā-bhujyā-bhujyamānaka* have been engraved over some faintly incised letters.

<sup>10</sup> Read न.

<sup>11</sup> Read त.

<sup>12</sup> Read न्य.

<sup>13</sup> Read व.

<sup>14</sup> Read ह.

<sup>15</sup> Read संजता.

<sup>16</sup> Read तां.

<sup>17</sup> Read °गवा.

<sup>18</sup> Read त.

<sup>19</sup> Read वा.

<sup>20</sup> Read मं.

<sup>21</sup> Read यथास्मिन्त्यादास्मिन्.

- 20 ख पंचभिः महापातकैस्त्रोपपातकैस्त्यक्तस्य<sup>1</sup>दपि चात्र व्यासगीताः श्लोका  
भवन्ति [॥\*] बहुभिर्व्यसुधा
- 21 भुक्ता राजभिस्त्रगरादिभिः [॥\*] यस्य यस्य यदा भूमिः तस्य तस्य तदा  
फलं [॥\*] स्वदत्तां परदत्तां वा यो हरेत्
- 22 वसुन्धरां [॥\*] गवां शतसहस्रस्य हन्तुः<sup>2</sup> प्राप्नोति किल्बिषां<sup>3</sup> [॥\*] पूर्व-  
दत्तां द्विजातिभ्यो यन्नादत्र युधिष्ठिरः<sup>4</sup> [॥\*]
- 23 महि<sup>5</sup> महिमतां श्रेष्ठ दानाच्छ्रेयोनुपासनम् [॥\*] दूतकः प्रतीहारमन्त्रकः [॥\*]  
सं २०० ७ वैशाख<sup>6</sup> व ५ [॥\*]
- 24 स्वहस्तो मम महाराजध्रुव<sup>7</sup>सेनस्य [॥\*] लिखितं किल्लकेनति<sup>8</sup> [॥\*]

## TRANSLATION.

[Ll. 1-11 contain the usual preamble; for translation, cf., for instance, that of the opening lines of the Pālitānā plates, No. 1, edited by Prof. Konow, *Ep. Ind.*, Vol. XI, p. 108.]

(Ll. 12-16.) Be it known to you that for the purpose of increasing the religious merit of (my) mother and father, and for the sake of the attainment of the desired reward both in this world and in the next, I have confirmed, as *brahma-dēya*, with libation of water, (the enjoyment of) one hundred and sixty *pāḍāvarttas*, on the northern boundary of the *Jyēṣṭhānaka* village belonging to the *Akṣhasaraka-prāvēśya* in the *Hastavapra-haraṇi*, which had (formerly) been and are (still) being enjoyed (by the donee<sup>1</sup>), for (the benefit of) the resident of the same village, (namely,) the Brāhmaṇa *Mādhava* of the *Śunaka gōtra*, a student of the *Chhandōga* School,—to last for the same time as the moon, sun, ocean, earth, the rivers and mountains, to be enjoyed by the succession of his sons and sons' sons,—with (?) *śaibara*, with gold (and) *ādēya*, with *bhūta*, *vāta*, and (?) surety of holding (*pratyāya*).

(Ll. 17-19.) Wherefore, no enquiry should be made or obstruction caused (to him) by any one, while he is, according to the proper conditions of a *brahma-dēya*, enjoying, cultivating, or assigning (it to others). And this our gift should be assented to by those born in our lineage, and by future good kings, bearing in mind that power is perishable, the life of man is uncertain, and that the reward of a gift of land is common. And he who confiscates it or assents to its confiscation incurs the guilt of the five great sins together with the minor ones.

(Ll. 20-22.) There are also two verses sung by Vyāsa about this.

[Here follow two of the customary verses.]

(L. 23.) The *dātaka* is the *pratīhāra* *Mammaka*. (Dated the) 5th (*tithi*) of the dark (fortnight) of *Vaiśākha* (in the) year 200 7.

(L. 24.) (This is) the sign-manual of me *Mahārāja Dhruvasēna* [I.]. Written by *Kikkaka*.

## B.—ANOTHER PLATE OF [DHURUVAŚENA I.].

This plate, which contains only the opening portion of a land-grant of the Maitraka king *Dhruvasēna* I., is inscribed on one side only and measures roughly 10 $\frac{3}{4}$ " broad by 6 $\frac{1}{2}$ " high. The

<sup>1</sup> Read *स्य*.

<sup>2</sup> Over *प्रा* there is a peculiar sign, the meaning of which is not apparent. [I think it is *apadmānīya*.—Ed.]

<sup>3</sup> Read *क्ष*.

<sup>4</sup> Read *क्ष*.

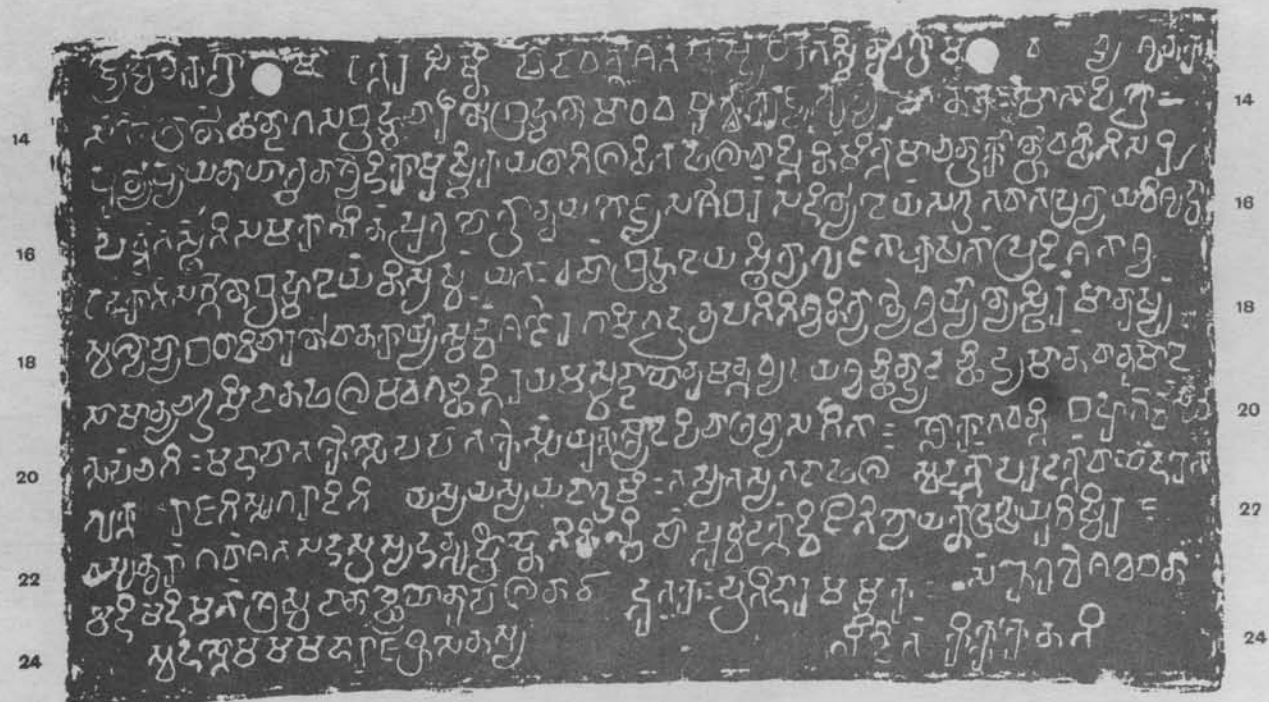
<sup>5</sup> Read *वैशाख*.

<sup>6</sup> Read *जेति*.

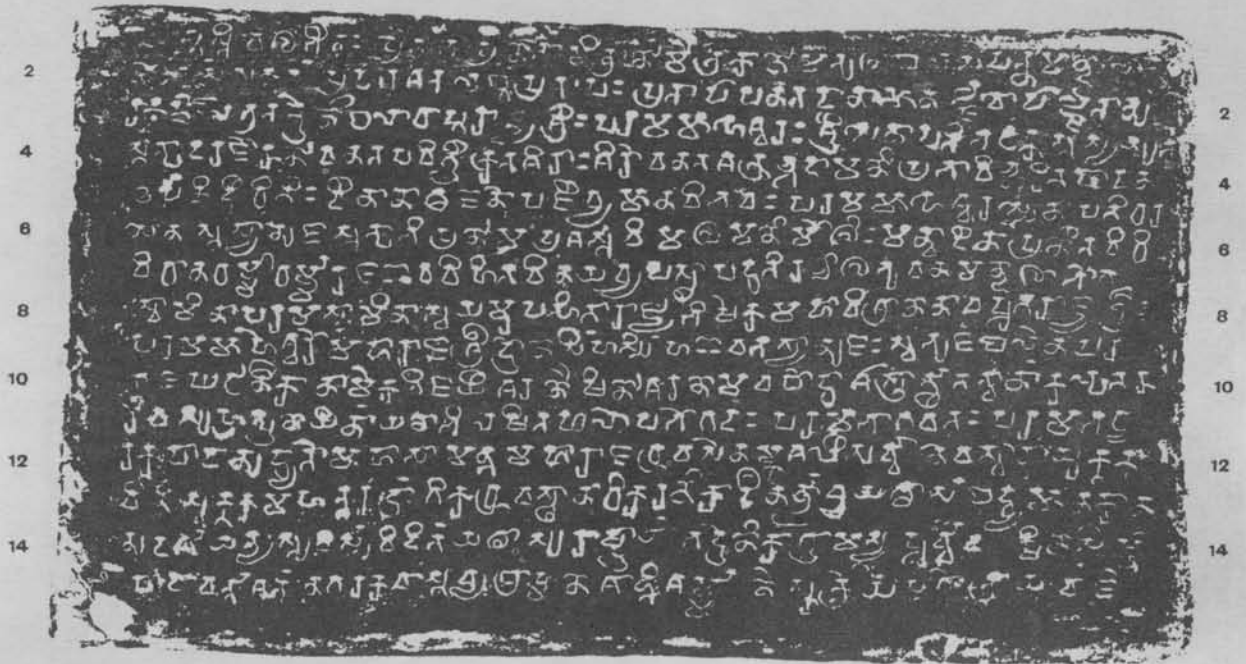
<sup>7</sup> The construction of line 14 is somewhat confused; it is not clear who the donee was, or who, at the time of the grant, was in possession of the land which is the object of the grant. As it stands, the text does not make any sense; my rendering is conjectural.

*Ai.*

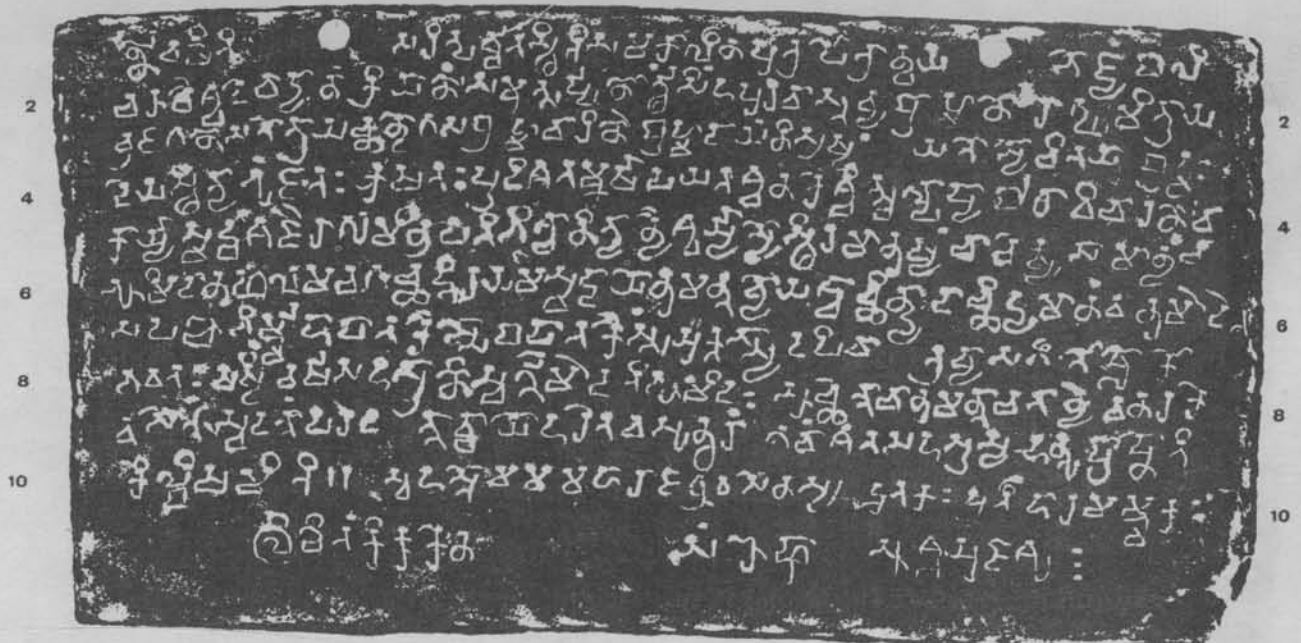
*A ii.*







Kathiawad Plate of Dhruvasena [I]: Samvat 206.



edges are just slightly raised, in order to protect the writing, which is in a state of excellent preservation throughout. The letters, which are deeply incised, show through on the reverse side of the plate. The engraving is well executed. The plate has a pair of holes bored at two adjacent corners and intended for receiving the ring and seal, which are missing. Its weight is 56 *tilas*. It contains fifteen lines of writing. The letters are of the period to which the plate refers itself, and of the type met with on other plates of the Maitraka dynasty. In short, this record is exactly like any of the large number of grants of Dhruvasēna I. that have latterly been brought to light. A detailed description of the characters, language and orthography of these plates, or even an English rendering of the text, seems superfluous. We may take it for granted that the *dātaka* of this grant was the *pratihāra* Mammaka, and the writer Kikkaka.

The grant was issued from Valabhi by the *Mahāsāmanta Mahārāja Dhruvasēna* [I.] to the Brāhmana Śāntīśarman of the Ātrēya *gōtra*, [a student of] the Vāji[sanēya] School and a resident of Nagaraka, either bestowing upon him or confirming him in the possession of one hundred *pādāvarṭtas* of land on the south-eastern boundary of the village of Bhadrēṇikā, situated in Surāshṭrā.

I am unable to identify Bhadrēṇikā. Nagaraka is probably Vaṇnagar, the home of the Nāgar Brāhmins.

#### TEXT.<sup>1</sup>

##### Plate B.

- 12 . . . 'महासामन्तमहाराजध्रुवसेनकुशली सर्वानिव स्तानायुक्तक-  
 13 विनियुक्तकमहत्तरदांगिकध्रुवस्थानाधिकरणिकादीनन्याश्च यथासंबद्धमानकान-  
 14 नुदर्शयत्यस्तु वस्त्रविदितं यथा सुराद्रायां भद्रेणिकाग्रामस्य पूर्वदिक्षिण-  
 सिन्धि<sup>3</sup>  
 15 पादावर्त्तयतं नगरकवास्तव्यब्राह्मणशान्तिशर्मणे चाक्षेयसमोदाय वाजि<sup>4</sup>

#### POSTSCRIPT.

##### A PLATE OF DHRUVASENA DATED SAM. 206.

Since writing the above I have come across a new Valabhi plate containing the concluding portion of a grant of Dhruvasēna dated in *sam.* 206, about which I should like to add a few words in continuation of the above note on the Bhavnagar plates. This new plate was placed in my hands for decipherment by Mr. J. C. Chatterjee, Dharmādhyaksha (Secretary in the Ecclesiastical Department) to the Government of His Highness the Gaikwar of Baroda. It was sent to him, he told me, officially from Kathiawad for decipherment: that is all that I could elicit from him regarding its previous history. The plate is 11½ inches long by 6½ inches broad; the edges are raised to protect the writing, which is in a state of perfect preservation; and the characters belong to the period to which the plate refers itself: in one word, the grant is similar in every respect to the records of the Valabhi kings that have hitherto come to light.

<sup>1</sup> From the original plate, and a set of estampages.

<sup>2</sup> Up to this the text is practically identical with the text of the Pālitānā Plate of Dhruvasēna I. (dated 206), published above, Vol. XI, pp. 105 ff. In l. 8, read *\*t-pād-ābhīpranāma\** for *\*t-pābhīpranāma\**; and *Manvādīnā* for *\*dīnā*.

<sup>3</sup> Read 'सीन्धि.

<sup>4</sup> The rest of the inscription is missing

The inscription is one of *Mahārāja Dhruvasēna* [I.] and records the grant of a village (of which the name must have occurred in the missing portion of the grant and is therefore now lost) to a Brāhmaṇa named *Rotghamitra* of the *Vrajagana gōtra*, a student of the *Chhandōga School*, and resident of *Simhapura*, for the maintenance of certain sacrifices. The grant is dated *sam. 200 6, Āsvina śukla 3*. The *samvat* year, when referred to the *Valabhi* era, yields A.D. (206 + 319) 525. The *dātaka* was *Mammaka*, and the writer *Kikkaka*, as usual.

The only point worthy of notice in this grant is the village-name *Simhapura*, which is mentioned in it as the residence of the grantees. It is tempting to identify it with *Sihōr* in the east of the *Kathiawad* peninsula, a junction on the *Bhavanagar-Wadhwan Railway*, not far from *Valā*, the ancient *Valabhi*.

[ KATHIAWAD PLATE OF DHRUVASENA [I.] ]

TEXT.<sup>1</sup>

- 1 rṇṇava-kṣhiti-sarit-parvvata-sthiti-samakālinam putra-pantr-ānvaya-bhōjyam bali-
- 2 charu-vaiśvadēv-ādyānām kriyāpām samutsarppaṇ-ārttham Simhapura-vāstavya-  
brāhmaṇa-Rōtghamitrāya
- 3 Vrajagana-sa-gōtrāya (Ch)Chhandōga-sa-brahmachārinē brahma-dāyam nisṛiṣṭam  
[\*] yatō=sy-ōchitayā brahma-
- 4 dēya-sthityā bhūmjataḥ kṛiṣhataḥ pradiśataḥ-karshāpayataś=cha na kaiś=chit=svalp-  
āpy-ābādīś vichāraṇā vā
- 5 kāryy-āsmad-vamśajair-āgummi<sup>2</sup>-nripatibhiś=ch=ānityāny-aiśvairyyāny=asthiram mānu-  
shyam ch=āvēkshya sāmānyam cha
- 6 bhūmi-dāna-phalam=avagachchadbhir=ayam=asmad-dāyō=numantavyō yaś=ch=āchchhin-  
dyād=āchchhidyamānam v=ānumōdēt
- 7 sa pañchabhir=mmahā-pātakais=s-opapātakais=samnyuktas=syād=api ch=ātra Vyāsa-gitan  
ślokan
- 8 bhavataḥ [\*] shashtim[\*] varsha-sahasrāpi svarggē mōdati bhūmidab[\*] āchchhettā  
ch=ānumantā cha tāny-ēva narakē
- 9 vasēt [||\*] sva-dattām para-dattā[m\*]=vā yō harēta vasundharām [\*] gavām  
śata-sahasrasya hantu[h\*] prāpnōti
- 10 kilbisham[||\*]=iti sva-hastō mama mahārāja-Dhruvasēnasya [||\*] dūtakaḥ  
prathīhāra-Mammakaḥ [||\*]
- 11 likhitam Kikkakena [||\*] sam 200 6 Āsvayuja śu 3 [||\*]

No. 8.—SRIRANGAM COPPER-PLATE GRANT OF DEVARAYA II;  
SAKA 1349 (1350).

By the late T. A. Gopinatha Rao, M.A., TRIVANDRUM.

The temple of Śrī-Rāṅganātha at Śrīraṅgam possesses, among others, two sets of copper-plates belonging to the reign of the Vijayanagara king Dēvarāya II. The inscriptions engraved upon these two sets are edited below from the impressions prepared under my supervision.

No. I. SAKA-SAMVAT 1349.

This set consists of three plates (size 10½ × 6½ in.), of which the first and the third bear writing on one face only, namely, the second side of the first and the first side of the third.

<sup>1</sup> From the original plate and a set of impressions.

<sup>2</sup> [Read āgami.—Ed.]

The inscription is in good state of preservation. The alphabet in which the record is written is **Nandināgarī**, and the language partly **Saṁskṛit** and partly **Kannāḍa**. The first section covers 41, and the second 34 lines, and the remaining portion contains the usual admonitory and imprecatory verses. At the end appears, as is usual with the documents of the kings of the first dynasty of Vijayanagara, the word *Śrī-Virūpākṣha*, the sign-manual of the king, written in the Telugu-Kannāḍa alphabet. The same sort of mistakes, careless execution of the engraving, leaving room for a number of corrections, erasures, interlineations, etc., and other faults common to the other grants of this period are to be found in these two sets of copper-plates also; there is no necessity for them to be noticed in detail here; they are noted in the foot-notes at the appropriate places.

The record is dated **Śaka 1349**, which is expressed by the **chronogram dhivalōka**; this year corresponded to the cyclic year **Plavaṅga**. In the Kannāḍa portion the Śaka year is given as 1350, and the same Plavaṅga is said to be current. On a **Sunday**, which was the **Uttāna-dvādaśī tithi** in the bright half of the month **Kārttika**, the king **Dēva-Rāya II** granted to the God **Raṅganātha** of **Śrīraṅgam** the village of **Pāṇḍamaṅgalam** together with the sub-villages, **Tirunālūr**, **Sēraṇaibāṇḍa-perumā-nallūr**, and **Sunepuha-nalūr**, in the name and for the merit of his mother **Nārāyaṇāmbikā**. The genealogy of the king is traced thus :—

Saṅgama  
|  
His middle son  
Bukka I  
md. Gaṇrāmbikā  
|  
Hariharēśvara  
|  
Pratāpa-dēva-Rāya I  
md. Dēmāmbikā  
|  
Vijaya-Bhūpati  
md. Nārāyaṇāmbikā  
|  
Dēva-Rāya II

Dēva-Rāya II bears the *birudas*, **Rāj-ādhirāja**, **Rāja-param-ēśvara**, **Bhāṣh-ātīlaṅghi-bhūpāla-bhujāṅga** (= *Bhāṣhege-tappuva-rāyara-gaṇḍa*), **Mūru-rāyara-gaṇḍa** and **Hindu-rāya-suratrāṇa**. Having ascended his ancestral throne and while protecting the kingdom, residing in his capital **Vijayanagara**, which is situated on the bank of the river **Tuṅgabhadrā**, king Dēva-Rāya made the grant mentioned above in the presence of the god **Virūpākṣha** on the bank of the **Tuṅgabhadrā**. The villages **Pāṇḍamaṅgalam**, **Tirunālūr** and **Sēraṇaibāṇḍa-perumā-nallūr** are said to have been situated in the **Rājagambhīra vaṇaṇḍu** on the south side of the river **Kāvērī**; and **Sunepuha-nalūr** in the **Mēlmuri** of the **Mala nāḍu**, a sub-division of the **Rājārāja vaṇaṇḍu**, on the north of the same river. The Kannāḍa portion adds that the villages belonged to the **Amarāḍa hōbaḷi**. All of them belonged also to the **Tiruchchirāppaḷḷi rājya** or **chāvaḍi**. The purpose for which the grant is made is given in full detail in the Kannāḍa portion. From the income of the villages twelve perpetual lamps should be burned, flower-garlands dedicated and one festival celebrated. The grant was made as an auxiliary to the **Gō-sahasra Mahādāna** performed by the king. The grant was ordered to be executed from the first *tithi* of the bright fortnight of the month **Āṣāḍha**. The income from the villages situated on the south of the **Kāvērī** was 1403 coins (*kuḷa-gaḍyāṇa*), and that from the village on the north of the river 420; total 1,822

*gadyānas*. A number of taxes leviable in these villages are included in the grant: they are taxes on the *nañsey*, *puñsey*, *pūm-payir*, *vāśal*- and *mañai-ppēru-kaḍamai*, *tari-kkaḍamai*, *māvaḍai*, *maravaḍai*, *kuḷavaḍai*, *kalāyam*, *tirigai-āyam*, *pēr-kaḍamai* (*tari-kaḍamai*), *āḷukku-nir-pāṭṭam*, *mahamai*, *kaṭṭigai-avasaram*, *paṭai-kānikkai*, *Āḍi-Kārttigai-pachchai*, and all old and new taxes. Several of these have remained unexplained up till now. It is easy to understand the nature of the first four; they are levied on wet and dry cultivation, on inferior crops, on houses and compounds and on looms; *māvaḍai*, *maravaḍai* and *kuḷavaḍai* are taxes on animals, trees and tanks: that is, perhaps, when animals are sold in markets; on fruit-bearing trees and for fishing in tanks. *Kalāyam* literally means tax on stone; it is very likely a tax payable for quarrying stones from hills; what tax is meant by *tirigai-āyam* is not known. *Pēr-kaḍamai* means taxes on persons, a sort of poll-tax evidently. *Āḷukku-nir-pāṭṭam* is a tax for maintaining the person appointed for making regular supply of water to the fields: this appears to be the same as *nirānikkam*. *Magamai* is a corrupt form of *maganmai*, the nature of being a son to another; this levy is still in force among certain merchants in the Tanjore and Trichinopoly districts. On all sales and purchases the merchants collect a small, but fixed, sum and utilize the money thus collected for some public purpose. Compare similar words, as *kōyima* corrupted into *kōyma*, *ārānma*, etc. *Kaṭṭigai-avasaram* appears to be some sort of tax on fire-wood; and *paṭai* (*paḍai*)-*kānikkai* is the contribution to be made for the maintenance of the army. *Pachchai* means a *kānikkai*, a *nazar*, a present on important occasions. In this sense the word is employed in contemporary literature; for instance, in *Śrī-vachana-bhūṣaṇam*, I, 33 and 34. Such *kānikkai*s seem to be given in the months of *Āḍi* and *Kārttigai*.

The following places and rivers are mentioned in the inscription:—**Tuṅgabhadra, Vijayanagara, Tiruchchirappalli, Kāvēri, Rājagambhira vaḷanāḍu, Pāṇḍa-maṅgalam, Tirunālūr, Śēranaibāṇḍa-perumā-nallūr, Rājārāja vaḷanāḍu, Mēlmurī** of the **Maḷa nāḍu** and **Sunepuha-nālūr**. Of these the Tuṅgabhadra and the Kāvēri are the well-known rivers of South India. Tiruchchirappalli is the modern town of Trichinopoly, the head-quarters of the district of the same name. The part of the country immediately to the south of the river Kāvēri was known to medieval inscriptions as the Rājagambhira vaḷanāḍu, and that on the north of the same as the Rājārāja vaḷanāḍu. Maḷa nāḍu is a sub-division of this territory and has given its name to a section of the Tamil Brāhmanas, i.e. the Brihach-charaṇa community of Maḷa nāḍu. Vijayanagara, the capital of the famous Hindu kings of Southern India, is the modern Hampi on the Tuṅgabhadra. Pāṇḍa-maṅgalam is a village a mile and a half west of Trichinopoly; this and Tirunālūr are in the Trichinopoly *Tālūk*; the correct form of the name Śēranaibāṇḍa-perumā-nallūr is Śērāṇai-veṅṇa-perumā-nallūr. There is a village some distance south of Pāṇḍa-maṅgalam called Vēṇḍarāya-nallūr. This is perhaps the same. Sunepuha-nālūr is situated at a distance of seven and a half miles to the north-west of Trichinopoly.

#### TEXT.

[Metres: vv. 1-25, *Anuṣṭubh*, and v. 26, *Śālinī*.]

First Plate: Second Side.

- 1 श्रीगङ्गाधिपतये नमः [॥\*] नमः(ः)स्ते [॥\*] नमः(ः)स्ते [॥\*] नमः(ः)स्तुगसि
- 2 रघुविंशद्वयाम[र\*][चा]रवे [॥\*] चेलीकनगरारंभमूल-

<sup>1</sup> From impressions prepared under my supervision.

<sup>2</sup> Read ०कुर्वति०कुर्वन्.

- 3 स्तंभाय संभवे<sup>1</sup> (तु) ।[ 1\*] भू[य\*]क्षे<sup>2</sup> भवतां भूते<sup>3</sup> भूयादा<sup>4</sup>चर्य-  
 4 कंजरः[1\*] आहुर्विहारकांतार च[1\*]<sup>5</sup>गमान्यस्य [यो]-  
 5 गिनः ।[ 2\*] क्षेमं वः प्रचुरीकुर्यात्क्षीणीमभ्युदयनयं<sup>6</sup>[1\*] [क्रो]-  
 6 डाकतेरभूयस्य क्रीडापल्लव[ल]मंघ्रि<sup>7</sup>[ः॥ 3\*] अस्ति क्षीरा[र्ष]-  
 7 वोद्भूतमपां पु[ष्प]मलुप्तयं<sup>8</sup> । अस्मानदं निर्मायमाध-<sup>9</sup>  
 8 ते शिरसीश्वरः [॥ 4\*] सदामोदनिधेस्तस्य संतानेयद्र[सं]-<sup>10</sup>  
 9 [त्रि]ते [1\*] अभूदाचर्यम[र]धुर्यं वसुधायास्तपःफलं [॥ 5\*]  
 10 संगमो नाम रा[जा]भू[क्षा]रभूते तदन्वये [1\*] रेजे यस्य  
 11 यशःशिखीः<sup>11</sup> सर[णी]व सुरापमा [॥ 6\*] सर्वरत्ननिधि]-  
 12 स्तस्य संभाडासीत्तनूधुवं<sup>12</sup> । मध्ये बुद्धमहीपालो म-  
 13 णीनामिव कौस्तुभः [॥ 7\*] तस्य गौरांशिकाजानेस्त(नयो वि)-  
 14 नयोभूद्वये<sup>13</sup>क्षतः [1\*] [हा]रगौरयशःपु<sup>14</sup>रहारिहरि[रे]-  
 15 श्वरः [॥ 8\*] <sup>15</sup>यषोडशमहादानयशसां दिग्विहारिणां [1\*] भूय[सा]-  
 16 मभवंनालं<sup>16</sup> भुवनानि चतुर्दश [॥ 9\*] प्रतापदेवरायाख्यः  
 17 पुत्रोभू<sup>17</sup>द्वि विभुतः [1\*] प्रमोद इव भूतीं यः प्रजानां खैर्गु-  
 18 णैर[भू]<sup>18</sup>त् [॥ 10\*] प्रत्य[धि]समिधो हुत्वा प्रतापान्मौ रथाक्वणे [1\*]<sup>19</sup>  
 19 विजितो येन(१) धीरेण विजयश्रीकरग्रहः [॥ 11\*] तस्य दे-  
 20 मांशिकाजानेस्तनयो विनयोक्षतः [1\*] विद्यानिधि-  
 21 विशेषज्ञो धीरो विजयभूपतिः [॥ 12\*] दयानिधिर[भू]-  
 22 तस्य देवीनारायणांशिका [1\*] गौरेरिव महालक्ष्मीः शं-  
 23 [क]रस्येव पार्वती [॥ 13\*] पुनरुपं तयो [ः\*] आद्यं पु<sup>20</sup>र्वंभव्य त-

## Second Plate : First Side.

- 24 पःफलं [1\*] देवरायमहीपालो दाता दीव्यति भूतले [॥ 14\*]  
 25 विक्रमे विक्रम[र]दित्यं भोगे भोजमिवापरं [1\*] राजराजं वि-

<sup>1</sup> Read भू.<sup>4</sup> Read °दाचर्य.<sup>7</sup> Read °मंघ्रि.<sup>10</sup> Read सन्तानं वदुर्ध्वमितम्.<sup>12</sup> Read क्षी.<sup>13</sup> Read °वक्ष्य.<sup>16</sup> Read रथाक्वणे.<sup>2</sup> Read भूयस्ये<sup>5</sup> Read क्षांतरमा°.<sup>8</sup> Read °मल.<sup>11</sup> Read यशः शिखीः<sup>14</sup> Read पु.<sup>17</sup> Read °हु.<sup>20</sup> Read पु.<sup>3</sup> Read भूते.<sup>6</sup> Read °उदयन.<sup>9</sup> Read अस्मानं वदनिर्माय°.<sup>12</sup> Read साधाडासीत्तनूधुवं.<sup>15</sup> Read यषोडश°.<sup>18</sup> Read °भू.





224 226 228 230 232 234 236 238 240 242 244

2 4 6 8 10 12 14 16 18 20 22



दतिपिनालुसुहृत्तः ॥ १६ ॥ मरासवः ॥ तानुह  
 इत्येवंप्रकालदलुं गतदात्री नदलिसीवित्रुप  
 कसंनिधियल्लिनाडुमाहिदसहस्रगदानागव  
 गिसीपुगजाघदेवनिगमगत्रगनोगममिति  
 पडिगेतसचक्र ॥ १७ ॥ मासाडसुथपाडुमात्रतो  
 कगिस्त्रिचपल्लिवावडियत्राङ्गोती ॥ १८ ॥  
 काडसमात्रदहोतलियपाडुमगलदद्यामं ॥ १९ ॥  
 इतलुहल्लितिनलुनगामुसेननेतुं प ॥ २० ॥  
 मातैतलुनगामं ॥ २१ ॥ तपिडाकैसहया ॥ २२ ॥  
 केकुल ॥ २३ ॥ कडक ॥ २४ ॥ नासुमा ॥ २५ ॥ कुलना  
 डमलना ॥ २६ ॥ मलेसुमियसुनैपुहल्लुनग  
 म ॥ २७ ॥ केकुल ॥ २८ ॥ तयं ॥ २९ ॥ गामयेन ॥ ३० ॥  
 केकुलगद्याम ॥ ३१ ॥ ३२ ॥ कंरुगसुप ॥ ३३ ॥  
 हुनवतुसीमं ॥ ३४ ॥ सलुवतं ॥ ३५ ॥ पुत्रेव  
 तपयितुं ॥ ३६ ॥ पातुवासलुमनेपे ॥ ३७ ॥ सु  
 डमंतनिक ॥ ३८ ॥ मासावडुमनवे ॥ ३९ ॥  
 कुलवडुमलायं ॥ ४० ॥ तिनियोगीमायं ॥ ४१ ॥  
 म ॥ ४२ ॥ तिमि ॥ ४३ ॥ म ॥ ४४ ॥ लुकुनीपा  
 टं ॥ ४५ ॥ म ॥ ४६ ॥ म ॥ ४७ ॥ सवसुनप ॥ ४८ ॥  
 माति ॥ ४९ ॥ माहि ॥ ५० ॥ माति ॥ ५१ ॥ म  
 ॥ ५२ ॥ ताहासवतिहल्लव

निभुं तादसकलसुवनीदायसकलततो  
 दायनिधिनिकपकलपापासदि ॥ ५३ ॥ मागासि  
 सिद्धसाधसुतादससुतागते ॥ ५४ ॥ स्वाम्यसधितव  
 गिमात्रडाकल्लायियागिलवमात्मवागिसिनिहि  
 कोटवागिसीपुगताघदेवनिगमं ॥ ५५ ॥ तो  
 गसमुतपडियनुनइसिसुकिदि ॥ ५६ ॥ अनुतविसु  
 वडु ॥ ५७ ॥ दानपालबयार्कयेदाना ॥ ५८ ॥ योतुपालनदे  
 नास्वर्कवाप्रोतिपालनादुतं ॥ ५९ ॥ स्वादता  
 चदतावायात्र ॥ ६० ॥ तवसुथ ॥ ६१ ॥ मसि ॥ ६२ ॥ सतहस  
 गाविषायामायते ॥ ६३ ॥ ॥ ६४ ॥ वनगिनोलाके  
 र्वमामेवतुतुआननोगमानक ॥ ६५ ॥ नगाह्याविप्रद  
 तावसुथ ॥ ६६ ॥ ताद्विग ॥ ६७ ॥ मापप ॥ ६८ ॥ तातुपाल  
 मप ॥ ६९ ॥ तापदा ॥ ७० ॥ तास्वद ॥ ७१ ॥ तनि ॥ ७२ ॥ मलेत ॥ ७३ ॥ वे ॥ ७४ ॥ सामा  
 यं ॥ ७५ ॥ सितुनपागाकालेकालेपालनोयातवदि ॥ ७६ ॥ सदि  
 विसतानुव्राविनपाधि ॥ ७७ ॥ दानुया ॥ ७८ ॥ वे ॥ ७९ ॥ मवेड

ॐ नमो भगवते वासुदेवाय

- 48 दसोपुंख्य<sup>1</sup>कालदलु तुंगभद्रातीरदलि श्रीविरूप[1]-  
 49 चसंनिधियस्ति नाज<sup>2</sup> माडिद सङ्गसगीदानागव[1]<sup>3</sup>-  
 50 नि श्रीरंगनाथदेवरिगे चंगरंगभोग अमिरितु-  
 51 पडिगे तत्सवच्छरद आसाड सुय पाख<sup>4</sup> आरभ्य-  
 52 वामि चिरिप्र<sup>5</sup>पल्लिचावडिय राजगंभीर श्रीक  
 53 नाड अमरदहोभलिय पांडमंगलद ग्राम १ इ-  
 54 दरलुहस्ति तिरनालूर ग्राम १ सेरनेभंडपेरु-  
 55 मालैलनूर<sup>6</sup> ग्राम १ अतु<sup>7</sup> पिडाकैसह ग्राम श्रीद-  
 56 कै कुल १४०१ [1\*] वडकर<sup>8</sup> राजराजवळना-  
 57 ड भलनाड मेलेसुरिय सुनेपुहनलूर या-  
 58 म श्रीदके<sup>9</sup> कुल ४२० [1\*] उभय(:)ग्रामयेरड-  
 59 कं कुळगय[1\*]ण १८२३ [1\*] कंदग्राम एर-  
 60 डर अतुसीमेगे सलुव नंचै पुंचै वां-  
 61 न्पयिर पुंपौर वांसलुमनेपेरु-  
 62 डमे<sup>10</sup> तरिकडमै<sup>11</sup> मावडे मरवडे  
 63 कुळवडै कलायं तिरिगै आयं पे-  
 64 कडमै<sup>12</sup> तरिकडमै श्रीलुकुनीपा-  
 65 टं महमै कठिगैअवसर पटे-<sup>13</sup>  
 66 कारिके आडिकातिकै(1)पचै म-  
 67 तु<sup>14</sup> एनुळता श्रीसवरि<sup>15</sup> हलेव-

Third Plate: First Side.

- 68 रि मुंताद सकल सुवर्नादाय सकलभता-<sup>16</sup>  
 69 दाय निधिनिचेपजलपाषाण अक्षिणि आगामि  
 70 सिद्धसाध्य मुंताद अष्टभोगतेज[:\*]स्त्रायस[हि]तव[1]-  
 71 गिमाचंद्रार्क स्त्रा<sup>17</sup>यियागि सर्वमान्यवागि सेरिसि  
 72 कोटैवागि श्रीरंगनाथदेवरिगे चंगरंगभो-  
 73 ग असुतपडियनु नडसि सुकदिं अनुभविसु-  
 74 वदु ॥ दानपालनयोर्मध्ये<sup>18</sup> दानाच्छेयोनुपालनं [1\*] दा-

<sup>1</sup> Read पुख्य.

<sup>2</sup> Read नाज.

<sup>3</sup> Read °नाङ्गवागि.

<sup>4</sup> Read तत्सवच्छरद आसाडसुय पाखसि.

<sup>5</sup> Read तिश्चिरापल्लि.

<sup>6</sup> Read श्रीरनेवेनूरपेरुनालूर.

<sup>7</sup> Read अतु.

<sup>8</sup> Read वडकर.

<sup>9</sup> Read आरभ्य.

<sup>10</sup> Read पुम्पयिर वासलु मनेपेरुडमै.

<sup>11</sup> Read कडमै.

<sup>12</sup> Read पेर्कडमै. This and tari-kaḍamai are repeated unnecessarily.

<sup>13</sup> Read डे.

<sup>14</sup> Read °कारिके पच मनु.

<sup>15</sup> Read श्रीसवरि.

<sup>16</sup> Read ता.

<sup>17</sup> Read स्त्रा.

<sup>18</sup> The letter न in पालन looks like न.

- 75 नात्स्वर्गमवाप्नोति पालनादनु<sup>1</sup>तं पदं ॥ [22\*] स्वदत्तां [प]-  
 76 रदेत्ता<sup>2</sup> वा यो हरित वसुंधरा[म् ।\*] षष्टिवर्षसह[त्रा]-<sup>3</sup>  
 77 णि विष्टा<sup>4</sup>यां जायते क्रिमिः<sup>5</sup> ॥ [23\*] एकैव भगिनी लोके स-  
 78 र्वेषामेव भूभुजां [।\*] न भोग्या न करयाद्या विप्रद-  
 79 त्ता वसुंधरा ॥[24\*] स्वदत्तां<sup>6</sup>हि<sup>7</sup>गुणं पुण्यं परदत्तानुपाल-  
 80 नं [।\*] परदत्तापदारेण<sup>8</sup> स्वदत्तं<sup>9</sup> निष्फलं भवेत् ॥[25\*] सामान्यो-  
 81 यं धर्मसेतुं नृपाणां काले काले पालनीयो भवद्भिः । सर्वा-  
 82 नियतानु<sup>10</sup>न्नाविनः[\*] पार्थिवेद्रान् भुयो भुयो<sup>11</sup> याचते रामचंद्रः[॥26\*]  
 83 श्रीविरूपाक्ष<sup>12</sup>

## ABSTRACT OF CONTENTS.

Verse 1. Adoration to Śambhu (Śiva).

V. 2. Adoration to Gaṇeśa.

V. 3. Adoration to Varāha.

Vv. 4-5. On earth, as the fruit of its *tapas*, was born Yadu in the family of the Moon, which came out of the ocean of milk and is worn by Śiva on his head.

Vv. 6-7. In his race was born a king named Saṅgama. His middle son was Bukka, who resembled the jewel *kaustabha* among other jewels.

Vv. 8-9. To him by Gaurāmbikā was born a son, named Harihara, who was gentle and famous. The renown of his making the sixteen great gifts (*mahādāna*) redounded even beyond the fourteen worlds.

Vv. 10-12. His son was Pratāpa-dēva-Rāya, who appeared the embodiment of the happiness of his subjects. He conquered his enemies in battles by the prowess of his arms and obtained the favour of Vijaya-Lakshmi (goddess of Victory). To him, as husband of Dēvāmbikā, was born the prince Vijaya-Bhūpati.

Vv. 13-18. The queen of Vijaya-Bhūpati was Nārāyaṇāmbikā. As the fruit of the meritorious acts done by them in their previous birth, Dēva-Rāya was born to Vijaya-Bhūpati and Nārāyaṇāmbikā and distinguished himself on earth. He is compared to Vikramāditya in valour, to Bhōja in his *bhōga* (?) and to Rāja-rāja (*i.e.* Kubēra) in his munificence. The kings of the Aṅga, Kaliṅga, Vāṅga, etc., countries did homage to this king, holding *chāmara*s and other royal insignia in their hands. He bore the *birudas* Rāj-ādhirāja, Rāja-param-śvara, Bhāsh-ātīlaṅghi-bhūpāla-bhujaṅga, Māru-rāyara-gaṇḍa, Para-rāja-bhayaṅkara and Hindu-rāya-suratrāṇa.

V. 19 to the end of line 41. Dēva-Rāya, who, seated on his ancestral throne in Vijayanagara, which has the Tuṅgabhadra as its ditch, ruled the earth, made the grant of the villages of Pāṇḍa-maṅgalam, Tirunālūr, Śēranaibāṇḍa-perumā-nalūr and Śunepuḥa-nalūr to the god Rāṅganātha. The gift was made in the Śaka year 1349, which is given by the chronogram *dhivalōka* and which corresponded to the (cyclic) year Plavaṅga, on a Monday

<sup>1</sup> Read अनु.

<sup>2</sup> Read हा.

<sup>3</sup> [Read °हरि-Ed.]

<sup>4</sup> Read °नेताम् भाविनः

<sup>5</sup> This line is written in Telugu-Kannada characters.

<sup>6</sup> Read दत्ता.

<sup>7</sup> Read क्रिमिः

<sup>8</sup> Read °पदारेण स्वदत्तं.

<sup>9</sup> Read भुयो भुयो.

<sup>10</sup> Read षष्टि° हवाणि.

<sup>11</sup> Read °हि.

<sup>12</sup> Read नृ.

the twelfth *tithi* of the bright fortnight in the month *Kārttika*, in the presence of the god *Virūpāksha* on the bank of the river *Tuṅgabhadra*. The villages *Pāṇḍa-maṅgalam*, *Tirunālūr* and *Sēraṇaibāṇḍa-perumā-nālūr* are said to have been situated on the south bank of the river *Kāvēri*, in the *Rājagambhīra vaḷaṇāḍu*, belonging to the *Trisīrāppalli rājya*, and *Sunaipuhanālūr* in the *Rājarāja vaḷaṇāḍu* of the same *rājya*, but situated on the northern bank of the *Kāvēri*.

Lines 41-74. In the Śaka year 1350, *Plavaṅga*, on the auspicious occasion of the *Utthāna-dvādaśī* in the bright half of the month *Kārttika*, the king *Vira-Pratāpa-deva-Rāya Mahārāja* gave the following *sāsana* (order) for performing one *avasara* consisting of twelve *harivāṇas* of perpetual lamps, garlands and one festival every day to the god *Raṅganātha* in the name of *Nārāyaṇadēvi-auva*: the gift of the villages of *Pāṇḍa-maṅgalam*, *Tirunālūr* and *Sēraṇaibāṇḍa-perumā-nālūr*, yielding 1,403 *kuḷa-gadyāṇas*, and *Sunepuha-nālūr*, yielding 420 *kuḷa-gadyāṇas*, was made for the *aṅga*, *raṅga*, etc., of the god *Śri-Raṅganātha*, as an auxiliary to the *gō-sahasra mahādāna* made by the king on the auspicious occasion of *Utthāna-dvādaśī* in the presence of the god *Virūpāksha* on the bank of the river *Tuṅgabhadra*. The villages *Pāṇḍa-maṅgalam*, *Tirunālūr* and *Sēraṇaibāṇḍa-perumā-nālūr* were in *Amarada hōbaḷi* of the *Rājagambhīra vaḷaṇāḍu* in the *Chirichrapalli chāvaḍi*, whereas *Sunepuha-nālūr* was situated in the *Mēlamuṇi* of the *Māla nāḍu*, a sub-division of the *Rājarāja vaḷaṇāḍu* in *Vaḍagarai* (northern bank of the *Kāvēri*). These villages were to be enjoyed from the first *tithi* of the bright fortnight of the month *Āshāḍha* of the same year. The king granted these villages with the following rights of enjoyment: namely, the taxes on the lands under wet and dry cultivation, as also *vāṇ-payir* and *puṇ-payir*, the taxes called *thev āsal*, *maṇai-pēru-kaḍamai*, *taṟikka-ḍamai*, *māvaḍai*, *maravaḍai*, *kuḷavaḍai*, *kal-āyam*, *tirigai-āyam*, *pēr-kkaḍamai*, *taṟikkaḍamai*, *āḷukunipāṭam*, *mahamai*, *kaṭṭige-avasara*, *paḍai-kānikkai*, *Āḍi-Kārttigai-pachchai* and all other new and old taxes, all income in gold and paddy and the eight kinds of enjoyment, *nidhi*, *nikshēpa*, etc.

Vv. 22-26. The usual admonitory and imprecatory verses.

Line 83 contains the words *Śri-Virūpāksha*, the king's signature.

#### NO. 9.—MOMIGATTI INSCRIPTION OF THE 49TH YEAR OF VIKRAMADITYA VI.

By LIONEL D. BARNETT.

**Momigatti** is a village in **Dhārwar District**, a few miles to the north-west of **Dhārwar town**, in lat.  $15^{\circ} 30\frac{1}{2}'$  and long.  $74^{\circ} 59'$ , according to the **Bombay Survey**.<sup>1</sup> The present inscription, now published for the first time, was found in the local temple of **Kalamēśvara**, on the left side of the image. An ink-impression was prepared for the late **Dr. Fleet**, which is now in the **British Museum**; from it I have edited the text. The stone has a rounded top decorated with sculptures, namely, in the centre a *linga*, on the proper right of which is a priest standing facing it, while another upright figure stands to the proper left, all three being in a shrine; to the proper right of the priest, a cow and calf; to the right of the latter, a scimitar; in the opposite corner, a bull; above these, the sun (on proper right) and moon (on left). Below this is the inscribed area, in two compartments: the first of these, comprising lines 1-2, is 2 ft.  $3\frac{1}{2}$  in. wide and  $2\frac{1}{2}$  in. high, and the second, containing lines 3-30, is of the same width and 2 ft. 9 in. high.—The character is good **Kanarese**, of an upright rounded type that was beginning to come into use about the middle of the twelfth century. The height of the letters varies from  $\frac{1}{2}$  in. to  $\frac{3}{4}$  in. The *jh* (l. 9) and *ñ* (ll. 19, 26) may be noted.—The language is **Old Kanarese**, with two

<sup>1</sup> The "Meemeeguttee" of the **Indian Atlas** seems to be intended for **Momigatti**; but its position does not quite tally with that of the latter as given in the **Survey**.

formal Sanskrit verses (Nos. 1 and 5). The ancient *l* has been changed to *l̥* in *kṣam* (l. 14), *bēpa* (l. 16), *aḍḍavarggey* (l. 27), *ēl-kṣti* (l. 28), and to *r* in *garḍḍey[u\*]mam* (l. 22); it is falsely used for *r* in *toḍaḍ* (l. 16). *P* is changed to *k* in *kaḷḷe* (ll. 19, 20), but elsewhere retained. Three words are of some lexical interest, viz. *tyāga-jaga-jhampi jhampālāchāryya* (l. 9), on which see above, Vol. XII, p. 251, and *nṛita* (l. 14), which is abstracted from the ordinary *sānṛita*, and is parallel to *anṛitika*, "untruthful" in Aśvaghōṣa's *Buddha-charita*, II. ii.

The record, after referring itself in ll. 2-4 to the reign of Tribhuvanamalla (Vikramāditya VI), introduces the Kadamba feudatory Jayakēsi (II), who is decorated with the characteristic titles of his dynasty, and his senior queen Maṇḍalā-dēvi (the daughter of Vikramāditya VI), as jointly reigning (ll. 4-13). On the historical points involved herein it suffices to refer the reader to Vol. XIV above, p. 299 f. Then follow verses in praise of Vāmaśakti, a Śaiva divine, and Udayamma Gāvunḍa (ll. 13-17), after which comes the formal statement of a gift of land and houses by the latter to the sanctuary presided over by Vāmaśakti (ll. 17-24).

The date is given on ll. 17-18 as : the cyclic year Krōdhi, the 49th of the Chālukya Vikrama era ; Āshāḍha śuddha 5 ; Sunday. This is irregular. The given *tithi* was current at sunrise on Wednesday, 18 June, A.D. 1124, and ended about 9 h. 16 m. after mean sunrise.<sup>1</sup>

The only places mentioned are Kundūr (l. 19), Eranigereyahalli (l. 19), Konnasagere (l. 21), and the *tirthas* (l. 25). Kundūr is the modern Narēndra, on which see above, Vol. XIII, p. 298.

#### TEXT.<sup>2</sup>

[Metres : vv. 1, 5, *Anuṣṭubh* ; vv. 2-4, *Kanda*.]

- 1  Namas=tuṅga-ś[i\*]raś-chumbi-chāndra-chāmara-chāravē [i\*] traiḷōkya-nagar-ārambha-mṇḷa-stambhāya Sa(śa)mbhavē || [i\*]
- 2  Svasti samasta-bhuvan-āśraya Śri-Pri(pri)thvi-vallabha mahārājādhirāja paramēśvara paramabhaṭṭ[a]-
- 3 rakam Satyāśraya-kṛṣṇa-tilakam Chālukya-ābharaṇam śrīma[t\*]-Tribhuvanamalla-dēvara vijaya-rājyam=u-
- 4 ttarōttar-ābhivṛddhidhi-pravardhdhamānam-ā-chāndr-ārka-tāram-beram saluttam-ire ||  
 Tat-pāda-padm-ōpajīvi ||  
- 5 svasti samasta-bhuvana-samastāyamāna Hara-Dharapī-prasūta-Triḷōchana-Kadamba-vamśa-mah-ōda[ya]
- 6 Mahādharmādhipa(dra)-śikhar-ābhayadāyamāna-mahā-prachandā-mārttandā mārttandākar-ātittivra-nija-pratā[pa]-
- 7 vaśīkri(kṛ)ta-sakala-mahī-maṇḍalan-uttuṅga-simha-lāmochohhanam vānara-mahā-dhvajam permmaṭṭi-tūryya-nirgghōṣanam
- 8 chaturā(ra)śīti-nagar-ādhishṭhit-āṣṭāśāśvamedha-dīkṣhā-dīkṣhita-kṛṣṇa-prasūta Hima-vad-girimdra-rumdra-śikhara-
- 9 sthāpita-mahā-śakti-prabhāvam tyāga-jaga-jhampi jhampālāchāryya niśamka-Rāma-śu(su)bbhaṭa-kanaka-nikash-ōpala

<sup>1</sup> I have to thank Mr. R. Sewell for his kindness in verifying my calculations.

<sup>2</sup> From the ink-impression.

- 10 śaraṇ-āgata-vajra-prākāra lōk-aika-kaṭpa-druma saṁkrānti-dhavalā mūrtti-Nārāyaṇa  
kīrtti-mārttaṁḍa
- 11 maṇḍalika-lalāṭa-paṭṭa vairi-gharaṭṭa śu(su)bhaṭa-vāja-sikhāmaṇi Kāḍamba-  
chāḍāmaṇ=ity=akhiḷa-nām-āva-
- 12 ḷi-samā(ma)ḷaṁkṛitar=appa śrīman-mahāmaṇḍalēśvaram Jayakēsi-dēvar śrīmat-  
pīriy-arasi Maḷala-ma-
- 13 hādēviyaru sukha-saṁkathā-vinōdadiṁ rājyaṁ-geyyuttam-ire || ☉ Pasid=ār=  
bhand=upa bādidoḍ=osed=a-
- 14 tt=ill=ennad=ikkut=irppare kūḷam vasudhātalam=eilam baṇṇisuvinegam Vāmaśakti-  
paṁḍita-dēvar || [2\*] Nṛita-vākyam vāṁdi-ja-
- 15 n-āśrita-sura-taru Malla-Gavumḍan=arra(gra)-tanūjam matimantaṁ Hara-bhaktam  
kshitiy-olag=Udayamma-Gavu-
- 16 ḍan=uttama-purusha || [3\*] Siḍil=annam ripu-nichayam toḍalḍ(rd)=eḍeyol bēḷpa  
janake sura-taruv=annam kuḍut=e-
- 17 ḍeyol Bāṇana vol Mṛiḍa-bhaktam dharaṇitalaḍol=Udayama-Gavumḍa' || [4\*] ☉  
Svasti śrīmach-Chāḷukya-
- 18 Vikrama-varshada 49neya Krōdhi-saṁvatsarad=Āshāḍa(ḍha) su(śu)ḍḍha 5.  
Ādityavāradamḍu śrīman-mahā-pa-
- 19 tṭanam Kundūra padinaṇuvar=ggāvumḍugaḷa Pañcha-maṭha-sthānada sannidhiyol=  
Eranigeṇeyahalliy=Ā-
- 20 karika(?)<sup>2</sup> Malla-Gavumḍana magan=Udayama-Gāvumḍam haḷḷiyindam paduval=  
kal-pumjikey=adarim mā-
- 21 ḍal=ondu mattar=pparala keyyuman=ūr=umba Konnasageṇeya mūḍaṇa kōṭiyalu nūḷu  
ka-
- 22 mma garddey[u\*]mam dēvarim teṁkal=eraḍu maneya nivēśanamumam Kali-dēva-  
svāmiya sthān-āchā[ryya Vā]-
- 23 maśakti-paṇḍitargge kāl-garchchi dhārā-pūrvvakam māḍi sarvva-namaśya(sya)-  
sarvva-bādhā-parihāram=[āgi]-
- 24 y-Udayama-Gavumḍam=ā-chāṁdra-sthāyiy=āgi biṭṭa dharmma || Ī dharmmamam  
pratipāḷi[si]-
- 25 davargge Gaṁge Vāraṇāsi Kurukshētra Prayāgey=emba puṇya-tīrttha-sthānamgaḷol=  
śāsira kavi[le]-
- 26 ya kōḍum kolagumam pañcha-ratnaḍol=kaṭṭiai vēda-pāragar=appa mahā-brāh-  
maṇargge dānam=geyda [pha]-
- 27 ḷa Ī dharmmamam=alidavarggey=ā sās[i\*]ra kaviley[n\*]man=ā vēda-pāragar=appa  
mahā-brāhmaṇa[ru]-
- 28 mam ēḷ-kōṭi tapōdhanaruman=ā puṇya-tīrttha-sthānamgaḷol=konda mahā-pātakan=  
akku || ☉
- 29 Sva-datt[ā\*]m para-datt[ā\*]m vā yam(yō) harēti(ta) vasumḍharā[ni\*] shashṭir=  
vīriṣha-shāsaṇi<sup>3</sup> vi=
- 30 aṭṭa(shṭhā)yām jāyatē krimi<sup>4</sup> [5\*] ☉ ☉

<sup>1</sup> The syllable *ma* is metrically superfluous.<sup>2</sup> Read *varsha-sahasraṇi*.<sup>3</sup> Apparently so; but the first *ka* may be read as *ra* or *ga*.<sup>4</sup> Read *krimiḥ*.

## TRANSLATION.

(Verse 1.) Homage to Śambhu charming with the yak-tail fan which is the moon kissing his lofty head, the foundation-column for the construction of the city of the three worlds.

(Lines 2-4.) While the victorious reign of—hail!—the refuge of the whole world, favourite of Fortune and Earth, great Emperor, supreme Lord, supreme Master, ornament of Satyaśraya's race, embellishment of the Chālukyas, king Tribhuvanamalla, was advancing in a course of successively increasing prosperity, (to endure) as long as moon, sun, and stars :—

(Lines 4-13.) While he who finds sustenance at his lotus-feet,—hail!—the Mahāmaṇḍalēśvara Jayakēsi-dēva, who is decorated with the whole series of titles of honour, to wit, "the noble scion of the Trilōchana-Kadamba lineage sprung from Hara and the Earth which is praised over the whole world; great august sun rising upon the peaks of the Lord of Mountains; fascinating the whole circle of the earth by peculiar majesty exceedingly intense as the sun's rays; having for crest a stately lion; having a banner (bearing the device) of a great ape; who is (saluted) with the noise of *permatṭi* drums and (other) musical instruments; who is sprung from the race presiding over eighty-four cities and consecrated in the consecratory rites of eighteen horse-sacrifices; who has established the puissance of his might upon the massive summits of the Lord of Mountains, the Himavat; a *jhumpa* āchārya surpassing the world in bounty; a Rāma in intrepidity; a touchstone for the gold of warriors; an adamant castle for seekers of protection; a unique tree of desire for the world; white (of fame) as the time of conjunction<sup>1</sup>; a Nārāyaṇa incarnate; a sun of glory; a frontal fillet of feudatory princes; a grindstone to foes; a crest-jewel of warrior kings; a crest-gem of the Kadambas," and the Senior Queen Mañjālā-mahā-dēvi, were reigning with enjoyment of pleasant conversations :—

(Verse 2.) If any, being hungry, should come and ask for food, Vāmasākti Paṇḍita-dēva will gladly give to him rice without saying nay, so that the whole earth praises (him).

(Verse 3.) Of Malla Gāvunḍa, who is pleasant of speech, a celestial tree to panegyrists and dependents, the eldest son is Udayamma Gāvunḍa, who is sage, devoted to Hara, a right noble man on earth.

(Verse 4.) Like a thunderbolt on occasions when hosts of foes assail (him), like a celestial tree on occasions when he makes gifts to suitors, devoted to Mṛḍa like Bāṇa, is Udayama Gāvunḍa on earth.

(Lines 17-24.) Hail! On Sunday, the 5th day of the bright fortnight of Āshāḍha in the cyclic year Krōdhi, the 49th (year) of the Chālukya-Vikrama era, in the presence of the Sixteen Gāvunḍas of the great city of Kundūr (and) the establishment of the Five Maṭhas, Udayama Gāvunḍa, son of the Ākarika(?) Malla Gāvunḍa of Eraṇigereyahalli, having laved the feet of Vāmasākti Paṇḍita, Āchārya of the establishment of Kali-dēva-svāmi, with pouring of water granted for as long as the moon shall endure a pious foundation on *sarva-namasya* tenure, immune from all conflicting claims, (comprising) a gravel-field of one *mattar* west of the village (and) east of the stone-heap, and a paddy-field of one hundred *kamma* at the eastern corner of the Konnaṣagere used by the town, and two dwelling-houses south of (the sanctuary of) the god.

(Lines 24-28 : a prose formula of the usual type.)

(Verse 5 : a common Sanskrit verse.)

<sup>1</sup> Cf. *divālichara-dhavaṇam*, above, Vol. XII, p. 269. The phrase probably refers to the *Divāvali* or *Diwāli* festival, from Āśvina kr. 14 to Kārttika śn. 2.

## No. 10.—ARASIBIDI INSCRIPTION OF THE REIGN OF SOMESVARA I: SAKA 969.

By LIONEL D. BARNETT.

Arasibidi, the ancient Vikramapura, is a decayed village in the Hungund taluka of Bijapur District, situate in lat. 15° 54' and long. 75° 58' (cf. *Ind. Ant.*, Vol. 30, p. 260). Its name is written as *Arsubidda* on the Indian Atlas sheet 58 and the Hyderabad Survey sheet 30. In the local temple known as the Sāleguṇḍi was found a broken tablet containing the present record; an ink-impression was prepared for the late Dr. Fleet, which is now in the British Museum, and from it I now edit the text.

The upper part of the stone is decorated with some sculpture. Immediately over the inscribed area, on a plinth, is a figure of a squatting Jina, with a cow and sucking calf on his proper left, between two columns; and above this is a series of architectural divisions culminating in a vase-shaped *śikhara*. The inscribed area below is about 2 ft. 2½ in. broad and 2 ft. 2 in. high; but a line or two at the bottom is lost.—The character is a fair Kanarese of the period, the letters vary from ½ in. to ⅝ in. in height. The *ri* of *rishiyargga*[m\*] in l. 8 is denoted

by a modified *ri* with a tail attached .—The language is Old Kanarese prose, except for the Sanskrit verse-formula of which the first two letters appear on l. 22. The archaic *ḷ* is changed to *ḷ*, except in *oppattara* (l. 12, for *ēlp*², through *ērp*³). The word *sarugi* (l. 7) is of some lexical interest.

The record, after referring itself to the reign of Trailōkyamalla-dēva, i.e. Sōmēśvara I (ll. 1-4), relates, that Akkā-dēvi, while in the camp around the fortress of Gōkāge,¹ made a grant of lands to the Goṇada-beḍaṅgi² Jain temple at Vikramapura, for the maintenance of the establishment and of the attached friars and nuns, among whom special mention is made of Nāgasēna Paṇḍita of the Hogari³ Gachchha of the Varasēna Gaṇa of the Māla Saṅgha (ll. 4-9). The rest of the inscription is taken up with the details of the endowment; among these we learn that some of the land was purchased from Daḍigarasa (l. 17), who was very possibly a member of the Bappura family which has left a record of its history in the Sāḍi inscription no. K. (above, Vol. XV, p. 106; cf. *Ind. Ant.*, Vol. XXX, p. 266).

The date is given on ll. 9-11 as: Śaka 969, the cyclic year Sarvajit; the new-moon of Chaitra, a Sunday; an eclipse of the sun. These details are perfectly regular. The given *tithi* corresponded to Sunday, 29 March, A.D. 1047, on which day it ended 6 h. 14 m. after mean sunrise.⁴ On the same day, at 5 h. 54 m. after mean sunrise, there was an eclipse of the sun (*Indian Calendar*, p. 121).

The following place-names are mentioned: Gōkāge (l. 6); Vikramapura (ll. 6, 13); the Kisukāḍu Seventy (ll. 11-12); Gāṇada Hālūr (l. 12); Muṇuvadina Pālu (l. 13); Rāyagaṭṭe (l. 15); the tank of Kappaḍi (l. 18); Benares (l. 19). Gōkāge is the modern Gōkāk, the headquarters of the Gōkāk taluka, in Belgaum District, situate in 16° 10' lat. and 74° 49' long. Vikramapura is Arasibidi (see above). On Kisukāḍu see *Ind. Ant.*, Vol. XXX, p. 259 ff. Gāṇada Hālūr is given on the Indian Atlas as "Ganuduhāl," about 3 miles S.E. of Arasibidi in lat. 15° 52½' and long. 76° 1' (cf. *ibid.*, p. 261). The other local names I cannot trace.

¹ See *Dyn. Kan. Distr.*, pp. 435, 439. Dr. Fleet understood the words *satt-irdda* to mean "besieging," which is possible, but not necessary.

² This title is evidently derived from Akkā-dēvi's title *goṇada beḍaṅgiyar*, and shews that the temple was under her especial patronage.

³ This name occurs also, in the older form *Pogari*, in *Ind. Ant.*, Vol. XIX, p. 272, and *Ep. Carn.* VII. i., Sk. 124.

⁴ I have to thank Mr. R. Sewell for his kindness in verifying my calculations.



TEXT.<sup>1</sup>

- 1  Svasti samasta-bhuvan-āśraya Śrī-Pṛithvī-vallabha mahārājādhirāja  
paramēśvara-pa-  
2 ramabhaṭṭāraka Satyāśraya-kuḷa-tilaka Chālukya-ābharapa śrīma[t\*]-Trailōkyama-  
3 lla-dēvara vijaya-rājyam-uttarōttar-ābhivri(vri)ddhi-pravarddhamānam-ā-chaṁdr-  
ārka-tā-  
4 raṁ-baraṁ saluttam-ire [l\*] Svasti ari-nri(nri)pa-makṇa-ghaṭita<sup>2</sup>-charaṇ-āravi-  
(vi)mdeyar=Ggaṁgā-snāna-  
5 pavitreyar=ddin-ānātha-chi(chi)ntāmapigaḷ-ēka-vākye[ya\*]r-ggūṇada beḍaṁgiyar-appa  
śrīmad-A-  
6 kka-dēvi[ya\*]r Gōkāgeya kōṭeya vu(su)tt-irdda biḍinalu Vikramapurada  
Goṇada-beḍaṁgiya  
7 Jin-ālayakke khaṇḍa-sphuṭita-sudhā-karmmakkaṁ gandha-dhūpa-dīpakkaṁ  
sarugiga[m] Mūla-saṁga(gha)-  
8 Va[ra\*]sēna-gaṇada Hogariya gachchhada Nāgasēna-paṇḍitargga[m\*] all-irppa  
ṛishiyargga[m\*] ajjiya-  
9 rgga[m\*] āhāra-dānakkam ajjiyara kappāḍak[k\*]am kuḍuva bhūmi Sa(śa)ka-  
varsha 999 neya  
10 Sarvvajit-samvatsarada Chaim(chai)trad-amāsyē Ādityavāradam̐dina sūryya-gra-  
11 bapa-nimittam dhārā-pūrvvakam māḍi nagaradh(d)=anubhavaṇe(ne?) mukhyam=  
āgi Kisu-  
12 kād-oppattara baḷiya sarvva-namasyam-āgi biṭṭa bāḍam Gāṇada Hāḷūr=omdu  
13 Vikramapurada yisānyada des[e\*]y[iṁ\*] tōṁṭam mattar=omdu tūṁ tēṁka  
Mūruvadina pā-  
14 la nairityada deseyim paṇḍita-Nāgadēvaṁge sarvva-namasya marṭta<sup>3</sup> paṁn-  
neraḍu allim tēṁka  
15 parekāra Kētōjaṁge sarvva-namasya mattar=irppatta-uḷku tūṁ baḍaga Rāya-  
gaṭṭeyim  
16 mūḍa parekāra Kētōjaṁge tōṁṭa mattar=omdu allim paḍuva kalkuṭiga  
Sūrōjaṁge sa-  
17 rbba-namasyam mattaru panneradu tōṁṭa mattar=omdu Daḍigarasana kayyalu  
māru-goṇḍu dēvaṁge koṭ[ṭa]  
18 bhūmi Kappaḍiya keṛeyim tēṁka manneya-v[o]ladalu sarvva-namasya mattaru  
50 [l\*]  
19 I(1) dharmmamam sva-dharmmadim rakshishi(si)davar Vāraṇāsiyalu ondu kōṭi  
kavileyu-  
20 maṁ vēda-pālanar-appa br[ā\*]hmaṇarige koṭṭa pha[ḷa]maṁ paḍavar I(1)  
dharmmamam=ajidava-  
21 r ā sthānadoḷ=anitu kavileyuman=anirpe(tu) brāhmaṇar[umam . . . . .]  
22 sā\* || Sāmā[nyō=yaṁ . . . . .]

<sup>1</sup> From the ink-impression.<sup>2</sup> The engraver has written *gata*, and added *ti* in smaller script under the line.<sup>3</sup> Read *mattar*.

## TRANSLATION.

(Lines 1-4.) While the victorious reign of—hail!—the asylum of the whole world, favourite of Fortune and Earth, great Emperor, supreme Lord, supreme Master, ornament of **Satyāśraya's** race, embellishment of the **Chalukyas**, king **Trailōkyamalla**, was advancing in a course of successively increasing prosperity, (*to endure*) as long as moon, sun, and stars :—

(Lines 4-9.) Hail! she whose foot-lotuses are touched by the diadems of opponent kings, who is pure through bathing in the Ganges, a wishing-jewel to the distressed and masterless, uniform in speech, adorned with virtues, **Akkā-dēvi**, in the camp around the fortress of **Gōkāge**, granted land for (*the expenses of*) plastering the broken and burst (*masonry*) of the **Gopada-beḍaṅgi** Jina temple at **Vikramapura**, and for (*the supply of*) scent, incense, and lamps, and for *sarugi*,<sup>1</sup> and for the maintenance of **Nāgasēna Paṇḍita**, (*a friar*) of the **Hogariya Gachchha** of the **Varasēna Gapa** of the **Mūla Saṅgha**, and of the friars and nuns residing there and for the cloaks of the nuns :—

(Lines 9-18.) The lands given (*by her*) to the god, which she purchased of **Daḍigarasa**, on Sunday, the new-moon day of **Chaitra** in the cyclic year **Srīvājī**, the 999th (*year*) of the **Śaka era**, on the occasion of an eclipse of the sun, with the performance of pouring of water, were : **Gāpada Hālūr**, a town forming part of the **Kisukāḍu Seventy**, granted on *sarva-namasya* tenure, in its entirety,<sup>2</sup> with usufruct of the citizens (?) ; one *mattar* of garden on the north-east of **Vikramapura** ; south of the town, on the south-west of the **Muruvadu Waste-land**, twelve *mattar* on *sarva-namasya* tenure for **Paṇḍita Nāgadēva** ; to the south thereof, twenty-four *mattar* on *sarva-namasya* tenure for the drummer **Kētōja** ; north of the town, east of **Rāyagatṭe**, one *mattar* of garden for the drummer **Kētōja** ; on the west thereof twelve *mattar* on *sarva-namasya* tenure (*and*) one *mattar* of garden for the stone-mason **Sūrōja** ; (*furthermore*,) 50 *mattar* on *sarva-namasya* tenure in the estate of the seignior south of the **Kappaḍi tank**.

(Lines 19-21 : a prose formula of the usual type.)

(Line 22 : the beginning of a common Sanskrit verse.)

## No. 11.—THE BRAHMA-SIDDHANTA OF BRAHMAGUPTA (A.D. 628).

WORKING TABLES FOR COMPUTATION OF ANCIENT DATES BY THE TRUE, OR APPARENT, MOTIONS OF SUN AND MOON.

By ROBERT SEWELL (I.C.S., RETIRED).

*A continuation of the author's "Indian Chronography."*

311. In para. 257 of my article on "*The true longitude of the sun in Hindu astronomy, the Siddhanta-Sirōmani*" (*above*, Vol. XIV, p. 241), and again in a later article on *The Siddhanta-Sirōmani*, § 271 (Vol. XV, pp. 159 sqq.), I discussed the question of the values assigned in the seventh century A.D. by Brahmagupta to the twenty-four base-sines of angles in the quadrant; and expressed the opinion that when, but not until, definite assurance was obtainable that the values stated in the only available copies of the *Brahma-Siddhanta* were<sup>3</sup> really those fixed by its author, working Tables framed according to its postulates might safely be prepared for the computation of ancient dates.

<sup>1</sup> This term occurs elsewhere, e.g. in *Ep. Carā. II* (*Sravana Beḷgoḷa*), No. 56, p. 52.

<sup>2</sup> Literally, "one."

<sup>3</sup> One MS. copy in the India Office, London, and Benares printed edition.

In response to my appeal Mr. G. R. Kaye (Curator, Board of Education, Simla) has been kind enough to assist me. He tells me that there can be no doubt but that the values given for the several base-sines in the edition of the *Brahma-Siddhānta*, printed and published in Benares, are correct, and that Brahmagupta certainly made his calculations with a radius (sin.  $90^\circ$ ) of 3270', discarding that of 3438', which seemingly had been in use in India since the time of the Greeks.<sup>1</sup> Mr. Kaye went fully into the subject in a very learned article, "*Ancient Hindu Spherical Astronomy*," published in the *Journal of the Asiatic Society of Bengal* in 1919 (*New Series*, Vol. XV, No. 3), which contains (Table 8, p. 187) a list of the sine-values as determined by the authors of the *Paulīśa*-, *Ārya*-, and *Brahma-Siddhāntas*. He points out that, when properly applied, the equations of the sun's and moon's centres obtained from the sine-values of Brahmagupta agree with those derived from the values assigned by the other authorities.

Accordingly I have prepared the Table of Brahmagupta's sines and resulting base-equations of the sun's centre (Table LXXXIX below); and a comparison between these and the equations of the *Siddhānta-Śirōmaṇi* (Table XLVII above, Vol. XIV, col. 9, and Prof. Jacobi's Tables, XXIVB above Vol. I) proves that there is only a very trifling difference whether we use Brahmagupta's, or the older—and later—sine-values. By the *Siddhānta-Śirōmaṇi*, with radius 3438', the sun's greatest equation, that of  $90^\circ$ , =  $2^\circ 10' 31''$ , exact. By the *Brahma-Siddhānta*, with radius 3270', it =  $2^\circ 10' 31'' \cdot 19$ . We may therefore safely use Table LXXXIX (below)<sup>2</sup> and Table LIX (above, Vol. XV) for the sun's and moon's equations by the *Brahma-Siddhānta*.

312. The *Brahma-Siddhānta* was composed by Brahmagupta in A.D. 628 and is said to have been extensively used in some parts of India, its principal rival being the *Ārya-Siddhānta* of Āryabhaṭa, known in later years as the *Laghu-Ārya* to distinguish it from the *Mahā-Ārya-Siddhānta* of the tenth century. This last, called also the *Second Ārya-Siddhānta*, seems to have had no great following. The *Rājamṛigāṅka*, an astronomical work of A.D. 1042 introduced, according to the information available to the late Sankara Bālkrishna Dikshīt, some important changes into the system of Brahmagupta; but unfortunately no complete copy of it has yet been obtained, and the necessary particulars are not to be found in those fragments which have come to light. It is not possible therefore to frame any accurate Tables for calculation by the *Rājamṛigāṅka*, and we must rest satisfied with the assurance of Mr. S. B. Dikshīt<sup>3</sup> that the *Siddhānta-Śirōmaṇi* is the same as the *Rājamṛigāṅka* in the matter of calculation of a *pañcāṅga*. Tables for use by the former have already been published by me, comprising the period A.D. 1100-1750 (above, Vol. XV).

All the authorities appear to arrive at similar or almost similar results in their computation of the lunar tithis, when worked by the true or apparent motions of sun and moon; but, since they differ in their estimate of the position of the sun's apsis at a given date, they necessarily differ somewhat in their estimate of the moment in each year when the true sun reaches long.  $0^\circ$ , the moment, that is, of "true Mēsha-samkrānti." This difference leads to differences in the lengths of the true solar months, and consequently to differences in the intercalation and suppression of true lunar months; which differences, again, occasionally cause differences of a whole lunar month in the beginning of the luni-solar year and differences in the names of some of the lunar months therein.

<sup>1</sup> It would be interesting to learn his reason for the change. Later Indian astronomers reverted to the radius of 3438', which is correct. With  $\pi = 3.14159$  the radius = 3437.74967. Brahmagupta's radius 3270 implies a ratio  $\pi \approx 3.303$ . The ratio according to Archimedes (B.C. 250) was 3.14286. The ratio  $1 : \sqrt{10}$  mentioned in the *Sūrya-Siddhānta* = 3.16228.

<sup>2</sup> Or Table XLVII (above, Vol. XIV), col. 9; also Professor Jacobi's Tables XXIVA, XXIVB (Vol. I).

<sup>3</sup> *Indian Calendar*, p. 8.

But we are now better able to deal with these matters than before. Dates can be easily computed by the true motions of sun and moon according to the *Sūrya-Siddhānta* for the whole historical period from A.D. 300 to 1900 (*Indian Calendar*)<sup>1</sup>; according to the *Ārya-Siddhānta* from A.D. 900 downwards (*above*, Vol. XVI); according to the *Brahma-Siddhānta* (*the present paper*) from A.D. 600 to 1200; and according to the *Siddhānta-Śirōmaṇi*, *Rājamṛigāṅka* and other works of the time of Bhāskarāchārya from A.D. 1100 to 1750 (*above*, Vol. XV); these periods comprising the outside limits of use.

And, as regards computation by the mean motions of sun and moon, which system is believed to have been in universal use down to about A.D. 1100, and perhaps in some places to a considerably later date, we now have Tables for work by the *Ārya-Siddhānta* from A.D. 500 to 1400 (*above*, Vol. XVII); while I hope to be able to publish here after a set of similar Tables for the *Brahma-Siddhānta*, also embracing the outside period of use.

All these Tables are framed on the same system, so as to enable calculation to be made as easily and rapidly as possible.

*Elements of the Brahma-Siddhānta.*

313. (i) The length of the mean solar sidereal year is 365·2584375 days, or 365<sup>d</sup> 6<sup>h</sup> 12<sup>m</sup> 9<sup>s</sup>. The *Siddhānta-Śirōmaṇi* adhered to this estimate.

(ii) Brahmagupta's sines of angles of the quadrant differ from those of the other authorities. His sine of 90°, the radius, = 3270' instead of 3438'. His sine of 3° 45' = 214' instead of 225'. The 24 base-sines are given in Table LXXXIX below.

(iii) The equations, however, which are based on these sine-values are practically the same as those of the *Siddhānta-Śirōmaṇi* (compare Table XLVII *above*, Vol. XIV, col. 9, and Table LXXXIX *below*). Tables LV, LVI, LIX (*above*, Vol. XV) may be therefore used as well for the *Brahma-Siddhānta* as for the *Siddhānta-Śirōmaṇi*.

(iv) The greatest equation of the sun's centre, that of 90°, is, in 10,000ths of the circle, 60·425925. The greatest equation of the moon's centre is, in similar measurement, 139·858101852. The sum of the two is 200·284027.

(v) The epoch of the Kaliyuga era was mean sunrise, taken as 6 A.M., on Friday, 18 February, B.C. 3102, that moment being 0<sup>h</sup> 0<sup>m</sup> 0<sup>s</sup> Lanka time. This was the moment of mean Mēsha-samkrānti, when the mean sun's centre reached long. 0°. True Mēsha-samkrānti, when the true sun's centre reached long. 0°, occurred on Tuesday, 15 February, B.C. 3102, at 19<sup>h</sup> 52<sup>m</sup> 21<sup>s</sup>·5 after mean sunrise at Lankā.

(vi) The circumference of the sun's epicycle is 13° 40', that of the moon 31° 46'. The epicycles are not contracted at any point. In this the *Siddhānta-Śirōmaṇi* concurs (*Jacobi*, Vol. I *above*, p. 441).

(vii) The line of apsides of the sun's orbit has a constant forward shift, the perigee-point (on the longitude of which my calculations are based) moving 0<sup>m</sup>·144 per ann., or 14<sup>m</sup>·4 in a century. According to the *Siddhānta-Śirōmaṇi* the movement is more rapid, amounting to 1<sup>m</sup>·044 per ann. (*Jacobi*, *op. cit.*).

(viii) The *śodhya*, or time-interval between true and mean Mēsha-samkrāntis, was, in K.Y. 0 or at the epoch of the Kaliyuga era, according to Dr. Schram,<sup>2</sup> 2<sup>d</sup> 171971 or 2<sup>d</sup> 4<sup>h</sup> 7<sup>m</sup> 38<sup>s</sup>·5. With this the *Siddhānta-Śirōmaṇi* agrees. But in later years the *śodhya*, as postulated by the two authorities, differs in value owing to the difference between the two *Siddhāntas* in their estimate of the movement of the sun's apsis. (*See vii above.*)

<sup>1</sup> Also by the *Indian Chronology* of Dewan Bahadur L. D. Swamikannu Pillai, M.A., whose Tables are framed on a different system.

<sup>2</sup> *Indian Chronography*, § 39 D, p. 16.

(ix) The position of the sun's apsis (perigee) at K.Y. 0, the epoch of the Kaliyuga, was  $257^{\circ} 45' 36''$ ,<sup>1</sup> and his mean anomaly was  $102^{\circ} 14' 24''$ , or, in 10,000ths of the circle, 284.0.

(x) The position of the moon's apsis (perigee) at the same moment was  $305^{\circ} 29' 46''$ <sup>2</sup>; and her mean anom. was  $54^{\circ} 30' 14''$ , or, in 1,000ths of circle, 151.399691358.

(xi) The sun's mean velocity (he is treated as a planet) and the length of the mean solar year being the same both by the *Brahma-Siddhanta* and the *Siddhanta-Sirōmani*, his mean long. at any moment must be the same by both, and so also the length of the mean solar month. But the two authorities are not in exact accord as to his true long. and the length of the true solar month.

*Shift of sun's apsis. The śōdhya. Length of true solar year.*

314. The length of the mean solar year being the same, viz.  $365^d 6^h 12^m 9^s$ , by both the *Brahma-Siddhanta* and the *Siddhanta-Sirōmani*, the first portion of § 273 above (Vol. XV) and accompanying Table A apply as well to the former as to the latter. But for the latter portion that section and its Table B, the following must be substituted when dealing with the *Brahma-Siddhanta*, the two authorities not being in accord as concerns the matter in question.

315. As stated above, the sun's perigee-point according to the *Brahma-Siddhanta* advances annually  $0^{\circ}.144$  along the ecliptic, and in consequence of this shift the true sun's velocity at long.  $0^{\circ}$  is a little greater every year than the year before, i.e. the true sun reaches long.  $0^{\circ}$ , or the moment of true Mēsha-samkrānti occurs, a little earlier each year. In every year there is a slight increase in the distance and time-difference (our śōdhya) between the mean and true suns at that point of the orbit. Dr. Schram has carefully calculated the value of this śōdhya at the moment of true Mēsha-samkrānti at the beginning of several millenniums, and his results for the period embraced in my general working Table LXXXII are stated in the following Table B.

TABLE B.

VALUE OF ŚŌDHYA BY THE BRAHMA-SIDDHANTA.

| K.Y. year<br>expired. | A.D.      | EXACT VALUE OF ŚŌDHYA AT<br>BEGINNING OF CENTURIES. |    |    |           |
|-----------------------|-----------|-----------------------------------------------------|----|----|-----------|
|                       |           | days and<br>decimals.                               | d. | h. | m. s.     |
| 3700                  | 599-600   | 2.1729145                                           | 2  | 4  | 8 59.8128 |
| 3800                  | 699-700   | 2.1729400                                           | 2  | 4  | 9 2.0160  |
| 3900                  | 799-800   | 2.1729655                                           | 2  | 4  | 9 4.2192  |
| 4000                  | 899-900   | 2.1729910                                           | 2  | 4  | 9 6.4224  |
| 4100                  | 999-1000  | 2.1730165                                           | 2  | 4  | 9 8.6256  |
| 4200                  | 1099-1100 | 2.1730420                                           | 2  | 4  | 9 10.8288 |
| 4300                  | 1199-1200 | 2.1730675                                           | 2  | 4  | 9 13.0320 |

One result of this shift of apsis is that, by the *Brahma-Siddhanta*, the true sun reaches the  $0^{\circ}$  point of long.  $0^{\circ}.022032$  earlier every year than the year before, and in consequence the length of the true solar year, or the time needed for the true sun to travel from true Mēsha-samkrānti

<sup>1</sup> Jacobi, *above*, Vol. I, p. 442, § 83, where he gives the place of the apsis (apogee) as  $77^{\circ} 45' 36''$ . See also E. Burgess's "*Sūrya-Siddhanta*."

<sup>2</sup> Moon's apogee given by Jacobi as  $125^{\circ} 29' 46''$ .

in one year to true Mēsha-samkrānti in the next, is  $(365^d\ 6^h\ 12^m\ 9^s - 0.022032)$   $365^d\ 6^h\ 12^m\ 8.977968$ . [The exact moment of true Mēsha-samkrānti in each year from A.D. 599 to 1200 is given in the general Table LXXXII below, cols. 13-17. It can be tested by the use of Table A, § 273, referred to above, and Table B here given, using the "longer rule" stated in § 273 or in *Indian Chronography*, p. 61.]

Another result of the shift is that the sun's mean anomaly, or the mean sun's distance from the sun's perigee-point, decreases every year by  $0.144$  or  $14.4$  in a century. Reckoning in 1,000ths of circle for valuation of our  $c$  (sun's mean anom.) in the Tables,  $14.4 = 0.01$ . The value of  $c$  therefore decreases  $0.01$  in a century, and this decrease has to be taken into account from K.Y. 0, the epoch of the Kaliyuga. This has been done in the preparation of the Tables which follow.

*The increase of a, b, c, in centuries, years, days and fractions of days.*

316. Following on what has been stated, we learn that Tables LIVA and B, which deal with the periodical increases of  $a$ ,  $b$  and  $c$  according to the *Siddhānta-Sirōmani*, may safely be used for calculation by the *Brahma-Siddhānta*, with the one reservation as to the increase of  $c$  in a century.  $a$  being the distance of mean moon from mean sun, and the longitude of the mean sun not being affected by the shift of apsis, but only his mean anom., or distance from the point of the apsis, it appears that the rate of increase of  $a$  must be same by both authorities.

As to the rate of increase of  $c$  it is, by the *Siddhānta-Sirōmani*, centennially less by  $0.0805$  (§ 273 above), and this was taken into account in the preparation of the heading of Table LIVA, where a footnote is appended shewing what the rate of increase would be per century if no such deduction had been made. This rate is, in thousandths of a circle,  $997.690008075$  in a century of  $36525$  days, and  $0.427795618$  in a century of  $36526$  days. By the *Brahma-Siddhānta*, the centennial decrease in the sun's mean anomaly being  $0.01$ , the amount of increase of  $c$  per century is, for a century of  $36525$  days,  $997.678896964$ , and for a century of  $36526$  days is  $0.416684507$ . The difference between the two authorities in shorter periods may be ignored except in some extraordinarily close case. If it is ever needed, the increase in  $c$  in one year may be reduced by  $0.0001$  from the Table quantity.

Otherwise Tables LIVA and B stand good for calculations by the *Brahma-Siddhānta*.

*The values of a, b, c at the beginning of K.Y. 3700.*

317. The general Table LXXXII below begins from the beginning of K.Y. 3700 expired. Table LXXXVI states the value of  $a$ ,  $b$ ,  $c$  at that moment, and at the similar moment at the beginning of subsequent centuries. It is necessary therefore to explain how these figures were calculated.

(i) *The value of a (distance of mean moon from mean sun) in K.Y. 3700.* According to Hindu astronomers mean moon and mean sun were in conjunction at the moment of mean Mēsha-samkrānti in K.Y. 0, the epoch of the Kaliyuga; or, in other words, at that moment  $a = 0$ . In the 37 succeeding centuries there were 32 common and 5 defective centuries. Taking the century values of  $a$  given in the heading of Table LIVA and multiplying for 32 common and 5 defective centuries, we arrive at the figure  $6567.108945284$  as the value of  $a$  at the beginning of the 37th century K.Y., whole revolutions of 10,000 each being omitted. From this figure has to be deducted,—according to the working system of the *Indian Calendar*, which follows Largeteau and Jacobi,—the sum of the greatest equations of sun and moon, viz.  $200.284027$  (above § 313, iv). This gives us the value of  $a$  at the beginning of K.Y. 3700 (expired) as  $6366.824917506$ .<sup>1</sup>

<sup>1</sup> Professor Jacobi differs by about 17 units. He gives the figure  $6384.0$  (*Fol. XI* above, p. 167, Table IXA). I can give no explanation of the reason for this; and can only state fully, as in the text, my bases of calculation.

Now this value stands for mean sunrise of Sunday, 22 March, A.D. 599, i.e. for the sunrise succeeding the moment of occurrence of mean Māsha-samkrānti in K.Y. 3700; but in all my Tables the calculation is for mean sunrise on the actual day of that occurrence, and we have therefore to deduct one day's value of  $a$  (viz. 333·631985412—Table LIVA above) from the above estimate. This done, we have, for mean sunrise on Saturday,  $a = 6028·192932094$ .

(ii) *The value of  $b$  (moon's mean anom.) at the same moment.* At the epoch of the Kaliyuga the moon's mean anom. was, as stated above (§ 313, x), in 1,000ths of a circle, 151·399691358. Using the century figures of  $b$  in the heading of Table LIVA, and multiplying for 32 common and 5 defective centuries, it is found that, excluding whole revolutions of 1,000 each, the result is 604·144838202. Adding the value of  $b$  at K.Y. 0, as above, we have at beginning of K.Y. 3700, for the value of  $b$ , 755·544529560.<sup>1</sup> But this (*see above, i*) was its value at mean sunrise on Sunday, 22 March, A.D. 599. Deducting one day's value of  $b$  (36·291649786) the fixture for mean sunrise on Saturday, 21 March, amounts to 719·252879774.

(iii) *The value of  $c$  (the sun's mean anom.) at the same moment.* The correct increase of  $c$  by the *Brahma-Siddhānta* in centuries of 36525 and 36526 days has been given above in the latter part of § 316. Multiplying those quantities for 32 common and 5 defective centuries, and discarding whole revolutions of 1,000 each, we arrive at the increase, after 37 centuries, of 1·728389044. To this has to be added the value of  $c$  at K.Y. 0 (*above, § 313, ix*), viz. 284·0. The value of  $c$ , therefore, at mean sunrise of Sunday, 22 March, A.D. 599, was 285·728389044.<sup>2</sup> Deducting the  $c$  for one day (2·737787543) we have finally, for mean sunrise on Saturday, 21 March,  $c = 282·990601501$ .

The entries, therefore, for the aforesaid Saturday of K.Y. 3700 in Table LXXXVI below are

$$\begin{aligned} a &= 6028·1929 \\ b &= 719·2529 \\ c &= 282·9906. \end{aligned}$$

The rest of that Table follows by addition of the proper century values.

#### *Duration of true solar months.*

318. It has been mentioned above (§ 313, xi) that, while the length of the mean solar month must be the same both by the *Brahma-Siddhānta* and the *Siddhānta-Sirōmaṇi*, the lengths of the true solar months according to the two authorities differ because of their different estimate of the shift of the sun's apsis. Thus in K.Y. 4000, the middle year of my general Table LXXXII below, the sun's perigee-point according to the *Siddhānta-Sirōmaṇi* was at long. 258° 55' 12", while by the *Brahma-Siddhānta* it was at long. 257° 55' 12". Hence the velocity of the true sun (he is always considered as a planet) at the several true solar *samkrāntis*, when the true sun's centre enters the several signs, is not the same by the two authorities quoted. And this has necessitated the preparation of a new Table (LXXXIIIA below), giving the lengths of the true solar months and increase of  $a$ ,  $b$ ,  $c$  therein individually and collectively according to the *Brahma-Siddhānta*.

There being in K.Y. 4000 a difference of only 4' 43" between the positions of the sun's perigee, as estimated by the *Brahma-Siddhānta* and by the *First Ārya-Siddhānta*, the former placing it at 257° 55' 12" and the latter at 258°, it was considered sufficiently safe to use Table XLIX (*above, Vol. XIV*) for the true sun's velocity at different points of his orbit in hours and minutes, and Table L-A for seconds. His true long. at each *samkrānti* was computed from his known mean longitude + the equation of the centre, which was calculated in each case.

<sup>1</sup> Professor Jacobi's figure for this is 758·1, in my notation, against my 755·5.

<sup>2</sup> This agrees with Professor Jacobi's fixture, which, measured from perigee and in my notation, is 285·7.

Thus was obtained the length of each month in days, hours, etc. For the increase of  $a$ ,  $b$ ,  $c$  during the periods so determined Tables LIVA and B, which are applicable to the *Brahma-Siddhanta* as well as to the *Siddhanta-Sirōmani*, were used.

*Note on work for the nakshatra.*

319. In our method of work  $s$  = the true sun's longitude and  $t$  = the *tithi*-index (which shews the true moon's distance from the true sun) at the given moment.  $s + t$  = the *nakshatra*-index  $n$ , which gives the true moon's place in the heavens, or her apparent longitude. The value of  $t$  is ascertained by the ordinary calculation for a date. The value of  $s$  has to be found.

By the *Ārya-Siddhanta* the formula for finding  $s$ ,  $c$  being the sun's mean anom. at the given moment, is  $s = (c \times 10) + 7226$  — eqn.  $c$ ; where the factor 7226, which represents in 10,000ths of circle the long. of sun's perigee plus the sun's greatest equation, is a constant.<sup>1</sup>

By the *Sūrya-Siddhanta*, as exemplified in the *Indian Calendar Tables*, the numerical factor is not 7226, but varies in the period A.D. 900 to 1900 from 7206.5077 to 7207.4035 being fixed for rough work at 7207. The variation is due to the postulated shift of the sun's perigee-point.

By the *Siddhanta-Sirōmani* there is, for the same reason, a variation in the numerical factor, viz. from 7252.6466 in A.D. 900 to 7259.0910 in A.D. 1700,—roughly from 7253 to 7259.

By the *Brahma-Siddhanta* the numerical factor varies from 7224.5370 in A.D. 600 to 7225.2037 in A.D. 1200 (the limits of the general Table LXXXII below). For rough work therefore by this authority the formula is  $s = (c \times 10) + 7225$  — eqn.  $a$ .

For more accurate work the value of  $c$  should be calculated (by the Tables) with decimals; and instead of multiplying  $c$  by 10 its value should be changed from thousandths of circle (as in the Table-result) to ten thousandths by moving the decimal point one place to the right<sup>2</sup>; the value of eqn.  $c$  can be obtained from Table LVI with great accuracy; and the numerical factor can be taken from the following summary.

| K.Y.<br>century. | A.D.<br>century. | Exact factor in<br>formula. | Roughly. |
|------------------|------------------|-----------------------------|----------|
| 3700             | 599-600          | 7224.5370                   | 7225     |
| 3800             | 699-700          | 7224.6481                   |          |
| 3900             | 799-800          | 7224.7592                   |          |
| 4000             | 899-900          | 7224.8703                   |          |
| 4100             | 999-1000         | 7224.9814                   |          |
| 4200             | 1099-1100        | 7225.0925                   |          |
| 4300             | 1199-1200        | 7225.2037                   |          |

**Examples.**

It is not necessary to give a number of examples of work by the present Tables. The system of calculation being exactly the same as that of the *Indian Calendar* and throughout the present series of articles, the examples already published for computation by other authorities

<sup>1</sup> See *Indian Calendar*, § 156, p. 97; article on the *Siddhanta-Sirōmani*, above, Vol. XV, § 273; "Note on work for the nakshatra"; article on the *First Ārya-Siddhanta*, Vol. XV above, § 302; and the several examples given in those papers.

<sup>2</sup> Whole revolutions are not necessary for present purposes, and in our system when  $a = 10,000$  a whole synodic revolution of the mean moon has been completed.



will suffice, the proper Tables being used, for work by the *Brahma-Siddhānta*. These Tables are specified in the following pages.

Examples have been given in all my foregoing papers, but perhaps the fullest series is to be found in the article on the *First Ārya-Siddhānta* (above, Vol. XVI).

*Tables for calculation by the Brahma-Siddhānta.*

The system of work for computation of an Indian date will be readily understood by perusal of examples 2 to 11 appended to my paper (above, Vol. XVI) on the *First Ārya-Siddhānta*; but the Tables used are of course not all the same. The following list shews how accurate results by the *Brahma-Siddhānta* are to be obtained in calculation by the movements of true sun and true moon.

Table LXXXII below is the general working Table for the *Brahma-Siddhānta* for the period A.D. 599 to 1200 (K.Y. 3700 to 4300 expired).

For names of months and of nakshatras in different parts of India, see Table LXII above (Vol. XVI, "The First Ārya-Siddhānta").

For collective duration of mean lunar months see Table LXIIIA of the same article, or Table III, Part I, *Indian Calendar*.

Table LXXXIIIA below gives, by the *Brahma-Siddhānta*, the length of the true solar months and their collective duration, with the corresponding increases of  $a$ ,  $b$ ,  $c$ .

Table LXXXIIIB states the exact value of  $c$  and of "equation  $c$ " at the several true *samkrāntis*, or moments of the true sun's centre reaching the several signs.

Table LXXXIIIC shews the value of  $c$  and of "equation  $c$ " at the beginning of each century of the Kaliyuga.

For the increase of  $a$ ,  $b$ ,  $c$  respectively in defective and common centuries, and in common years and Leap-years, see Table LIVA, heading; but note that by the *Brahma-Siddhānta* the increase of  $c$  in a defective century of 36525 days is 997-678896964 and in a common century of 36526 days is 0-416684507. Tables LIVA and B contain the necessary figures for days, hours, minutes and seconds.

Table LXXXIV gives the values of "equation  $b$ ," and Table LXXXV those of "equation  $c$ ," for easy calculation by whole numbers, corresponding respectively to Tables VI and VII of the "*Indian Calendar*," which stand for the *Sūrya-Siddhānta*.

For the more detailed values of "equation  $b$ " and "equation  $c$ " of moon and sun use Tables LV and LVI above, Vol. XV, as framed for the *Siddhānta-Sirōmaṇi*.

For the indices of *tithis* ( $t$ ), *karanas*, *yogas* ( $y$ ) and *nakshatras* ( $n$ ) see Table VIII, "*Indian Calendar*," or Table LXVIII (above, Vol. XVI, "The First Ārya-Siddhānta").

For serial numbers of days of a year reckoned from January 1st use Table IX, "*Indian Calendar*," or Table LXIX (above, Vol. XVI, "The First Ārya-Siddhānta").

For conversion of *tithi*-indices and *tithi*-parts into time Table X, "*Indian Calendar*," is to be used, or Table LXX (above, Vol. XVI, "The First Ārya-Siddhānta").

For finding the week-day according to the European Calendar for any century from A.D. 0 to 2300 see Table LXXI (above, Vol. XIV, "The First Ārya-Siddhānta"), or Tables XLIA and B (pp. 176, 177, "*Indian Chronography*").

Table LXXXVI gives the values of  $a$ ,  $b$ ,  $c$  at the beginning of each century of the Kaliyuga by the *Brahma-Siddhānta*.

Table LXXXVII gives the same for odd years of those centuries.

Table LXXXVIII states the daily sunrise values of  $a$ ,  $b$ ,  $c$  for a month previous to the day of *Mēṣa-samkrānti*.

Table LXXXIX sets forth the 24 base-sines of angles of the quadrant according to *Brahma-gupta*, and the corresponding equations of the sun's centre.

## TABLE LXXXII.

## CONSTRUCTION OF TABLE.

The Table is constructed on the lines of Table I of the *Indian Calendar* and is to be used in the same way. The columns are numbered similarly.

Col. 7. The *samvatsara*-name,—i.e. the name of the Jovian cycle—, of the year is given as determined by my previous calculations (*above*, Vol. XIII Table XLII). Entries in italics point to cases where this *samvatsara*-name differs from that given to the same year by *Sūrya-Siddhānta* reckoning.

Col. 8. Months noted in roman characters are intercalated (*adhika*) lunar months. Those in italics are suppressed (*kshaya*) months.

Cols. 13, 19. Figures in brackets give the serial number of the day (measured from January 1st.

Col. 23.  $a$ =distance, at mean sunrise, of mean moon from mean sun, or phase of moon stated in 10,000ths of circle, and reduced by the sum of the greatest equations of sun and moon so that calculation of the equations of  $b$  and  $c$  may always be additive.

Col. 24.  $b$ =mean anomaly of moon or mean moon's distance from perigee-point of apsis stated in 1,000ths of circle.

Col. 25.  $c$ =mean anomaly of sun or mean sun's distance from perigee, stated in 1,000ths of circle.

## REMARKS

A.D. 629-630, cols. 19, 20. A very close case. The moment of true new moon was less than half a minute after mean sunrise at Lañkā on Wednesday, 1st March. And the first *śukla tithi* of the year ended after mean sunrise on Thursday, 2nd March, which was therefore by rule the first civil day of the luni-solar year. If new moon had taken place more than half a minute earlier the first civil day of the year, "Chaitra śukla 1," would have been 1st March.

A.D. 968-69, col. 8. At the Kumbha *samkrānti* the true moon was waning. The moment of the next, the Mina, *samkrānti* occurred about  $2\frac{1}{2}$  minutes after the moment of true new moon, so that the true moon was waxing at the Mina *samkrānti*. Hence the lunar month Phālguna was intercalated. According to the 19-year sequence we should have expected an intercalation of the lunar month Chaitra next following. The sequence shows similar irregularities when examined by other authorities, but only very rarely.

A.D. 974-75, cols. 19, 20. Close case. The 1st true new moon after the Mina *samkrānti* occurred 3 minutes before mean sunrise at Lañkā on 25th February A.D. 974. That therefore was the day "Chaitra śukla 1."

A.D. 963-64, 982-83, col. 9. In both these years an intercalation of the lunar month Śrāvana instead of Āshāḍha would have been more in accordance with the 19-year sequence, seeing that Śrāvana was the intercalated month in A.D. 1001 and 1020; but prior to A.D. 963 at intervals of 19 years there had been eight intercalations of Śrāvana, and towards the close of such a run a change of conditions generally becomes apparent.

A.D. 1001-2, 1020-21, col. 8. See the previous note. If in these two years the conditions had made necessary an intercalation of Āshāḍha, the 19-year sequence would have been uninterrupted.

A.D. 1128-29, col. 8. By the *Brahma-Siddhānta* the intercalation of Phālguna was clearly demanded. See Remarks preceding Table LX (*above*, Vol. XV), on the same year as worked by the *Siddhānta-Siromani*.

## TABLE

GENERAL TABLE FOR CALCULATION  
Conforming to Table I "Indian Calendar"

(See notes on

| CONCURRENT YEAR. |       |                    |                                  |         |         |                        |                                 | Intercalated<br>(adhika) and<br>suppressed<br>(kshaya) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------------------|------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SAMVATSARA.     |                                 |                                                                              |
|                  |       |                    |                                  |         |         | Southern<br>system.    | Northern<br>system.             |                                                                              |
|                  |       |                    |                                  |         |         |                        |                                 |                                                                              |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                      | 7                               | 8                                                                            |
| 3701             | 522   | 657                | 6                                |         | 599-600 | 50 Anala . . .         |                                 | ...                                                                          |
| 3702             | 523   | 658                | 7                                |         | *600-01 | 51 Pīṅgala . . .       |                                 | 3 Jyēshtha .                                                                 |
| 3703             | 524   | 659                | 8                                |         | 601-02  | 52 Kālayukta . . .     |                                 | ...                                                                          |
| 3704             | 525   | 660                | 9                                |         | 602-03  | 53 Siddhārthin . . .   | { 7 Āsvina<br>11 Māgha (ksh.) } |                                                                              |
| 3705             | 526   | 661                | 10                               |         | 603-04  | 54 Raudra . . .        |                                 | 1 Chaitra .                                                                  |
| 3706             | 527   | 662                | 11                               |         | *604-05 | 55 Durmati . . .       |                                 | ...                                                                          |
| 3707             | 528   | 663                | 12                               |         | 605-06  | 56 Dundubhi . . .      |                                 | 5 Śrāvaṇa .                                                                  |
| 3708             | 529   | 664                | 13                               |         | 606-07  | 57 Rudhirōdgārin . . . |                                 | ...                                                                          |
| 3709             | 530   | 665                | 14                               |         | 607-08  | 58 Raktāksha . . .     |                                 | ...                                                                          |
| 3710             | 531   | 666                | 15                               |         | *608-09 | 59 Krōdhana . . .      |                                 | 4 Āshāḍha .                                                                  |
| 3711             | 532   | 667                | 16                               |         | 609-10  | 60 Kshaya . . .        |                                 | ...                                                                          |
| 3712             | 533   | 668                | 17                               |         | 610-11  | 1 Prabhava . . .       |                                 | ...                                                                          |
| 3713             | 534   | 669                | 18                               |         | 611-12  | 2 Vibhava . . .        |                                 | 2 Vaiśākha .                                                                 |
| 3714             | 535   | 670                | 19                               |         | *612-13 | 3 Śukla . . .          |                                 | ...                                                                          |
| 3715             | 536   | 671                | 20                               |         | 613-14  | 5 Pramōda . . .        |                                 | 6 Bhādrapada                                                                 |
| 3716             | 537   | 672                | 21                               |         | 614-15  | 6 Prajāpati . . .      |                                 | ...                                                                          |
| 3717             | 538   | 673                | 22                               |         | 615-16  | 6 Angirasa . . .       |                                 | ...                                                                          |
| 3718             | 539   | 674                | 23                               |         | *616-17 | 7 Śrīmukha . . .       |                                 | 4 Āshāḍha .                                                                  |
| 3719             | 540   | 675                | 24                               |         | 617-18  | 8 Bhāva . . .          |                                 | ...                                                                          |
| 3720             | 541   | 676                | 25                               |         | 618-19  | 9 Yuvan . . .          |                                 | ...                                                                          |
| 3721             | 542   | 677                | 26                               |         | 619-20  | 10 Dhātri . . .        |                                 | 3 Jyēshtha .                                                                 |
| 3722             | 543   | 678                | 27                               |         | *620-21 | 11 Isvara . . .        |                                 | ...                                                                          |

LXXXII.

BY THE BRAHMA-SIDDHANTA.

*the columns being similarly numbered.**preceding page.)*

| COMMENCEMENT OF THE |           |                              |                                                                            |           |           |          |          |       |
|---------------------|-----------|------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                              | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mésa-samkranti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                           | 19                                                                         | 20        | 23        | 24       | 25       |       |
|                     |           | H. M. S.                     |                                                                            |           |           |          |          | 1     |
| 19 Mar. (78)        | 5 Thur.   | 1 6 0                        | 3 Mar. (62)                                                                | 3 Tues.   | 9932-8171 | 66-0032  | 233-7104 | 3701  |
| 18 Mar. (78)        | 6 Fri.    | 7 18 9                       | 21 Feb. (52)                                                               | 1 Sun.    | 147-1720  | 949-5390 | 205-6250 | 3702  |
| 18 Mar. (77)        | 0 Sat.    | 13 30 18                     | 11 Mar. (70)                                                               | 0 Sat.    | 181-8544  | 885-5324 | 256-9354 | 3703  |
| 18 Mar. (77)        | 1 Sun.    | 19 42 27                     | 28 Feb. (59)                                                               | 4 Wed.    | 57-5772   | 732-7766 | 226-1121 | 3704  |
| 19 Mar. (78)        | 3 Tues.   | 1 54 36                      | 18 Feb. (49)                                                               | 2 Mon.    | 271-9320  | 616-3122 | 203-5023 | 3705  |
| 18 Mar. (78)        | 4 Wed.    | 8 6 45                       | 7 Mar. (67)                                                                | 0 Sat.    | 9967-9825 | 516-0140 | 246-5994 | 3706  |
| 18 Mar. (77)        | 5 Thur.   | 14 18 54                     | 24 Feb. (55)                                                               | 4 Wed.    | 9843-7052 | 353-2681 | 215-7762 | 3707  |
| 18 Mar. (77)        | 6 Fri.    | 20 31 3                      | 15 Mar. (74)                                                               | 3 Tues.   | 9878-3876 | 299-1516 | 267-0865 | 3708  |
| 19 Mar. (78)        | 1 Sun.    | 2 43 12                      | 4 Mar. (63)                                                                | 0 Sat.    | 9754-1105 | 146-4956 | 236-2624 | 3709  |
| 18 Mar. (78)        | 2 Mon.    | 8 55 21                      | 22 Feb. (53)                                                               | 5 Thur.   | 9968-4653 | 30-0312  | 208-1780 | 3710  |
| 18 Mar. (77)        | 3 Tues.   | 15 7 30                      | 12 Mar. (71)                                                               | 4 Wed.    | 3-1477    | 966-0247 | 259-4884 | 3711  |
| 18 Mar. (77)        | 4 Wed.    | 21 19 39                     | 2 Mar. (61)                                                                | 2 Mon.    | 217-5025  | 849-5604 | 231-4029 | 3712  |
| 19 Mar. (78)        | 6 Fri.    | 3 31 48                      | 19 Feb. (50)                                                               | 6 Fri.    | 93-2254   | 696-8045 | 200-5797 | 3713  |
| 18 Mar. (78)        | 0 Sat.    | 9 43 57                      | 9 Mar. (69)                                                                | 5 Thur.   | 127-9077  | 632-7980 | 251-8902 | 3714  |
| 18 Mar. (77)        | 1 Sun.    | 15 56 6                      | 26 Feb. (57)                                                               | 2 Mon.    | 3-6306    | 480-0421 | 221-0669 | 3715  |
| 18 Mar. (77)        | 2 Mon.    | 22 8 15                      | 16 Mar. (75)                                                               | 0 Sat.    | 9999-6810 | 379-7440 | 269-6395 | 3716  |
| 19 Mar. (78)        | 4 Wed.    | 4 20 24                      | 6 Mar. (65)                                                                | 5 Thurs.  | 9914-0358 | 263-2795 | 241-5542 | 3717  |
| 18 Mar. (78)        | 5 Thur.   | 10 32 33                     | 23 Feb. (54)                                                               | 2 Mon.    | 9789-7587 | 110-5236 | 210-7310 | 3718  |
| 18 Mar. (77)        | 6 Fri.    | 16 44 42                     | 13 Mar. (72)                                                               | 1 Sun.    | 9824-4420 | 46-5171  | 262-0414 | 3719  |
| 18 Mar. (77)        | 0 Sat.    | 22 56 51                     | 3 Mar. (62)                                                                | 6 Fri.    | 38-7959   | 930-0528 | 233-9559 | 3720  |
| 19 Mar. (78)        | 2 Mon.    | 5 9 0                        | 21 Feb. (52)                                                               | 4 Wed.    | 253-1507  | 813-5885 | 205-8705 | 3721  |
| 18 Mar. (78)        | 3 Tues.   | 11 21 9                      | 11 Mar. (71)                                                               | 3 Tues.   | 287-8331  | 749-5820 | 257-1810 | 3722  |

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |         |                      |                     | Interrelated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|---------------------------------|---------|---------|----------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māhādī solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SĀMVATSARA.   |                     |                                                                                                |
|                  |       |                    |                                 |         |         | Southern<br>system.  | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                              | 4       | 5       | 6                    | 7                   | 8                                                                                              |
| 3723             | 544   | 679                | 28                              |         | 621-22  | 12 Bahudhānya . . .  |                     | 7 Āsvina .                                                                                     |
| 3724             | 545   | 680                | 29                              |         | 622-23  | 13 Pramāthin . . .   |                     | ...                                                                                            |
| 3725             | 546   | 681                | 30                              |         | 623-24  | 14 Vikrama . . .     |                     | ...                                                                                            |
| 3726             | 547   | 682                | 31                              |         | *624-25 | 15 Vriṣha . . .      |                     | 5 Śrāvaṇa .                                                                                    |
| 3727             | 548   | 683                | 32                              |         | 625-26  | 16 Chitrabhānu . . . |                     | ...                                                                                            |
| 3728             | 549   | 684                | 33                              |         | 626-27  | 17 Subhānu . . .     |                     | ...                                                                                            |
| 3729             | 550   | 685                | 34                              |         | 627-28  | 18 Tāraka . . .      |                     | 4 Āshādha .                                                                                    |
| 3730             | 551   | 686                | 35                              |         | *628-29 | 19 Pārthiva . . .    |                     | ...                                                                                            |
| 3731             | 552   | 687                | 36                              |         | 629-30  | 20 Vyaya . . .       |                     | ...                                                                                            |
| 3732             | 553   | 688                | 37                              |         | 630-31  | 21 Sarvajit . . .    |                     | 2 Vaiśākha .                                                                                   |
| 3733             | 554   | 689                | 38                              |         | 631-32  | 22 Sarvadhārin . . . |                     | ...                                                                                            |
| 3734             | 555   | 690                | 39                              |         | *632-33 | 23 Virōdhin . . .    |                     | 6 Bhādrapada                                                                                   |
| 3735             | 556   | 691                | 40                              |         | 633-34  | 24 Vikṛita . . .     |                     | ...                                                                                            |
| 3736             | 557   | 692                | 41                              |         | 634-35  | 25 Khara . . .       |                     | ...                                                                                            |
| 3737             | 558   | 693                | 42                              |         | 635-36  | 26 Nandana . . .     |                     | 4 Āshādha .                                                                                    |
| 3738             | 559   | 694                | 43                              |         | *636-37 | 27 Vijaya . . .      |                     | ...                                                                                            |
| 3739             | 560   | 695                | 44                              |         | 637-38  | 28 Jaya . . .        |                     | ...                                                                                            |
| 3740             | 561   | 696                | 45                              |         | 638-39  | 29 Manmatha . . .    |                     | 3 Jyēṣṭha .                                                                                    |
| 3741             | 562   | 697                | 46                              |         | 639-40  | 30 Durmukha . . .    |                     | ...                                                                                            |
| 3742             | 563   | 698                | 47                              |         | *640-41 | 31 Hēmalamba . . .   |                     | 7 Āsvina .                                                                                     |
| 3743             | 564   | 699                | 48                              |         | 641-42  | 32 Vilamba . . .     |                     | ...                                                                                            |
| 3744             | 565   | 700                | 49                              |         | 642-43  | 33 Vikārin . . .     |                     | ...                                                                                            |
| 3745             | 566   | 701                | 50                              |         | 643-44  | 34 Śārvarin . . .    |                     | 5 Śrāvaṇa .                                                                                    |
| 3746             | 567   | 702                | 51                              |         | *644-45 | 35 Plava . . .       |                     | ...                                                                                            |
| 3747             | 568   | 703                | 52                              |         | 645-46  | 36 Subhakṛit . . .   |                     | ...                                                                                            |

LXXXII—Contd.

| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kall. |
| Day and month A.D.  | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
|                     |           | H. M. S.                      |                                                                            |           |           |          |          |       |
| 18 Mar. (77)        | 4 Wed.    | 17 33 18                      | 28 Feb. (59)                                                               | 0 Sat.    | 183-5560  | 596-8261 | 228-3577 | 3723  |
| 18 Mar. (77)        | 5 Thur.   | 23 45 27                      | 18 Mar. (77)                                                               | 5 Thur.   | 9859-6063 | 496-5279 | 274-0303 | 3724  |
| 19 Mar. (78)        | 0 Sat.    | 5 57 36                       | 8 Mar. (67)                                                                | 3 Tues.   | 73-9612   | 380-0635 | 246-8449 | 3725  |
| 18 Mar. (78)        | 1 Sun.    | 12 9 45                       | 25 Feb. (56)                                                               | 0 Sat.    | 9949-6840 | 227-3076 | 216-0218 | 3726  |
| 18 Mar. (77)        | 2 Mon.    | 18 21 54                      | 15 Mar. (74)                                                               | 6 Fri.    | 9984-3664 | 163-3011 | 267-3321 | 3727  |
| 19 Mar. (78)        | 4 Wed.    | 0 34 3                        | 4 Mar. (63)                                                                | 3 Tues.   | 9860-0892 | 10-5451  | 236-5089 | 3728  |
| 19 Mar. (78)        | 5 Thur.   | 6 46 12                       | 22 Feb. (53)                                                               | 1 Sun.    | 74-4441   | 894-0800 | 208-4235 | 3729  |
| 18 Mar. (78)        | 6 Fri.    | 12 58 21                      | 12 Mar. (72)                                                               | 0 Sat.    | 109-1265  | 830-0742 | 259-7340 | 3730  |
| 18 Mar. (77)        | 0 Sat.    | 19 10 30                      | 2 Mar. (61)                                                                | 5 Thur.†† | 323-4813  | 713-6100 | 231-6435 | 3731  |
| 19 Mar. (78)        | 2 Mon.    | 1 22 39                       | 19 Feb. (50)                                                               | 2 Mon.    | 199-2041  | 560-8540 | 200-8252 | 3732  |
| 19 Mar. (78)        | 3 Tues.   | 7 34 47                       | 9 Mar. (68)                                                                | 0 Sat.    | 9895-2545 | 461-5558 | 249-8979 | 3733  |
| 18 Mar. (78)        | 4 Wed.    | 13 46 56                      | 26 Feb. (57)                                                               | 4 Wed.    | 9770-9774 | 307-7999 | 218-5748 | 3734  |
| 18 Mar. (77)        | 5 Thur.   | 19 59 5                       | 16 Mar. (75)                                                               | 3 Tues.   | 9805-6597 | 243-7934 | 269-8851 | 3735  |
| 19 Mar. (78)        | 0 Sat.    | 2 11 14                       | 6 Mar. (65)                                                                | 1 Sun.    | 20-0146   | 127-3290 | 241-0922 | 3736  |
| 19 Mar. (78)        | 1 Sun.    | 8 23 23                       | 23 Feb. (54)                                                               | 5 Thur.   | 9895-7375 | 974-5731 | 210-9765 | 3737  |
| 18 Mar. (78)        | 2 Mon.    | 14 35 32                      | 13 Mar. (73)                                                               | 4 Wed.    | 9930-4199 | 910-5666 | 262-2870 | 3738  |
| 18 Mar. (77)        | 3 Tues.   | 20 47 41                      | 3 Mar. (62)                                                                | 2 Mon.    | 144-7746  | 794-1023 | 234-2015 | 3739  |
| 19 Mar. (78)        | 5 Thur.   | 2 59 50                       | 20 Feb. (51)                                                               | 6 Fri.    | 20-4975   | 641-3463 | 203-3783 | 3740  |
| 19 Mar. (78)        | 6 Fri.    | 9 11 59                       | 11 Mar. (70)                                                               | 5 Thur.   | 55-1799   | 577-3398 | 254-6887 | 3741  |
| 18 Mar. (78)        | 0 Sat.    | 15 24 8                       | 28 Feb. (59)                                                               | 2 Mon.    | 9930-9027 | 424-5838 | 223-8655 | 3742  |
| 18 Mar. (77)        | 1 Sun.    | 21 36 17                      | 18 Mar. (77)                                                               | 1 Sun.    | 9965-5851 | 360-8774 | 275-1759 | 3743  |
| 19 Mar. (78)        | 3 Tues.   | 3 48 26                       | 7 Mar. (66)                                                                | 5 Thur.   | 9841-3081 | 207-8213 | 244-3527 | 3744  |
| 19 Mar. (78)        | 4 Wed.    | 10 0 35                       | 25 Feb. (56)                                                               | 3 Tues.   | 55-6628   | 91-3571  | 216-2673 | 3745  |
| 18 Mar. (78)        | 5 Thur.   | 16 12 44                      | 15 Mar. (75)                                                               | 2 Mon.    | 90-3451   | 27-3506  | 267-5776 | 3746  |
| 18 Mar. (77)        | 6 Fri.    | 22 24 53                      | 4 Mar. (63)                                                                | 6 Fri.    | 9966-0680 | 873-8747 | 236-7545 | 3747  |

†† See "Remarks," above, on page preceding the Table.

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |         |                              |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kahaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|---------------------------------|---------|---------|------------------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māhādi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SAMVATSARA.           |                     |                                                                                                |
|                  |       |                    |                                 |         |         | Southern<br>system.          | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                              | 4       | 5       | 6                            | 7                   | 8                                                                                              |
| 3748             | 569   | 704                | 53                              |         | 646-47  | 37 Śobhana . . . .           |                     | 4 Āshāḍha .                                                                                    |
| 3749             | 570   | 705                | 54                              |         | 647-48  | 38 Krāṣṭhīn . . . .          |                     | ...                                                                                            |
| 3750             | 571   | 706                | 55                              |         | *648-49 | 39 Viśvāvasu† . . . .        |                     | ...                                                                                            |
| 3751             | 572   | 707                | 56                              |         | 649-50  | 41 <i>Plavaṅga</i> . . . .   |                     | 2 Vaiśākha .                                                                                   |
| 3752             | 573   | 708                | 57                              |         | 650-51  | 42 <i>Kṛlaka</i> . . . .     |                     | ...                                                                                            |
| 3753             | 574   | 709                | 58                              |         | 651-52  | 43 <i>Saumya</i> . . . .     |                     | 6 Bhādrapada.                                                                                  |
| 3754             | 575   | 710                | 59                              |         | *652-53 | 44 <i>Sadhārana</i> . . . .  |                     | ...                                                                                            |
| 3755             | 576   | 711                | 60                              |         | 653-54  | 45 <i>Virōdhakṛt</i> . . . . |                     | ...                                                                                            |
| 3756             | 577   | 712                | 61                              |         | 654-55  | 46 Paridhāvin . . . .        |                     | 4 Āshāḍha .                                                                                    |
| 3757             | 578   | 713                | 62                              |         | 655-56  | 47 Pramādin . . . .          |                     | ...                                                                                            |
| 3758             | 579   | 714                | 63                              |         | *656-57 | 48 Ānanda . . . .            |                     | ...                                                                                            |
| 3759             | 580   | 715                | 64                              |         | 657-58  | 49 Rākshasa . . . .          |                     | 3 Jyēṣṭha .                                                                                    |
| 3760             | 581   | 716                | 65                              |         | 658-59  | 50 Anala . . . .             |                     | ...                                                                                            |
| 3761             | 582   | 717                | 66                              |         | 659-60  | 51 Pīṅgala . . . .           |                     | 7 Āśvina .                                                                                     |
| 3762             | 583   | 718                | 67                              |         | *660-61 | 52 Kālayukta . . . .         |                     | ...                                                                                            |
| 3763             | 584   | 719                | 68                              |         | 661-62  | 53 Siddhārthin . . . .       |                     | ...                                                                                            |
| 3764             | 585   | 720                | 69                              |         | 662-63  | 54 Raudra . . . .            |                     | 5 Śrāvaṇa .                                                                                    |
| 3765             | 586   | 721                | 70                              |         | 663-64  | 55 Durmatḥ . . . .           |                     | ...                                                                                            |
| 3766             | 587   | 722                | 71                              |         | *664-65 | 56 Dundubhi . . . .          |                     | ...                                                                                            |
| 3767             | 588   | 723                | 72                              |         | 665-66  | 57 Rudhīrōdgārin . . . .     |                     | 4 Āshāḍha                                                                                      |
| 3768             | 589   | 724                | 73                              |         | 666-67  | 58 Raktāksha . . . .         |                     | ...                                                                                            |
| 3769             | 590   | 725                | 74                              |         | 667-68  | 59 Krōdhana . . . .          |                     | ...                                                                                            |
| 3770             | 591   | 726                | 75                              |         | *668-69 | 60 Kahaya . . . .            |                     | 1 Chaitra                                                                                      |
| 3771             | 592   | 727                | 76                              |         | 669-70  | 1 Prabhava . . . .           |                     | ...                                                                                            |
| 3772             | 593   | 728                | 77                              |         | 670-71  | 2 Vibhava . . . .            |                     | 5 Śrāvaṇa .                                                                                    |

† 40 Parābhava was suppressed.

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| COMMENCEMENT OF THE |           |                                |                                                                            |           |           |          |          |       |
|---------------------|-----------|--------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                                | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-sam-krānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                             | 19                                                                         | 20        | 23        | 24       | 25       |       |
|                     |           | H. M. S.                       |                                                                            |           |           |          |          | 1     |
| 19 Mar. (78)        | 1 Sun.    | 4 37 2                         | 22 Feb. (53)                                                               | 4 Wed.    | 180-4229  | 758-1223 | 208-6691 | 3748  |
| 19 Mar. (78)        | 2 Mon.    | 10 49 11                       | 13 Mar. (72)                                                               | 3 Tues.   | 215-1052  | 604-1237 | 250-9795 | 3749  |
| 18 Mar. (78)        | 3 Tues.   | 17 1 20                        | 1 Mar. (61)                                                                | 0 Sat.    | 90-8281   | 541-3679 | 229-1662 | 3750  |
| 18 Mar. (77)        | 4 Wed.    | 23 13 29                       | 18 Feb. (49)                                                               | 4 Wed.    | 9906-5509 | 388-6119 | 198-3330 | 3751  |
| 19 Mar. (78)        | 6 Fri.    | 5 25 38                        | 9 Mar. (68)                                                                | 3 Tues.   | 1-2333    | 324-6053 | 249-6435 | 3752  |
| 19 Mar. (78)        | 0 Sat.    | 11 37 47                       | 26 Feb. (57)                                                               | 0 Sat.    | 9876-9561 | 171-8494 | 218-8203 | 3753  |
| 18 Mar. (78)        | 1 Sun.    | 17 49 56                       | 16 Mar. (76)                                                               | 6 Fri.    | 9911-6385 | 107-8429 | 270-1306 | 3754  |
| 19 Mar. (78)        | 3 Tues.   | 0 2 5                          | 6 Mar. (65)                                                                | 4 Wed.    | 125-9934  | 991-3786 | 242-0453 | 3755  |
| 19 Mar. (78)        | 4 Wed.    | 6 14 14                        | 23 Feb. (54)                                                               | 1 Sun.    | 1-7162    | 838-6227 | 211-2221 | 3756  |
| 19 Mar. (78)        | 5 Thur.   | 12 26 23                       | 14 Mar. (73)                                                               | 0 Sat.    | 36-3986   | 774-6161 | 262-5325 | 3757  |
| 18 Mar. (78)        | 6 Fri.    | 18 38 32                       | 3 Mar. (63)                                                                | 5 Thur.   | 250-7534  | 658-1518 | 234-4470 | 3758  |
| 19 Mar. (78)        | 1 Sun.    | 0 50 41                        | 20 Feb. (51)                                                               | 2 Mon.    | 128-5863  | 505-3958 | 203-6238 | 3759  |
| 19 Mar. (78)        | 2 Mon.    | 7 2 50                         | 10 Mar. (69)                                                               | 0 Sat.    | 9822-5266 | 406-0977 | 252-1966 | 3760  |
| 19 Mar. (78)        | 3 Tues.   | 13 14 59                       | 28 Feb. (59)                                                               | 5 Thur.   | 36-8815   | 288-6334 | 224-1110 | 3761  |
| 18 Mar. (78)        | 4 Wed.    | 19 27 8                        | 17 Mar. (77)                                                               | 3 Tues.   | 9732-9319 | 188-3353 | 272-6836 | 3762  |
| 19 Mar. (78)        | 6 Fri.    | 1 39 17                        | 7 Mar. (66)                                                                | 1 Sun.    | 9947-2867 | 71-8709  | 244-5982 | 3763  |
| 19 Mar. (78)        | 0 Sat.    | 7 51 26                        | 25 Feb. (56)                                                               | 6 Fri.    | 161-6415  | 955-4066 | 216-5129 | 3764  |
| 19 Mar. (78)        | 1 Sun.    | 14 3 35                        | 16 Mar. (75)                                                               | 5 Thur.   | 196-2239  | 891-4001 | 267-8232 | 3765  |
| 18 Mar. (78)        | 2 Mon.    | 20 15 44                       | 4 Mar. (64)                                                                | 2 Mon.    | 72-0468   | 738-6441 | 237-0600 | 3766  |
| 19 Mar. (78)        | 4 Wed.    | 2 27 53                        | 21 Feb. (52)                                                               | 6 Fri.    | 9947-7696 | 585-8882 | 206-1768 | 3767  |
| 19 Mar. (78)        | 5 Thur.   | 8 40 2                         | 12 Mar. (71)                                                               | 5 Thur.   | 9982-6410 | 521-5617 | 257-4873 | 3768  |
| 19 Mar. (78)        | 6 Fri.    | 14 52 11                       | 1 Mar. (60)                                                                | 2 Mon.    | 9858-1749 | 369-1257 | 226-6640 | 3769  |
| 18 Mar. (78)        | 0 Sat.    | 21 4 20                        | 18 Feb. (49)                                                               | 6 Fri.    | 9733-8977 | 216-3699 | 195-8467 | 3770  |
| 19 Mar. (78)        | 2 Mon.    | 3 16 29                        | 8 Mar. (67)                                                                | 5 Thur.   | 9768-5801 | 152-5632 | 247-1512 | 3771  |
| 19 Mar. (78)        | 3 Tues.   | 9 28 38                        | 26 Feb. (57)                                                               | 3 Tues.   | 9982-9349 | 35-8889  | 219-0059 | 3772  |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                          |                     |                                                                              |
|------------------|-------|--------------------|----------------------------------|---------|---------|--------------------------|---------------------|------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SAMVATSARA.       |                     | Intercalated<br>(adhika) and<br>suppressed<br>(kshaya) true<br>lunar months. |
|                  |       |                    |                                  |         |         | Southern<br>system.      | Northern<br>system. |                                                                              |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                        | 7                   | 8                                                                            |
| 3773             | 594   | 729                | 78                               |         | 671-72  | 3 Śukla . . . . .        |                     | ...                                                                          |
| 3774             | 595   | 730                | 79                               |         | *672-73 | 4 Pramōda . . . . .      |                     | ...                                                                          |
| 3775             | 596   | 731                | 80                               |         | 673-74  | 5 Prajāpati . . . . .    |                     | 4 Āshāḍha                                                                    |
| 3776             | 597   | 732                | 81                               |         | 674-75  | 6 Āngirasa . . . . .     |                     | ...                                                                          |
| 3777             | 598   | 733                | 82                               |         | 675-76  | 7 Śrīmukha . . . . .     |                     | ...                                                                          |
| 3778             | 599   | 734                | 83                               |         | *676-77 | 8 Bhava . . . . .        |                     | 2 Vaiśākha                                                                   |
| 3779             | 600   | 735                | 84                               |         | 677-78  | 9 Yuvan . . . . .        |                     | ...                                                                          |
| 3780             | 601   | 736                | 85                               |         | 678-79  | 10 Dhātṛi . . . . .      |                     | 7 Āsvina                                                                     |
| 3781             | 602   | 737                | 86                               |         | 679-80  | 11 Jāvara . . . . .      |                     | ...                                                                          |
| 3782             | 603   | 738                | 87                               |         | *680-81 | 12 Bahudhānya . . . . .  |                     | ...                                                                          |
| 3783             | 604   | 739                | 88                               |         | 681-82  | 13 Pramāthin . . . . .   |                     | 5 Śrāvapa                                                                    |
| 3784             | 605   | 740                | 89                               |         | 682-83  | 14 Vikrama . . . . .     |                     | ...                                                                          |
| 3785             | 606   | 741                | 90                               |         | 683-84  | 15 Vṛisha . . . . .      |                     | ...                                                                          |
| 3786             | 607   | 742                | 91                               |         | *684-85 | 16 Chitrabhānu . . . . . |                     | 3 Jyēṣṭha                                                                    |
| 3787             | 608   | 743                | 92                               |         | 685-86  | 17 Subhānu . . . . .     |                     | ...                                                                          |
| 3788             | 609   | 744                | 93                               |         | 686-87  | 18 Tāraka . . . . .      |                     | ...                                                                          |
| 3789             | 610   | 745                | 94                               |         | 687-88  | 19 Pārthiva . . . . .    |                     | 1 Chaitra                                                                    |
| 3790             | 611   | 746                | 95                               |         | *688-89 | 20 Vijaya . . . . .      |                     | ...                                                                          |
| 3791             | 612   | 747                | 96                               |         | 689-90  | 21 Sarvajit . . . . .    |                     | 5 Śrāvapa                                                                    |
| 3792             | 613   | 748                | 97                               |         | 690-91  | 22 Sarvadhārin . . . . . |                     | ...                                                                          |
| 3793             | 614   | 749                | 98                               |         | 691-92  | 23 Virōdhin . . . . .    |                     | ...                                                                          |
| 3794             | 615   | 750                | 99                               |         | *692-93 | 24 Vikṛta . . . . .      |                     | 4 Āshāḍha                                                                    |
| 3795             | 616   | 751                | 100                              |         | 693-94  | 25 Khara . . . . .       |                     | ...                                                                          |
| 3796             | 617   | 752                | 101                              |         | 694-95  | 26 Nandana . . . . .     |                     | ...                                                                          |
| 3797             | 618   | 753                | 102                              |         | 695-96  | 27 Vijaya . . . . .      |                     | 2 Vaiśākha                                                                   |

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| COMMENCEMENT OF THE |           |                              |                                                                            |           |           |          |          |      |
|---------------------|-----------|------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|------|
| SOLAR YEAR.         |           |                              | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |           |          |          | KAL. |
| Day and month A. D. | Week-day. | Time of true Māsa-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |      |
| 13                  | 14        | 17                           | 19                                                                         | 20        | 23        | 24       | 25       | 1    |
| 19 Mar. (78)        | 4 Wed.    | H. M. S.                     | 17 Mar. (76)                                                               | 2 Mon.    | 17-6173   | 971-8924 | 270-3762 | 3778 |
| 18 Mar. (78)        | 5 Thur.   | 21 52 56                     | 6 Mar. (66)                                                                | 0 Sat.    | 231-9621  | 855-4281 | 242-2907 | 3774 |
| 19 Mar. (78)        | 0 Sat.    | 4 5 5                        | 23 Feb. (54)                                                               | 4 Wed.    | 107-6950  | 702-6722 | 211-4676 | 3775 |
| 19 Mar. (78)        | 1 Sun.    | 10 17 14                     | 14 Mar. (73)                                                               | 3 Tues.   | 142-3774  | 628-6656 | 262-7781 | 3776 |
| 19 Mar. (78)        | 2 Mon.    | 16 29 23                     | 3 Mar. (62)                                                                | 0 Sat.    | 18-1001   | 485-9097 | 231-9548 | 3777 |
| 18 Mar. (78)        | 3 Tues.   | 22 41 31                     | 20 Feb. (51)                                                               | 4 Wed.    | 9893-8230 | 323-1537 | 201-1315 | 3778 |
| 19 Mar. (78)        | 5 Thur.   | 4 53 40                      | 10 Mar. (69)                                                               | 3 Tues.   | 9928-5054 | 269-1472 | 252-4420 | 3779 |
| 19 Mar. (78)        | 6 Fri.    | 11 5 49                      | 27 Feb. (58)                                                               | 0 Sat.    | 9804-2283 | 116-3913 | 221-6188 | 3780 |
| 19 Mar. (78)        | 0 Sat.    | 17 17 58                     | 18 Mar. (77)                                                               | 6 Fri.    | 9838-9106 | 52-4848  | 272-9292 | 3781 |
| 18 Mar. (78)        | 1 Sun.    | 23 20 7                      | 7 Mar. (67)                                                                | 4 Wed.    | 53-2655   | 935-9206 | 244-8437 | 3782 |
| 19 Mar. (78)        | 3 Tues.   | 5 42 16                      | 25 Feb. (56)                                                               | 2 Mon.    | 267-6203  | 819-4561 | 216-7584 | 3783 |
| 19 Mar. (78)        | 4 Wed.    | 11 54 25                     | 16 Mar. (75)                                                               | 1 Sun.    | 302-3027  | 755-4496 | 268-0688 | 3784 |
| 19 Mar. (78)        | 5 Thur.   | 18 6 34                      | 5 Mar. (64)                                                                | 5 Thur.   | 178-0255  | 602-6936 | 237-5456 | 3785 |
| 19 Mar. (79)        | 0 Sat.    | 0 18 43                      | 22 Feb. (53)                                                               | 2 Mon.    | 53-7384   | 449-9378 | 206-4223 | 3786 |
| 19 Mar. (78)        | 1 Sun.    | 6 30 52                      | 12 Mar. (71)                                                               | 1 Sun.    | 88-4308   | 385-9312 | 257-7328 | 3787 |
| 19 Mar. (78)        | 2 Mon.    | 12 43 1                      | 1 Mar. (60)                                                                | 5 Thur.   | 9964-1536 | 233-1752 | 227-1096 | 3788 |
| 19 Mar. (78)        | 3 Tues.   | 18 55 10                     | 18 Feb. (49)                                                               | 2 Mon.    | 9839-8765 | 80-4194  | 196-0863 | 3789 |
| 19 Mar. (79)        | 5 Thur.   | 1 7 19                       | 8 Mar. (58)                                                                | 1 Sun.    | 9874-5589 | 16-4127  | 247-3967 | 3790 |
| 19 Mar. (78)        | 6 Fri.    | 7 19 28                      | 26 Feb. (57)                                                               | 6 Fri.    | 88-9137   | 899-9454 | 219-3114 | 3791 |
| 19 Mar. (78)        | 0 Sat.    | 13 31 37                     | 17 Mar. (76)                                                               | 5 Thur.   | 123-5960  | 835-9419 | 270-6218 | 3792 |
| 19 Mar. (78)        | 1 Sun.    | 19 43 46                     | 6 Mar. (65)                                                                | 2 Mon.    | 9999-3189 | 683-1860 | 239-7986 | 3793 |
| 19 Mar. (79)        | 3 Tues.   | 1 55 54                      | 24 Feb. (55)                                                               | 0 Sat.    | 213-6738  | 566-7217 | 211-7131 | 3794 |
| 19 Mar. (78)        | 4 Wed.    | 8 8 4                        | 13 Mar. (72)                                                               | 5 Thur.   | 9909-7241 | 466-4235 | 260-1858 | 3795 |
| 19 Mar. (78)        | 5 Thur.   | 14 20 13                     | 2 Mar. (61)                                                                | 2 Mon.    | 9785-4470 | 313-6675 | 229-4626 | 3796 |
| 19 Mar. (78)        | 6 Fri.    | 20 22 22                     | 20 Feb. (51)                                                               | 0 Sat.    | 9999-8018 | 197-2632 | 201-8171 | 3797 |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                        |                     |                                                                              |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SAMVATSARA.     |                     | Intercalated<br>(adhika) and<br>suppressed<br>(kshaya) true<br>lunar months. |
|                  |       |                    |                                  |         |         | Southern<br>system.    | Northern<br>system. |                                                                              |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                      | 7                   | 8                                                                            |
| 3798             | 619   | 754                | 103                              |         | *696-97 | 28 Jaya . . . .        |                     | ...                                                                          |
| 3799             | 620   | 755                | 104                              |         | 697-98  | 29 Manmatha . . . .    |                     | 6 Bhādrapada                                                                 |
| 3800             | 621   | 756                | 105                              |         | 698-99  | 30 Durmukha . . . .    |                     | ...                                                                          |
| 3801             | 622   | 757                | 106                              |         | 699-700 | 31 Hēmalamba . . . .   |                     | ...                                                                          |
| 3802             | 623   | 758                | 107                              |         | *700-70 | 32 Vilamba . . . .     |                     | 5 Śrāvapa .                                                                  |
| 3803             | 624   | 759                | 108                              |         | 701-02  | 33 Vikārin . . . .     |                     | ...                                                                          |
| 3804             | 625   | 760                | 109                              |         | 702-03  | 34 Śārvarin . . . .    |                     | ...                                                                          |
| 3805             | 626   | 761                | 110                              |         | 703-04  | 35 Plava . . . .       |                     | 3 Jyēsthā .                                                                  |
| 3806             | 627   | 762                | 111                              |         | *704-05 | 36 Śubhakrit . . . .   |                     | ...                                                                          |
| 3807             | 628   | 763                | 112                              |         | 705-06  | 37 Sōbhana . . . .     |                     | ...                                                                          |
| 3808             | 629   | 764                | 113                              |         | 706-07  | 38 Krōdhin . . . .     |                     | 1 Chaitra .                                                                  |
| 3809             | 630   | 765                | 114                              |         | 707-08  | 39 Viāvāvasu . . . .   |                     | ...                                                                          |
| 3810             | 631   | 766                | 115                              |         | *708-09 | 40 Parābhava . . . .   |                     | 5 Śrāvapa .                                                                  |
| 3811             | 632   | 767                | 116                              |         | 709-10  | 41 Plavaṅga . . . .    |                     | ...                                                                          |
| 3812             | 633   | 768                | 117                              |         | 710-11  | 42 Kilaka . . . .      |                     | ...                                                                          |
| 3813             | 634   | 769                | 118                              |         | 711-12  | 43 Saumya . . . .      |                     | 4 Āshāḍha .                                                                  |
| 3814             | 635   | 770                | 119                              |         | *712-13 | 44 Sādhārana . . . .   |                     | ...                                                                          |
| 3815             | 636   | 771                | 120                              |         | 713-14  | 45 Virōdhakrit . . . . |                     | ...                                                                          |
| 3816             | 637   | 772                | 121                              |         | 714-15  | 46 Paridhāvin . . . .  |                     | 2 Vaiśākha .                                                                 |
| 3817             | 638   | 773                | 122                              |         | 715-16  | 47 Pramādin . . . .    |                     | ...                                                                          |
| 3818             | 639   | 774                | 123                              |         | *716-17 | 48 Ānanda . . . .      |                     | 6 Bhādrapada                                                                 |
| 3819             | 640   | 775                | 124                              |         | 717-18  | 49 Rākshasa . . . .    |                     | ...                                                                          |
| 3820             | 641   | 776                | 125                              |         | 718-19  | 50 Anala . . . .       |                     | ...                                                                          |
| 3821             | 642   | 777                | 126                              |         | 719-20  | 51 Piṅgala . . . .     |                     | 5 Śrāvapa .                                                                  |
| 3822             | 643   | 778                | 127                              |         | *720-21 | 52 Kālayukta . . . .   |                     | ...                                                                          |

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| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-saṁkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       |       |
|                     |           | H. M. S.                      |                                                                            |           |           |          |          | 1     |
| 19 Mar. (79)        | 1 Sun.    | 2 44 31                       | 10 Mar. (70)                                                               | 6 Fri.    | 34-4841   | 133-1967 | 252-6875 | 3798  |
| 19 Mar. (78)        | 2 Mon.    | 8 56 40                       | 27 Feb. (58)                                                               | 3 Tues.   | 9910-2070 | 980-4408 | 221-8643 | 3799  |
| 19 Mar. (78)        | 3 Tues.   | 15 8 49                       | 18 Mar. (77)                                                               | 2 Mon.    | 9944-8894 | 916-4343 | 273-1748 | 3800  |
| 19 Mar. (78)        | 4 Wed.    | 21 20 58                      | 8 Mar. (67)                                                                | 0 Sat.    | 159-2443  | 799-9700 | 245-0871 | 3801  |
| 19 Mar. (79)        | 6 Fri.    | 3 33 7                        | 25 Feb. (56)                                                               | 4 Wed.    | 34-9671   | 647-2140 | 214-2440 | 3802  |
| 19 Mar. (78)        | 0 Sat.    | 9 45 16                       | 15 Mar. (74)                                                               | 3 Tues.   | 60-6496   | 583-2074 | 265-5543 | 3803  |
| 19 Mar. (78)        | 1 Sun.    | 15 57 25                      | 4 Mar. (63)                                                                | 0 Sat.    | 9945-3723 | 430-4516 | 234-7311 | 3804  |
| 19 Mar. (78)        | 2 Mon.    | 22 9 34                       | 21 Feb. (52)                                                               | 4 Wed.    | 9821-0852 | 277-6956 | 203-9079 | 3805  |
| 19 Mar. (79)        | 4 Wed.    | 4 21 43                       | 11 Mar. (71)                                                               | 3 Tues.   | 9855-7776 | 213-6890 | 255-2184 | 3806  |
| 19 Mar. (78)        | 5 Thur.   | 10 33 52                      | 1 Mar. (60)                                                                | 1 Sun.    | 70-1324   | 97-2248  | 227-1329 | 3807  |
| 19 Mar. (78)        | 6 Fri.    | 16 46 1                       | 18 Feb. (49)                                                               | 5 Thur.   | 9946-0956 | 944-4986 | 196-3096 | 3808  |
| 19 Mar. (78)        | 0 Sat.    | 22 58 10                      | 9 Mar. (68)                                                                | 4 Wed.    | 9960-5376 | 880-4623 | 247-6201 | 3809  |
| 19 Mar. (79)        | 2 Mon.    | 5 10 19                       | 27 Feb. (58)                                                               | 2 Mon.    | 194-8924  | 773-9979 | 219-5348 | 3810  |
| 19 Mar. (78)        | 3 Tues.   | 11 22 28                      | 17 Mar. (76)                                                               | 1 Sun.    | 230-5748  | 699-9914 | 270-8451 | 3811  |
| 19 Mar. (78)        | 4 Wed.    | 17 34 37                      | 6 Mar. (65)                                                                | 5 Thur.   | 105-2977  | 547-2355 | 240-0219 | 3812  |
| 19 Mar. (78)        | 5 Thur.   | 23 46 46                      | 23 Feb. (54)                                                               | 2 Mon.    | 9981-0208 | 394-4796 | 209-1987 | 3813  |
| 19 Mar. (79)        | 0 Sat.    | 5 58 55                       | 13 Mar. (73)                                                               | 1 Sun.    | 15-7029   | 330-4730 | 260-5092 | 3814  |
| 19 Mar. (78)        | 1 Sun.    | 12 11 4                       | 2 Mar. (61)                                                                | 5 Thur.   | 9891-4258 | 178-7171 | 229-6859 | 3815  |
| 19 Mar. (78)        | 2 Mon.    | 18 23 13                      | 20 Feb. (51)                                                               | 3 Tues.   | 105-7806  | 61-2528  | 201-6004 | 3816  |
| 20 Mar. (79)        | 4 Wed.    | 0 35 22                       | 11 Mar. (70)                                                               | 2 Mon.    | 140-4629  | 997-2462 | 252-9109 | 3817  |
| 19 Mar. (79)        | 5 Thur.   | 6 47 31                       | 28 Feb. (59)                                                               | 6 Fri.    | 16-1858   | 844-4903 | 222-0677 | 3818  |
| 19 Mar. (78)        | 6 Fri.    | 12 59 40                      | 18 Mar. (77)                                                               | 5 Thur.   | 50-8682   | 780-4838 | 273-3981 | 3819  |
| 19 Mar. (78)        | 0 Sat.    | 19 11 49                      | 8 Mar. (67)                                                                | 3 Tues.   | 265-2231  | 664-0195 | 245-3126 | 3820  |
| 20 Mar. (79)        | 2 Mon.    | 1 23 58                       | 25 Feb. (56)                                                               | 0 Sat.    | 140-9458  | 511-2635 | 214-4895 | 3821  |
| 19 Mar. (79)        | 3 Tues.   | 7 36 7                        | 14 Mar. (74)                                                               | 5 Thur.   | 9836-9963 | 410-9654 | 263-0622 | 3822  |

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| CONCURRENT YEAR. |       |                    |                                  |         |         |                        |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>k. haya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|-------------------------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.   | JUVIAN SAMVATSARA.     |                     |                                                                                                 |
|                  |       |                    |                                  |         |         | Southern<br>system.    | Northern<br>system. |                                                                                                 |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                      | 7                   | 8                                                                                               |
| 3823             | 644   | 779                | 128                              |         | 721-22  | 53 Siddhārthin . . .   |                     | ...                                                                                             |
| 3824             | 645   | 780                | 129                              |         | 722-23  | 54 Raudra . . .        |                     | 3 Jyēshtha                                                                                      |
| 3825             | 646   | 781                | 130                              |         | 723-24  | 55 Durmati . . .       |                     | ...                                                                                             |
| 3826             | 647   | 782                | 131                              |         | *724-25 | 56 Dundubhi . . .      |                     | { 7 Āsvina<br>9 Mārgaśīrṣa : ( <i>kak</i> ) }                                                   |
| 3827             | 648   | 783                | 132                              |         | 725-26  | 57 Rudhirōdgārin . . . |                     | 1 Chaitra                                                                                       |
| 3828             | 649   | 784                | 133                              |         | 726-27  | 58 Raktāksha . . .     |                     | ...                                                                                             |
| 3829             | 650   | 785                | 134                              |         | 727-28  | 59 Krōdhana . . .      |                     | 5 Śrāvaṇa                                                                                       |
| 3830             | 651   | 786                | 135                              |         | *728-29 | 60 Kahaya . . .        |                     | ...                                                                                             |
| 3831             | 652   | 787                | 136                              |         | 729-30  | 1 Prabhava . . .       |                     | ...                                                                                             |
| 3832             | 653   | 788                | 137                              |         | 730-31  | 2 Vibhava . . .        |                     | 4 Āshāḍha                                                                                       |
| 3833             | 654   | 789                | 138                              |         | 731-32  | 3 Śukla . . .          |                     | ...                                                                                             |
| 3834             | 655   | 790                | 139                              |         | *732-33 | 4 Pramōda . . .        |                     | ...                                                                                             |
| 3835             | 656   | 791                | 140                              |         | 733-34  | 5 Prajāpati . . .      |                     | 2 Vaidākha                                                                                      |
| 3836             | 657   | 792                | 141                              |         | 734-35  | 6 Āngirasa† . . .      |                     | ...                                                                                             |
| 3837             | 658   | 793                | 142                              |         | 735-36  | 8 Bhāva . . .          |                     | 6 Bhādrapada                                                                                    |
| 3838             | 659   | 794                | 143                              |         | *736-37 | 9 Yava . . .           |                     | ...                                                                                             |
| 3839             | 660   | 795                | 144                              |         | 737-38  | 10 Dhātṛi . . .        |                     | ...                                                                                             |
| 3840             | 661   | 796                | 145                              |         | 738-39  | 11 Jivara . . .        |                     | 5 Śrāvaṇa                                                                                       |
| 3841             | 662   | 797                | 146                              |         | 739-40  | 12 Bahudhānya . . .    |                     | ...                                                                                             |
| 3842             | 663   | 798                | 147                              |         | *740-41 | 13 Pramāthin . . .     |                     | ...                                                                                             |
| 3843             | 664   | 799                | 148                              |         | 741-42  | 14 Vikrama . . .       |                     | 3 Jyēshtha                                                                                      |
| 3844             | 665   | 800                | 149                              |         | 742-43  | 15 Vriha . . .         |                     | ...                                                                                             |
| 3845             | 666   | 801                | 150                              |         | 743-44  | 16 Chitrabhānu . . .   |                     | { 7 Āsvina<br>11 Māgha : ( <i>kak</i> ) }                                                       |
| 3846             | 667   | 802                | 151                              |         | *744-45 | 17 Subhānu . . .       |                     | 1 Chaitra                                                                                       |
| 3847             | 668   | 803                | 152                              |         | 745-46  | 18 Tārana . . .        |                     | ...                                                                                             |

† 7 Śrīmukha, was suppressed.

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| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY OF WHICH CHAITRA ŚUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
| 19 Mar. (78)        | 4 Wed.    | H. M. S.<br>13 48 15          | 4 Mar. (83)                                                                | 3 Tues.   | 51-3511   | 294-5011 | 234-9767 | 3823  |
| 19 Mar. (78)        | 5 Thur.   | 20 0 24                       | 21 Feb. (52)                                                               | 0 Sat.    | 9927-0739 | 141-7452 | 204-1534 | 3824  |
| 20 Mar. (79)        | 0 Sat.    | 2 12 33                       | 12 Mar. (71)                                                               | 6 Fri.    | 9961-7563 | 77-7385  | 255-4693 | 3825  |
| 19 Mar. (79)        | 1 Sun.    | 8 24 42                       | 1 Mar. (61)                                                                | 4 Wed.    | 176-1112  | 961-2743 | 227-3765 | 3826  |
| 19 Mar. (78)        | 2 Mon.    | 14 36 51                      | 18 Feb. (49)                                                               | 1 Sun.    | 51-8342   | 808-5184 | 196-5552 | 3827  |
| 19 Mar. (78)        | 3 Tues.   | 20 49 0                       | 9 Mar. (66)                                                                | 0 Sat.    | 86-5163   | 744-5118 | 247-8656 | 3828  |
| 20 Mar. (79)        | 5 Thur.   | 3 1 9                         | 26 Feb. (57)                                                               | 4 Wed.    | 9962-2392 | 591-7559 | 217-0425 | 3829  |
| 19 Mar. (79)        | 6 Fri.    | 9 13 18                       | 16 Mar. (76)                                                               | 3 Tues.   | 9996-9216 | 527-7492 | 268-3529 | 3830  |
| 19 Mar. (78)        | 0 Sat.    | 15 25 27                      | 5 Mar. (64)                                                                | 0 Sat.    | 9872-6444 | 374-9934 | 297-5297 | 3831  |
| 19 Mar. (78)        | 1 Sun.    | 21 37 36                      | 22 Feb. (53)                                                               | 4 Wed.    | 9748-3673 | 222-2374 | 206-7064 | 3832  |
| 20 Mar. (79)        | 3 Tues.   | 3 49 45                       | 13 Mar. (72)                                                               | 3 Tues.   | 9783-0497 | 158-2309 | 258-0169 | 3833  |
| 19 Mar. (79)        | 4 Wed.    | 10 1 54                       | 2 Mar. (62)                                                                | 1 Sun.    | 9997-4046 | 41-7698  | 229-9215 | 3834  |
| 19 Mar. (78)        | 5 Thur.   | 16 14 3                       | 20 Feb. (51)                                                               | 6 Fri.    | 211-7493  | 925-3023 | 201-8460 | 3835  |
| 19 Mar. (78)        | 6 Fri.    | 22 26 12                      | 11 Mar. (70)                                                               | 5 Thur.   | 246-4417  | 861-2958 | 253-1564 | 3836  |
| 20 Mar. (79)        | 1 Sun.    | 4 38 21                       | 28 Feb. (59)                                                               | 2 Mon.    | 122-1646  | 708-5398 | 222-3332 | 3837  |
| 19 Mar. (79)        | 2 Mon.    | 10 50 30                      | 18 Mar. (78)                                                               | 1 Sun.    | 156-8460  | 644-5333 | 274-6437 | 3838  |
| 19 Mar. (78)        | 3 Tues.   | 17 2 39                       | 7 Mar. (66)                                                                | 5 Thur.   | 32-5698   | 501-7773 | 242-8204 | 3839  |
| 19 Mar. (78)        | 4 Wed.    | 23 14 48                      | 24 Feb. (56)                                                               | 2 Mon.    | 9908-2926 | 339-0214 | 211-9973 | 3840  |
| 20 Mar. (79)        | 6 Fri.    | 5 26 57                       | 15 Mar. (74)                                                               | 1 Sun.    | 9942-9751 | 275-0149 | 263-2077 | 3841  |
| 19 Mar. (79)        | 0 Sat.    | 11 39 6                       | 3 Mar. (63)                                                                | 5 Thur.   | 9818-6978 | 122-2588 | 232-4845 | 3842  |
| 19 Mar. (78)        | 1 Sun.    | 17 51 15                      | 21 Feb. (52)                                                               | 3 Tues.   | 33-0527   | 5-7947   | 204-3990 | 3843  |
| 20 Mar. (79)        | 3 Tues.   | 0 3 24                        | 12 Mar. (71)                                                               | 2 Mon.    | 67-7351   | 941-7880 | 255-7105 | 3844  |
| 20 Mar. (79)        | 4 Wed.    | 6 15 33                       | 2 Mar. (61)                                                                | 0 Sat.    | 282-0900  | 825-3238 | 227-6240 | 3845  |
| 19 Mar. (79)        | 5 Thur.   | 12 27 42                      | 19 Feb. (50)                                                               | 4 Wed.    | 157-8127  | 672-5678 | 196-8007 | 3846  |
| 19 Mar. (78)        | 6 Fri.    | 18 39 51                      | 9 Mar. (68)                                                                | 3 Tues.   | 192-4951  | 608-5613 | 248-1112 | 3847  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                      |                     | Intercalated<br>(adhika) and<br>suppressed<br>(kshaya) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|------------------------------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.   | JUVIAN SĀMVATSARA.   |                     |                                                                              |
|                  |       |                    |                                  |         |         | Southern<br>system.  | Northern<br>system. |                                                                              |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                    | 7                   | 8                                                                            |
| 3848             | 669   | 804                | 153                              |         | 746-47  | 19 Pārthiva . . .    |                     | 5 Śrāvaṇa .                                                                  |
| 3849             | 670   | 805                | 154                              |         | 747-48  | 20 Vyaya . . .       |                     | ...                                                                          |
| 3850             | 671   | 806                | 155                              |         | *748-49 | 21 Sarvajit . . .    |                     | ...                                                                          |
| 3851             | 672   | 807                | 156                              |         | 749-50  | 22 Sarvadhārin . . . |                     | 3 Jyēshṭha .                                                                 |
| 3852             | 673   | 808                | 157                              |         | 750-51  | 23 Virōdhin . . .    |                     | ...                                                                          |
| 3853             | 674   | 809                | 158                              |         | 751-52  | 24 Vikṛita . . .     |                     | ...                                                                          |
| 3854             | 675   | 810                | 159                              |         | *752-53 | 25 Khara . . .       |                     | 2 Vaiśākha .                                                                 |
| 3855             | 676   | 811                | 160                              |         | 753-54  | 26 Nandana . . .     |                     | ...                                                                          |
| 3856             | 677   | 812                | 161                              |         | 754-55  | 27 Vijaya . . .      |                     | 6 Bhādrapada                                                                 |
| 3857             | 678   | 813                | 162                              |         | 755-56  | 28 Jaya . . .        |                     | ...                                                                          |
| 3858             | 679   | 814                | 163                              |         | *756-57 | 29 Manmatha . . .    |                     | ...                                                                          |
| 3859             | 680   | 815                | 164                              |         | 757-58  | 30 Durmukha . . .    |                     | 4 Āshāḍha .                                                                  |
| 3860             | 681   | 816                | 165                              |         | 758-59  | 31 Hēmalamba . . .   |                     | ...                                                                          |
| 3861             | 682   | 817                | 166                              |         | 759-60  | 32 Vilamba . . .     |                     | ...                                                                          |
| 3862             | 683   | 818                | 167                              |         | *760-61 | 33 Vikārin . . .     |                     | 3 Jyēshṭha                                                                   |
| 3863             | 684   | 819                | 168                              |         | 761-62  | 34 Śārvarin . . .    |                     | ...                                                                          |
| 3864             | 685   | 820                | 169                              |         | 762-63  | 35 Plava . . .       |                     | 7 Āsvina .                                                                   |
| 3865             | 686   | 821                | 170                              |         | 763-64  | 36 Śubhakṛit . . .   |                     | ...                                                                          |
| 3866             | 687   | 822                | 171                              |         | *764-65 | 37 Śōbhana . . .     |                     | ...                                                                          |
| 3867             | 688   | 823                | 172                              |         | 765-66  | 38 Krōdhin . . .     |                     | 5 Śrāvaṇa                                                                    |
| 3868             | 689   | 824                | 173                              |         | 766-67  | 39 Viśvāvasu . . .   |                     | ...                                                                          |
| 3869             | 690   | 825                | 174                              |         | 767-68  | 40 Parābhava . . .   |                     | ...                                                                          |
| 3870             | 691   | 826                | 175                              |         | *768-69 | 41 Plavaṅga . . .    |                     | 3 Jyēshṭha                                                                   |
| 3871             | 692   | 827                | 176                              |         | 769-70  | 42 Kilaka . . .      |                     | ...                                                                          |
| 3872             | 693   | 828                | 177                              |         | 770-71  | 43 Saumya . . .      |                     | ...                                                                          |

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| COMMENCEMENT OF THE |           |                                |                                                                            |           |           |          |          |      | Kali. |
|---------------------|-----------|--------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR.         |           |                                | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          |      |       |
| Day and month A. D. | Week-day. | Time of true Mēsha-sam-krānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |      |       |
| 13                  | 14        | 17                             | 19                                                                         | 20        | 23        | 24       | 25       | 1    |       |
|                     |           | H. M. S.                       |                                                                            |           |           |          |          |      |       |
| 20 Mar. (79)        | 1 Sun. .  | 0 52 0                         | 26 Feb. (57)                                                               | 0 Sat. .  | 68-2180   | 455-8054 | 217-2881 | 3848 |       |
| 20 Mar. (79)        | 2 Mon.    | 7 4 9                          | 17 Mar. (76)                                                               | 6 Fri. .  | 102-9003  | 391-7988 | 268-4984 | 3849 |       |
| 19 Mar. (79)        | 3 Tues.   | 13 16 18                       | 5 Mar. (65)                                                                | 3 Tues.   | 9978-6232 | 239-0429 | 237-7752 | 3850 |       |
| 19 Mar. (78)        | 4 Wed.    | 19 28 27                       | 22 Feb. (53)                                                               | 0 Sat. .  | 9854-3461 | 86-2869  | 206-9520 | 3851 |       |
| 20 Mar. (79)        | 6 Fri. .  | 1 40 36                        | 13 Mar. (72)                                                               | 6 Fri. .  | 9889-0285 | 22-2804  | 258-2625 | 3852 |       |
| 20 Mar. (79)        | 0 Sat. .  | 7 52 45                        | 3 Mar. (62)                                                                | 4 Wed.    | 103-3833  | 905-8161 | 230-1770 | 3853 |       |
| 19 Mar. (79)        | 1 Sun. .  | 14 * 54                        | 21 Feb. (52)                                                               | 2 Mon.    | 317-7384  | 789-3518 | 202-0915 | 3854 |       |
| 19 Mar. (78)        | 2 Mon.    | 20 17 3                        | 10 Mar. (69)                                                               | 0 Sat. .  | 13-7885   | 689-0537 | 250-6642 | 3855 |       |
| 20 Mar. (79)        | 4 Wed.    | 2 29 12                        | 28 Feb. (59)                                                               | 5 Thur.   | 228-1433  | 572-5894 | 222-5788 | 3856 |       |
| 20 Mar. (79)        | 5 Thur.   | 8 41 21                        | 18 Mar. (77)                                                               | 3 Tues.   | 9924-1937 | 472-2911 | 271-1514 | 3857 |       |
| 19 Mar. (79)        | 6 Fri. .  | 14 53 30                       | 6 Mar. (66)                                                                | 0 Sat. .  | 9799-9166 | 319-5352 | 240-3282 | 3858 |       |
| 19 Mar. (78)        | 0 Sat. .  | 21 5 39                        | 24 Feb. (55)                                                               | 5 Thur.   | 14-2714   | 203-0709 | 212-2428 | 3859 |       |
| 20 Mar. (79)        | 2 Mon.    | 3 17 48                        | 15 Mar. (74)                                                               | 4 Wed.    | 48-9538   | 139-0644 | 263-5533 | 3860 |       |
| 20 Mar. (79)        | 3 Tues.   | 9 29 57                        | 4 Mar. (63)                                                                | 1 Sun. .  | 9924-6766 | 986-3084 | 232-7300 | 3861 |       |
| 19 Mar. (79)        | 4 Wed.    | 15 42 6                        | 22 Feb. (53)                                                               | 6 Fri. .  | 139-0315  | 869-8442 | 204-6445 | 3862 |       |
| 19 Mar. (78)        | 5 Thur.   | 21 54 15                       | 12 Mar. (71)                                                               | 5 Thur.   | 173-7138  | 805-8377 | 255-9550 | 3863 |       |
| 20 Mar. (79)        | 0 Sat. .  | 4 6 24                         | 1 Mar. (60)                                                                | 2 Mon.    | 49-4367   | 653-0816 | 225-1318 | 3864 |       |
| 20 Mar. (79)        | 1 Sun. .  | 10 18 33                       | 20 Mar. (79)                                                               | 1 Sun. .  | 84-1191   | 589-0751 | 276-4422 | 3865 |       |
| 19 Mar. (79)        | 2 Mon.    | 16 30 42                       | 8 Mar. (68)                                                                | 5 Thur.   | 9959-8420 | 436-3192 | 245-6189 | 3866 |       |
| 19 Mar. (78)        | 3 Tues.   | 22 42 51                       | 25 Feb. (56)                                                               | 2 Mon.    | 9835-5647 | 283-5633 | 214-7958 | 3867 |       |
| 20 Mar. (79)        | 5 Thur.   | 4 55 0                         | 16 Mar. (75)                                                               | 1 Sun. .  | 9870-2472 | 219-5567 | 266-1062 | 3868 |       |
| 20 Mar. (79)        | 6 Fri. .  | 11 7 8                         | 6 Mar. (65)                                                                | 6 Fri. .  | 84-6020   | 103-0923 | 238-0208 | 3869 |       |
| 19 Mar. (79)        | 0 Sat. .  | 17 19 17                       | 23 Feb. (54)                                                               | 3 Tues.   | 9960-3248 | 950-3365 | 207-1975 | 3870 |       |
| 19 Mar. (78)        | 1 Sun. .  | 23 31 26                       | 13 Mar. (72)                                                               | 2 Mon.    | 9995-0072 | 886-3299 | 258-5080 | 3871 |       |
| 20 Mar. (79)        | 3 Tues.   | 5 43 35                        | 3 Mar. (62)                                                                | 0 Sat. .  | 209-3621  | 769-8656 | 230-4226 | 3872 |       |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                        |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Meshādi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SAMVATSARA.     |                     |                                                                                                |
|                  |       |                    |                                  |         |         | Southern<br>system.    | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                      | 7                   | 8                                                                                              |
| 3873             | 694   | 829                | 178                              |         | 771-72  | 44 Sādhāraṇa . . .     |                     | 2 Vaiśākha .                                                                                   |
| 3874             | 695   | 830                | 179                              |         | *772-73 | 45 Virōdhakṛit . . .   |                     | ...                                                                                            |
| 3875             | 696   | 831                | 180                              |         | 773-74  | 46 Paridhāvin . . .    |                     | 6 Bhādrapada                                                                                   |
| 3876             | 697   | 832                | 181                              |         | 774-75  | 47 Pramādin . . .      |                     | ...                                                                                            |
| 3877             | 698   | 833                | 182                              |         | 775-76  | 48 Ānanda . . .        |                     | ...                                                                                            |
| 3878             | 699   | 834                | 183                              |         | *776-77 | 49 Rākshasa . . .      |                     | 4 Āshāḍha .                                                                                    |
| 3879             | 700   | 835                | 184                              |         | 777-78  | 50 Anala . . .         |                     | ...                                                                                            |
| 3880             | 701   | 836                | 185                              |         | 778-79  | 51 Pingala . . .       |                     | ...                                                                                            |
| 3881             | 702   | 837                | 186                              |         | 779-80  | 52 Kālayukta . . .     |                     | 3 Jyeshtha                                                                                     |
| 3882             | 703   | 838                | 187                              |         | *780-81 | 53 Siddhārthin . . .   |                     | ...                                                                                            |
| 3883             | 704   | 839                | 188                              |         | 781-82  | 54 Raudra . . .        |                     | 7 Āsvina .                                                                                     |
| 3884             | 705   | 840                | 189                              |         | 782-83  | 55 Durmati . . .       |                     | ...                                                                                            |
| 3885             | 706   | 841                | 190                              |         | 783-84  | 56 Dundubhi . . .      |                     | ...                                                                                            |
| 3886             | 707   | 842                | 191                              |         | *784-85 | 57 Rudhirōdgārin . . . |                     | 5 Śrāvaṇa .                                                                                    |
| 3887             | 708   | 843                | 192                              |         | 785-86  | 58 Raktāksha . . .     |                     | ...                                                                                            |
| 3888             | 709   | 844                | 193                              |         | 786-87  | 59 Krōdhana . . .      |                     | ...                                                                                            |
| 3889             | 710   | 845                | 194                              |         | 787-88  | 60 Kshaya . . .        |                     | 3 Jyeshtha .                                                                                   |
| 3890             | 711   | 846                | 195                              |         | *788-89 | 1 Prabhava . . .       |                     | ...                                                                                            |
| 3891             | 712   | 847                | 196                              |         | 789-90  | 2 Vibhava . . .        |                     | ...                                                                                            |
| 3892             | 713   | 848                | 197                              |         | 790-91  | 3 Śukla . . .          |                     | 2 Vaiśākha .                                                                                   |
| 3893             | 714   | 849                | 198                              |         | 791-92  | 4 Pramōda . . .        |                     | ...                                                                                            |
| 3894             | 715   | 850                | 199                              |         | *792-93 | 5 Prajāpati . . .      |                     | 6 Bhādrapada                                                                                   |
| 3895             | 716   | 851                | 200                              |         | 793-94  | 6 Āngiras . . .        |                     | ...                                                                                            |
| 3896             | 717   | 852                | 201                              |         | 794-95  | 7 Śrimukha . . .       |                     | ...                                                                                            |
| 3897             | 718   | 853                | 202                              |         | 795-96  | 8 Bhāva . . .          |                     | 4 Āshāḍha .                                                                                    |

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| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
|                     |           | H. M. S.                      |                                                                            |           |           |          |          |       |
| 20 Mar. (79)        | 4 Wed.    | 11 55 44                      | 20 Feb. (51)                                                               | 4 Wed.    | 75-0849   | 617-1097 | 199-5993 | 3873  |
| 19 Mar. (79)        | 5 Thur.   | 18 7 53                       | 10 Mar. (70)                                                               | 3 Tues.   | 119-7672  | 553-1032 | 250-9097 | 3874  |
| 20 Mar. (79)        | 0 Sat.    | 0 20 2                        | 27 Feb. (58)                                                               | 0 Sat.    | 9995-4901 | 400-3472 | 220-0866 | 3875  |
| 20 Mar. (79)        | 1 Sun.    | 6 32 11                       | 18 Mar. (77)                                                               | 6 Fri.    | 30-1725   | 336-3306 | 271-3970 | 3876  |
| 20 Mar. (79)        | 2 Mon.    | 12 44 20                      | 7 Mar. (66)                                                                | 3 Tues.   | 9905-8953 | 183-5848 | 240-5738 | 3877  |
| 19 Mar. (79)        | 3 Tues.   | 18 56 29                      | 25 Feb. (56)                                                               | 1 Sun.    | 120-2501  | 67-1204  | 212-4883 | 3878  |
| 20 Mar. (79)        | 5 Thur.   | 1 8 38                        | 15 Mar. (74)                                                               | 0 Sat.    | 154-9326  | 3-1139   | 263-7988 | 3879  |
| 20 Mar. (79)        | 6 Fri.    | 7 20 47                       | 4 Mar. (63)                                                                | 4 Wed.    | 30-6554   | 850-3579 | 232-9756 | 3880  |
| 20 Mar. (79)        | 0 Sat.    | 13 32 56                      | 22 Feb. (53)                                                               | 2 Mon.    | 245-0102  | 733-8937 | 204-8901 | 3881  |
| 19 Mar. (79)        | 1 Sun.    | 19 45 5                       | 12 Mar. (72)                                                               | 1 Sun.    | 279-6926  | 669-8872 | 256-2005 | 3882  |
| 20 Mar. (79)        | 3 Tues.   | 1 57 14                       | 1 Mar. (60)                                                                | 5 Thur.   | 155-4155  | 517-1311 | 225-3773 | 3883  |
| 20 Mar. (79)        | 4 Wed.    | 8 9 23                        | 19 Mar. (78)                                                               | 3 Tues.   | 9851-4659 | 416-8330 | 273-9500 | 3884  |
| 20 Mar. (79)        | 5 Thur.   | 14 21 32                      | 8 Mar. (67)                                                                | 0 Sat.    | 9727-1887 | 264-0770 | 243-1167 | 3885  |
| 19 Mar. (79)        | 6 Fri.    | 20 33 41                      | 26 Feb. (57)                                                               | 5 Thur.   | 9941-5435 | 147-6128 | 215-0413 | 3886  |
| 20 Mar. (79)        | 1 Sun.    | 2 46 50                       | 16 Mar. (75)                                                               | 4 Wed.    | 9976-2260 | 83-6062  | 266-3517 | 3887  |
| 20 Mar. (79)        | 2 Mon.    | 8 57 59                       | 6 Mar. (65)                                                                | 2 Mon.    | 190-5807  | 967-1418 | 238-2664 | 3888  |
| 20 Mar. (79)        | 3 Tues.   | 15 10 8                       | 23 Feb. (54)                                                               | 6 Fri.    | 66-3036   | 814-3852 | 207-4431 | 3889  |
| 19 Mar. (79)        | 4 Wed.    | 21 22 17                      | 13 Mar. (73)                                                               | 5 Thur.   | 100-9860  | 750-3794 | 258-7535 | 3890  |
| 20 Mar. (79)        | 6 Fri.    | 3 34 26                       | 2 Mar. (61)                                                                | 2 Mon.    | 9976-7089 | 597-6235 | 227-9303 | 3891  |
| 20 Mar. (79)        | 0 Sat.    | 9 46 35                       | 19 Feb. (50)                                                               | 6 Fri.    | 9852-4317 | 444-8676 | 197-1071 | 3892  |
| 20 Mar. (79)        | 1 Sun.    | 15 58 44                      | 10 Mar. (69)                                                               | 5 Thur.   | 9887-1140 | 380-8610 | 248-4175 | 3893  |
| 19 Mar. (79)        | 2 Mon.    | 22 10 53                      | 27 Feb. (58)                                                               | 2 Mon.    | 9762-8369 | 228-1051 | 218-4943 | 3894  |
| 20 Mar. (79)        | 4 Wed.    | 4 23 2                        | 17 Mar. (76)                                                               | 1 Sun.    | 9797-5192 | 164-0986 | 268-9047 | 3895  |
| 20 Mar. (79)        | 5 Thur.   | 10 35 11                      | 7 Mar. (66)                                                                | 6 Fri.    | 11-8741   | 47-6342  | 240-8194 | 3896  |
| 20 Mar. (79)        | 6 Fri.    | 16 47 20                      | 25 Feb. (56)                                                               | 4 Wed.    | 226-2289  | 931-1699 | 212-7339 | 3897  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                      |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SAMVATSARA.   |                     |                                                                                                |
|                  |       |                    |                                  |         |         | Southern<br>system.  | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                    | 7                   | 8                                                                                              |
| 3898             | 719   | 854                | 203                              |         | *796-97 | 9 Yuvan . . .        |                     | ...                                                                                            |
| 3899             | 720   | 855                | 204                              |         | 797-98  | 10 Dhātṛi . . .      |                     | ...                                                                                            |
| 3900             | 721   | 856                | 205                              |         | 798-99  | 11 Īsvara . . .      |                     | 3 Jyēshtha .                                                                                   |
| 3901             | 722   | 857                | 206                              |         | 799-800 | 12 Bahudhānya . . .  |                     | ...                                                                                            |
| 3902             | 723   | 858                | 207                              |         | *800-01 | 13 Pramāthin . . .   |                     | 7 Āsvina .                                                                                     |
| 3903             | 724   | 859                | 203                              |         | 801-02  | 14 Vikrama . . .     |                     | ...                                                                                            |
| 3904             | 725   | 860                | 209                              |         | 802-03  | 15 Vṛisha . . .      |                     | ...                                                                                            |
| 3905             | 726   | 861                | 210                              |         | 803-04  | 16 Chitrabhānu . . . |                     | 5 Śrāvana .                                                                                    |
| 3906             | 727   | 862                | 211                              |         | *804-05 | 17 Subhānu . . .     |                     | ...                                                                                            |
| 3907             | 728   | 863                | 212                              |         | 805-06  | 18 Tāraṇa . . .      |                     | ...                                                                                            |
| 3908             | 729   | 864                | 213                              |         | 806-07  | 19 Pārthiva . . .    |                     | 3 Jyēshtha .                                                                                   |
| 3909             | 730   | 865                | 214                              |         | 807-08  | 20 Vyaya . . .       |                     | ...                                                                                            |
| 3910             | 731   | 866                | 215                              |         | *808-09 | 21 Sarvajit . . .    |                     | ...                                                                                            |
| 3911             | 732   | 867                | 216                              |         | 809-10  | 22 Sarvadhārin . . . |                     | 1 Chaitra .                                                                                    |
| 3912             | 733   | 868                | 217                              |         | 810-11  | 23 Virōdhin . . .    |                     | ...                                                                                            |
| 3913             | 734   | 869                | 218                              |         | 811-12  | 24 Vikṛita . . .     |                     | 5 Śrāvana .                                                                                    |
| 3914             | 735   | 870                | 219                              |         | *812-13 | 25 Khara . . .       |                     | ...                                                                                            |
| 3915             | 736   | 871                | 220                              |         | 813-14  | 26 Nandana . . .     |                     | ...                                                                                            |
| 3916             | 737   | 872                | 221                              |         | 814-15  | 27 Vijaya . . .      |                     | 4 Āshāḍha .                                                                                    |
| 3917             | 738   | 873                | 222                              |         | 815-16  | 28 Jaya . . .        |                     | ...                                                                                            |
| 3918             | 739   | 874                | 223                              |         | *816-17 | 29 Manmatha . . .    |                     | ...                                                                                            |
| 3919             | 740   | 875                | 224                              |         | 817-18  | 30 Durmukha . . .    |                     | 3 Jyēshtha .                                                                                   |
| 3920             | 741   | 876                | 225                              |         | 818-19  | 31 Hēmalamba . . .   |                     | ...                                                                                            |
| 3921             | 742   | 877                | 226                              |         | 819-20  | 32 Vilamba† . . .    |                     | 7 Āsvina .                                                                                     |
| 3922             | 743   | 878                | 227                              |         | *820-21 | 34 Śārtarin . . .    |                     | ...                                                                                            |

† 33 Vikārin was suppressed.

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| COMMENCEMENT OF THE |           |                                 |                                                                            |           |           |          |          |       |
|---------------------|-----------|---------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                                 | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-sarā-krānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                              | 19                                                                         | 20        | 23        | 24       | 25       |       |
|                     |           | H. M. S.                        |                                                                            |           |           |          |          | 1     |
| 19 Mar. (79)        | 0 Sat.    | 22 59 29                        | 15 Mar. (75)                                                               | 3 Tues.   | 260-9113  | 867-1634 | 264-0442 | 3898  |
| 20 Mar. (79)        | 2 Mon.    | 5 11 38                         | 4 Mar. (63)                                                                | 0 Sat.    | 136-6341  | 714-4074 | 233-2211 | 3899  |
| 20 Mar. (79)        | 3 Tues.   | 11 23 47                        | 21 Feb. (52)                                                               | 4 Wed.    | 12-3570   | 561-6515 | 202-3979 | 3900  |
| 20 Mar. (79)        | 4 Wed.    | 17 35 56                        | 12 Mar. (71)                                                               | 3 Tues.   | 47-0394   | 497-6449 | 253-6621 | 3901  |
| 19 Mar. (79)        | 5 Thur.   | 23 48 5                         | 19 Feb. (60)                                                               | 0 Sat.    | 9922-7623 | 344-8890 | 222-8629 | 3902  |
| 20 Mar. (79)        | 0 Sat.    | 6 0 14                          | 19 Mar. (78)                                                               | 6 Fri.    | 9957-4347 | 280-8825 | 274-1733 | 3903  |
| 20 Mar. (79)        | 1 Sun.    | 12 12 23                        | 8 Mar. (67)                                                                | 3 Tues.   | 9833-1675 | 128-1265 | 243-3500 | 3904  |
| 20 Mar. (79)        | 2 Mon.    | 18 24 32                        | 26 Feb. (57)                                                               | 1 Sun.    | 47-5223   | 11-6622  | 215-2647 | 3905  |
| 20 Mar. (80)        | 4 Wed.    | 0 36 41                         | 16 Mar. (76)                                                               | 0 Sat.    | 82-2048   | 947-6557 | 266-5751 | 3906  |
| 20 Mar. (79)        | 5 Thur.   | 6 48 50                         | 6 Mar. (65)                                                                | 5 Thur.   | 296-5595  | 831-1914 | 238-4897 | 3907  |
| 20 Mar. (79)        | 6 Fri.    | 13 0 59                         | 23 Feb. (54)                                                               | 2 Mon.    | 172-2824  | 678-4354 | 207-6664 | 3908  |
| 20 Mar. (79)        | 0 Sat.    | 19 13 8                         | 14 Mar. (73)                                                               | 1 Sun.    | 206-9648  | 614-4289 | 258-9789 | 3909  |
| 20 Mar. (80)        | 2 Mon.    | 1 25 17                         | 2 Mar. (62)                                                                | 5 Thur.   | 82-6876   | 461-6730 | 228-1537 | 3910  |
| 20 Mar. (79)        | 3 Tues.   | 7 37 26                         | 19 Feb. (50)                                                               | 2 Mon.    | 9958-4105 | 308-9171 | 197-3304 | 3911  |
| 20 Mar. (79)        | 4 Wed.    | 13 49 35                        | 10 Mar. (69)                                                               | 1 Sun.    | 9993-0928 | 244-9104 | 248-6408 | 3912  |
| 20 Mar. (79)        | 5 Thur.   | 20 1 44                         | 27 Feb. (58)                                                               | 5 Thur.   | 9868-8157 | 92-1545  | 217-8177 | 3913  |
| 20 Mar. (80)        | 0 Sat.    | 2 13 52                         | 17 Mar. (77)                                                               | 4 Wed.    | 9903-4990 | 28-1481  | 269-1281 | 3914  |
| 20 Mar. (79)        | 1 Sun.    | 8 26 1                          | 7 Mar. (66)                                                                | 2 Mon.    | 117-8529  | 906-6837 | 251-0427 | 3915  |
| 20 Mar. (79)        | 2 Mon.    | 14 38 10                        | 24 Feb. (55)                                                               | 6 Fri.    | 9993-5758 | 758-9278 | 210-2194 | 3916  |
| 20 Mar. (79)        | 3 Tues.   | 20 50 19                        | 15 Mar. (74)                                                               | 5 Thur.   | 28-2581   | 694-9212 | 264-5299 | 3917  |
| 20 Mar. (80)        | 5 Thur.   | 3 2 28                          | 3 Mar. (63)                                                                | 2 Mon.    | 9903-9810 | 542-1653 | 230-7067 | 3918  |
| 20 Mar. (79)        | 6 Fri.    | 9 14 37                         | 21 Feb. (52)                                                               | 0 Sat.    | 118-3358  | 425-7009 | 202-6212 | 3919  |
| 20 Mar. (79)        | 0 Sat.    | 15 26 46                        | 11 Mar. (70)                                                               | 5 Thur.   | 9814-3862 | 325-4028 | 251-1938 | 3920  |
| 20 Mar. (79)        | 1 Sun.    | 21 38 55                        | 1 Mar. (60)                                                                | 3 Tues.   | 28-7410   | 208-9389 | 223-1084 | 3921  |
| 20 Mar. (80)        | 3 Tues.   | 3 51 4                          | 19 Mar. (79)                                                               | 2 Mon.    | 63-4234   | 144-9321 | 274-3989 | 3922  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                                 |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SAMVATSARA.              |                     |                                                                                                |
|                  |       |                    |                                  |         |         | Southern<br>system.             | Northern<br>system. |                                                                                                |
|                  |       |                    |                                  |         |         |                                 |                     |                                                                                                |
| 3923             | 744   | 879                | 228                              |         | 821-22  | 35 <i>Plava</i> . . . .         | ...                 |                                                                                                |
| 3924             | 745   | 880                | 229                              |         | 822-23  | 36 <i>Śubhākṛit</i> . . . .     | 5 Śrāvaṇa .         |                                                                                                |
| 3925             | 746   | 881                | 230                              |         | 823-24  | 37 <i>Śūkhana</i> . . . .       | ...                 |                                                                                                |
| 3926             | 747   | 882                | 231                              |         | *824-25 | 38 <i>Krōdhin</i> . . . .       | ...                 |                                                                                                |
| 3927             | 748   | 883                | 232                              | 0-1     | 825-26  | 39 <i>Viśvāvaṇ</i> . . . .      | 3 Jyēshtha .        |                                                                                                |
| 3928             | 749   | 884                | 233                              | 1-2     | 826-27  | 40 <i>Parābhava</i> . . . .     | ...                 |                                                                                                |
| 3929             | 750   | 885                | 234                              | 2-3     | 827-28  | 41 <i>Plavaṅga</i> . . . .      | ...                 |                                                                                                |
| 3930             | 751   | 886                | 235                              | 3-4     | *828-29 | 42 <i>Kilaka</i> . . . .        | 1 Chaitra .         |                                                                                                |
| 3931             | 752   | 887                | 236                              | 4-5     | 829-30  | 43 <i>Saumya</i> . . . .        | ...                 |                                                                                                |
| 3932             | 753   | 888                | 237                              | 5-6     | 830-31  | 44 <i>Sādhāraṇa</i> . . . .     | 5 Śrāvaṇa .         |                                                                                                |
| 3933             | 754   | 889                | 238                              | 6-7     | 831-32  | 45 <i>Virōdhakṛit</i> . . . .   | ...                 |                                                                                                |
| 3934             | 755   | 890                | 239                              | 7-8     | *832-33 | 46 <i>Paridhāvin</i> . . . .    | ...                 |                                                                                                |
| 3935             | 756   | 891                | 240                              | 8-9     | 833-34  | 47 <i>Pramādin</i> . . . .      | 4 Āshāḍha .         |                                                                                                |
| 3936             | 757   | 892                | 241                              | 9-10    | 834-35  | 48 <i>Ānanda</i> . . . .        | ...                 |                                                                                                |
| 3937             | 758   | 893                | 242                              | 10-11   | 835-36  | 49 <i>Rākshasa</i> . . . .      | ...                 |                                                                                                |
| 3938             | 759   | 894                | 243                              | 11-12   | *836-37 | 50 <i>Anala</i> . . . .         | 2 Vaiśākha .        |                                                                                                |
| 3939             | 760   | 895                | 244                              | 12-13   | 837-38  | 51 <i>Pīṅgala</i> . . . .       | ...                 |                                                                                                |
| 3940             | 761   | 896                | 245                              | 13-14   | 838-39  | 52 <i>Kālayukta</i> . . . .     | 6 Bhādrapada        |                                                                                                |
| 3941             | 762   | 897                | 246                              | 14-15   | 839-40  | 53 <i>Siddhārthin</i> . . . .   | ...                 |                                                                                                |
| 3942             | 763   | 898                | 247                              | 15-16   | *840-41 | 54 <i>Raudra</i> . . . .        | ...                 |                                                                                                |
| 3943             | 764   | 899                | 248                              | 16-17   | 841-42  | 55 <i>Durmati</i> . . . .       | 5 Śrāvaṇa           |                                                                                                |
| 3944             | 765   | 900                | 249                              | 17-18   | 842-43  | 56 <i>Dundubhi</i> . . . .      | ...                 |                                                                                                |
| 3945             | 766   | 901                | 250                              | 18-19   | 843-44  | 57 <i>Rudhirōdgārin</i> . . . . | ...                 |                                                                                                |
| 3946             | 767   | 902                | 251                              | 19-20   | *844-45 | 58 <i>Raktākṣha</i> . . . .     | 3 Jyēshtha .        |                                                                                                |
| 3947             | 768   | 903                | 252                              | 20-21   | 845-46  | 59 <i>Krōdhana</i> . . . .      | ...                 |                                                                                                |

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| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mesha-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        |          |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       |       |
|                     |           | H. M. S.                      |                                                                            |           |           |          |          | 1     |
| 20 Mar. (79)        | 4 Wed.    | 10 3 13                       | 8 Mar. (67)                                                                | 6 Fri.    | 9939-1463 | 992-1760 | 243-5956 | 3923  |
| 20 Mar. (79)        | 5 Thur.   | 16 15 22                      | 26 Feb. (57)                                                               | 4 Wed.    | 153-5010  | 875-7118 | 215-5102 | 3924  |
| 20 Mar. (79)        | 6 Fri.    | 22 27 31                      | 17 Mar. (76)                                                               | 3 Tues.   | 188-1834  | 811-7052 | 266-8206 | 3925  |
| 20 Mar. (80)        | 1 Sun.    | 4 39 40                       | 5 Mar. (65)                                                                | 0 Sat.    | 63-9063   | 658-9493 | 235-9975 | 3926  |
| 20 Mar. (79)        | 2 Mon.    | 10 51 49                      | 22 Feb. (53)                                                               | 4 Wed.    | 9939-6292 | 506-1933 | 205-1642 | 3927  |
| 20 Mar. (79)        | 3 Tues.   | 17 3 58                       | 13 Mar. (72)                                                               | 3 Tues.   | 9974-3115 | 442-1868 | 256-4846 | 3928  |
| 20 Mar. (79)        | 4 Wed.    | 23 16 7                       | 2 Mar. (61)                                                                | 0 Sat.    | 9850-0344 | 289-4309 | 225-6614 | 3929  |
| 20 Mar. (80)        | 6 Fri.    | 5 28 16                       | 20 Feb. (51)                                                               | 5 Thur.   | 64-6593   | 172-9666 | 197-5760 | 3930  |
| 20 Mar. (79)        | 0 Sat.    | 11 40 25                      | 10 Mar. (69)                                                               | 4 Wed.    | 98-8015   | 108-9590 | 248-8884 | 3931  |
| 20 Mar. (79)        | 1 Sun.    | 17 52 34                      | 27 Feb. (58)                                                               | 1 Sun.    | 9974-7944 | 956-2040 | 218-0632 | 3932  |
| 21 Mar. (80)        | 3 Tues.   | 0 4 43                        | 18 Mar. (77)                                                               | 0 Sat.    | 9-4768    | 892-1976 | 269-3736 | 3933  |
| 20 Mar. (80)        | 4 Wed.    | 6 16 52                       | 7 Mar. (67)                                                                | 5 Thur.   | 223-8317  | 775-7333 | 241-2883 | 3934  |
| 20 Mar. (79)        | 5 Thur.   | 12 29 1                       | 24 Feb. (55)                                                               | 2 Mon.    | 99-5545   | 622-9773 | 210-4650 | 3935  |
| 20 Mar. (79)        | 6 Fri.    | 18 41 10                      | 15 Mar. (74)                                                               | 1 Sun.    | 134-2369  | 558-3708 | 261-7754 | 3936  |
| 21 Mar. (80)        | 1 Sun.    | 0 53 19                       | 4 Mar. (63)                                                                | 5 Thur.   | 9-9598    | 406-2148 | 230-9522 | 3937  |
| 20 Mar. (80)        | 2 Mon.    | 7 5 28                        | 21 Feb. (52)                                                               | 2 Mon.    | 9885-6826 | 253-4589 | 200-1290 | 3938  |
| 20 Mar. (79)        | 3 Tues.   | 13 17 37                      | 11 Mar. (70)                                                               | 1 Sun.    | 9920-3649 | 189-4523 | 252-4294 | 3939  |
| 20 Mar. (79)        | 4 Wed.    | 19 29 46                      | 28 Feb. (50)                                                               | 5 Thur.   | 9796-0878 | 36-6964  | 220-6162 | 3940  |
| 21 Mar. (80)        | 6 Fri.    | 1 41 55                       | 20 Mar. (79)                                                               | 5 Thur.   | 169-4022  | 8-9816   | 274-6644 | 3941  |
| 20 Mar. (80)        | 0 Sat.    | 7 54 4                        | 8 Mar. (68)                                                                | 2 Mon.    | 45-1250   | 856-2255 | 243-8412 | 3942  |
| 20 Mar. (79)        | 1 Sun.    | 14 6 13                       | 26 Feb. (57)                                                               | 0 Sat.    | 259-4798  | 739-7613 | 215-7558 | 3943  |
| 20 Mar. (79)        | 2 Mon.    | 20 18 22                      | 17 Mar. (76)                                                               | 6 Fri.    | 294-1622  | 675-7547 | 267-0662 | 3944  |
| 21 Mar. (80)        | 4 Wed.    | 2 30 31                       | 6 Mar. (65)                                                                | 3 Tues.   | 169-8851  | 522-9988 | 236-0990 | 3945  |
| 20 Mar. (80)        | 5 Thur.   | 8 42 40                       | 23 Feb. (54)                                                               | 0 Sat.    | 45-5979   | 370-2428 | 205-4197 | 3946  |
| 20 Mar. (79)        | 6 Fri.    | 14 54 49                      | 12 Mar. (71)                                                               | 5 Thur.   | 9741-6583 | 269-9446 | 253-9924 | 3947  |

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |         |                     |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|---------------------------------|---------|---------|---------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māhādi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SAMVATSARA.  |                     |                                                                                                |
|                  |       |                    |                                 |         |         | Southern<br>system. | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                              | 4       | 5       | 6                   | 7                   | 8                                                                                              |
| 3948             | 769   | 904                | 253                             | 21-22   | 846-47  | 60 Kshaya . . .     |                     | ...                                                                                            |
| 3949             | 770   | 905                | 254                             | 22-23   | 847-48  | 1 Prabhava . . .    |                     | 1 Chaitra .                                                                                    |
| 3950             | 771   | 906                | 255                             | 23-24   | *848-49 | 2 Vibhava . . .     |                     | ...                                                                                            |
| 3951             | 772   | 907                | 256                             | 24-25   | 849-50  | 3 Śukla . . .       |                     | 5 Śrāvaṇa .                                                                                    |
| 3952             | 773   | 908                | 257                             | 25-26   | 850-51  | 4 Pramōda . . .     |                     | ...                                                                                            |
| 3953             | 774   | 909                | 258                             | 26-27   | 851-52  | 5 Prajāpati . . .   |                     | ...                                                                                            |
| 3954             | 775   | 910                | 259                             | 27-28   | *852-53 | 6 Aṅgiras . . .     |                     | 4 Āshāḍha .                                                                                    |
| 3955             | 776   | 911                | 260                             | 28-29   | 853-54  | 7 Śrīmukha . . .    |                     | ...                                                                                            |
| 3956             | 777   | 912                | 261                             | 29-30   | 854-55  | 8 Bhāva . . .       |                     | ...                                                                                            |
| 3957             | 778   | 913                | 262                             | 30-31   | 855-56  | 9 Yuvan . . .       |                     | 2 Vaiśākha                                                                                     |
| 3958             | 779   | 914                | 263                             | 31-32   | *856-57 | 10 Dhātri . . .     |                     | ...                                                                                            |
| 3959             | 780   | 915                | 264                             | 32-33   | 857-58  | 11 Jēvara . . .     |                     | 6 Bhādrapada                                                                                   |
| 3960             | 781   | 916                | 265                             | 33-34   | 858-59  | 12 Bahudhānya . .   |                     | ...                                                                                            |
| 3961             | 782   | 917                | 266                             | 34-35   | 859-60  | 13 Pramāthin . . .  |                     | ...                                                                                            |
| 3962             | 783   | 918                | 267                             | 35-36   | *860-61 | 14 Vikrama . . .    |                     | 5 Śrāvaṇa .                                                                                    |
| 3963             | 784   | 919                | 268                             | 36-37   | 861-62  | 15 Vṛisha . . .     |                     | ...                                                                                            |
| 3964             | 785   | 920                | 269                             | 37-38   | 862-63  | 16 Chitrabhānu . .  |                     | ...                                                                                            |
| 3965             | 786   | 921                | 270                             | 38-39   | 863-64  | 17 Subhānu . . .    |                     | 3 Jyēṣṭha                                                                                      |
| 3966             | 787   | 922                | 271                             | 39-40   | *864-65 | 18 Tāraṇa . . .     |                     | ...                                                                                            |
| 3967             | 788   | 923                | 272                             | 40-41   | 865-66  | 19 Pārthiva . . .   |                     | { 7 Āsvina<br>9 Mārgaśīrṣa : ( <i>ksh</i> ) }                                                  |
| 3968             | 789   | 924                | 273                             | 41-42   | 866-67  | 20 Vyaya . . .      |                     | 1 Chaitra .                                                                                    |
| 3969             | 790   | 925                | 274                             | 42-43   | 867-68  | 21 Sarvajit . . .   |                     | ...                                                                                            |
| 3970             | 791   | 926                | 275                             | 43-44   | *868-69 | 22 Sarvadhārin . .  |                     | 5 Śrāvaṇa .                                                                                    |
| 3971             | 792   | 927                | 276                             | 44-45   | 869-70  | 23 Virōdhin . . .   |                     | ...                                                                                            |
| 3972             | 793   | 928                | 277                             | 45-46   | 870-71  | 24 Vikrita . . .    |                     | ...                                                                                            |

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| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A.D.  | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
| 20 Mar. (79)        | 0 Sat.    | H. M. S.<br>21 6 58           | 2 Mar. (61)                                                                | 3 Tues.   | 9956-0132 | 153-4804 | 226-0070 | 3948  |
| 21 Mar. (80)        | 2 Mon.    | 3 19 7                        | 19 Feb. (50)                                                               | 0 Sat.    | 9832-2167 | 0-7839   | 195-0837 | 3949  |
| 20 Mar. (80)        | 3 Tues.   | 9 31 16                       | 10 Mar. (70)                                                               | 0 Sat.    | 206-0503  | 973-0095 | 249-2319 | 3950  |
| 20 Mar. (79)        | 4 Wed.    | 15 43 25                      | 27 Feb. (58)                                                               | 4 Wed.    | 80-7732   | 820-2535 | 218-4088 | 3951  |
| 20 Mar. (79)        | 5 Thur.   | 21 55 34                      | 18 Mar. (77)                                                               | 3 Tues.   | 115-4556  | 756-2470 | 269-6192 | 3952  |
| 21 Mar. (80)        | 0 Sat.    | 4 7 43                        | 7-Mar. (66)                                                                | 0 Sat.    | 9991-1784 | 603-4911 | 238-7960 | 3953  |
| 20 Mar. (80)        | 1 Sun.    | 10 19 52                      | 24 Feb. (55)                                                               | 4 Wed.    | 9866-9013 | 450-7353 | 207-9727 | 3954  |
| 20 Mar. (79)        | 2 Mon.    | 16 32 1                       | 14 Mar. (73)                                                               | 3 Tues.   | 9900-5837 | 386-7286 | 259-2832 | 3955  |
| 20 Mar. (79)        | 3 Tues.   | 22 49 10                      | 3 Mar. (62)                                                                | 0 Sat.    | 9777-3065 | 233-9727 | 228-4600 | 3956  |
| 21 Mar. (80)        | 5 Thur.   | 4 56 19                       | 21 Feb. (52)                                                               | 5 Thur.   | 9991-0613 | 117-5094 | 200-3745 | 3957  |
| 20 Mar. (80)        | 6 Fri.    | 11 8 28                       | 11 Mar. (71)                                                               | 4 Wed.    | 26-3437   | 53-5018  | 251-6849 | 3958  |
| 20 Mar. (79)        | 0 Sat.    | 17 20 37                      | 1 Mar. (60)                                                                | 2 Mon.    | 240-4235  | 937-0375 | 223-5995 | 3959  |
| 20 Mar. (79)        | 1 Sun.    | 23 32 45                      | 20 Mar. (79)                                                               | 1 Sun.    | 275-3809  | 873-0310 | 274-9100 | 3960  |
| 21 Mar. (80)        | 3 Tues.   | 5 44 54                       | 9 Mar. (68)                                                                | 5 Thur.   | 151-1038  | 720-2751 | 244-0667 | 3961  |
| 20 Mar. (80)        | 4 Wed.    | 11 57 3                       | 26 Feb. (57)                                                               | 2 Mon.    | 28-8286   | 567-5191 | 213-2835 | 3962  |
| 20 Mar. (79)        | 5 Thur.   | 18 9 12                       | 16 Mar. (75)                                                               | 1 Sun.    | 61-5090   | 503-5126 | 264-5739 | 3963  |
| 21 Mar. (80)        | 0 Sat.    | 0 21 21                       | 5 Mar. (64)                                                                | 5 Thur.   | 9937-2318 | 350-7566 | 233-5706 | 3964  |
| 21 Mar. (80)        | 1 Sun.    | 6 33 30                       | 22 Feb. (53)                                                               | 2 Mon.    | 9812-9547 | 198-0007 | 202-9275 | 3965  |
| 20 Mar. (80)        | 2 Mon.    | 12 45 39                      | 12 Mar. (72)                                                               | 1 Sun.    | 9847-6371 | 132-9941 | 254-2379 | 3966  |
| 20 Mar. (79)        | 3 Tues.   | 18 57 48                      | 2 Mar. (61)                                                                | 6 Fri.    | 61-9919   | 17-5299  | 226-1525 | 3967  |
| 21 Mar. (80)        | 5 Thur.   | 1 9 57                        | 19 Feb. (50)                                                               | 3 Tues.   | 9937-7149 | 864-7741 | 195-8293 | 3968  |
| 21 Mar. (80)        | 6 Fri.    | 7 22 6                        | 11 Mar. (70)                                                               | 3 Tues.   | 311-0291  | 837-0590 | 249-3775 | 3969  |
| 20 Mar. (80)        | 0 Sat.    | 13 34 15                      | 28 Feb. (59)                                                               | 0 Sat.    | 186-7519  | 684-3031 | 218-5543 | 3970  |
| 20 Mar. (79)        | 1 Sun.    | 19 46 24                      | 18 Mar. (77)                                                               | 6 Fri.    | 221-4343  | 620-2965 | 269-8647 | 3971  |
| 21 Mar. (80)        | 3 Tues.   | 1 58 33                       | 7 Mar. (66)                                                                | 3 Tues.   | 97-1572   | 467-5406 | 239-0416 | 3972  |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                      |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>Kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.   | JOYIAN SAMVATSARA.   |                     |                                                                                                |
|                  |       |                    |                                  |         |         | Southern<br>system.  | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                    | 7                   | 8                                                                                              |
| 3973             | 794   | 929                | 278                              | 46-47   | 871-72  | 25 Khara . . .       |                     | 4 Āshāḍha .                                                                                    |
| 3974             | 795   | 930                | 279                              | 47-48   | *872-73 | 26 Nandana . . .     |                     | ...                                                                                            |
| 3975             | 796   | 931                | 280                              | 48-49   | 873-74  | 27 Vijaya . . .      |                     | ...                                                                                            |
| 3976             | 797   | 932                | 281                              | 49-50   | 874-75  | 28 Jaya . . .        |                     | 2 Vaiśākha .                                                                                   |
| 3977             | 798   | 933                | 282                              | 50-51   | 875-76  | 29 Manmatha . . .    |                     | ...                                                                                            |
| 3978             | 799   | 934                | 283                              | 51-52   | *876-77 | 30 Durmukha . . .    |                     | 6 Bhādrapada                                                                                   |
| 3979             | 800   | 935                | 284                              | 52-53   | 877-78  | 31 Hēmalamba . . .   |                     | ...                                                                                            |
| 3980             | 801   | 936                | 285                              | 53-54   | 878-79  | 32 Vilamba . . .     |                     | ...                                                                                            |
| 3981             | 802   | 937                | 286                              | 54-55   | 879-80  | 33 Vikārin . . .     |                     | 5 Śrāvaṇa .                                                                                    |
| 3982             | 803   | 938                | 287                              | 55-56   | *880-81 | 34 Śarvarin . . .    |                     | ...                                                                                            |
| 3983             | 804   | 939                | 288                              | 56-57   | 881-82  | 35 Plava . . .       |                     | ...                                                                                            |
| 3984             | 805   | 940                | 289                              | 57-58   | 882-83  | 36 Śubhakrit . . .   |                     | 3 Jyēshṭha .                                                                                   |
| 3985             | 806   | 941                | 290                              | 58-59   | 883-84  | 37 Śobhana . . .     |                     | ...                                                                                            |
| 3986             | 807   | 942                | 291                              | 59-60   | *884-85 | 38 Krōdhin . . .     |                     | { 7 Āsvina . . . }                                                                             |
| 3987             | 808   | 943                | 292                              | 60-61   | 885-86  | 39 Viśvāvasu . . .   |                     | { 10 Pausa ( <i>ksh.</i> ) }                                                                   |
| 3988             | 809   | 944                | 293                              | 61-62   | 886-87  | 40 Parābhava . . .   |                     | { 1 Chaitra . . . }                                                                            |
| 3989             | 810   | 945                | 294                              | 62-63   | 887-88  | 41 Plavaṅga . . .    |                     | 5 Śrāvaṇa .                                                                                    |
| 3990             | 811   | 946                | 295                              | 63-64   | *888-89 | 42 Kīlaka . . .      |                     | ...                                                                                            |
| 3991             | 812   | 947                | 296                              | 64-65   | 889-90  | 43 Saumya . . .      |                     | ...                                                                                            |
| 3992             | 813   | 948                | 297                              | 65-66   | 890-91  | 44 Sādhārāṇa . . .   |                     | 3 Jyēshṭha .                                                                                   |
| 3993             | 814   | 949                | 298                              | 66-67   | 891-92  | 45 Virōdhakrit . . . |                     | ...                                                                                            |
| 3994             | 815   | 950                | 299                              | 67-68   | *892-93 | 46 Paridhāvin . . .  |                     | ...                                                                                            |
| 3995             | 816   | 951                | 300                              | 68-69   | 893-94  | 47 Pramādin . . .    |                     | 2 Vaiśākha .                                                                                   |
| 3996             | 817   | 952                | 301                              | 69-70   | 894-95  | 48 Ānanda . . .      |                     | ...                                                                                            |
| 3997             | 818   | 953                | 302                              | 70-71   | 895-96  | 49 Rākshasa . . .    |                     | 6 Bhādrapada                                                                                   |

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| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mésa-sam-krānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
|                     |           | H. M. S.                      |                                                                            |           |           |          |          |       |
| 21 Mar. (80)        | 4 Wed. .  | 8 10 42                       | 24 Feb. (55)                                                               | 0 Sat. .  | 9972-8801 | 313-7846 | 208-2183 | 3973  |
| 20 Mar. (80)        | 5 Thur. . | 14 22 51                      | 14 Mar. (74)                                                               | 6 Fri. .  | 7-5624    | 250-7781 | 259-5087 | 3974  |
| 20 Mar. (79)        | 6 Fri. .  | 20 35 0                       | 3 Mar. (62)                                                                | 3 Tues. . | 9883-2853 | 98-0222  | 228-7055 | 3975  |
| 21 Mar. (80)        | 1 Sun. .  | 2 47 9                        | 21 Feb. (52)                                                               | 1 Sun. .  | 97-6401   | 981-5579 | 200-6101 | 3976  |
| 21 Mar. (80)        | 2 Mon. .  | 8 59 18                       | 12 Mar. (71)                                                               | 0 Sat. .  | 132-3224  | 917-5514 | 251-9305 | 3977  |
| 20 Mar. (80)        | 3 Tues. . | 15 11 27                      | 29 Feb. (60)                                                               | 4 Wed. .  | 8-0453    | 764-7954 | 221-1072 | 3978  |
| 20 Mar. (79)        | 4 Wed. .  | 21 23 36                      | 19 Mar. (78)                                                               | 3 Tues. . | 42-7277   | 700-7889 | 272-4177 | 3979  |
| 21 Mar. (80)        | 6 Fri. .  | 3 35 45                       | 8 Mar. (67)                                                                | 0 Sat. .  | 9918-4506 | 548-0330 | 241-5146 | 3980  |
| 21 Mar. (80)        | 0 Sat. .  | 9 47 54                       | 26 Feb. (57)                                                               | 5 Thur. . | 132-8053  | 431-5686 | 213-5091 | 3981  |
| 20 Mar. (80)        | 1 Sun. .  | 16 0 3                        | 15 Mar. (75)                                                               | 3 Tues. . | 9828-8558 | 331-2705 | 262-0817 | 3982  |
| 20 Mar. (79)        | 2 Mon. .  | 22 12 12                      | 5 Mar. (64)                                                                | 1 Sun. .  | 43-2106   | 214-8061 | 234-0013 | 3983  |
| 21 Mar. (80)        | 4 Wed. .  | 4 24 21                       | 22 Feb. (53)                                                               | 5 Thur. . | 9918-9335 | 62-0502  | 203-1731 | 3984  |
| 21 Mar. (80)        | 5 Thur. . | 10 36 30                      | 13 Mar. (72)                                                               | 4 Wed. .  | 9953-6158 | 998-0436 | 254-4835 | 3985  |
| 20 Mar. (80)        | 6 Fri. .  | 16 48 39                      | 2 Mar. (62)                                                                | 2 Mon. .  | 167-9707  | 881-5794 | 226-3980 | 3986  |
| 20 Mar. (79)        | 0 Sat. .  | 23 0 48                       | 19 Feb. (50)                                                               | 6 Fri. .  | 43-6936   | 728-9235 | 195-5748 | 3987  |
| 21 Mar. (80)        | 2 Mon. .  | 5 12 57                       | 10 Mar. (69)                                                               | 5 Thur. . | 78-2759   | 664-8169 | 246-7165 | 3988  |
| 21 Mar. (80)        | 3 Tues. . | 11 25 6                       | 27 Feb. (58)                                                               | 2 Mon. .  | 9954-0987 | 512-0610 | 216-0621 | 3989  |
| 20 Mar. (80)        | 4 Wed. .  | 17 37 15                      | 17 Mar. (77)                                                               | 1 Sun. .  | 9988-7811 | 448-0544 | 267-3724 | 3990  |
| 20 Mar. (79)        | 5 Thur. . | 23 49 24                      | 6 Mar. (65)                                                                | 5 Thur. . | 9864-5040 | 204-2984 | 236-5493 | 3991  |
| 21 Mar. (80)        | 0 Sat. .  | 6 1 33                        | 23 Feb. (54)                                                               | 2 Mon. .  | 9740-2268 | 142-5426 | 205-7261 | 3992  |
| 21 Mar. (80)        | 1 Sun. .  | 12 13 42                      | 14 Mar. (73)                                                               | 1 Sun. .  | 9774-9092 | 78-5360  | 257-0365 | 3993  |
| 20 Mar. (80)        | 2 Mon. .  | 18 25 51                      | 3 Mar. (63)                                                                | 6 Fri. .  | 9989-2641 | 962-0717 | 228-9510 | 3994  |
| 21 Mar. (80)        | 4 Wed. .  | 0 38 0                        | 21 Feb. (52)                                                               | 4 Wed. .  | 203-6198  | 845-6075 | 200-6968 | 3995  |
| 21 Mar. (80)        | 5 Thur. . | 6 50 9                        | 12 Mar. (71)                                                               | 3 Tues. . | 238-3012  | 781-6009 | 252-0073 | 3996  |
| 21 Mar. (80)        | 6 Fri. .  | 31 2 18                       | 1 Mar. (60)                                                                | 0 Sat. .  | 114-0241  | 628-8449 | 221-3528 | 3997  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                            |                         | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kehaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------------|-------------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Meshādi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SAMVATSARA.         |                         |                                                                                                |
|                  |       |                    |                                  |         |         | Southern<br>system.        | Northern<br>system.     |                                                                                                |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                          | 7                       | 8                                                                                              |
| 3998             | 819   | 954                | 303                              | 71-72   | *896-97 | 50 Anala . . . . .         |                         | ...                                                                                            |
| 3999             | 820   | 955                | 304                              | 72-73   | 897-98  | 51 Pingala . . . . .       |                         | ...                                                                                            |
| 4000             | 821   | 956                | 305                              | 73-74   | 898-99  | 52 Kālyukta . . . . .      |                         | 4 Āshāḍha                                                                                      |
| 4001             | 822   | 957                | 306                              | 74-75   | 899-900 | 53 Siddhārthin . . . . .   |                         | ...                                                                                            |
| 4002             | 823   | 958                | 307                              | 75-76   | *900-01 | 54 Raudra . . . . .        |                         | ...                                                                                            |
| 4003             | 824   | 959                | 308                              | 76-77   | 901-02  | 55 Durmati . . . . .       |                         | 3 Jyēshṭha .                                                                                   |
| 4004             | 825   | 960                | 309                              | 77-78   | 902-03  | 56 Dundubhi . . . . .      |                         | ...                                                                                            |
| 4005             | 826   | 961                | 310                              | 78-79   | 903-04  | 57 Rudhirōdgārīn . . . . . |                         | 7 Āsṛvina .                                                                                    |
| 4006             | 827   | 962                | 311                              | 79-80   | *904-05 | 58 Raktāksha† . . . . .    |                         | ...                                                                                            |
| 4007             | 828   | 963                | 312                              | 80-81   | 905-06  | 59 Krōdhana . . . . .      | 60 Kshaya . . . . .     | ...                                                                                            |
| 4008             | 829   | 964                | 313                              | 81-82   | 906-07  | 60 Kshaya . . . . .        | 1 Prabhava . . . . .    | 5 Śrāvaṇa .                                                                                    |
| 4009             | 830   | 965                | 314                              | 82-83   | 907-08  | 1 Prabhava . . . . .       | 2 Vibhava . . . . .     | ...                                                                                            |
| 4010             | 831   | 966                | 315                              | 83-84   | *908-09 | 2 Vibhava . . . . .        | 3 Śukla . . . . .       | ...                                                                                            |
| 4011             | 832   | 967                | 316                              | 84-85   | 909-10  | 3 Śukla . . . . .          | 4 Pramōda . . . . .     | 3 Jyēshṭha .                                                                                   |
| 4012             | 833   | 968                | 317                              | 85-86   | 910-11  | 4 Pramōda . . . . .        | 5 Prajāpati . . . . .   | ...                                                                                            |
| 4013             | 834   | 969                | 318                              | 86-87   | 911-12  | 5 Prajāpati . . . . .      | 6 Āngiras . . . . .     | ...                                                                                            |
| 4014             | 835   | 970                | 319                              | 87-88   | *912-13 | 6 Āngiras . . . . .        | 7 Śrīmukha . . . . .    | 2 Vaiśākha .                                                                                   |
| 4015             | 836   | 971                | 320                              | 88-89   | 913-14  | 7 Śrīmukha . . . . .       | 8 Bhāva . . . . .       | ...                                                                                            |
| 4016             | 837   | 972                | 321                              | 89-90   | 914-15  | 8 Bhāva . . . . .          | 9 Yuvaṇ . . . . .       | 6 Bhādrapada                                                                                   |
| 4017             | 838   | 973                | 322                              | 90-91   | 915-16  | 9 Yuvaṇ . . . . .          | 10 Dhātṛi . . . . .     | ...                                                                                            |
| 4018             | 839   | 974                | 323                              | 91-92   | *916-17 | 10 Dhātṛi . . . . .        | 11 Īsvara . . . . .     | ...                                                                                            |
| 4019             | 840   | 975                | 324                              | 92-93   | 917-18  | 11 Īsvara . . . . .        | 12 Bahudhānya . . . . . | 4 Āshāḍha .                                                                                    |
| 4020             | 841   | 976                | 325                              | 93-94   | 918-19  | 12 Bahudhānya . . . . .    | 13 Pramāthin . . . . .  | ...                                                                                            |
| 4021             | 842   | 977                | 326                              | 94-95   | 919-20  | 13 Pramāthin . . . . .     | 14 Vikrama . . . . .    | ...                                                                                            |
| 4022             | 843   | 978                | 327                              | 95-96   | *920-21 | 14 Vikrama . . . . .       | 15 Vṛisha . . . . .     | 3 Jyēshṭha                                                                                     |

† 59 Krōdhana was suppressed in the North. By Southern reckoning there was no suppression, nor has there been any such since.

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| COMMENCEMENT OF THE |           |                                |                                                                            |           |           |          |          |       |
|---------------------|-----------|--------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                                | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-sam-krānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                             | 19                                                                         | 20        | 23        | 24       | 25       |       |
|                     |           | H. M. S.                       |                                                                            |           |           |          |          | 1     |
| 20 Mar. (80)        | 0 Sat. .  | 19 14 27                       | 19 Mar. (79)                                                               | 6 Fri. .  | 148-7064  | 564-8384 | 272-6632 | 3998  |
| 21 Mar. (80)        | 2 Mon. .  | 1 26 36                        | 8 Mar. (67)                                                                | 3 Tues. . | 24-4293   | 412-0825 | 241-8401 | 3999  |
| 21 Mar. (80)        | 3 Tues. . | 7 38 45                        | 25 Feb. (56)                                                               | 0 Sat. .  | 9900-1622 | 259-3266 | 211-0169 | 4000  |
| 21 Mar. (80)        | 4 Wed. .  | 13 50 54                       | 16 Mar. (75)                                                               | 6 Fri. .  | 9934-8345 | 195-3200 | 262-3050 | 4001  |
| 20 Mar. (80)        | 5 Thur. . | 20 3 3                         | 4 Mar. (64)                                                                | 3 Tues. . | 9810-5573 | 42-5640  | 231-4818 | 4002  |
| 21 Mar. (80)        | 0 Sat. .  | 2 15 12                        | 22 Feb. (53)                                                               | 1 Sun. .  | 24-9122   | 926-0997 | 203-3963 | 4003  |
| 21 Mar. (80)        | 1 Sun. .  | 8 27 21                        | 13 Mar. (72)                                                               | 0 Sat. .  | 59-5945   | 862-0930 | 254-7067 | 4004  |
| 21 Mar. (80)        | 2 Mon. .  | 14 29 29                       | 3 Mar. (62)                                                                | 5 Thur. . | 273-9494  | 745-6289 | 226-6213 | 4005  |
| 20 Mar. (80)        | 3 Tues. . | 20 51 38                       | 20 Mar. (80)                                                               | 3 Tues. . | 9969-9998 | 645-3307 | 275-1940 | 4006  |
| 21 Mar. (80)        | 5 Thur. . | 3 3 47                         | 10 Mar. (69)                                                               | 1 Sun. .  | 184-3546  | 528-8665 | 247-1085 | 4007  |
| 21 Mar. (80)        | 6 Fri. .  | 9 15 56                        | 27 Feb. (58)                                                               | 5 Thur. . | 60-0774   | 376-1105 | 216-2853 | 4008  |
| 21 Mar. (80)        | 0 Sat. .  | 15 28 5                        | 17 Mar. (76)                                                               | 3 Tues. . | 9756-1279 | 275-8123 | 264-8579 | 4009  |
| 20 Mar. (80)        | 1 Sun. .  | 21 40 14                       | 6 Mar. (66)                                                                | 1 Sun. .  | 9970-4827 | 159-3479 | 236-7726 | 4010  |
| 21 Mar. (80)        | 3 Tues. . | 3 52 23                        | 23 Feb. (54)                                                               | 5 Thur. . | 9846-2055 | 6-5921   | 205-9493 | 4011  |
| 21 Mar. (80)        | 4 Wed. .  | 10 4 32                        | 14 Mar. (73)                                                               | 4 Wed. .  | 9880-8879 | 942-5855 | 257-2597 | 4012  |
| 21 Mar. (80)        | 5 Thur. . | 16 16 41                       | 4 Mar. (63)                                                                | 2 Mon. .  | 95-2428   | 826-1212 | 229-1743 | 4013  |
| 20 Mar. (80)        | 6 Fri. .  | 22 28 50                       | 22 Feb. (53)                                                               | 0 Sat. .  | 309-5975  | 709-6569 | 201-0889 | 4014  |
| 21 Mar. (80)        | 1 Sun. .  | 4 40 59                        | 11 Mar. (70)                                                               | 5 Thur. . | 5-6479    | 609-3587 | 249-6615 | 4015  |
| 21 Mar. (80)        | 2 Mon. .  | 10 53 8                        | 28 Feb. (59)                                                               | 2 Mon. .  | 9881-3708 | 456-6028 | 218-8383 | 4016  |
| 21 Mar. (80)        | 3 Tues. . | 17 5 17                        | 19 Mar. (78)                                                               | 1 Sun. .  | 9916-0531 | 392-5962 | 270-1487 | 4017  |
| 20 Mar. (80)        | 4 Wed. .  | 23 17 26                       | 7 Mar. (67)                                                                | 5 Thur. . | 9791-7760 | 239-8403 | 239-3256 | 4018  |
| 21 Mar. (80)        | 6 Fri. .  | 5 29 35                        | 25 Feb. (56)                                                               | 3 Tues. . | 6-1309    | 123-3760 | 211-2401 | 4019  |
| 21 Mar. (80)        | 0 Sat. .  | 11 41 44                       | 16 Mar. (75)                                                               | 2 Mon. .  | 40-8133   | 59-3695  | 262-5505 | 4020  |
| 21 Mar. (80)        | 1 Sun. .  | 17 53 53                       | 5 Mar. (64)                                                                | 6 Fri. .  | 9916-5360 | 906-6135 | 231-6273 | 4021  |
| 21 Mar. (81)        | 3 Tues. . | 0 6 2                          | 23 Feb. (54)                                                               | 4 Wed. .  | 130-8909  | 790-1493 | 203-6419 | 4022  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                     |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SAMVATSARA.  |                     |                                                                                                |
|                  |       |                    |                                  |         |         | Southern<br>system. | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                   | 7                   | 8                                                                                              |
| 4023             | 844   | 979                | 328                              | 96-97   | 921-22  | 15 Vṛiṣha .         | 16 Chitrabhānu .    | ...                                                                                            |
| 4024             | 845   | 980                | 329                              | 97-98   | 922-23  | 16 Chitrabhānu .    | 17 Subhānu .        | 7 Āsvina .                                                                                     |
| 4025             | 846   | 981                | 330                              | 98-99   | 923-24  | 17 Subhānu .        | 18 Tārana .         | ...                                                                                            |
| 4026             | 847   | 982                | 331                              | 99-100  | *924-25 | 18 Tārana .         | 19 Pārthiva .       | ...                                                                                            |
| 4027             | 848   | 983                | 332                              | 100-01  | 925-26  | 19 Pārthiva .       | 20 Vyaya .          | 5 Śrāvaṇa .                                                                                    |
| 4028             | 849   | 984                | 333                              | 101-02  | 926-27  | 20 Vyaya .          | 21 Sarvajit .       | ...                                                                                            |
| 4029             | 850   | 985                | 334                              | 102-03  | 927-28  | 21 Sarvajit .       | 22 Sarvadhārin .    | ...                                                                                            |
| 4030             | 851   | 986                | 335                              | 103-04  | *928-29 | 22 Sarvadhārin .    | 23 Virōdhin .       | 3 Jyēshtha .                                                                                   |
| 4031             | 852   | 987                | 336                              | 104-05  | 929-30  | 23 Virōdhin .       | 24 Vikṛita .        | ...                                                                                            |
| 4032             | 853   | 988                | 337                              | 105-06  | 930-31  | 24 Vikṛita .        | 25 Khara .          | ...                                                                                            |
| 4033             | 854   | 989                | 338                              | 106-07  | 931-32  | 25 Khara .          | 26 Nandana .        | 2 Vaiśākha .                                                                                   |
| 4034             | 855   | 990                | 339                              | 107-08  | *932-33 | 26 Nandana .        | 27 Vijaya .         | ...                                                                                            |
| 4035             | 856   | 991                | 340                              | 108-09  | 933-34  | 27 Vijaya .         | 28 Jaya .           | 6 Bhādrapada                                                                                   |
| 4036             | 857   | 992                | 341                              | 109-10  | 934-35  | 28 Jaya .           | 29 Manmatha .       | ...                                                                                            |
| 4037             | 858   | 993                | 342                              | 110-11  | 935-36  | 29 Manmatha .       | 30 Durmukha .       | ...                                                                                            |
| 4038             | 859   | 994                | 343                              | 111-12  | *936-37 | 30 Durmukha .       | 31 Hēmalamba .      | 4 Āshāḍha .                                                                                    |
| 4039             | 860   | 995                | 344                              | 112-13  | 937-38  | 31 Hēmalamba .      | 32 Vilamba .        | ...                                                                                            |
| 4040             | 861   | 996                | 345                              | 113-14  | 938-39  | 32 Vilamba .        | 33 Vikārin .        | ...                                                                                            |
| 4041             | 862   | 997                | 346                              | 114-15  | 939-40  | 33 Vikārin .        | 34 Śārvarin .       | 3 Jyēshtha .                                                                                   |
| 4042             | 863   | 998                | 347                              | 115-16  | *940-41 | 34 Śārvarin .       | 35 Plava .          | ...                                                                                            |
| 4043             | 864   | 999                | 348                              | 116-17  | 941-42  | 35 Plava .          | 36 Śubhakṛit .      | 7 Āsvina .                                                                                     |
| 4044             | 865   | 1000               | 349                              | 117-18  | 942-43  | 36 Śubhakṛit .      | 37 Śōbhana .        | ...                                                                                            |
| 4045             | 866   | 1001               | 350                              | 118-19  | 943-44  | 37 Śōbhana .        | 38 Krōdhin .        | ...                                                                                            |
| 4046             | 867   | 1002               | 351                              | 119-20  | *944-45 | 38 Krōdhin .        | 39 Viśvāvasu .      | 5 Śrāvaṇa .                                                                                    |
| 4047             | 868   | 1003               | 352                              | 120-21  | 945-46  | 39 Viśvāvasu .      | 40 Parābhava .      | ...                                                                                            |

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| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       |       |
|                     |           | H. M. S.                      |                                                                            |           |           |          |          | 1     |
| 21 Mar. (80)        | 4 Wed.    | 6 18 11                       | 13 Mar. (72)                                                               | 3 Tues.   | 165-5733  | 726-1427 | 254-9523 | 4023  |
| 21 Mar. (80)        | 5 Thur.   | 12 30 20                      | 2 Mar. (61)                                                                | 0 Sat.    | 41-2961   | 573-3868 | 224-1290 | 4024  |
| 21 Mar. (80)        | 6 Fri.    | 18 42 29                      | 21 Mar. (80)                                                               | 6 Fri.    | 75-9785   | 509-3802 | 275-4395 | 2025  |
| 21 Mar. (81)        | 1 Sun.    | 0 54 38                       | 9 Mar. (69)                                                                | 3 Tues.   | 9951-7014 | 356-6243 | 244-6163 | 4026  |
| 21 Mar. (80)        | 2 Mon.    | 7 6 47                        | 26 Feb. (57)                                                               | 0 Sat.    | 9827-4242 | 203-8683 | 213-7931 | 4027  |
| 21 Mar. (80)        | 3 Tues.   | 13 18 56                      | 17 Mar. (76)                                                               | 6 Fri.    | 9862-0966 | 139-8618 | 265-1034 | 4028  |
| 21 Mar. (80)        | 4 Wed.    | 19 31 5                       | 7 Mar. (66)                                                                | 4 Wed.    | 76-4614   | 23-3975  | 237-0181 | 4029  |
| 21 Mar. (81)        | 6 Fri.    | 1 43 14                       | 24 Feb. (55)                                                               | 1 Sun.    | 9952-1843 | 870-6416 | 206-1949 | 4030  |
| 21 Mar. (80)        | 0 Sat.    | 7 55 23                       | 14 Mar. (73)                                                               | 0 Sat.    | 9986-8666 | 806-6351 | 257-5653 | 4031  |
| 21 Mar. (80)        | 1 Sun.    | 14 7 32                       | 4 Mar. (63)                                                                | 5 Thur.   | 201-2215  | 690-1707 | 229-4198 | 4032  |
| 21 Mar. (80)        | 2 Mon.    | 20 19 41                      | 21 Feb. (52)                                                               | 2 Mon.    | 76-9443   | 537-4148 | 198-5966 | 4033  |
| 21 Mar. (81)        | 4 Wed.    | 2 31 50                       | 11 Mar. (71)                                                               | 1 Sun.    | 111-6267  | 473-4083 | 249-9071 | 4034  |
| 21 Mar. (80)        | 5 Thur.   | 8 43 59                       | 28 Feb. (59)                                                               | 5 Thur.   | 9987-3495 | 320-6523 | 219-0839 | 4035  |
| 21 Mar. (80)        | 6 Fri.    | 14 56 8                       | 19 Mar. (78)                                                               | 4 Wed.    | 22-0319   | 256-6458 | 270-3942 | 4036  |
| 21 Mar. (80)        | 0 Sat.    | 21 8 17                       | 8 Mar. (67)                                                                | 1 Sun.    | 9897-7548 | 103-8898 | 239-5711 | 4037  |
| 21 Mar. (81)        | 2 Mon.    | 3 20 26                       | 26 Feb. (57)                                                               | 6 Fri.    | 112-1097  | 987-4256 | 211-4857 | 4038  |
| 21 Mar. (80)        | 3 Tues.   | 9 32 35                       | 16 Mar. (75)                                                               | 5 Thur.   | 146-7920  | 923-4190 | 262-7961 | 4039  |
| 21 Mar. (80)        | 4 Wed.    | 15 44 44                      | 5 Mar. (64)                                                                | 2 Mon.    | 22-5148   | 770-8630 | 231-9729 | 4040  |
| 21 Mar. (80)        | 5 Thur.   | 21 56 53                      | 23 Feb. (54)                                                               | 0 Sat.    | 236-8697  | 654-1988 | 203-8874 | 4041  |
| 21 Mar. (81)        | 0 Sat.    | 4 9 2                         | 12 Mar. (72)                                                               | 5 Thur.   | 9932-9200 | 553-9006 | 252-4601 | 4042  |
| 21 Mar. (80)        | 1 Sun.    | 10 21 11                      | 1 Mar. (60)                                                                | 2 Mon.    | 9808-6429 | 401-1447 | 221-6368 | 4043  |
| 21 Mar. (80)        | 2 Mon.    | 16 33 20                      | 20 Mar. (79)                                                               | 1 Sun.    | 9843-3253 | 337-1381 | 272-9473 | 4044  |
| 21 Mar. (80)        | 3 Tues.   | 22 45 29                      | 9 Mar. (68)                                                                | 5 Thur.   | 9719-0482 | 184-3821 | 242-1240 | 4045  |
| 21 Mar. (81)        | 5 Thur.   | 4 57 38                       | 27 Feb. (58)                                                               | 3 Tues.   | 9933-4029 | 67-9178  | 214-0386 | 4046  |
| 21 Mar. (80)        | 6 Fri.    | 11 9 47                       | 17 Mar. (76)                                                               | 2 Mon.    | 9968-0854 | 3-9113   | 265-3490 | 4047  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                     |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Śaka. | Chaitradī Vikrama. | Mēshadi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SAMVATSARA.  |                     |                                                                                                |
|                  |       |                    |                                  |         |         | Southern<br>system. | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                   | 7                   | 8                                                                                              |
| 4048             | 869   | 1004               | 353                              | 121-22  | 946-47  | 40 Parābhava .      | 41 Plavaṅga .       | ...                                                                                            |
| 4049             | 870   | 1005               | 354                              | 122-23  | 947-48  | 41 Plavaṅga .       | 42 Kilaka .         | 3 Jyēshṭha .                                                                                   |
| 4050             | 871   | 1006               | 355                              | 123-24  | *948-49 | 42 Kilaka .         | 43 Saumya .         | ...                                                                                            |
| 4051             | 872   | 1007               | 356                              | 124-25  | 949-50  | 43 Saumya .         | 44 Sādhāraṇa .      | ...                                                                                            |
| 4052             | 873   | 1008               | 357                              | 125-26  | 950-51  | 44 Sādhāraṇa .      | 45 Virōdhakṛit .    | 1 Chaitra .                                                                                    |
| 4053             | 874   | 1009               | 358                              | 126-27  | 951-52  | 45 Virōdhakṛit .    | 46 Paridhāvin .     | ...                                                                                            |
| 4054             | 875   | 1010               | 359                              | 127-28  | *952-53 | 46 Paridhāvin .     | 47 Pramādin .       | 5 Śrāvaṇa .                                                                                    |
| 4055             | 876   | 1011               | 360                              | 128-29  | 953-54  | 47 Pramādin .       | 48 Ānanda .         | ...                                                                                            |
| 4056             | 877   | 1012               | 361                              | 129-30  | 954-55  | 48 Ānanda .         | 49 Rākshasa .       | ...                                                                                            |
| 4057             | 878   | 1013               | 362                              | 130-31  | 955-56  | 49 Rākshasa .       | 50 Anala .          | 4 Āshāḍha .                                                                                    |
| 4058             | 879   | 1014               | 363                              | 131-32  | *956-57 | 50 Anala .          | 51 Piṅgala .        | ...                                                                                            |
| 4059             | 880   | 1015               | 364                              | 132-33  | 957-58  | 51 Piṅgala .        | 52 Kālayukta .      | ...                                                                                            |
| 4060             | 881   | 1016               | 365                              | 133-34  | 958-59  | 52 Kālayukta .      | 53 Siddhārthin .    | 3 Jyēshṭha .                                                                                   |
| 4061             | 882   | 1017               | 366                              | 134-35  | 959-60  | 53 Siddhārthin .    | 54 Raudra .         | ...                                                                                            |
| 4062             | 883   | 1018               | 367                              | 135-36  | *960-61 | 54 Raudra .         | 55 Durmati .        | 7 Āsvina .                                                                                     |
| 4063             | 884   | 1019               | 368                              | 136-37  | 961-62  | 55 Durmati .        | 56 Dundubhi .       | ...                                                                                            |
| 4064             | 885   | 1020               | 369                              | 137-38  | 962-63  | 56 Dundubhi .       | 57 Rudhirōdgārin .  | ...                                                                                            |
| 4065             | 886   | 1021               | 370                              | 138-39  | 963-64  | 57 Rudhirōdgārin .  | 58 Raktāksha .      | 4 Āshāḍha† .                                                                                   |
| 4066             | 887   | 1022               | 371                              | 139-40  | *964-65 | 58 Raktāksha .      | 59 Krōdhana .       | ...                                                                                            |
| 4067             | 888   | 1023               | 372                              | 140-41  | 965-66  | 59 Krōdhana .       | 60 Kshaya .         | ...                                                                                            |
| 4068             | 889   | 1024               | 373                              | 141-42  | 966-67  | 60 Kshaya .         | 1 Prabhava .        | 3 Jyēshṭha .                                                                                   |
| 4069             | 890   | 1025               | 374                              | 142-43  | 967-68  | 1 Prabhava .        | 2 Vibhava .         | ...                                                                                            |
| 4070             | 891   | 1026               | 375                              | 143-44  | *968-69 | 2 Vibhava .         | 3 Śukla .           | 12 Phālguna† .                                                                                 |
| 4071             | 892   | 1027               | 376                              | 144-45  | 969-70  | 3 Śukla .           | 4 Pramōda .         | ...                                                                                            |
| 4072             | 893   | 1028               | 377                              | 145-46  | 970-71  | 4 Pramōda .         | 5 Prajāpati .       | ...                                                                                            |

† See "Remarks" above, on the page preceding the Table.

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| COMMENCEMENT OF THE |           |                                |                                                                            |           |           |          |          |       |
|---------------------|-----------|--------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                                | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-sam-krānti. | Day and month, A. D.                                                       | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                             | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
|                     |           | H. M. S.                       |                                                                            |           |           |          |          |       |
| 21 Mar. (80)        | 0 Sat. .  | 17 21 56                       | 7 Mar. (86)                                                                | 0 Sat. .  | 182-4402  | 887-4470 | 237-2637 | 4048  |
| 21 Mar. (80)        | 1 Sun. .  | 23 34 5                        | 24 Feb. (55)                                                               | 4 Wed. .  | 58-1630   | 734-6910 | 206-4404 | 4049  |
| 21 Mar. (81)        | 3 Tues. . | 5 46 13                        | 14 Mar. (74)                                                               | 3 Tues. . | 92-8454   | 670-6846 | 257-7508 | 4050  |
| 21 Mar. (80)        | 4 Wed. .  | 11 58 22                       | 3 Mar. (62)                                                                | 0 Sat. .  | 9988-5683 | 517-9286 | 226-9276 | 4051  |
| 21 Mar. (80)        | 5 Thur. . | 18 10 31                       | 20 Feb. (51)                                                               | 4 Wed. .  | 9844-3112 | 365-1727 | 196-1044 | 4052  |
| 22 Mar. (81)        | 0 Sat. .  | 0 22 40                        | 11 Mar. (70)                                                               | 3 Tues. . | 9878-9735 | 301-1662 | 247-4148 | 4053  |
| 21 Mar. (81)        | 1 Sun. .  | 6 34 49                        | 28 Feb. (59)                                                               | 0 Sat. .  | 9754-6903 | 148-4102 | 216-5916 | 4054  |
| 21 Mar. (80)        | 2 Mon. .  | 12 46 58                       | 18 Mar. (77)                                                               | 6 Fri. .  | 9789-3787 | 84-4037  | 267-9020 | 4055  |
| 21 Mar. (80)        | 3 Tues. . | 18 59 7                        | 8 Mar. (67)                                                                | 4 Wed. .  | 3-7335    | 967-9394 | 239-8167 | 4056  |
| 22 Mar. (81)        | 5 Thur. . | 1 11 16                        | 26 Feb. (57)                                                               | 2 Mon. .  | 218-0884  | 851-4750 | 211-7312 | 4057  |
| 21 Mar. (81)        | 6 Fri. .  | 7 23 25                        | 16 Mar. (76)                                                               | 1 Sun. .  | 252-7708  | 787-4685 | 263-0416 | 4058  |
| 21 Mar. (80)        | 0 Sat. .  | 13 35 34                       | 5 Mar. (64)                                                                | 5 Thur. . | 128-4936  | 634-7125 | 232-2184 | 4059  |
| 21 Mar. (80)        | 1 Sun. .  | 19 47 43                       | 22 Feb. (53)                                                               | 2 Mon. .  | 4-2164    | 481-9566 | 201-3952 | 4060  |
| 22 Mar. (81)        | 3 Tues. . | 1 59 52                        | 13 Mar. (72)                                                               | 1 Sun. .  | 38-8988   | 417-9502 | 252-7056 | 4061  |
| 21 Mar. (81)        | 4 Wed. .  | 8 12 1                         | 1 Mar. (61)                                                                | 5 Thur. . | 9914-6217 | 265-1942 | 221-8823 | 4062  |
| 21 Mar. (80)        | 5 Thur. . | 14 24 10                       | 20 Mar. (79)                                                               | 4 Wed. .  | 9949-3040 | 201-1877 | 273-1828 | 4063  |
| 21 Mar. (80)        | 6 Fri. .  | 20 36 19                       | 9 Mar. (68)                                                                | 1 Sun. .  | 9825-0269 | 48-5316  | 242-3696 | 4064  |
| 22 Mar. (81)        | 1 Sun. .  | 2 48 28                        | 27 Feb. (56)                                                               | 6 Fri. .  | 39-3817   | 931-9674 | 214-2842 | 4065  |
| 21 Mar. (81)        | 2 Mon. .  | 9 0 37                         | 17 Mar. (77)                                                               | 5 Thur. . | 74-0642   | 867-9608 | 265-5946 | 4066  |
| 21 Mar. (80)        | 3 Tues. . | 15 12 46                       | 7 Mar. (66)                                                                | 3 Tues. . | 288-4189  | 751-4956 | 237-5093 | 4067  |
| 21 Mar. (80)        | 4 Wed. .  | 21 24 55                       | 24 Feb. (55)                                                               | 0 Sat. .  | 164-1418  | 598-7406 | 206-6860 | 4068  |
| 22 Mar. (81)        | 6 Fri. .  | 3 37 4                         | 15 Mar. (74)                                                               | 6 Fri. .  | 198-8042  | 534-7341 | 257-9964 | 4069  |
| 21 Mar. (81)        | 0 Sat. .  | 9 49 13                        | 3 Mar. (63)                                                                | 3 Tues. . | 74-5470   | 381-9782 | 227-1731 | 4070  |
| 21 Mar. (80)        | 1 Sun. .  | 16 1 22                        | 21 Mar. (80)                                                               | 1 Sun. .  | 9770-5974 | 281-6799 | 275-7453 | 4071  |
| 21 Mar. (80)        | 2 Mon. .  | 22 13 31                       | 11 Mar. (70)                                                               | 6 Fri. .  | 9984-9522 | 616-2156 | 247-6604 | 4072  |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                     |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.   | JOVIAN SĀMVATSARA.  |                     |                                                                                                |
|                  |       |                    |                                  |         |         | Southern<br>system. | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                   | 7                   | 8                                                                                              |
| 4073             | 894   | 1029               | 378                              | 146-47  | 971-72  | 5 Prajāpati .       | 6 Āngiras .         | 5 Śrāvaṇa .                                                                                    |
| 4074             | 895   | 1030               | 379                              | 147-48  | *972-73 | 6 Āngiras .         | 7 Śrīmukha .        | ...                                                                                            |
| 4075             | 896   | 1031               | 380                              | 148-49  | 973-74  | 7 Śrīmukha .        | 8 Bhāva .           | ...                                                                                            |
| 4076             | 897   | 1032               | 381                              | 149-50  | 974-75  | 8 Bhāva .           | 9 Yuvaṇ .           | 4 Āshāḍha .                                                                                    |
| 4077             | 898   | 1033               | 382                              | 150-51  | 975-76  | 9 Yuvaṇ .           | 10 Dhātṛi .         | ...                                                                                            |
| 4078             | 899   | 1034               | 383                              | 151-52  | *976-77 | 10 Dhātṛi .         | 11 Īvara .          | ...                                                                                            |
| 4079             | 900   | 1035               | 384                              | 152-53  | 977-78  | 11 Īvara .          | 12 Bahudhānya .     | 2 Vāśākha .                                                                                    |
| 4080             | 901   | 1036               | 385                              | 153-54  | 978-79  | 12 Bahudhānya .     | 13 Pramāthin .      | ...                                                                                            |
| 4081             | 902   | 1037               | 386                              | 154-55  | 979-80  | 13 Pramāthin .      | 14 Vikrama .        | 6 Bhādrapada                                                                                   |
| 4082             | 903   | 1038               | 387                              | 155-56  | *980-81 | 14 Vikrama .        | 15 Vṛisha .         | ...                                                                                            |
| 4083             | 904   | 1039               | 388                              | 156-57  | 981-82  | 15 Vṛisha .         | 16 Chitrabhānu .    | ...                                                                                            |
| 4084             | 905   | 1040               | 389                              | 157-58  | 982-83  | 16 Chitrabhānu .    | 17 Subhānu .        | 4 Āshāḍha†† .                                                                                  |
| 4085             | 906   | 1041               | 390                              | 158-59  | 983-84  | 17 Subhānu .        | 18 Tārana .         | ...                                                                                            |
| 4086             | 907   | 1042               | 391                              | 159-60  | *984-85 | 18 Tārana .         | 19 Pārthiva .       | ...                                                                                            |
| 4087             | 908   | 1043               | 392                              | 160-61  | 985-86  | 19 Pārthiva .       | 20 Vyaya .          | 3 Jyēṣṭha .                                                                                    |
| 4088             | 909   | 1044               | 393                              | 161-62  | 986-87  | 20 Vyaya .          | 21 Sarvajit .       | ...                                                                                            |
| 4089             | 910   | 1045               | 394                              | 162-63  | 987-88  | 21 Sarvajit .       | 22 Sarvadhārin .    | ...                                                                                            |
| 4090             | 911   | 1046               | 395                              | 163-64  | *988-89 | 22 Sarvadhārin .    | 23 Virōdhin .       | 1 Chaitra .                                                                                    |
| 4091             | 912   | 1047               | 396                              | 164-65  | 989-90  | 23 Virōdhin .       | 24 Vikṛita† .       | ...                                                                                            |
| 4092             | 913   | 1048               | 397                              | 165-66  | 990-91  | 24 Vikṛita .        | 26 Nandana .        | 5 Śrāvaṇa .                                                                                    |
| 4093             | 914   | 1049               | 398                              | 166-67  | 991-92  | 25 Khara .          | 27 Vijaya .         | ...                                                                                            |
| 4094             | 915   | 1050               | 399                              | 167-68  | *992-93 | 26 Nandana .        | 28 Jaya .           | ...                                                                                            |
| 4095             | 916   | 1051               | 400                              | 168-69  | 993-94  | 27 Vijaya .         | 29 Manmatha .       | 4 Āshāḍha .                                                                                    |
| 4096             | 917   | 1052               | 401                              | 169-70  | 994-95  | 28 Jaya .           | 30 Durmukha .       | ...                                                                                            |
| 4097             | 918   | 1053               | 402                              | 170-71  | 995-96  | 29 Manmatha .       | 31 Hēmalamba .      | ...                                                                                            |

† 25 Khara was suppressed in the north.

†† See "Remarks" on page preceding the Table.

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| COMMENCEMENT OF THE |           |                                |                                                                            |           |           |          |          |      |
|---------------------|-----------|--------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|------|
| SOLAR YEAR          |           |                                | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kal. |
| Day and month A. D. | Week-day. | Time of true Mēsha-sam-krānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |      |
| 13                  | 14        | 17                             | 19                                                                         | 20        | 23        | 24       | 25       | 1    |
|                     |           | H. M. S.                       |                                                                            |           |           |          |          |      |
| 22 Mar. (81)        | 4 Wed. .  | 4 25 40                        | 28 Feb. (59)                                                               | 3 Tues. . | 9860-6751 | 12-4567  | 217-8372 | 4073 |
| 21 Mar. (81)        | 5 Thur. . | 10 37 49                       | 18 Mar. (78)                                                               | 2 Mon. .  | 9895-3574 | 948-4532 | 268-0475 | 4074 |
| 21 Mar. (80)        | 6 Fri. .  | 16 49 58                       | 8 Mar. (67)                                                                | 0 Sat. .  | 109-7123  | 831-9889 | 240-0822 | 4075 |
| 21 Mar. (80)        | 0 Sat. .  | 23 2 7                         | 25 Feb. (56)††                                                             | 4 Wed. .  | 9985-4353 | 679-2329 | 209-2390 | 4076 |
| 22 Mar. (81)        | 2 Mon. .  | 5 14 16                        | 16 Mar. (75)                                                               | 3 Tues. . | 20-1175   | 615-2264 | 260-5494 | 4077 |
| 21 Mar. (81)        | 3 Tues. . | 11 26 25                       | 4 Mar. (64)                                                                | 0 Sat. .  | 9895-8404 | 462-4704 | 229-7281 | 4078 |
| 21 Mar. (80)        | 4 Wed. .  | 17 38 34                       | 21 Feb. (52)                                                               | 4 Wed. .  | 9771-5632 | 309-7145 | 198-9029 | 4079 |
| 21 Mar. (80)        | 5 Thur. . | 23 50 43                       | 12 Mar. (71)                                                               | 3 Tues. . | 9806-2456 | 245-7080 | 250-2134 | 4080 |
| 22 Mar. (81)        | 0 Sat. .  | 6 2 52                         | 2 Mar. (61)                                                                | 1 Sun. .  | 20-8001   | 129-2437 | 222-1279 | 4081 |
| 21 Mar. (81)        | 1 Sun. .  | 12 15 1                        | 20 Mar. (80)                                                               | 0 Sat. .  | 55-2828   | 65-2372  | 273-4383 | 4082 |
| 21 Mar. (80)        | 2 Mon. .  | 18 27 10                       | 9 Mar. (68)                                                                | 4 Wed. .  | 9931-0057 | 912-4811 | 242-6151 | 4083 |
| 22 Mar. (81)        | 4 Wed. .  | 0 39 19                        | 27 Feb. (58)                                                               | 2 Mon. .  | 145-3605  | 796-0169 | 214-5298 | 4084 |
| 22 Mar. (81)        | 5 Thur. . | 6 51 28                        | 18 Mar. (77)                                                               | 1 Sun. .  | 180-0429  | 732-0103 | 265-8401 | 4085 |
| 21 Mar. (81)        | 6 Fri. .  | 13 3 37                        | 6 Mar. (66)                                                                | 5 Thur. . | 55-7657   | 579-2544 | 235-0169 | 4086 |
| 21 Mar. (80)        | 0 Sat. .  | 19 15 46                       | 23 Feb. (54)                                                               | 2 Mon. .  | 9931-4886 | 426-4985 | 204-1937 | 4087 |
| 22 Mar. (81)        | 2 Mon. .  | 1 27 55                        | 11 Mar. (73)                                                               | 1 Sun. .  | 9966-1709 | 362-4919 | 255-5042 | 4088 |
| 22 Mar. (81)        | 3 Tues. . | 7 40 4                         | 3 Mar. (62)                                                                | 5 Thur. . | 9841-6938 | 209-7360 | 224-6809 | 4089 |
| 21 Mar. (81)        | 4 Wed. .  | 13 52 13                       | 21 Feb. (52)                                                               | 3 Tues. . | 56-2487   | 93-2717  | 196-5954 | 4090 |
| 21 Mar. (80)        | 5 Thur. . | 20 4 22                        | 11 Mar. (70)                                                               | 2 Mon. .  | 90-8310   | 29-2651  | 247-9059 | 409  |
| 22 Mar. (81)        | 0 Sat. .  | 2 16 31                        | 28 Feb. (59)                                                               | 6 Fri. .  | 9966-6538 | 876-5093 | 217-0828 | 4092 |
| 22 Mar. (81)        | 1 Sun. .  | 8 28 40                        | 19 Mar. (78)                                                               | 5 Thur. . | 1-3372    | 812-5027 | 288-3931 | 4093 |
| 21 Mar. (81)        | 2 Mon. .  | 14 40 49                       | 8 Mar. (68)                                                                | 3 Tues. . | 215-6911  | 096-0384 | 240-3077 | 4094 |
| 21 Mar. (80)        | 3 Tues. . | 20 52 58                       | 25 Feb. (56)                                                               | 0 Sat. .  | 91-4139   | 543-2825 | 209-4845 | 4095 |
| 22 Mar. (81)        | 5 Thur. . | 3 5 6                          | 16 Mar. (75)                                                               | 6 Fri. .  | 126-0953  | 479-2759 | 260-7950 | 4096 |
| 22 Mar. (81)        | 6 Fri. .  | 9 17 15                        | 5 Mar. (64)                                                                | 3 Tues. . | 1-8192    | 326-5199 | 229-9717 | 4097 |

†† See "Remarks" on page preceding the Table.

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.    | JOVIAN SAMVATSARA.  |                     |                                                                                                |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8                                                                                              |
| 4098             | 919   | 1054               | 403                              | 171-72  | *996-97  | 30 Durmukha .       | 32 Vilamba .        | 2 Vaiśākha .                                                                                   |
| 4099             | 920   | 1053               | 404                              | 172-73  | 997-98   | 31 Hēmalamba .      | 33 Vikārin .        | ...                                                                                            |
| 4100             | 921   | 1056               | 405                              | 173-74  | 998-99   | 32 Vilamba .        | 34 Śārvarin .       | 6 Bhādrapada                                                                                   |
| 4101             | 922   | 1057               | 406                              | 174-75  | 999-1000 | 33 Vikārin .        | 35 Plava .          | ...                                                                                            |
| 4102             | 923   | 1058               | 407                              | 175-76  | *1000-01 | 34 Śārvarin .       | 36 Śubhakṛit .      | ...                                                                                            |
| 4103             | 924   | 1059               | 408                              | 176-77  | 1001-02  | 35 Plava .          | 37 Śōbhana .        | 5 Śrāvapa† .                                                                                   |
| 4104             | 925   | 1060               | 409                              | 177-78  | 1002-03  | 36 Śubhakṛit .      | 38 Krōdhin .        | ...                                                                                            |
| 4105             | 926   | 1061               | 410                              | 178-79  | 1003-04  | 37 Śōbhana .        | 39 Viśvāvasu .      | ...                                                                                            |
| 4106             | 927   | 1062               | 411                              | 179-80  | *1004-05 | 38 Krōdhin .        | 40 Parābhava .      | 3 Jyēshtha .                                                                                   |
| 4107             | 928   | 1063               | 412                              | 180-81  | 1005-06  | 39 Viśvāvasu .      | 41 Plavaṅga .       | ...                                                                                            |
| 4108             | 929   | 1064               | 413                              | 181-82  | 1006-07  | 40 Parābhava .      | 42 Kilaka .         | { 8 Kārttika<br>9 Mārgaśīrṣa (ksh.) }                                                          |
| 4109             | 930   | 1065               | 414                              | 182-83  | 1007-08  | 41 Plavaṅga .       | 43 Saumya .         | 1 Chaitra .                                                                                    |
| 4110             | 931   | 1066               | 415                              | 183-84  | *1008-09 | 42 Kilaka .         | 44 Sādhārana .      | ...                                                                                            |
| 4111             | 932   | 1067               | 416                              | 184-85  | 1009-10  | 43 Saumya .         | 45 Virōdhakṛit .    | 5 Śrāvapa .                                                                                    |
| 4112             | 933   | 1068               | 417                              | 185-86  | 1010-11  | 44 Sādhārana .      | 46 Paridhāvin .     | ...                                                                                            |
| 4113             | 934   | 1069               | 418                              | 186-87  | 1011-12  | 45 Virōdhakṛit .    | 47 Pramādin .       | ...                                                                                            |
| 4114             | 935   | 1070               | 419                              | 187-88  | *1012-13 | 46 Paridhāvin .     | 48 Ānanda .         | 4 Āshāḍha .                                                                                    |
| 4115             | 936   | 1071               | 420                              | 188-89  | 1013-14  | 47 Pramādin .       | 49 Rākshasa .       | ...                                                                                            |
| 4116             | 937   | 1072               | 421                              | 189-90  | 1014-15  | 48 Ānanda .         | 50 Anala .          | ...                                                                                            |
| 4117             | 938   | 1073               | 422                              | 190-91  | 1015-16  | 49 Rākshasa .       | 51 Piṅgala .        | 2 Vaiśākha .                                                                                   |
| 4118             | 939   | 1074               | 423                              | 191-92  | *1016-17 | 50 Anala .          | 52 Kālayukta .      | ...                                                                                            |
| 4119             | 940   | 1075               | 424                              | 192-93  | 1017-18  | 51 Piṅgala .        | 53 Siddhārthin .    | 6 Bhādrapada                                                                                   |
| 4120             | 941   | 1076               | 425                              | 193-94  | 1018-19  | 52 Kālayukta .      | 54 Raudra .         | ...                                                                                            |
| 4121             | 942   | 1077               | 426                              | 194-95  | 1019-20  | 53 Siddhārthin .    | 55 Durmati .        | ...                                                                                            |
| 4122             | 943   | 1078               | 427                              | 195-96  | *1020-21 | 54 Raudra .         | 56 Dundubhi .       | 5 Śrāvapa† .                                                                                   |

† See "Remarks" on page preceding the Table.

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| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       |       |
|                     |           | H. M. S.                      |                                                                            |           |           |          |          |       |
| 21 Mar. (81)        | 0 Sat. .  | 15 29 24                      | 22 Feb. (53)                                                               | 0 Sat. .  | 9877-5419 | 173-7640 | 199-1484 | 4098  |
| 21 Mar. (80)        | 1 Sun. .  | 21 41 33                      | 12 Mar. (71)                                                               | 6 Fri. .  | 9912-2243 | 109-7575 | 251-4589 | 4099  |
| 22 Mar. (81)        | 3 Tues. . | 3 53 42                       | 2 Mar. (61)                                                                | 4 Wed. .  | 126-5792  | 993-2933 | 222-3735 | 4100  |
| 22 Mar. (81)        | 4 Wed. .  | 10 5 51                       | 21 Mar. (80)                                                               | 3 Tues. . | 161-2616  | 929-2867 | 273-6618 | 4101  |
| 21 Mar. (81)        | 5 Thur. . | 16 18 0                       | 9 Mar. (69)                                                                | 0 Sat. .  | 36-9845   | 776-5307 | 242-8385 | 4102  |
| 21 Mar. (80)        | 6 Fri. .  | 22 30 9                       | 27 Feb. (58)                                                               | 5 Thur. . | 251-3393  | 660-0664 | 214-7531 | 4103  |
| 22 Mar. (81)        | 1 Sun. .  | 4 42 18                       | 17 Mar. (76)                                                               | 3 Tues. . | 9947-3897 | 559-7683 | 263-3257 | 4104  |
| 22 Mar. (81)        | 2 Mon. .  | 10 54 27                      | 6 Mar. (65)                                                                | 0 Sat. .  | 9823-1125 | 407-0122 | 232-5025 | 4105  |
| 21 Mar. (81)        | 3 Tues. . | 17 6 36                       | 24 Feb. (55)                                                               | 5 Thur. . | 37-4674   | 290-5480 | 204-4171 | 4106  |
| 21 Mar. (80)        | 4 Wed. .  | 23 18 45                      | 13 Mar. (72)                                                               | 3 Tues. . | 9733-5177 | 190-2498 | 253-9897 | 4107  |
| 22 Mar. (81)        | 6 Fri. .  | 5 30 54                       | 3 Mar. (62)                                                                | 1 Sun. .  | 9947-8726 | 73-7855  | 224-9042 | 4108  |
| 22 Mar. (81)        | 0 Sat. .  | 11 43 3                       | 21 Feb. (52)                                                               | 6 Fri. .  | 162-2275  | 957-3273 | 196-8189 | 4109  |
| 21 Mar. (81)        | 1 Sun. .  | 17 55 12                      | 11 Mar. (71)                                                               | 5 Thur. . | 196-9097  | 893-3146 | 248-1293 | 4110  |
| 22 Mar. (81)        | 3 Tues. . | 0 7 21                        | 28 Feb. (59)                                                               | 2 Mon. .  | 72-6326   | 740-5588 | 217-3061 | 4111  |
| 22 Mar. (81)        | 4 Wed. .  | 6 19 30                       | 19 Mar. (78)                                                               | 1 Sun. .  | 107-3140  | 676-5522 | 268-6164 | 4112  |
| 22 Mar. (81)        | 5 Thur. . | 12 31 39                      | 8 Mar. (67)                                                                | 5 Thur. . | 9983-0379 | 523-7962 | 237-7933 | 4113  |
| 21 Mar. (81)        | 6 Fri. .  | 18 43 48                      | 25 Feb. (56)                                                               | 2 Mon. .  | 9858-7607 | 371-0403 | 206-9701 | 4114  |
| 22 Mar. (81)        | 1 Sun. .  | 0 55 57                       | 15 Mar. (74)                                                               | 1 Sun. .  | 9893-4431 | 307-0338 | 258-2805 | 4115  |
| 22 Mar. (81)        | 2 Mon. .  | 7 8 6                         | 4 Mar. (63)                                                                | 5 Thur. . | 9769-1660 | 154-2779 | 227-4572 | 4116  |
| 22 Mar. (81)        | 3 Tues. . | 13 20 16                      | 22 Feb. (53)                                                               | 3 Tues. . | 9983-5207 | 37-8125  | 199-3718 | 4117  |
| 21 Mar. (81)        | 4 Wed. .  | 19 32 24                      | 12 Mar. (72)                                                               | 2 Mon. .  | 18-2031   | 973-8070 | 250-6823 | 4118  |
| 22 Mar. (81)        | 6 Fri. .  | 1 44 33                       | 2 Mar. (61)                                                                | 0 Sat. .  | 232-5580  | 857-3427 | 222-5968 | 4119  |
| 22 Mar. (81)        | 0 Sat. .  | 7 56 42                       | 21 Mar. (80)                                                               | 6 Fri. .  | 267-2404  | 793-3362 | 273-9072 | 4120  |
| 22 Mar. (81)        | 1 Sun. .  | 14 8 51                       | 10 Mar. (69)                                                               | 3 Tues. . | 142-9632  | 640-5802 | 243-0840 | 4121  |
| 21 Mar. (81)        | 2 Mon. .  | 20 21 0                       | 27 Feb. (58)                                                               | 0 Sat. .  | 18-6860   | 487-8243 | 212-2609 | 4122  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.    | Jovian Sāmvatsara.  |                     |                                                                                                |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8                                                                                              |
| 4123             | 944   | 1079               | 428                              | 196-97  | 1021-22  | 55 Durmati .        | 57 Rudhīrōdgārin    | ...                                                                                            |
| 4124             | 945   | 1080               | 429                              | 197-98  | 1022-23  | 56 Dundubhi .       | 58 Raktāksha .      | ...                                                                                            |
| 4125             | 946   | 1081               | 430                              | 198-99  | 1023-24  | 57 Rudhīrōdgārin    | 59 Krōdhana .       | 3 Jyēshtha .                                                                                   |
| 4126             | 947   | 1082               | 431                              | 199-200 | *1024-25 | 58 Raktāksha .      | 60 Kshaya .         | ...                                                                                            |
| 4127             | 948   | 1083               | 432                              | 200-01  | 1025-26  | 59 Krōdhana .       | 1 Prabhava          | ( 7 Āsvina<br>10 Pausa ( <i>ksh</i> ) )                                                        |
| 4128             | 949   | 1084               | 433                              | 201-02  | 1026-27  | 60 Kshaya .         | 2 Vibhava .         | 1 Chaitra .                                                                                    |
| 4129             | 950   | 1085               | 434                              | 202-03  | 1027-28  | 1 Prabhava .        | 3 Śukla .           | ...                                                                                            |
| 4130             | 951   | 1086               | 435                              | 203-04  | *1028-29 | 2 Vibhava .         | 4 Pramōda .         | 5 Śrāvapa .                                                                                    |
| 4131             | 952   | 1087               | 436                              | 204-05  | 1029-30  | 3 Śukla .           | 5 Prajāpati .       | ...                                                                                            |
| 4132             | 953   | 1088               | 437                              | 205-06  | 1030-31  | 4 Pramōda .         | 6 Āngiras .         | ...                                                                                            |
| 4133             | 954   | 1089               | 438                              | 206-07  | 1031-32  | 5 Prajāpati .       | 7 Śrīmukha .        | 3 Jyēshtha .                                                                                   |
| 4134             | 955   | 1090               | 439                              | 207-08  | *1032-33 | 6 Āngiras .         | 8 Bhāva .           | ...                                                                                            |
| 4135             | 956   | 1091               | 440                              | 208-09  | 1033-34  | 7 Śrīmukha .        | 9 Yuvan .           | ...                                                                                            |
| 4136             | 957   | 1092               | 441                              | 209-10  | 1034-35  | 8 Bhāva .           | 10 Dhātṛi .         | 2 Vaiśākha .                                                                                   |
| 4137             | 958   | 1093               | 442                              | 210-11  | 1035-36  | 9 Yuvan .           | 11 Īvara .          | ...                                                                                            |
| 4138             | 959   | 1094               | 443                              | 211-12  | *1036-37 | 10 Dhātṛi .         | 12 Bahudhānya .     | 6 Bhādrapada                                                                                   |
| 4139             | 960   | 1095               | 444                              | 212-13  | 1037-38  | 11 Īvara .          | 13 Pramāthin .      | ...                                                                                            |
| 4140             | 961   | 1096               | 445                              | 213-14  | 1038-39  | 12 Bahudhānya .     | 14 Vikrama .        | ...                                                                                            |
| 4141             | 962   | 1097               | 446                              | 214-15  | 1039-40  | 13 Pramāthin .      | 15 Vṛisha .         | 4 Āshāḍha .                                                                                    |
| 4142             | 963   | 1098               | 447                              | 215-16  | *1040-41 | 14 Vikrama .        | 16 Chitrabhānu .    | ...                                                                                            |
| 4143             | 964   | 1099               | 448                              | 216-17  | 1041-42  | 15 Vṛisha .         | 17 Subhānu .        | ...                                                                                            |
| *4144            | 965   | 1100               | 449                              | 217-18  | 1042-43  | 16 Chitrabhānu .    | 18 Tārana .         | 3 Jyēshtha .                                                                                   |
| 4145             | 966   | 1101               | 450                              | 218-19  | 1043-44  | 17 Subhānu .        | 19 Pārthiva .       | ...                                                                                            |
| 4146             | 967   | 1102               | 451                              | 219-20  | *1044-45 | 18 Tārana .         | 20 Vyaya .          | 7 Āsvina .                                                                                     |
| 4147             | 968   | 1103               | 452                              | 220-21  | 1045-46  | 19 Pārthiva .       | 21 Sarvajit .       | ...                                                                                            |

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| COMMENCEMENT OF THE |           |                                |                                                                            |           |           |          |          |       |
|---------------------|-----------|--------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                                | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mōsha-sam-krānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                             | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
|                     |           | H. M. S.                       |                                                                            |           |           |          |          |       |
| 22 Mar. (81)        | 4 Wed. .  | 2 33 9                         | 17 Mar. (76)                                                               | 6 Fri. .  | 53-3685   | 423-8178 | 263-3090 | 4123  |
| 22 Mar. (81)        | 5 Thur. . | 8 45 18                        | 6 Mar. (85)                                                                | 3 Tues. . | 0929-0902 | 271-0618 | 232-7480 | 4124  |
| 22 Mar. (81)        | 6 Fri. .  | 14 57 27                       | 23 Feb. (54)                                                               | 0 Sat. .  | 9804-8141 | 118-3068 | 201-9238 | 4125  |
| 21 Mar. (81)        | 0 Sat. .  | 21 9 36                        | 13 Mar. (73)                                                               | 6 Fri. .  | 9839-4965 | 54-2993  | 253-2353 | 4126  |
| 22 Mar. (81)        | 2 Mon. .  | 3 21 45                        | 3 Mar. (62)                                                                | 4 Wed. .  | 53-8514   | 937-8350 | 225-0498 | 4127  |
| 22 Mar. (81)        | 3 Tues. . | 9 33 54                        | 21 Feb. (52)                                                               | 2 Mon. .  | 268-2062  | 821-3708 | 197-0643 | 4128  |
| 22 Mar. (81)        | 4 Wed. .  | 15 46 3                        | 12 Mar. (71)                                                               | 1 Sun. .  | 302-8885  | 757-3642 | 248-3748 | 4129  |
| 21 Mar. (81)        | 5 Thur. . | 21 58 12                       | 29 Feb. (60)                                                               | 5 Thur. . | 178-6114  | 604-6082 | 217-5517 | 4130  |
| 22 Mar. (81)        | 0 Sat. .  | 4 10 21                        | 19 Mar. (78)                                                               | 4 Wed. .  | 213-2937  | 540-6018 | 268-8620 | 4131  |
| 22 Mar. (81)        | 1 Sun. .  | 10 22 30                       | 8 Mar. (67)                                                                | 1 Sun. .  | 89-0168   | 387-8457 | 238-0388 | 4132  |
| 22 Mar. (81)        | 2 Mon. .  | 16 34 39                       | 25 Feb. (56)                                                               | 5 Thur. . | 9964-7395 | 235-0898 | 207-2156 | 4133  |
| 21 Mar. (81)        | 3 Tues. . | 22 46 48                       | 15 Mar. (75)                                                               | 4 Wed. .  | 9999-4219 | 171-0833 | 258-5271 | 4134  |
| 22 Mar. (81)        | 5 Thur. . | 4 58 57                        | 4 Mar. (63)                                                                | 1 Sun. .  | 9875-1447 | 17-3274  | 227-7028 | 4135  |
| 22 Mar. (81)        | 6 Fri. .  | 11 11 6                        | 22 Feb. (53)                                                               | 6 Fri. .  | 89-4995   | 901-8631 | 199-6173 | 4136  |
| 22 Mar. (81)        | 0 Sat. .  | 17 23 5                        | 13 Mar. (72)                                                               | 5 Thur. . | 124-1819  | 837-8565 | 250-4278 | 4137  |
| 21 Mar. (81)        | 1 Sun. .  | 23 35 24                       | 1 Mar. (61)                                                                | 2 Mon. .  | 9999-9048 | 685-1006 | 219-6046 | 4138  |
| 22 Mar. (81)        | 3 Tues. . | 5 47 33                        | 20 Mar. (79)                                                               | 1 Sun. .  | 34-5871   | 621-0940 | 271-4160 | 4139  |
| 22 Mar. (81)        | 4 Wed. .  | 11 59 42                       | 9 Mar. (68)                                                                | 5 Thur. . | 9910-3100 | 468-3381 | 239-5919 | 4140  |
| 22 Mar. (81)        | 5 Thur. . | 18 11 50                       | 26 Feb. (57)                                                               | 2 Mon. .  | 9786-0329 | 315-5822 | 209-7686 | 4141  |
| 22 Mar. (82)        | 0 Sat. .  | 0 23 59                        | 16 Mar. (76)                                                               | 1 Sun. .  | 9820-7152 | 251-5756 | 261-0791 | 4142  |
| 22 Mar. (81)        | 1 Sun. .  | 6 36 8                         | 6 Mar. (65)                                                                | 6 Fri. .  | 35-0700   | 145-1113 | 232-9936 | 4143  |
| 22 Mar. (81)        | 2 Mon. .  | 12 48 17                       | 23 Feb. (54)                                                               | 3 Tues. . | 9910-7929 | 982-3553 | 202-1704 | 4144  |
| 22 Mar. (81)        | 3 Tues. . | 19 0 26                        | 14 Mar. (73)                                                               | 2 Mon. .  | 9945-4753 | 918-3478 | 253-4808 | 4145  |
| 22 Mar. (82)        | 5 Thur. . | 1 12 35                        | 3 Mar. (63)                                                                | 0 Sat. .  | 159-8301  | 801-8845 | 225-3953 | 4146  |
| 22 Mar. (81)        | 6 Fri. .  | 7 24 44                        | 22 Mar. (81)                                                               | 6 Fri. .  | 194-5125  | 737-8780 | 276-7058 | 4147  |

TABLE

| CONCURRENT YEAR |       |                    |                                  |         |          |                     |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|-----------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.           | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.    | JOVIAN SAMVATSARA.  |                     |                                                                                                |
|                 |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                                                                |
| 1               | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8                                                                                              |
| 4148            | 969   | 1104               | 453                              | 221-22  | 1046-47  | 20 Vyaya . .        | 22 Sarvadhārin .    | ...                                                                                            |
| 4149            | 970   | 1105               | 454                              | 222-23  | 1047-48  | 21 Sarvajit . .     | 23 Virōdhin . .     | 5 Śrāvana . .                                                                                  |
| 4150            | 971   | 1106               | 455                              | 223-24  | *1048-49 | 22 Sarvadhārin .    | 24 Vikṛita . .      | ...                                                                                            |
| 4151            | 972   | 1107               | 456                              | 224-25  | 1049-50  | 23 Virōdhin . .     | 25 Khara . .        | ...                                                                                            |
| 4152            | 973   | 1108               | 457                              | 225-26  | 1050-51  | 24 Vikṛita . .      | 26 Nandana . .      | 3 Jyēshtha . .                                                                                 |
| 4153            | 974   | 1109               | 458                              | 226-27  | 1051-52  | 25 Khara . .        | 27 Vijaya . .       | ...                                                                                            |
| 4154            | 975   | 1110               | 459                              | 227-28  | *1052-53 | 26 Nandana . .      | 28 Jaya . .         | ...                                                                                            |
| 4155            | 976   | 1111               | 460                              | 228-29  | 1053-54  | 27 Vijaya . .       | 29 Manmatha . .     | 2 Vaiśākha . .                                                                                 |
| 4156            | 977   | 1112               | 461                              | 229-30  | 1054-55  | 28 Jaya . .         | 30 Durmukha . .     | ...                                                                                            |
| 4157            | 978   | 1113               | 462                              | 230-31  | 1055-56  | 29 Manmatha . .     | 31 Hēmalamba . .    | 6 Bhādrapada                                                                                   |
| 4158            | 979   | 1114               | 463                              | 231-32  | *1056-57 | 30 Durmukha . .     | 32 Vilamba . .      | ...                                                                                            |
| 4159            | 980   | 1115               | 464                              | 232-33  | 1057-58  | 31 Hēmalamba . .    | 33 Vikārin . .      | ...                                                                                            |
| 4160            | 981   | 1116               | 465                              | 233-34  | 1058-59  | 32 Vilamba . .      | 34 Śārvarin . .     | 4 Āshāḍha . .                                                                                  |
| 4161            | 982   | 1117               | 466                              | 234-35  | 1059-60  | 33 Vikārin . .      | 35 Plava . .        | ...                                                                                            |
| 4162            | 983   | 1118               | 467                              | 235-36  | *1060-61 | 34 Śārvarin . .     | 36 Śubhakṛit . .    | ...                                                                                            |
| 4163            | 984   | 1119               | 468                              | 236-37  | 1061-62  | 35 Plava . .        | 37 Śōbhana . .      | 3 Jyēshtha . .                                                                                 |
| 4164            | 985   | 1120               | 469                              | 237-38  | 1062-63  | 36 Śubhakṛit . .    | 38 Krōdhin . .      | ...                                                                                            |
| 4165            | 986   | 1121               | 470                              | 238-39  | 1063-64  | 37 Śōbhana . .      | 39 Viśvāvasu . .    | 7 Āsvina                                                                                       |
| 4166            | 987   | 1122               | 471                              | 239-40  | *1064-65 | 38 Krōdhin . .      | 40 Parābhava . .    | ...                                                                                            |
| 4167            | 988   | 1123               | 472                              | 240-41  | 1065-66  | 39 Viśvāvasu . .    | 41 Plavaṅga . .     | ...                                                                                            |
| 4168            | 989   | 1124               | 473                              | 241-42  | 1066-67  | 40 Parābhava . .    | 42 Kilaka . .       | 5 Śrāvana                                                                                      |
| 4169            | 990   | 1125               | 474                              | 242-43  | 1067-68  | 41 Plavaṅga . .     | 43 Saumya . .       | ...                                                                                            |
| 4170            | 991   | 1126               | 475                              | 243-44  | *1068-69 | 42 Kilaka . .       | 44 Sādhārāṇa . .    | ...                                                                                            |
| 4171            | 992   | 1127               | 476                              | 244-45  | 1069-70  | 43 Saumya . .       | 45 Virōdhakṛit . .  | 3 Jyēshtha . .                                                                                 |
| 4172            | 993   | 1128               | 477                              | 245-46  | 1070-71  | 44 Sādhārāṇa . .    | 46 Paridhāvin . .   | ...                                                                                            |

LXXXII—Contd.

| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A. D.                                                       | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
| 22 Mar. (81)        | 0 Sat. .  | H. M. S.<br>13 36 53          | 11 Mar. (70)                                                               | 3 Tues. . | 70-2354   | 585-1221 | 245-8826 | 4148  |
| 22 Mar. (81)        | 1 Sun. .  | 19 49 2                       | 28 Feb. (59)                                                               | 0 Sat. .  | 9945-9581 | 432-3661 | 215-0594 | 4149  |
| 22 Mar. (82)        | 3 Tues. . | 2 1 11                        | 18 Mar. (78)                                                               | 6 Fri. .  | 9980-6406 | 368-3596 | 266-3697 | 4150  |
| 22 Mar. (81)        | 4 Wed. .  | 8 13 20                       | 7 Mar. (66)                                                                | 3 Tues. . | 9856-3634 | 215-6036 | 235-5466 | 4151  |
| 22 Mar. (81)        | 5 Thur. . | 14 25 29                      | 25 Feb. (56)                                                               | 1 Sun. .  | 70-7183   | 99-1393  | 207-7536 | 4152  |
| 22 Mar. (81)        | 6 Fri. .  | 20 37 38                      | 16 Mar. (75)                                                               | 0 Sat. .  | 105-4006  | 35-1328  | 258-7716 | 4153  |
| 22 Mar. (82)        | 1 Sun. .  | 2 49 47                       | 4 Mar. (64)                                                                | 4 Wed. .  | 9981-1235 | 882-3769 | 227-9483 | 4154  |
| 22 Mar. (81)        | 2 Mon. .  | 9 1 56                        | 22 Feb. (53)                                                               | 2 Mon. .  | 195-4783  | 767-9126 | 199-8629 | 4155  |
| 22 Mar. (81)        | 3 Tues. . | 15 14 5                       | 13 Mar. (72)                                                               | 1 Sun. .  | 230-1606  | 701-9061 | 251-1734 | 4156  |
| 22 Mar. (81)        | 4 Wed. .  | 21 26 14                      | 2 Mar. (61)                                                                | 5 Thur. . | 105-8835  | 549-1501 | 220-3501 | 4157  |
| 22 Mar. (82)        | 6 Fri. .  | 3 38 23                       | 20 Mar. (80)                                                               | 4 Wed. .  | 140-5659  | 485-1435 | 271-6605 | 4158  |
| 22 Mar. (81)        | 0 Sat. .  | 9 50 32                       | 9 Mar. (68)                                                                | 1 Sun. .  | 16-2888   | 333-3876 | 240-8375 | 4159  |
| 22 Mar. (81)        | 1 Sun. .  | 16 2 41                       | 26 Feb. (57)                                                               | 5 Thur. . | 9892-0116 | 179-6317 | 210-0142 | 4160  |
| 22 Mar. (81)        | 2 Mon. .  | 22 14 50                      | 17 Mar. (76)                                                               | 4 Wed. .  | 9926-6940 | 115-6452 | 261-3246 | 4161  |
| 22 Mar. (82)        | 4 Wed. .  | 4 26 59                       | 6 Mar. (66)                                                                | 2 Mon. .  | 141-0488  | 999-1608 | 233-2391 | 4162  |
| 22 Mar. (81)        | 5 Thur. . | 10 39 8                       | 23 Feb. (54)                                                               | 6 Fri. .  | 16-7716   | 856-4049 | 202-4159 | 4163  |
| 22 Mar. (81)        | 6 Fri. .  | 16 51 17                      | 14 Mar. (73)                                                               | 5 Thur. . | 51-4540   | 782-3983 | 253-7264 | 4164  |
| 22 Mar. (81)        | 0 Sat. .  | 23 3 26                       | 4 Mar. (63)                                                                | 3 Tues. . | 265-8089  | 665-9341 | 225-6409 | 4165  |
| 22 Mar. (82)        | 2 Mon. .  | 5 15 35                       | 21 Mar. (81)                                                               | 1 Sun. .  | 9961-8593 | 565-6363 | 274-2135 | 4166  |
| 22 Mar. (81)        | 3 Tues. . | 11 27 44                      | 10 Mar. (69)                                                               | 5 Thur. . | 9837-5821 | 412-8799 | 243-3903 | 4167  |
| 22 Mar. (81)        | 4 Wed. .  | 17 39 53                      | 28 Feb. (59)                                                               | 3 Tues. . | 51-9369   | 296-4157 | 215-3050 | 4168  |
| 22 Mar. (81)        | 5 Thur. . | 23 52 2                       | 18 Mar. (77)                                                               | 1 Sun. .  | 9747-9874 | 196-1174 | 263-8775 | 4169  |
| 22 Mar. (82)        | 0 Sat. .  | 6 4 11                        | 7 Mar. (67)                                                                | 6 Fri. .  | 9962-3421 | 79-6532  | 235-7921 | 4170  |
| 22 Mar. (81)        | 1 Sun. .  | 12 16 20                      | 25 Feb. (56)                                                               | 4 Wed. .  | 176-6970  | 963-1888 | 207-7067 | 4171  |
| 22 Mar. (81)        | 2 Mon. .  | 18 28 29                      | 16 Mar. (75)                                                               | 3 Tues. . | 311-3794  | 899-1823 | 259-0172 | 4172  |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Intercalated<br>(adhika) and<br>suppressed<br>(kshaya) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|------------------------------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshadi solar year<br>in Bengal. | Kollam. | A. D.    | JOVIAN SAMVATSARA.  |                     |                                                                              |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                                              |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8                                                                            |
| 4173             | 994   | 1129               | 478                              | 246-47  | 1071-72  | 45 Virōdhakrit .    | 47 Pramādin .       | { 8 Kārttika .<br>9 Mārgaśīrṣa (ksh) }                                       |
| 4174             | 995   | 1130               | 479                              | 247-48  | *1072-73 | 46 Paridhāvin .     | 48 Ānanda .         |                                                                              |
| 4175             | 996   | 1131               | 480                              | 248-49  | 1073-74  | 47 Pramādin .       | 49 Rākshasa .       | ...                                                                          |
| 4176             | 997   | 1132               | 481                              | 249-50  | 1074-75  | 48 Ānanda .         | 50 Anala† .         | 6 Bhādrapada .                                                               |
| 4177             | 998   | 1133               | 482                              | 250-51  | 1075-76  | 49 Rākshasa .       | 52 Kālayukta .      | ...                                                                          |
| 4178             | 999   | 1134               | 483                              | 251-52  | *1076-77 | 50 Anala .          | 53 Siddhārthin .    | ...                                                                          |
| 4179             | 1000  | 1135               | 484                              | 252-53  | 1077-78  | 51 Piṅgala .        | 54 Raudra .         | 4 Āshāḍha .                                                                  |
| 4180             | 1001  | 1136               | 485                              | 253-54  | 1078-79  | 52 Kālayukta .      | 55 Durmati .        | ...                                                                          |
| 4181             | 1002  | 1137               | 486                              | 254-55  | 1079-80  | 53 Siddhārthin .    | 56 Dundubhi .       | ...                                                                          |
| 4182             | 1003  | 1138               | 487                              | 255-56  | *1080-81 | 54 Raudra .         | 57 Rudhirōdgārin .  | 3 Jyēṣṭha .                                                                  |
| 4183             | 1004  | 1139               | 488                              | 256-57  | 1081-82  | 55 Durmati .        | 58 Raktāksha .      | ...                                                                          |
| 4184             | 1005  | 1140               | 489                              | 257-58  | 1082-83  | 56 Dundubhi .       | 59 Krōdhana .       | 7 Āsvina .                                                                   |
| 4185             | 1006  | 1141               | 490                              | 258-59  | 1083-84  | 57 Rudhirōdgārin .  | 60 Kshaya .         | ...                                                                          |
| 4186             | 1007  | 1142               | 491                              | 259-60  | *1084-85 | 58 Raktāksha .      | 1 Prabhava .        | ...                                                                          |
| 4187             | 1008  | 1143               | 492                              | 260-61  | 1085-86  | 59 Krōdhana .       | 2 Vibhava .         | 5 Śrāvaṇa .                                                                  |
| 4188             | 1009  | 1144               | 493                              | 261-62  | 1086-87  | 60 Kshaya .         | 3 Śukla .           | ...                                                                          |
| 4189             | 1010  | 1145               | 494                              | 262-63  | 1087-88  | 1 Prabhava .        | 4 Pramōda .         | ...                                                                          |
| 4190             | 1011  | 1146               | 495                              | 263-64  | *1088-89 | 2 Vibhava .         | 5 Prajāpati .       | 3 Jyēṣṭha .                                                                  |
| 4191             | 1012  | 1147               | 496                              | 264-65  | 1089-90  | 3 Śukla .           | 6 Āngiras .         | ...                                                                          |
| 4192             | 1013  | 1148               | 497                              | 265-66  | 1090-91  | 4 Pramōda .         | 7 Śrīmukha .        | { 8 Kārttika .<br>10 Pausa (ksh) }                                           |
| 4193             | 1014  | 1149               | 498                              | 266-67  | 1091-92  | 5 Prajāpati .       | 8 Bhāva .           |                                                                              |
| 4194             | 1015  | 1150               | 499                              | 267-68  | *1092-93 | 6 Āngiras .         | 9 Yuvan .           | ...                                                                          |
| 4195             | 1016  | 1151               | 500                              | 268-69  | 1093-94  | 7 Śrīmukha .        | 10 Dhātṛi .         | 6 Bhādrapada .                                                               |
| 4196             | 1017  | 1152               | 501                              | 269-70  | 1094-95  | 8 Bhāva .           | 11 Īvasa .          | ...                                                                          |
| 4197             | 1018  | 1153               | 502                              | 270-71  | 1095-96  | 9 Yuvan .           | 12 Bahudhānya .     | ...                                                                          |

† 51 Piṅgala was suppressed in the north.

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| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
|                     |           | H. M. S.                      |                                                                            |           |           |          |          |       |
| 23 Mar. (82)        | 4 Wed.    | 0 40 38                       | 5 Mar. (84)                                                                | 0 Sat.    | 87-1023   | 746-4264 | 228-1936 | 4173  |
| 22 Mar. (82)        | 5 Thur.   | 6 52 47                       | 22 Feb. (83)                                                               | 4 Wed.    | 9962-8251 | 593-6705 | 197-3706 | 4174  |
| 22 Mar. (81)        | 6 Fri.    | 12 4 56                       | 12 Mar. (71)                                                               | 3 Tues.   | 9997-5074 | 530-6639 | 248-6811 | 4175  |
| 22 Mar. (81)        | 0 Sat.    | 19 17 5                       | 1 Mar. (60)                                                                | 0 Sat.    | 9873-2303 | 376-9079 | 217-8580 | 4176  |
| 23 Mar. (82)        | 2 Mon.    | 1 29 14                       | 20 Mar. (79)                                                               | 6 Fri.    | 9907-9126 | 312-9015 | 269-1683 | 4177  |
| 22 Mar. (82)        | 3 Tues.   | 7 41 23                       | 8 Mar. (68)                                                                | 3 Tues.   | 9783-6355 | 160-1454 | 238-3451 | 4178  |
| 22 Mar. (81)        | 4 Wed.    | 13 53 32                      | 26 Feb. (57)                                                               | 1 Sun.    | 9997-9904 | 43-6812  | 210-2597 | 4179  |
| 22 Mar. (81)        | 5 Thur.   | 20 5 41                       | 17 Mar. (76)                                                               | 0 Sat.    | 32-6728   | 979-6747 | 261-5703 | 4180  |
| 23 Mar. (82)        | 0 Sat.    | 2 17 50                       | 7 Mar. (66)                                                                | 5 Thur.   | 247-0275  | 863-2103 | 233-2847 | 4181  |
| 22 Mar. (82)        | 1 Sun.    | 8 29 59                       | 24 Feb. (55)                                                               | 2 Mon.    | 122-7504  | 710-4544 | 202-6614 | 4182  |
| 22 Mar. (81)        | 2 Mon.    | 14 42 8                       | 14 Mar. (73)                                                               | 1 Sun.    | 157-4328  | 646-4478 | 253-9719 | 4183  |
| 22 Mar. (81)        | 3 Tues.   | 20 54 17                      | 3 Mar. (62)                                                                | 5 Thur.   | 33-1557   | 493-6919 | 223-1487 | 4184  |
| 23 Mar. (82)        | 5 Thur.   | 3 6 26                        | 22 Mar. (81)                                                               | 4 Wed.    | 67-8380   | 429-6854 | 274-4591 | 4185  |
| 22 Mar. (82)        | 6 Fri.    | 9 18 35                       | 10 Mar. (70)                                                               | 1 Sun.    | 9943-5609 | 276-9294 | 245-6358 | 4186  |
| 22 Mar. (81)        | 0 Sat.    | 15 30 43                      | 27 Feb. (58)                                                               | 5 Thur.   | 9819-2837 | 124-1735 | 212-8127 | 4187  |
| 22 Mar. (81)        | 1 Sun.    | 21 42 52                      | 18 Mar. (77)                                                               | 4 Wed.    | 9853-9661 | 60-1669  | 264-1231 | 4188  |
| 23 Mar. (82)        | 3 Tues.   | 3 55 1                        | 8 Mar. (67)                                                                | 2 Mon.    | 66-3209   | 943-8027 | 236-0377 | 4189  |
| 22 Mar. (82)        | 4 Wed.    | 10 7 10                       | 26 Feb. (57)                                                               | 0 Sat.    | 282-6758  | 827-2383 | 207-9522 | 4190  |
| 22 Mar. (81)        | 5 Thur.   | 16 19 19                      | 16 Mar. (75)                                                               | 6 Fri.    | 317-3582  | 763-2318 | 259-2627 | 4191  |
| 22 Mar. (81)        | 6 Fri.    | 22 31 28                      | 5 Mar. (64)                                                                | 3 Tues.   | 193-0310  | 610-4759 | 228-4395 | 4192  |
| 23 Mar. (82)        | 1 Sun.    | 4 43 37                       | 22 Feb. (53)                                                               | 0 Sat.    | 68-8039   | 457-7200 | 197-6162 | 4193  |
| 22 Mar. (82)        | 2 Mon.    | 10 55 45                      | 12 Mar. (73)                                                               | 6 Fri.    | 103-4862  | 393-7134 | 248-9266 | 4194  |
| 22 Mar. (81)        | 3 Tues.   | 17 7 55                       | 1 Mar. (66)                                                                | 3 Tues.   | 9979-2090 | 240-9577 | 218-1035 | 4195  |
| 22 Mar. (81)        | 4 Wed.    | 23 30 4                       | 20 Mar. (79)                                                               | 2 Mon.    | 13-8914   | 176-9509 | 269-4139 | 4196  |
| 23 Mar. (82)        | 6 Fri.    | 5 38 13                       | 9 Mar. (68)                                                                | 6 Fri.    | 9829-6143 | 24-1942  | 239-5907 | 4197  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |           |                     |                     | Intercalated<br>(adhika) and<br>suppressed<br>(kshaya) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|---------------------|------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māghādi solar year<br>in Bengal. | Kollam. | A. D.     | JOVIAN SAMVATSARA.  |                     |                                                                              |
|                  |       |                    |                                  |         |           | Southern<br>system. | Northern<br>system. |                                                                              |
| 1                | 2     | 3                  | 3a                               | 4       | 5         | 6                   | 7                   | 8                                                                            |
| 4198             | 1019  | 1154               | 503                              | 271-72  | *1096-97  | 10 Dhātṛi . .       | 13 Pramāthin .      | 4 Āshāḍha .                                                                  |
| 4199             | 1020  | 1155               | 504                              | 272-73  | 1097-98   | 11 Īśvara . .       | 14 Vikrama .        | ...                                                                          |
| 4200             | 1021  | 1156               | 505                              | 273-74  | 1098-99   | 12 Bahudhānya .     | 15 Vṛisha . .       | ...                                                                          |
| 4201             | 1022  | 1157               | 506                              | 274-75  | 1099-1100 | 13 Pramāthin .      | 16 Chitrabhānu .    | 3 Jyēshtha .                                                                 |
| 4202             | 1023  | 1158               | 507                              | 275-76  | *1100-01  | 14 Vikrama .        | 17 Subhānu .        | ...                                                                          |
| 4203             | 1024  | 1159               | 508                              | 276-77  | 1101-02   | 15 Vṛisha . .       | 18 Tārāṇa . .       | 7 Āśvina .                                                                   |
| 4204             | 1025  | 1160               | 509                              | 277-78  | 1102-03   | 16 Chitrabhānu .    | 19 Pārthiva .       | ...                                                                          |
| 4205             | 1026  | 1161               | 510                              | 278-79  | 1103-04   | 17 Subhānu .        | 20 Vyaya . .        | ...                                                                          |
| 4206             | 1027  | 1162               | 511                              | 279-80  | *1104-05  | 18 Tārāṇa . .       | 21 Sarvajit .       | 4 Āshāḍha .                                                                  |
| 4207             | 1028  | 1163               | 512                              | 280-81  | 1105-06   | 19 Pārthiva .       | 22 Sarvadhārin .    | ...                                                                          |
| 4208             | 1029  | 1164               | 513                              | 281-82  | 1106-07   | 20 Vyaya . .        | 23 Virōdhin .       | ...                                                                          |
| 4209             | 1030  | 1165               | 514                              | 282-83  | 1107-08   | 21 Sarvajit .       | 24 Vikṛita . .      | 3 Jyēshtha .                                                                 |
| 4210             | 1031  | 1166               | 515                              | 283-84  | *1108-09  | 22 Sarvadhārin .    | 25 Khara . .        | ...                                                                          |
| 4211             | 1032  | 1167               | 516                              | 284-85  | 1109-10   | 23 Virōdhin .       | 26 Nandana .        | { 8 Kārttika<br>10 Pausa (ksh)<br>12 Phālguna }                              |
| 4212             | 1033  | 1168               | 517                              | 285-86  | 1110-11   | 24 Vikṛita . .      | 27 Vijaya . .       |                                                                              |
| 4213             | 1034  | 1169               | 518                              | 286-87  | 1111-12   | 25 Khara . .        | 28 Jaya . .         |                                                                              |
| 4214             | 1035  | 1170               | 519                              | 287-88  | *1112-13  | 26 Nandana .        | 29 Manmatha .       | 5 Śrāvaṇa .                                                                  |
| 4215             | 1036  | 1171               | 520                              | 288-89  | 1113-14   | 27 Vijaya . .       | 30 Durmukha .       | ...                                                                          |
| 4216             | 1037  | 1172               | 521                              | 289-90  | 1114-15   | 28 Jaya . .         | 31 Hēmalamba .      | ...                                                                          |
| 4217             | 1038  | 1173               | 522                              | 290-91  | 1115-16   | 29 Manmatha .       | 32 Vilamba .        | 4 Āshāḍha .                                                                  |
| 4218             | 1039  | 1174               | 523                              | 291-92  | *1116-17  | 30 Durmukha .       | 33 Vikārin .        | ...                                                                          |
| 4219             | 1040  | 1175               | 524                              | 292-93  | 1117-18   | 31 Hēmalamba .      | 34 Śārvarin .       | ...                                                                          |
| 4220             | 1041  | 1176               | 525                              | 293-94  | 1118-19   | 32 Vilamba .        | 35 Plava . .        | 2 Vaiśākha .                                                                 |
| 4221             | 1042  | 1177               | 526                              | 294-95  | 1119-20   | 33 Vikārin .        | 36 Śubhakṛit .      | ...                                                                          |
| 4222             | 1043  | 1178               | 527                              | 295-96  | *1120-21  | 34 Śārvarin .       | 37 Śōbhana .        | 6 Bhādrapada                                                                 |

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| COMMENCEMENT OF THE |           |                                |                                                                            |           |           |          |          |       |
|---------------------|-----------|--------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                                | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true M̐sha-sam-krānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                             | 19                                                                         | 20        | 23        | 24       | 25       |       |
|                     |           | H. M. S.                       |                                                                            |           |           |          |          |       |
| 22 Mar. (82)        | 0 Sat.    | 11 44 22                       | 27 Feb. (58)                                                               | 4 Wed.    | 103-9691  | 907-7307 | 210-5052 | 4198  |
| 22 Mar. (81)        | 1 Sun.    | 17 56 31                       | 17 Mar. (76)                                                               | 3 Tues.   | 138-6515  | 843-7242 | 261-8157 | 4199  |
| 23 Mar. (82)        | 3 Tues.   | 0 8 40                         | 6 Mar. (65)                                                                | 0 Sat.    | 14-3744   | 690-9683 | 230-9925 | 4200  |
| 23 Mar. (82)        | 4 Wed.    | 0 20 49                        | 24 Feb. (55)                                                               | 5 Thur.   | 228-7291  | 574-5038 | 202-8848 | 4201  |
| 22 Mar. (82)        | 5 Thur.   | 12 32 58                       | 13 Mar. (73)                                                               | 3 Tues.   | 9924-7795 | 474-2057 | 251-4575 | 4202  |
| 22 Mar. (81)        | 6 Fri.    | 18 45 7                        | 2 Mar. (61)                                                                | 0 Sat.    | 9800-5024 | 321-4497 | 20-6342  | 4203  |
| 23 Mar. (82)        | 1 Sun.    | 0 57 16                        | 21 Mar. (80)                                                               | 6 Fri.    | 9835-1847 | 257-4432 | 271-9446 | 4204  |
| 23 Mar. (82)        | 2 Mon.    | 7 9 25                         | 11 Mar. (70)                                                               | 4 Wed.    | 49-5396   | 140-9788 | 243-8592 | 4205  |
| 22 Mar. (82)        | 3 Tues.   | 13 21 34                       | 28 Feb. (59)                                                               | 1 Sun.    | 9925-2624 | 988-2229 | 213-0361 | 4206  |
| 22 Mar. (81)        | 4 Wed.    | 19 33 43                       | 18 Mar. (77)                                                               | 0 Sat.    | 9959-9448 | 924-2154 | 264-3464 | 4207  |
| 23 Mar. (82)        | 6 Fri.    | 1 45 52                        | 8 Mar. (67)                                                                | 5 Thur.   | 174-2996  | 807-7521 | 236-2010 | 4208  |
| 23 Mar. (82)        | 0 Sat.    | 7 58 1                         | 25 Feb. (56)                                                               | 2 Mon.    | 50-0225   | 654-9962 | 205-4387 | 4209  |
| 22 Mar. (82)        | 1 Sun.    | 14 10 10                       | 15 Mar. (75)                                                               | 1 Sun.    | 84-7048   | 590-9896 | 256-7483 | 4210  |
| 22 Mar. (81)        | 2 Mon.    | 20 22 19                       | 4 Mar. (63)                                                                | 5 Thur.   | 9960-4277 | 438-2337 | 225-9250 | 4211  |
| 23 Mar. (82)        | 4 Wed.    | 2 34 28                        | 23 Mar. (82)                                                               | 4 Wed.    | 9995-1101 | 374-2271 | 277-2354 | 4212  |
| 23 Mar. (82)        | 5 Thur.   | 8 46 37                        | 12 Mar. (71)                                                               | 1 Sun.    | 9870-8330 | 221-4712 | 246-4122 | 4213  |
| 22 Mar. (82)        | 6 Fri.    | 14 58 46                       | 1 Mar. (61)                                                                | 6 Fri.    | 85-1877   | 105-0069 | 218-3269 | 4214  |
| 22 Mar. (81)        | 0 Sat.    | 21 10 55                       | 20 Mar. (79)                                                               | 5 Thur.   | 119-8701  | 41-0004  | 269-6373 | 4215  |
| 23 Mar. (82)        | 2 Mon.    | 3 23 4                         | 9 Mar. (68)                                                                | 2 Mon.    | 9995-5930 | 888-3444 | 238-8140 | 4216  |
| 23 Mar. (82)        | 3 Tues.   | 9 35 13                        | 27 Feb. (58)                                                               | 0 Sat.    | 209-9478  | 771-7891 | 210-7286 | 4217  |
| 22 Mar. (82)        | 4 Wed.    | 15 47 22                       | 17 Mar. (77)                                                               | 6 Fri.    | 244-6302  | 707-7736 | 262-0391 | 4218  |
| 22 Mar. (81)        | 5 Thur.   | 21 59 31                       | 6 Mar. (65)                                                                | 3 Tues.   | 120-3530  | 555-0176 | 231-2158 | 4219  |
| 23 Mar. (82)        | 0 Sat.    | 4 11 40                        | 23 Feb. (54)                                                               | 0 Sat.    | 9996-0759 | 402-2617 | 200-3925 | 4220  |
| 23 Mar. (82)        | 1 Sun.    | 10 23 49                       | 14 Mar. (73)                                                               | 6 Fri.    | 30-7582   | 338-2552 | 251-7030 | 4221  |
| 22 Mar. (82)        | 2 Mon.    | 16 35 58                       | 2 Mar. (62)                                                                | 3 Tues.   | 9906-4811 | 185-4993 | 220-8798 | 4222  |

TABLE

| CONCURRENT YEAR. |       |                   |                                  |         |          |                     |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months: |
|------------------|-------|-------------------|----------------------------------|---------|----------|---------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Saka. | Chakrādi Vikrama. | Mēshadi solar year<br>in Bengal. | Kollam. | A. D.    | JOVIAN SAMVATSAHA.  |                     |                                                                                                |
|                  |       |                   |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                 | 3a                               | 4       | 5        | 6                   | 7                   | 8                                                                                              |
| 4223             | 1044  | 1179              | 528                              | 296-97  | 1121-22  | 35 Phava .          | 38 Krōdhin .        | ...                                                                                            |
| 4224             | 1045  | 1180              | 529                              | 297-98  | 1122-23  | 36 Śubhakarī .      | 39 Viśvāvasu .      | ...                                                                                            |
| 4225             | 1046  | 1181              | 530                              | 298-99  | 1123-24  | 37 Śōbhana .        | 40 Parābhava .      | 4 Āshāḍha .                                                                                    |
| 4226             | 1047  | 1182              | 531                              | 299-300 | *1124-25 | 38 Krōdhin .        | 41 Phavaṅga .       | ...                                                                                            |
| 4227             | 1048  | 1183              | 532                              | 300-01  | 1125-26  | 39 Viśvāvasu .      | 42 Kilaka .         | ...                                                                                            |
| 4228             | 1049  | 1184              | 533                              | 301-02  | 11 6-27  | 40 Parābhava .      | 43 Saumya .         | 3 Jyēṣṭha .                                                                                    |
| 4229             | 1050  | 1185              | 534                              | 302-03  | 1127-28  | 41 Phavaṅga .       | 44 Sādhāraṇa .      | ...                                                                                            |
| 4230             | 1051  | 1186              | 535                              | 303-04  | *1128-29 | 42 Kilaka .         | 45 Virōdhakarī .    | 12 Phālguna† .                                                                                 |
| 4231             | 1052  | 1187              | 536                              | 304-05  | 1129-30  | 43 Saumya .         | 46 Paridhāvin .     | ...                                                                                            |
| 4232             | 1053  | 1188              | 537                              | 305-06  | 1130-31  | 44 Sādhāraṇa .      | 47 Pramādin .       | ...                                                                                            |
| 4233             | 1054  | 1189              | 538                              | 306-07  | 1131-32  | 45 Virōdhakarī .    | 48 Ānanda .         | 5 Śrāvaṇa .                                                                                    |
| 4234             | 1055  | 1190              | 539                              | 307-08  | *1132-33 | 46 Paridhāvin .     | 49 Rākshasa .       | ...                                                                                            |
| 4235             | 1056  | 1191              | 540                              | 308-09  | 1133-34  | 47 Pramādin .       | 50 Anala .          | ...                                                                                            |
| 4236             | 1057  | 1192              | 541                              | 309-10  | 1134-35  | 48 Ānanda .         | 51 Pīṅgala .        | 4 Āshāḍha .                                                                                    |
| 4237             | 1058  | 1193              | 542                              | 310-11  | 1135-36  | 49 Rākshasa .       | 52 Kālayukta .      | ...                                                                                            |
| 4238             | 1059  | 1194              | 543                              | 311-12  | *1136-37 | 50 Anala .          | 53 Siddhārthin .    | ...                                                                                            |
| 4239             | 1060  | 1195              | 544                              | 312-13  | 1137-38  | 51 Pīṅgala .        | 54 Raudra .         | 2 Vaiśākha .                                                                                   |
| 4240             | 1061  | 1196              | 545                              | 313-14  | 1138-39  | 52 Kālayukta .      | 55 Durmati .        | ...                                                                                            |
| 4241             | 1062  | 1197              | 546                              | 314-15  | 1139-40  | 53 Siddhārthin .    | 56 Dundubhi .       | 6 Bhādrapada .                                                                                 |
| 4242             | 1063  | 1198              | 547                              | 315-16  | *1140-41 | 54 Raudra .         | 57 Rudhirōdgārin .  | ...                                                                                            |
| 4243             | 1064  | 1199              | 548                              | 316-17  | 1141-42  | 55 Durmati .        | 58 Raktāksha .      | ...                                                                                            |
| 4244             | 1065  | 1200              | 549                              | 317-18  | 1142-43  | 56 Dundubhi .       | 59 Krōdhana .       | 4 Āshāḍha .                                                                                    |
| 4245             | 1066  | 1201              | 550                              | 318-19  | 1143-44  | 57 Rudhirōdgārin .  | 60 Kshaya .         | ...                                                                                            |
| 4246             | 1067  | 1202              | 551                              | 319-20  | *1144-45 | 58 Raktāksha .      | 1 Prabhava .        | ...                                                                                            |
| 4247             | 1068  | 1203              | 552                              | 320-21  | 1145-46  | 59 Krōdhana .       | 2 Vibhava .         | 3 Jyēṣṭha .                                                                                    |

† See "Remarks" on page preceding the Table.

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| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
| 22 Mar. (81)        | 3 Tues.   | H. M. S.<br>22 48 7           | 21 Mar. (80)                                                               | 2 Mon.    | 9941-1635 | 121-4928 | 272-1902 | 4223  |
| 23 Mar. (82)        | 5 Thur.   | 5 0 16                        | 11 Mar. (70)                                                               | 0 Sat.    | 155-5183  | 5-0284   | 244-1047 | 4224  |
| 23 Mar. (82)        | 6 Fri.    | 11 12 25                      | 28 Feb. (59)                                                               | 4 Wed.    | 31-2411   | 852-2724 | 213-2828 | 4225  |
| 22 Mar. (82)        | 0 Sat.    | 17 24 34                      | 18 Mar. (78)                                                               | 3 Tues.   | 65-9236   | 788-2659 | 264-5920 | 4226  |
| 22 Mar. (81)        | 1 Sun.    | 23 36 43                      | 8 Mar. (67)                                                                | 1 Sun.    | 280-2784  | 671-8016 | 236-5066 | 4227  |
| 23 Mar. (82)        | 3 Tues.   | 5 48 52                       | 25 Feb. (56)                                                               | 5 Thur.   | 156-0012  | 519-0457 | 205-6833 | 4228  |
| 23 Mar. (82)        | 4 Wed.    | 12 1 1                        | 15 Mar. (74)                                                               | 3 Tues.   | 9852-0516 | 418-7475 | 254-2560 | 4229  |
| 22 Mar. (82)        | 5 Thur.   | 18 13 10                      | 3 Mar. (63)                                                                | 0 Sat.    | 9727-7745 | 265-9915 | 223-4328 | 4230  |
| 23 Mar. (82)        | 0 Sat.    | 0 25 19                       | 22 Mar. (81)                                                               | 6 Fri.    | 9762-4566 | 201-9851 | 274-7432 | 4231  |
| 23 Mar. (82)        | 1 Sun.    | 6 37 27                       | 12 Mar. (71)                                                               | 4 Wed.    | 9976-8117 | 85-5207  | 246-6577 | 4232  |
| 23 Mar. (82)        | 2 Mon.    | 12 49 36                      | 2 Mar. (61)                                                                | 2 Mon.    | 191-1685  | 969-0564 | 218-5724 | 4233  |
| 22 Mar. (82)        | 3 Tues.   | 19 1 45                       | 20 Mar. (80)                                                               | 1 Sun.    | 225-8489  | 905-0499 | 269-8928 | 4234  |
| 23 Mar. (82)        | 5 Thur.   | 1 13 54                       | 9 Mar. (68)                                                                | 5 Thur.   | 101-5717  | 752-2989 | 239-0596 | 4235  |
| 23 Mar. (82)        | 6 Fri.    | 7 26 3                        | 26 Feb. (57)                                                               | 2 Mon.    | 9977-2946 | 599-5380 | 208-2363 | 4236  |
| 23 Mar. (82)        | 0 Sat.    | 13 38 12                      | 17 Mar. (76)                                                               | 1 Sun.    | 11-9770   | 535-5314 | 259-5468 | 4237  |
| 22 Mar. (82)        | 1 Sun.    | 19 50 21                      | 5 Mar. (65)                                                                | 5 Thur.   | 9887-6999 | 382-7755 | 228-7236 | 4238  |
| 23 Mar. (82)        | 2 Tues.   | 2 2 30                        | 22 Feb. (53)                                                               | 2 Mon.    | 9763-4226 | 230-1095 | 197-9004 | 4239  |
| 23 Mar. (82)        | 4 Wed.    | 8 14 39                       | 13 Mar. (72)                                                               | 1 Sun.    | 9798-1050 | 166-0130 | 249-2108 | 4240  |
| 23 Mar. (82)        | 5 Thur.   | 14 26 48                      | 3 Mar. (62)                                                                | 6 Fri.    | 12-4599   | 49-5488  | 221-1253 | 4241  |
| 22 Mar. (82)        | 6 Fri.    | 20 38 57                      | 21 Mar. (81)                                                               | 5 Thurs.  | 47-1422   | 985-5422 | 272-4358 | 4242  |
| 23 Mar. (82)        | 1 Sun.    | 2 51 6                        | 11 Mar. (70)                                                               | 3 Tues.   | 261-4971  | 869-0779 | 244-3503 | 4243  |
| 23 Mar. (82)        | 2 Mon.    | 9 3 15                        | 28 Feb. (59)                                                               | 0 Sat.    | 137-2199  | 716-3219 | 214-5272 | 4244  |
| 23 Mar. (82)        | 3 Tues.   | 15 15 24                      | 19 Mar. (78)                                                               | 6 Fri.    | 171-9024  | 652-3154 | 264-8375 | 4245  |
| 22 Mar. (82)        | 4 Wed.    | 21 27 33                      | 7 Mar. (67)                                                                | 3 Tues.   | 47-6251   | 490-5595 | 234-0143 | 4246  |
| 23 Mar. (82)        | 6 Fri.    | 3 39 42                       | 24 Feb. (55)                                                               | 0 Sat.    | 9923-3480 | 246-9035 | 203-1911 | 4247  |

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| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Meshādi solar year<br>in Bengal. | Kollam. | A. D.    | JOVIAN SAMVATSARA.  |                     |                                                                                                |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8                                                                                              |
| 4248             | 1069  | 1204               | 553                              | 321-22  | 1146-47  | 60 Kshaya .         | 3 Śukla .           | { 8 Kārttika<br>9 Mārgaśīrṣa ( <i>ksh</i> )<br>12 Phālguna }                                   |
| 4249             | 1070  | 1205               | 554                              | 322-23  | 1147-48  | 1 Prabhava .        | 4 Pramōḍa .         |                                                                                                |
| 4250             | 1071  | 1206               | 555                              | 323-24  | *1148-49 | 2 Vibhava .         | 5 Prajāpati .       |                                                                                                |
| 4251             | 1072  | 1207               | 556                              | 324-25  | 1149-50  | 3 Śukla .           | 6 Āngiras .         | ...                                                                                            |
| 4252             | 1073  | 1208               | 557                              | 325-26  | 1150-51  | 4 Pramōḍa .         | 7 Śrīmukha .        | 5 Śrāvaṇa .                                                                                    |
| 4253             | 1074  | 1209               | 558                              | 326-27  | 1151-52  | 5 Prajāpati .       | 8 Bhāva .           | ...                                                                                            |
| 4254             | 1075  | 1210               | 559                              | 327-28  | *1152-53 | 6 Āngiras .         | 9 Yuvan .           | ...                                                                                            |
| 4255             | 1076  | 1211               | 560                              | 328-29  | 1153-54  | 7 Śrīmukha .        | 10 Dhātṛi .         | 4 Āshāḍha .                                                                                    |
| 4256             | 1077  | 1212               | 561                              | 329-30  | 1154-55  | 8 Bhāva .           | 11 Īvara .          | ...                                                                                            |
| 4257             | 1078  | 1213               | 562                              | 330-31  | 1155-56  | 9 Yuvan .           | 12 Bahudhānya .     | ...                                                                                            |
| 4258             | 1079  | 1214               | 563                              | 331-32  | *1156-57 | 10 Dhātṛi .         | 13 Pramāthin .      | 2 Vaiśākha .                                                                                   |
| 4259             | 1080  | 1215               | 564                              | 332-33  | 1157-58  | 11 Īvara .          | 14 Vikrama .        | ...                                                                                            |
| 4260             | 1081  | 1216               | 565                              | 333-34  | 1158-59  | 12 Bahudhānya .     | 15 Vṛisha .         | 6 Bhādrapada .                                                                                 |
| 4261             | 1082  | 1217               | 566                              | 334-35  | 1159-60  | 13 Pramāthin .      | 16 Chitrabhānu†     | ...                                                                                            |
| 4262             | 1083  | 1218               | 567                              | 335-36  | *1160-61 | 14 Vikrama .        | 18 Tārana .         | ...                                                                                            |
| 4263             | 1084  | 1219               | 568                              | 336-37  | 1161-62  | 15 Vṛisha .         | 19 Pārthiva .       | 4 Āshāḍha .                                                                                    |
| 4264             | 1085  | 1220               | 569                              | 337-38  | 1162-63  | 16 Chitrabhānu .    | 20 Vyāga .          | ...                                                                                            |
| 4265             | 1086  | 1221               | 570                              | 338-39  | 1163-64  | 17 Subhānu .        | 21 Sarvajit .       | ...                                                                                            |
| 4266             | 1087  | 1222               | 571                              | 339-40  | *1164-65 | 18 Tārana .         | 22 Sarvadhārin .    | 3 Jyēṣṭha .                                                                                    |
| 4267             | 1088  | 1223               | 572                              | 340-41  | 1165-66  | 19 Pārthiva .       | 23 Virōdhin .       | ...                                                                                            |
| 4268             | 1089  | 1224               | 573                              | 341-42  | 1166-67  | 20 Vyāga .          | 24 Vikṛita .        | { 7 Āsvina<br>10 Pausa ( <i>ksh</i> )<br>12 Phālguna }                                         |
| 4269             | 1090  | 1225               | 574                              | 342-43  | 1167-68  | 21 Sarvajit .       | 25 Khara .          |                                                                                                |
| 4270             | 1091  | 1226               | 575                              | 343-44  | *1168-69 | 22 Sarvadhārin .    | 26 Nandana .        |                                                                                                |
| 4271             | 1092  | 1227               | 576                              | 344-45  | 1169-70  | 23 Virōdhin .       | 27 Vijaya .         | 5 Śrāvaṇa .                                                                                    |
| 4272             | 1093  | 1228               | 577                              | 345-46  | 1170-71  | 24 Vikṛita .        | 28 Jaya .           | ...                                                                                            |

† 17 Subhānu was suppressed in the north.

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| COMMENCEMENT OF THE |           |                                  |                                                                            |           |           |          |          |       |
|---------------------|-----------|----------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                                  | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-sath. krānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                               | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
|                     |           | H. M. S.                         |                                                                            |           |           |          |          |       |
| 23 Mar. (82)        | 0 Sat.    | 9 51 51                          | 15 Mar. (74)                                                               | 6 Fri.    | 9958-0304 | 282-7970 | 254-5016 | 4248  |
| 23 Mar. (82)        | 1 Sun.    | 16 4 0                           | 4 Mar. (63)                                                                | 3 Tues.   | 9933-7532 | 129-0410 | 223-6783 | 4249  |
| 22 Mar. (82)        | 2 Mon.    | 22 16 9                          | 22 Mar. (82)                                                               | 2 Mon.    | 9868-4356 | 66-0346  | 274-9887 | 4250  |
| 23 Mar. (82)        | 4 Wed.    | 4 28 18                          | 12 Mar. (71)                                                               | 0 Sat.    | 82-7905   | 949-5702 | 246-9033 | 4251  |
| 23 Mar. (82)        | 5 Thur.   | 10 40 27                         | 2 Mar. (61)                                                                | 5 Thur.   | 297-1453  | 833-1059 | 218-6180 | 4252  |
| 23 Mar. (82)        | 6 Fri.    | 16 52 36                         | 21 Mar. (80)                                                               | 4 Wed.    | 331-8276  | 769-0994 | 270-1283 | 4253  |
| 22 Mar. (82)        | 0 Sat.    | 23 4 45                          | 9 Mar. (69)                                                                | 1 Sun.    | 207-5505  | 616-3435 | 239-3051 | 4254  |
| 23 Mar. (82)        | 2 Mon.    | 5 16 54                          | 26 Feb. (57)                                                               | 5 Thur.   | 83-2734   | 463-5875 | 208-4819 | 4255  |
| 23 Mar. (82)        | 3 Tues.   | 11 29 3                          | 16 Mar. (75)                                                               | 3 Tues.   | 9779-3237 | 363-2894 | 257-0546 | 4256  |
| 23 Mar. (82)        | 4 Wed.    | 17 41 12                         | 6 Mar. (65)                                                                | 1 Sun.    | 9993-6786 | 246-8250 | 228-9691 | 4257  |
| 22 Mar. (82)        | 5 Thur.   | 23 53 21                         | 23 Feb. (54)                                                               | 5 Thur.   | 9869-4024 | 94-0691  | 198-1458 | 4258  |
| 23 Mar. (82)        | 0 Sat.    | 6 5 30                           | 13 Mar. (72)                                                               | 4 Wed.    | 9904-6838 | 30-0625  | 249-4563 | 4259  |
| 23 Mar. (82)        | 1 Sun.    | 12 17 39                         | 3 Mar. (62)                                                                | 2 Mon.    | 118-4368  | 913-5983 | 221-3709 | 4260  |
| 23 Mar. (82)        | 2 Mon.    | 18 29 48                         | 22 Mar. (81)                                                               | 1 Sun.    | 153-1210  | 849-5918 | 272-6813 | 4261  |
| 23 Mar. (83)        | 4 Wed.    | 0 41 57                          | 10 Mar. (70)                                                               | 5 Thur.   | 28-8439   | 696-8358 | 241-8581 | 4262  |
| 23 Mar. (82)        | 5 Thur.   | 6 54 6                           | 27 Feb. (58)                                                               | 2 Mon.    | 9904-5667 | 544-0799 | 211-0349 | 4263  |
| 23 Mar. (82)        | 6 Fri.    | 13 6 15                          | 18 Mar. (77)                                                               | 1 Sun.    | 9939-2491 | 480-0733 | 262-3454 | 4264  |
| 23 Mar. (82)        | 0 Sat.    | 19 18 24                         | 7 Mar. (66)                                                                | 5 Thur.   | 9814-9719 | 327-3173 | 231-5221 | 4265  |
| 23 Mar. (83)        | 2 Mon.    | 1 30 33                          | 25 Feb. (56)                                                               | 3 Tues.   | 29-3268   | 210-8530 | 203-4366 | 4266  |
| 23 Mar. (82)        | 3 Tues.   | 7 42 42                          | 15 Mar. (74)                                                               | 2 Mon.    | 64-0091   | 146-8465 | 255-7471 | 4267  |
| 23 Mar. (82)        | 4 Wed.    | 13 54 51                         | 4 Mar. (63)                                                                | 6 Fri.    | 9939-7320 | 994-0906 | 223-6239 | 4268  |
| 23 Mar. (82)        | 5 Thur.   | 20 7 0                           | 23 Mar. (82)                                                               | 5 Thur.   | 9974-4144 | 930-0840 | 275-2343 | 4269  |
| 23 Mar. (83)        | 0 Sat.    | 2 19 9                           | 12 Mar. (72)                                                               | 3 Tues.   | 188-7602  | 813-6198 | 247-1488 | 4270  |
| 23 Mar. (82)        | 1 Sun.    | 8 31 18                          | 1 Mar. (60)                                                                | 0 Sat.    | 64-4920   | 660-8638 | 216-3257 | 4271  |
| 23 Mar. (82)        | 2 Mon.    | 14 43 27                         | 20 Mar. (79)                                                               | 6 Fri.    | 99-1744   | 596-8573 | 267-6361 | 4272  |



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| CONCURRENT YEAR. |       |                       |                                  |         |          |                     |                     | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|-----------------------|----------------------------------|---------|----------|---------------------|---------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi<br>Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.    | JOVIAN SAMVATSARA.  |                     |                                                                                                |
|                  |       |                       |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                                                                |
| 1                | 2     | 3                     | 3a                               | 4       | 5        | 6                   | 7                   | 8                                                                                              |
| 4273             | 1094  | 1229                  | 578                              | 346-47  | 1171-72  | 25 Khara .          | 29 Manmattha .      | ...                                                                                            |
| 4274             | 1095  | 1230                  | 579                              | 347-48  | *1172-73 | 26 Nandana .        | 30 Durmukha .       | 4 Āshādha .                                                                                    |
| 4275             | 1096  | 1231                  | 580                              | 348-49  | 1173-74  | 27 Vijaya .         | 31 Hēmalamba .      | ...                                                                                            |
| 4276             | 1097  | 1232                  | 581                              | 349-50  | 1174-75  | 28 Jaya .           | 32 Vilamba .        | ...                                                                                            |
| 4277             | 1098  | 1233                  | 582                              | 350-51  | 1175-76  | 29 Manmattha .      | 33 Vikārin .        | 2 Vaiśākha .                                                                                   |
| 4278             | 1099  | 1234                  | 583                              | 351-52  | *1176-77 | 30 Durmukha .       | 34 Śārvarin .       | ...                                                                                            |
| 4279             | 1100  | 1235                  | 584                              | 352-53  | 1177-78  | 31 Hēmalamba .      | 35 Plava .          | 6 Bhādrapada                                                                                   |
| 4280             | 1101  | 1236                  | 585                              | 353-54  | 1178-79  | 32 Vilamba .        | 36 Śubhakṛit .      | ...                                                                                            |
| 4281             | 1102  | 1237                  | 586                              | 354-55  | 1179-80  | 33 Vikārin .        | 37 Śōbhana .        | ...                                                                                            |
| 4282             | 1103  | 1238                  | 587                              | 355-56  | *1180-81 | 34 Śārvarin .       | 38 Krōdhin .        | 4 Āshādha .                                                                                    |
| 4283             | 1104  | 1239                  | 588                              | 356-57  | 1181-82  | 35 Plava .          | 39 Viśvāvasu .      | ...                                                                                            |
| 4284             | 1105  | 1240                  | 589                              | 357-58  | 1182-83  | 36 Śubhakṛit .      | 40 Parābhava .      | ...                                                                                            |
| 4285             | 1106  | 1241                  | 590                              | 358-59  | 1183-84  | 37 Śōbhana .        | 41 Plavaṅga .       | 2 Vaiśākha .                                                                                   |
| 4286             | 1107  | 1242                  | 591                              | 359-60  | *1184-85 | 38 Krōdhin .        | 42 Kilaka .         | ...                                                                                            |
| 4287             | 1108  | 1243                  | 592                              | 360-61  | 1185-86  | 39 Viśvāvasu .      | 43 Saumya .         | 6 Bhādrapada                                                                                   |
| 4288             | 1109  | 1244                  | 593                              | 361-62  | 1186-87  | 40 Parābhava .      | 44 Sādhārāṇa .      | ...                                                                                            |
| 4289             | 1110  | 1245                  | 594                              | 362-63  | 1187-88  | 41 Plavaṅga .       | 45 Virōdhakṛit .    | ...                                                                                            |
| 4290             | 1111  | 1246                  | 595                              | 363-64  | *1188-89 | 42 Kilaka .         | 46 Paridhāvin .     | 5 Śrāvaṇa .                                                                                    |
| 4291             | 1112  | 1247                  | 596                              | 364-65  | 1189-90  | 43 Saumya .         | 47 Pramādin .       | ...                                                                                            |
| 4292             | 1113  | 1248                  | 597                              | 365-66  | 1190-91  | 44 Sādhārāṇa .      | 48 Ānanda .         | ...                                                                                            |
| 4293             | 1114  | 1249                  | 598                              | 366-67  | 1191-92  | 45 Virōdhakṛit .    | 49 Rākṣasa .        | 3 Jyēṣṭha .                                                                                    |
| 4294             | 1115  | 1250                  | 599                              | 367-68  | *1192-93 | 46 Paridhāvin .     | 50 Anala .          | ...                                                                                            |
| 4295             | 1116  | 1251                  | 600                              | 368-69  | 1193-94  | 47 Pramādin .       | 51 Pīṅgala .        | ...                                                                                            |
| 4296             | 1117  | 1252                  | 601                              | 369-70  | 1194-95  | 48 Ānanda .         | 52 Kāleyukta .      | 2 Vaiśākha .                                                                                   |
| 4297             | 1118  | 1253                  | 602                              | 370-71  | 1195-96  | 49 Rākṣasa .        | 53 Siddhārthīn .    | ...                                                                                            |

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| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
|                     |           | H. M. S.                      |                                                                            |           |           |          |          |       |
| 23 Mar. (82)        | 3 Tues.   | 20 55 36                      | 9 Mar. (68)                                                                | 3 Tues.   | 9974-8973 | 444-1013 | 236-8129 | 4273  |
| 23 Mar. (83)        | 5 Thur.   | 3 7 45                        | 26 Feb. (57)                                                               | 0 Sat.    | 9850-6201 | 291-3454 | 205-9806 | 4274  |
| 23 Mar. (82)        | 6 Fri.    | 9 19 54                       | 16 Mar. (75)                                                               | 6 Fri.    | 9885-3025 | 227-3389 | 257-3001 | 4275  |
| 23 Mar. (82)        | 0 Sat.    | 15 32 3                       | 6 Mar. (65)                                                                | 4 Wed.    | 99-6574   | 110-8745 | 229-2147 | 4276  |
| 23 Mar. (82)        | 1 Sun.    | 21 44 11                      | 23 Feb. (54)                                                               | 1 Sun.    | 9975-3801 | 958-1187 | 198-1914 | 4277  |
| 23 Mar. (83)        | 3 Tues.   | 3 46 20                       | 13 Mar. (73)                                                               | 0 Sat.    | 10-0625   | 894-1120 | 249-7018 | 4278  |
| 23 Mar. (82)        | 4 Wed.    | 10 8 29                       | 3 Mar. (82)                                                                | 5 Thur.   | 224-4174  | 777-6478 | 221-6164 | 4279  |
| 23 Mar. (82)        | 5 Thur.   | 16 20 38                      | 22 Mar. (81)                                                               | 4 Wed.    | 259-0998  | 713-6413 | 272-9269 | 4280  |
| 23 Mar. (82)        | 6 Fri.    | 22 32 47                      | 11 Mar. (70)                                                               | 1 Sun.    | 134-8226  | 560-8853 | 242-1036 | 4281  |
| 23 Mar. (83)        | 1 Sun.    | 4 44 56                       | 28 Feb. (59)                                                               | 5 Thur.   | 10-5455   | 408-1294 | 211-2804 | 4282  |
| 23 Mar. (82)        | 2 Mon.    | 10 57 5                       | 18 Mar. (77)                                                               | 4 Wed.    | 45-2279   | 344-1228 | 262-5909 | 4283  |
| 23 Mar. (82)        | 3 Tues.   | 17 9 14                       | 7 Mar. (66)                                                                | 1 Sun.    | 9920-9507 | 191-3668 | 231-7677 | 4284  |
| 23 Mar. (82)        | 4 Wed.    | 23 21 23                      | 24 Feb. (55)                                                               | 5 Thur.   | 9796-6735 | 38-6109  | 200-9444 | 4285  |
| 23 Mar. (83)        | 6 Fri.    | 5 33 32                       | 15 Mar. (75)                                                               | 5 Thur.   | 169-9879  | 10-8960  | 254-9926 | 4286  |
| 23 Mar. (82)        | 0 Sat.    | 11 45 41                      | 4 Mar. (63)                                                                | 2 Mon.    | 45-7108   | 858-1401 | 224-1694 | 4287  |
| 23 Mar. (82)        | 1 Sun.    | 17 57 50                      | 23 Mar. (82)                                                               | 1 Sun.    | 80-3931   | 794-1335 | 275-4799 | 4288  |
| 24 Mar. (83)        | 3 Tues.   | 0 9 59                        | 13 Mar. (72)                                                               | 6 Fri.    | 294-7480  | 677-6693 | 247-3944 | 4289  |
| 23 Mar. (83)        | 4 Wed.    | 6 22 8                        | 1 Mar. (61)                                                                | 3 Tues.   | 170-4708  | 524-9133 | 216-5712 | 4290  |
| 23 Mar. (82)        | 5 Thur.   | 12 34 17                      | 19 Mar. (78)                                                               | 1 Sun.    | 9866-5213 | 424-6151 | 265-1438 | 4291  |
| 23 Mar. (82)        | 6 Fri.    | 18 46 26                      | 8 Mar. (67)                                                                | 5 Thur.   | 9742-2440 | 271-8592 | 234-3207 | 4292  |
| 24 Mar. (83)        | 1 Sun.    | 0 58 35                       | 26 Feb. (57)                                                               | 3 Tues.   | 9956-5989 | 155-3949 | 206-2352 | 4293  |
| 23 Mar. (83)        | 2 Mon.    | 7 10 44                       | 16 Mar. (76)                                                               | 2 Mon.    | 9991-2813 | 91-3884  | 257-5456 | 4294  |
| 23 Mar. (82)        | 3 Tues.   | 13 22 53                      | 6 Mar. (65)                                                                | 0 Sat.    | 205-6364  | 974-9241 | 229-4602 | 4295  |
| 23 Mar. (82)        | 4 Wed.    | 19 35 2                       | 23 Feb. (54)                                                               | 4 Wed.    | 81-3589   | 822-1741 | 198-6370 | 4296  |
| 24 Mar. (83)        | 6 Fri.    | 1 47 11                       | 14 Mar. (73)                                                               | 3 Tues.   | 116-0413  | 753-1608 | 249-9474 | 4297  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |           |                     |                      | Intercalated<br>( <i>adhika</i> ) and<br>suppressed<br>( <i>kshaya</i> ) true<br>lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|----------------------|------------------------------------------------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year<br>in Bengal. | Kollam. | A. D.     | JOVIAN SAKVATSARA.  |                      |                                                                                                |
|                  |       |                    |                                  |         |           | Southern<br>system. | Northern<br>system.  |                                                                                                |
| 1                | 2     | 3                  | 3a                               | 4       | 5         | 6                   | 7                    | 8                                                                                              |
| 4298             | 1119  | 1254               | 603                              | 371-72  | *1196-97  | 50 Anala . .        | 54 Raudra . .        | 6 Bhādrapada                                                                                   |
| 4299             | 1120  | 1255               | 604                              | 372-73  | 1197-98   | 51 Pīngala . .      | 55 Darmati . .       | ...                                                                                            |
| 4300             | 1121  | 1256               | 605                              | 373-74  | 1198-99   | 52 Kālayukta . .    | 56 Dundubhi . .      | ...                                                                                            |
| 4301             | 1122  | 1257               | 606                              | 374-75  | 1199-1200 | 53 Siddhārthin . .  | 57 Rudhirōdgārin . . | 4 Āshādha . .                                                                                  |
| 4302             | 1123  | 1258               | 607                              | 375-76  | *1200-01  | 54 Raudra . .       | 58 Raktāksha . .     | ...                                                                                            |

LXXXII—*Concl'd.*

| COMMENCEMENT OF THE |           |                               |                                                                            |           |           |          |          |       |
|---------------------|-----------|-------------------------------|----------------------------------------------------------------------------|-----------|-----------|----------|----------|-------|
| SOLAR YEAR.         |           |                               | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |           |          |          | Kali. |
| Day and month A. D. | Week-day. | Time of true Mesha-samkrānti. | Day and month A. D.                                                        | Week-day. | a         | b        | c        |       |
| 13                  | 14        | 17                            | 19                                                                         | 20        | 23        | 24       | 25       | 1     |
|                     |           | H. M. S.                      |                                                                            |           |           |          |          |       |
| 23 Mar. (83)        | 0 Sat. .  | 7 59 20                       | 2 Mar. (82)                                                                | 0 Sat. .  | 9991-7641 | 605-4056 | 219-1242 | 4298  |
| 23 Mar. (82)        | 1 Sun. .  | 14 11 29                      | 21 Mar. (80)                                                               | 6 Fri. .  | 26-4465   | 541-3991 | 270-4346 | 4299  |
| 23 Mar. (82)        | 2 Mon.    | 20 23 38                      | 10 Mar. (69)                                                               | 3 Tues.   | 9902-1694 | 388-6432 | 239-6115 | 4300  |
| 24 Mar. (83)        | 4 Wed.    | 2 35 47                       | 27 Feb. (58)                                                               | 0 Sat. .  | 9777-8923 | 235-8872 | 208-7660 | 4301  |
| 23 Mar. (83)        | 5 Thur.   | 8 47 56                       | 17 Mar. (77)                                                               | 6 Fri. .  | 9812-5747 | 171-8807 | 260-0765 | 4302  |

TABLE LXXXIII A.

DURATION AND COLLECTIVE DURATION OF TRUE SOLAR MONTHS, WITH INCREASE OF *a*, *b*, *c* AT EACH TRUE SANKRĀNTI.

By the Brahma-Siddhanta.

Calculated for the year K. Y. 4500, (expired), A. D. 899—900.

*a* in 10,000ths of circle; *b* and *c* in 1,000ths; "sam" = solar sankrānti.

| Luni-solar month<br>(ending at the<br>second of the<br>two solar <i>sam-</i><br><i>krāntis</i> con-<br>nected with it). |                                      | At true solar<br>sankrānti. |     | Collective duration in days, hours, etc., and collective<br>increase of <i>a</i> , <i>b</i> , <i>c</i> from true Mēsha-sankrānti to<br>each true sankrānti. |    |    |          |           |          |                            |                                    |    |                             | At true solar<br>sankrānti. |               | Length of solar month preceding each true sankrānti,<br>and increase of <i>a</i> , <i>b</i> , <i>c</i> between each<br>such sankrānti. |          |           |          |                            |  |  |
|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----------|-----------|----------|----------------------------|------------------------------------|----|-----------------------------|-----------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------|----------|-----------|----------|----------------------------|--|--|
| 1                                                                                                                       |                                      | 2                           |     | Day. ३ ४ ५                                                                                                                                                  |    |    | H. M. S. |           |          | <i>a</i> <i>b</i> <i>c</i> |                                    |    | At true solar<br>sankrānti. |                             | Day. १० ११ १२ |                                                                                                                                        | H. M. S. |           |          | <i>a</i> <i>b</i> <i>c</i> |  |  |
|                                                                                                                         |                                      | 2                           |     | 3                                                                                                                                                           | 4  | 5  | 6        | 7         | 8        | 9                          |                                    | 10 | 11                          | 12                          | 13            | 14                                                                                                                                     | 15       |           |          |                            |  |  |
| 1. Chaitra                                                                                                              | { Mīna sam. (of<br>previous year).   |                             | 0   | 0                                                                                                                                                           | 0  | 0  | 0        | 0         | 0        | Mēsha-sam.                 |                                    | 0  | 0                           | 0                           | 0             | 0                                                                                                                                      | 0        |           |          |                            |  |  |
| 2. Vaiśākha                                                                                                             | { Mēsha-sam.                         |                             | 30  | (2)                                                                                                                                                         | 22 | 21 | 9        | 474-3381  | 122-5490 | 84-6833                    | Vriśabha-sam.                      |    | 30                          | (2)                         | 22            | 21                                                                                                                                     | 9        | 474-3381  | 122-5490 | 84-6833                    |  |  |
| 3. Jyēṣṭha                                                                                                              | { Vriśabha-sam.                      |                             | 62  | (6)                                                                                                                                                         | 8  | 15 | 57       | 1111-7956 | 262-5752 | 170-6856                   | Mithuna sam.                       |    | 31                          | (3)                         | 9             | 54                                                                                                                                     | 48       | 637-4575  | 140-0262 | 86-0028                    |  |  |
| 4. Āślāḍha                                                                                                              | { Mithuna sam.                       |                             | 93  | (2)                                                                                                                                                         | 23 | 12 | 15       | 1820-1580 | 410-2049 | 257-2610                   | Karka-sam.                         |    | 31                          | (3)                         | 14            | 56                                                                                                                                     | 18       | 708-3624  | 147-6297 | 86-5754                    |  |  |
| 5. Śrāvaṇa                                                                                                              | { Karka-sam.                         |                             | 125 | (6)                                                                                                                                                         | 10 | 42 | 48       | 2480-1360 | 552-6492 | 343-4462                   | Siṁha-sam.                         |    | 31                          | (3)                         | 11            | 30                                                                                                                                     | 33       | 659-9780  | 142-4443 | 86-1842                    |  |  |
| 6. Bhādrapada                                                                                                           | { Siṁha-sam.                         |                             | 156 | (2)                                                                                                                                                         | 11 | 41 | 2        | 2991-4178 | 670-1575 | 428-4273                   | Kanyā-sam.                         |    | 31                          | (3)                         | 0             | 53                                                                                                                                     | 15       | 511-2818  | 126-5083 | 84-9821                    |  |  |
| 7. Āvina                                                                                                                | { Kanyā-sam.                         |                             | 186 | (4)                                                                                                                                                         | 22 | 35 | 29       | 3304-2747 | 784-4003 | 511-8051                   | Tulā sam.                          |    | 30                          | (2)                         | 10            | 54                                                                                                                                     | 27       | 312-8509  | 105-2428 | 83-3778                    |  |  |
| 8. Kārtika                                                                                                              | { Tulā sam.                          |                             | 216 | (6)                                                                                                                                                         | 20 | 28 | 50       | 3433-4472 | 869-9574 | 593-6979                   | Vriśchika-sam.                     |    | 29                          | (1)                         | 21            | 53                                                                                                                                     | 21       | 129-1725  | 85-5571  | 81-8928                    |  |  |
| 9. Mārgaśīra                                                                                                            | { Vriśchika-sam.                     |                             | 249 | (1)                                                                                                                                                         | 8  | 0  | 47       | 3416-4906 | 939-8537 | 674-4092                   | Dhanu-sam.                         |    | 29                          | (1)                         | 11            | 31                                                                                                                                     | 57       | 9983-0434 | 69-8963  | 80-7113                    |  |  |
| 10. Pausa                                                                                                               | { Dhanu-sam.                         |                             | 275 | (2)                                                                                                                                                         | 16 | 6  | 58       | 3351-2241 | 4-5725   | 754-7299                   | Makara-sam.                        |    | 29                          | (1)                         | 8             | 6                                                                                                                                      | 11       | 9934-7335 | 64-7189  | 80-3207                    |  |  |
| 11. Māgha                                                                                                               | { Makara-sam.                        |                             | 305 | (4)                                                                                                                                                         | 2  | 49 | 9        | 3322-5644 | 73-2145  | 835-3466                   | Kumbha sam.                        |    | 29                          | (1)                         | 10            | 42                                                                                                                                     | 11       | 9971-3403 | 08-6420  | 80-6167                    |  |  |
| 12. Phālguna                                                                                                            | { Kumbha-sam.                        |                             | 334 | (3)                                                                                                                                                         | 22 | 4  | 25       | 3414-5580 | 154-7871 | 916-9337                   | Mina-sam.                          |    | 29                          | (1)                         | 19            | 15                                                                                                                                     | 16       | 91-9936   | 81-5726  | 81-5921                    |  |  |
| 1. Chaitra (of<br>following year).                                                                                      | { Mēsha-sam. (of<br>following year). |                             | 365 | (1)                                                                                                                                                         | 6  | 12 | 9        | 3688-2056 | 255-8315 | 1000-0                     | Mēsha-sam. (of<br>following year). |    | 30                          | (2)                         | 8             | 7                                                                                                                                      | 44       | 273-6476  | 101-0407 | 83-0608                    |  |  |

TABLE LXXXIII B.

VALUE OF  $c$  AND OF "EQUATION  $c$ " AT THE SEVERAL TRUE SAMKRĀNTI.

Correct for K. Y. 4000, A. D. 899-900.

 $c$  in 1,000ths of circle, "equation  $c$ " in 10,000ths.

| Samkrānti.       | $c$      | "Equation $c$ ." |
|------------------|----------|------------------|
| Mēsha-sam. .     | 277-6064 | 0-9037           |
| Vṛishabha-sam. . | 362-2899 | 14-4355          |
| Mithuna-sam. .   | 448-2921 | 41-1356          |
| Karka-sam. .     | 534-8676 | 73-5542          |
| Sirha-sam. .     | 621-0519 | 102-0578         |
| Kanyā-sam. .     | 706-0241 | 118-5381         |
| Tulā-sam. .      | 789-4020 | 118-9561         |
| Vṛiśchika-sam. . | 871-2948 | 104-1144         |
| Dhanu-sam. .     | 952-0062 | 78-3668          |
| Makara-sam. .    | 32-3264  | 48-2336          |
| Kumbha-sam. .    | 112-9432 | 21-0624          |
| Mina-sam. .      | 194-5355 | 3-6494           |

TABLE LXXXIII C.

EXACT VALUE OF  $c$  AND OF "EQUATION  $c$ " AT THE MOMENT OF TRUE MĒSHA-SAMKRĀNTI AT BEGINNING OF EACH CENTURY K. Y. $c$  in 1,000ths of circle. "Equation  $c$ " in 10,000ths.

| K. Y. | A. D.     | $c$      | "Eqn. $c$ ." |
|-------|-----------|----------|--------------|
| 3700  | 599-600   | 277-6399 | 0-9347       |
| 3800  | 699-700   | 277-6287 | 0-9340       |
| 3900  | 799-800   | 277-6175 | 0-9333       |
| 4000  | 899-900   | 277-6064 | 0-9326       |
| 4100  | 999-1000  | 277-5952 | 0-9319       |
| 4200  | 1099-1100 | 277-5840 | 0-9312       |
| 4300  | 1199-1200 | 277-5728 | 0-9305       |

## TABLES LXXXIV, LXXXV.

" EQUATION *b* " AND " EQUATION *c* " IN WHOLE NUMBERS BY THE BRAHMA-SIDDHĀNTA AND  
SIDDHĀNTA-ŚIRĪMAṆI.

*Corresponding to Tables VI, VII, " Indian Calendar."*

For close detail Tables LV, LVI, (Vol. XV above) are to be used.

" Arg." = moon's (*b*) or sun's (*c*) mean anom. in 1000ths of circle.

TABLE LXXXIV.

LUNAR " EQUATION *b*."

| Arg. | Eqn. | Arg. |
|------|------|------|
| 0    | 140  | 500  |
| 10   | 149  | 490  |
| 20   | 158  | 480  |
| 30   | 166  | 470  |
| 40   | 174  | 460  |
| 50   | 183  | 450  |
| 60   | 191  | 440  |
| 70   | 199  | 430  |
| 80   | 207  | 420  |
| 90   | 214  | 410  |
| 100  | 222  | 400  |
| 110  | 229  | 390  |
| 120  | 235  | 380  |
| 130  | 241  | 370  |
| 140  | 247  | 360  |
| 150  | 253  | 350  |
| 160  | 258  | 340  |
| 170  | 262  | 330  |
| 180  | 266  | 320  |
| 190  | 270  | 310  |
| 200  | 273  | 300  |
| 210  | 275  | 290  |
| 220  | 277  | 280  |
| 230  | 279  | 270  |
| 240  | 279  | 260  |
| 250  | 280  | 250  |

| Arg. | Eqn. | Arg. |
|------|------|------|
| 500  | 140  | 1000 |
| 510  | 131  | 990  |
| 520  | 122  | 980  |
| 530  | 114  | 970  |
| 540  | 105  | 960  |
| 550  | 97   | 950  |
| 560  | 88   | 940  |
| 570  | 80   | 930  |
| 580  | 73   | 920  |
| 590  | 65   | 910  |
| 600  | 58   | 900  |
| 610  | 51   | 890  |
| 620  | 44   | 880  |
| 630  | 38   | 870  |
| 640  | 32   | 860  |
| 650  | 27   | 850  |
| 660  | 22   | 840  |
| 670  | 17   | 830  |
| 680  | 13   | 820  |
| 690  | 10   | 810  |
| 700  | 7    | 800  |
| 710  | 4    | 790  |
| 720  | 2    | 780  |
| 730  | 1    | 770  |
| 740  | 0    | 760  |
| 750  | 0    | 750  |

TABLE LXXXV.

SOLAR " EQUATION *c*."

| Arg. | Eqn. | Arg. |
|------|------|------|
| 0    | 60   | 500  |
| 10   | 56   | 490  |
| 20   | 53   | 480  |
| 30   | 49   | 470  |
| 40   | 46   | 460  |
| 50   | 42   | 450  |
| 60   | 38   | 440  |
| 70   | 34   | 430  |
| 80   | 31   | 420  |
| 90   | 28   | 410  |
| 100  | 25   | 400  |
| 110  | 22   | 390  |
| 120  | 19   | 380  |
| 130  | 16   | 370  |
| 140  | 14   | 360  |
| 150  | 12   | 350  |
| 160  | 9    | 340  |
| 170  | 7    | 330  |
| 180  | 6    | 320  |
| 190  | 4    | 310  |
| 200  | 3    | 300  |
| 210  | 2    | 290  |
| 220  | 1    | 280  |
| 230  | 0    | 270  |
| 240  | 0    | 260  |
| 250  | 0    | 250  |

| Arg. | Eqn. | Arg. |
|------|------|------|
| 500  | 60   | 1000 |
| 510  | 64   | 990  |
| 520  | 68   | 980  |
| 530  | 72   | 970  |
| 540  | 75   | 960  |
| 550  | 79   | 950  |
| 560  | 82   | 940  |
| 570  | 86   | 930  |
| 580  | 89   | 920  |
| 590  | 93   | 910  |
| 600  | 96   | 900  |
| 610  | 99   | 890  |
| 620  | 102  | 880  |
| 630  | 104  | 870  |
| 640  | 107  | 860  |
| 650  | 109  | 850  |
| 660  | 111  | 840  |
| 670  | 113  | 830  |
| 680  | 115  | 820  |
| 690  | 117  | 810  |
| 700  | 118  | 800  |
| 710  | 119  | 790  |
| 720  | 120  | 780  |
| 730  | 120  | 770  |
| 740  | 121  | 760  |
| 750  | 121  | 750  |

## AUXILIARY TABLE.

| Difference<br>in Equa-<br>tion. | Last figure of argument |   |   |   |        |   |   |   |   |
|---------------------------------|-------------------------|---|---|---|--------|---|---|---|---|
|                                 | 9                       | 8 | 7 | 6 | 5      | 4 | 3 | 2 | 1 |
|                                 | Add or subtract         |   |   |   |        |   |   |   |   |
| 9                               | 8                       | 7 | 6 | 5 | 4 or 5 | 4 | 3 | 2 | 1 |
| 8                               | 7                       | 6 | 5 | 4 | 3      | 2 | 1 | 0 | 9 |
| 7                               | 6                       | 5 | 4 | 3 | 2 or 3 | 1 | 0 | 9 | 8 |
| 6                               | 5                       | 4 | 3 | 2 | 1      | 0 | 9 | 8 | 7 |
| 5                               | 4 or 5                  | 3 | 2 | 1 | 0      | 9 | 8 | 7 | 6 |
| 4                               | 3                       | 2 | 1 | 0 | 9      | 8 | 7 | 6 | 5 |
| 3                               | 2                       | 1 | 0 | 9 | 8      | 7 | 6 | 5 | 4 |
| 2                               | 1                       | 0 | 9 | 8 | 7      | 6 | 5 | 4 | 3 |
| 1                               | 0                       | 9 | 8 | 7 | 6      | 5 | 4 | 3 | 2 |

TABLE LXXXVI.

VALUE OF  $a$ ,  $b$ ,  $c$  AT BEGINNING OF CENTURIES OF THE KALIYUGA, BY THE BRAHMA-SIDDHANTA.

| K.Y.<br>Cen-<br>tury. | Begin-<br>ning in<br>A.D. | Week-<br>day. | $a$       | $b$      | $c$      |
|-----------------------|---------------------------|---------------|-----------|----------|----------|
| 37                    | 599                       | 0             | 6028-1929 | 719-2529 | 282-9906 |
| 38                    | 699                       | 6             | 4900-0921 | 308-0530 | 283-3962 |
| 39                    | 799                       | 6             | 3433-3593 | 860-5614 | 281-0640 |
| 40                    | 899                       | 6             | 2305-2584 | 449-3615 | 281-4695 |
| 41                    | 999                       | 6             | 1177-1576 | 38-1616  | 281-8751 |
| 42                    | 1099                      | 6             | 49-0567   | 626-9616 | 282-2807 |
| 43                    | 1199                      | 0             | 8920-9559 | 215-7617 | 282-6863 |

TABLE LXXXVII.

INCREASE OF  $a$ ,  $b$ ,  $c$  FOR YEARS OF KALIYUGA CENTURY.

\* = year of 366 days.

| Year. | Week-<br>day. | $a$       | $b$      | $c$      | Year. | Week-<br>day. | $a$       | $b$      | $c$      |
|-------|---------------|-----------|----------|----------|-------|---------------|-----------|----------|----------|
| 0     | 0             | 0         | 0        | 0        | 30    | 3             | 729-2961  | 683-8984 | 0-6759   |
| 1     | 1             | 3600-6747 | 246-4522 | 999-2925 | 31    | 4             | 4329-9708 | 930-3505 | 999-9683 |
| *2    | 2             | 7201-3494 | 492-9043 | 998-5849 | 32    | 5             | 7930-6455 | 176-8027 | 999-2608 |
| 3     | 4             | 1140-6560 | 775-6482 | 0-6151   | *33   | 6             | 1531-3202 | 423-2549 | 998-5533 |
| 4     | 5             | 4741-3307 | 22-1003  | 999-9076 | 34    | 1             | 5470-6268 | 705-9987 | 0-5835   |
| 5     | 6             | 8342-0054 | 268-5525 | 999-2001 | 35    | 2             | 9071-3015 | 952-4509 | 999-8759 |
| *6    | 0             | 1942-6800 | 515-0047 | 998-4925 | 36    | 3             | 2671-9762 | 198-9030 | 999-1684 |
| 7     | 2             | 5881-9867 | 797-7485 | 0-5227   | *37   | 4             | 6272-6509 | 445-3552 | 998-4609 |
| 8     | 3             | 9482-6614 | 44-2007  | 999-8152 | 38    | 6             | 211-9575  | 728-0990 | 0-4911   |
| 9     | 4             | 3083-3360 | 290-6528 | 999-1077 | 39    | 0             | 3812-6322 | 974-5612 | 999-7836 |
| *10   | 5             | 6684-0107 | 537-1050 | 998-4001 | 40    | 1             | 7413-3069 | 221-0034 | 999-0760 |
| 11    | 0             | 623-3174  | 819-8488 | 0-4303   | *41   | 2             | 1013-9815 | 467-4555 | 998-3685 |
| 12    | 1             | 4223-9921 | 66-3010  | 999-7228 | 42    | 4             | 4953-2882 | 750-1994 | 0-3987   |
| *13   | 2             | 7824-6667 | 312-7532 | 999-0153 | 43    | 5             | 8553-9629 | 996-6515 | 999-6912 |
| 14    | 4             | 1763-9734 | 595-4970 | 1-0455   | *44   | 6             | 2154-6376 | 243-1037 | 998-9836 |
| 15    | 5             | 5364-6481 | 841-9492 | 0-2379   | 45    | 1             | 6093-9442 | 525-8475 | 1-0138   |
| 16    | 6             | 8965-3227 | 88-4013  | 999-6304 | 46    | 2             | 9694-6189 | 772-2997 | 0-3063   |
| *17   | 0             | 2565-9974 | 334-8535 | 998-9229 | 47    | 3             | 3295-2936 | 18-7519  | 999-5989 |
| 18    | 2             | 6505-3041 | 617-5973 | 0-9531   | *48   | 4             | 6895-9682 | 265-2040 | 998-8912 |
| 19    | 3             | 105-9788  | 864-0495 | 0-2455   | 49    | 6             | 835-2749  | 547-9479 | 0-9214   |
| 20    | 4             | 3706-6534 | 110-5017 | 999-5380 | 50    | 0             | 4435-9496 | 794-4000 | 0-2139   |
| *21   | 5             | 7307-3281 | 356-9539 | 998-8305 | 51    | 1             | 8036-6243 | 40-8522  | 999-5064 |
| 22    | 0             | 1246-6348 | 639-6977 | 0-8607   | *52   | 2             | 1637-2989 | 287-3044 | 998-7988 |
| 23    | 1             | 4847-3094 | 886-1499 | 0-1531   | 53    | 4             | 5876-6056 | 570-0482 | 0-8290   |
| 24    | 2             | 8447-9841 | 132-6020 | 999-4456 | 54    | 5             | 9177-2803 | 816-5004 | 0-1215   |
| *25   | 3             | 2048-8588 | 379-0542 | 998-7381 | 55    | 6             | 2777-9549 | 62-9526  | 999-4140 |
| 26    | 5             | 5987-9655 | 661-7980 | 0-7683   | *56   | 0             | 6378-6296 | 309-4047 | 998-7064 |
| 27    | 6             | 9588-6401 | 908-2502 | 0-0607   | 57    | 2             | 317-9363  | 592-1485 | 0-7366   |
| 28    | 0             | 3189-3148 | 154-7024 | 999-3532 | 58    | 3             | 3918-6110 | 838-6007 | 0-0291   |
| *29   | 1             | 6789-9895 | 401-1545 | 998-6457 | 59    | 4             | 7519-2856 | 85-0529  | 999-3216 |



TABLE LXXXVIII.

TABLE LXXXVII—Contd.

VALUES OF *a*, *b*, *c* PER DAY FROM MINA 1 TO  
MESHA 2, THE DAY OF MEAN MESHA-SAMKRĀNTI.

| Year. | Week-day. | <i>a</i>  | <i>b</i> | <i>c</i> | Nc. of days interval from 0 Mesha. | Month and day. | Week-day. | <i>a</i>  | <i>b</i> | <i>c</i> |
|-------|-----------|-----------|----------|----------|------------------------------------|----------------|-----------|-----------|----------|----------|
|       |           |           |          |          | 1                                  | 2              | 3         | 4         | 5        | 6        |
| *60   | 5         | 1119-9603 | 331-5051 | 998-6140 |                                    |                |           |           |          |          |
| 61    | 0         | 5059-2670 | 614-2489 | 0-6442   |                                    |                |           |           |          |          |
| 62    | 1         | 8659-9416 | 800-7011 | 999-9367 |                                    |                |           |           |          |          |
| 63    | 2         | 2260-6163 | 107-1532 | 999-2292 |                                    |                |           |           |          |          |
| *64   | 3         | 5861-2910 | 353-6054 | 998-5216 |                                    |                |           |           |          |          |
| 65    | 5         | 9800-5977 | 636-3492 | 0-5518   | 20                                 | Mina 1         | 4         | 9502-4085 | 874-9589 | 915-1286 |
| 66    | 6         | 3401-2723 | 882-8014 | 999-8443 | 28                                 | " 2            | 5         | 9841-0404 | 911-2506 | 917-8664 |
| 67    | 0         | 7001-9470 | 129-2536 | 999-1368 | 27                                 | " 3            | 6         | 179-6724  | 947-5422 | 920-6042 |
| *68   | 1         | 602-6217  | 375-7057 | 998-4292 | 26                                 | " 4            | 0         | 518-3044  | 983-8339 | 923-3419 |
| 69    | 3         | 4541-9283 | 658-4496 | 0-4594   | 25                                 | " 5            | 1         | 856-9364  | 20-1255  | 926-0797 |
| 70    | 4         | 8142-6030 | 904-9017 | 999-7519 |                                    |                |           |           |          |          |
| *71   | 5         | 1743-2777 | 151-3539 | 999-0444 | 24                                 | " 6            | 2         | 1195-5684 | 56-4172  | 928-8175 |
| 72    | 0         | 5682-5844 | 434-0977 | 1-0746   | 23                                 | " 7            | 3         | 1534-2004 | 92-7088  | 931-5553 |
| 73    | 1         | 9283-2590 | 680-6409 | 0-3670   | 22                                 | " 8            | 4         | 1872-8324 | 129-0005 | 934-2931 |
| 74    | 2         | 2883-9337 | 927-0021 | 999-6595 | 21                                 | " 9            | 5         | 2211-4443 | 165-2921 | 937-0309 |
|       |           |           |          |          | 20                                 | " 10           | 6         | 2550-0463 | 201-5838 | 939-7687 |
| *75   | 3         | 6484-6084 | 173-4542 | 998-9520 |                                    |                |           |           |          |          |
| 76    | 5         | 423-9150  | 456-1981 | 0-9822   |                                    |                |           |           |          |          |
| 77    | 6         | 4024-5897 | 702-6502 | 0-2746   | 19                                 | " 11           | 0         | 2888-7283 | 237-8754 | 942-5065 |
| 78    | 0         | 7625-2644 | 949-1024 | 999-5671 | 18                                 | " 12           | 1         | 3227-3603 | 274-1671 | 945-2442 |
| *79   | 1         | 1225-9391 | 195-5546 | 998-8596 | 17                                 | " 13           | 2         | 3565-9923 | 310-4587 | 947-9820 |
|       |           |           |          |          | 16                                 | " 14           | 3         | 3904-6243 | 346-7504 | 950-7198 |
| 80    | 3         | 5165-2457 | 478-2984 | 0-8898   | 15                                 | " 15           | 4         | 4243-2583 | 383-0420 | 953-4576 |
| 81    | 4         | 8765-9204 | 724-7506 | 0-1822   |                                    |                |           |           |          |          |
| 82    | 5         | 2366-5951 | 971-2027 | 999-4747 |                                    |                |           |           |          |          |
| *83   | 6         | 5967-2698 | 217-6549 | 998-7672 | 14                                 | " 16           | 5         | 4581-8882 | 419-3336 | 956-1954 |
| 84    | 1         | 9908-5764 | 500-3987 | 0-7974   | 13                                 | " 17           | 6         | 4920-8202 | 455-8253 | 958-9332 |
|       |           |           |          |          | 12                                 | " 18           | 0         | 5259-1522 | 491-9169 | 961-6710 |
| 85    | 2         | 3507-2511 | 746-8509 | 0-0898   | 11                                 | " 19           | 1         | 5597-7842 | 528-2086 | 964-4088 |
| 86    | 3         | 7107-9258 | 993-3031 | 999-3823 | 10                                 | " 20           | 2         | 5936-4162 | 564-5002 | 967-1466 |
| *87   | 4         | 708-6004  | 239-7552 | 998-6748 |                                    |                |           |           |          |          |
| 88    | 6         | 4647-9071 | 522-4991 | 0-7050   |                                    |                |           |           |          |          |
| 89    | 0         | 8248-5818 | 768-9512 | 999-9974 | 9                                  | " 21           | 3         | 6275-0482 | 600-7919 | 969-8843 |
|       |           |           |          |          | 8                                  | " 22           | 4         | 6613-6801 | 637-0835 | 972-6221 |
| 90    | 1         | 1849-2565 | 15-4034  | 999-2899 | 7                                  | " 23           | 5         | 6952-3121 | 673-3752 | 975-3599 |
| *91   | 2         | 5449-9311 | 261-8556 | 998-5824 | 6                                  | " 24           | 6         | 7290-9441 | 709-6668 | 978-0977 |
| 92    | 4         | 9389-2378 | 544-5994 | 0-6126   | 5                                  | " 25           | 0         | 7629-5761 | 745-9585 | 980-8355 |
| 93    | 5         | 2989-9125 | 791-0516 | 999-9050 |                                    |                |           |           |          |          |
| 94    | 6         | 6590-5871 | 37-5038  | 999-1975 |                                    |                |           |           |          |          |
|       |           |           |          |          | 4                                  | " 26           | 1         | 7968-2081 | 782-2501 | 983-8733 |
| *95   | 0         | 191-2618  | 283-9559 | 998-4900 | 3                                  | " 27           | 2         | 8306-8401 | 818-5418 | 986-3111 |
| 96    | 2         | 4130-5685 | 566-6997 | 0-5202   | 2                                  | " 28           | 3         | 8645-4721 | 854-8334 | 989-0488 |
| 97    | 3         | 7731-2431 | 813-1519 | 999-8126 | 1                                  | " 29           | 4         | 8984-1040 | 891-1251 | 991-7886 |
| 98    | 4         | 1331-9178 | 59-6041  | 999-1051 |                                    |                |           |           |          |          |
| *99   | 5         | 4932-5925 | 306-0563 | 998-3976 |                                    |                |           |           |          |          |
|       |           |           |          |          |                                    | Mesha 0        | 5         | 9322-7360 | 927-4167 | 994-5244 |
|       |           |           |          |          |                                    | " 1            | 6         | 9661-3680 | 963-7084 | 997-2622 |
| 100   | 0         | 8871-8992 | 588-8001 | 0-4278   |                                    | " 2            | 0         | 0         | 0        | 0        |

TABLE LXXXIX.

SUN'S EQUATION OF THE CENTRE AND SINE-VALUES ACCORDING TO THE BRAHMA-SIDDHANTA.

| Serial<br>No. of<br>sine. | SUN'S MEAN ANOM. |    | SINE OF ANOM.<br>ANGLE. |       | EQUATION. |                                      | SUN'S MEAN ANOM. |    | Serial<br>No. of<br>sine. |
|---------------------------|------------------|----|-------------------------|-------|-----------|--------------------------------------|------------------|----|---------------------------|
|                           |                  |    | Value<br>in<br>minutes. | Diff. | Equation. | Difference<br>per minute<br>of anom. |                  |    |                           |
| 1                         | 2                |    | 3                       | 4     | 5         | 6                                    | 7                |    | 1                         |
|                           | °                | '  | °                       | '     | °         | '                                    | °                | '  |                           |
| 0                         | 0                | 0  | 180                     | 0     | 0         | 0                                    | 180              | 0  | 0                         |
| 1                         | 3                | 45 | 176                     | 15    | 0         | 8 32-50                              | 183              | 45 | 1                         |
| 2                         | 7                | 30 | 172                     | 30    | 0         | 17 2-61                              | 187              | 30 | 2                         |
| 3                         | 11               | 15 | 168                     | 45    | 0         | 25 27-92                             | 191              | 15 | 3                         |
| 4                         | 15               | 0  | 165                     | 0     | 0         | 33 46-05                             | 195              | 0  | 4                         |
| 5                         | 18               | 45 | 161                     | 15    | 0         | 41 57-02                             | 198              | 45 | 5                         |
| 6                         | 22               | 30 | 157                     | 30    | 0         | 49 55-97                             | 202              | 30 | 6                         |
| 7                         | 26               | 15 | 153                     | 45    | 0         | 57 42-97                             | 206              | 15 | 7                         |
| 8                         | 30               | 0  | 150                     | 0     | 1         | 5 15-60                              | 210              | 0  | 8                         |
| 9                         | 33               | 45 | 146                     | 15    | 1         | 12 31-46                             | 213              | 45 | 9                         |
| 10                        | 37               | 30 | 142                     | 30    | 1         | 19 28-17                             | 217              | 30 | 10                        |
| 11                        | 41               | 15 | 138                     | 45    | 1         | 26 3-32                              | 221              | 15 | 11                        |
| 12                        | 45               | 0  | 135                     | 0     | 1         | 32 16-92                             | 225              | 0  | 12                        |
| 13                        | 48               | 45 | 131                     | 15    | 1         | 38 8-96                              | 228              | 45 | 13                        |
| 14                        | 52               | 30 | 127                     | 30    | 1         | 43 32-27                             | 232              | 30 | 14                        |
| 15                        | 56               | 15 | 123                     | 45    | 1         | 48 31-62                             | 236              | 15 | 15                        |
| 16                        | 60               | 0  | 120                     | 0     | 1         | 53 2-24                              | 240              | 0  | 16                        |
| 17                        | 63               | 45 | 116                     | 15    | 1         | 57 4-12                              | 243              | 45 | 17                        |
| 18                        | 67               | 30 | 112                     | 30    | 2         | 0 34-87                              | 247              | 30 | 18                        |
| 19                        | 71               | 15 | 108                     | 45    | 2         | 3 34-49                              | 251              | 15 | 19                        |
| 20                        | 75               | 0  | 105                     | 0     | 2         | 6 5-36                               | 255              | 0  | 20                        |
| 21                        | 78               | 45 | 101                     | 15    | 2         | 8 1-99                               | 258              | 45 | 21                        |
| 22                        | 82               | 30 | 97                      | 30    | 2         | 9 24-14                              | 262              | 30 | 22                        |
| 23                        | 86               | 15 | 93                      | 45    | 2         | 10 14-43                             | 266              | 15 | 23                        |
| 24                        | 90               | 0  | 90                      | 0     | 2         | 10 31-19                             | 270              | 0  | 24                        |

## No. 12.—THE KEDARPUR PLATE OF SRI-CHANDRA-DEVA.

BY NALINI KANTA BHATTASALI, M.A., CURATOR, DACCA MUSEUM.

In the October number of the *Dacca Review*, for 1912, Mr. J. T. Rankin, I.C.S., published a note given him by the late lamented scholar Bābu Gaṅgāmohan Laskar, M.A., on a copper-plate inscription of Śrī-Chandra-Dēva found at Idilpur in the Faridpur District of Bengal. This note for the first time established the fact that a Buddhist line of kings with the suffix "Chandra" at the end of their names had ruled in East Bengal with Vikramapura as their capital about the 10th or 11th century of the Christian Era and votaries of antiquarian studies in Bengal have been busy thenceforth, discussing the position of the Chandra kings of Vikramapura in the chronology of their country. The discovery of a second copper-plate of Śrī-Chandra-Dēva at Rāmpāl in the Munshiganj sub-division of the Dacca District in April, 1913, by Prof. Rādhā-Govinda Basāk, M.A., gave a further impetus to the discussion. Prof. Basāk published this plate first in the *Śrāvāṇa* and *Bhādra* number of the vernacular magazine *Sahitya* for 1320 B.S. and finally in the *Epigraphia Indica*, above, Vol. XII, page 136.

The present plate is the third of Śrī-Chandra-Dēva. It was found in April, 1919, in excavating earth from a ditch at Kēdārpur in the Mādāripur sub-division of the Faridpur District of Bengal. It was preserved in the custody of the second teacher of the Kēdārpur Middle English School. I came to know of the find from a friend and it has been obtained for the Dacca Museum by the Hon'ble Mr. T. Emerson, C.I.E., I.C.S., through the kind efforts of Mr. J. N. Roy, I.C.S., Magistrate of Faridpur, and Mr. N. Sen, Sub-Divisional Officer of Mādāripur.

The plate measures  $8\frac{1}{2}'' \times 7\frac{1}{4}''$ , and is therefore slightly smaller than the plate published by Mr. Basāk, which measures  $9\frac{1}{2}'' \times 8''$ . The Royal Seal of the Chandras is attached to the middle of the top of the plate. It displays the *Wheel of the Law* with two couchant deer on the two sides, symbolical of the first "Turning of the Wheel of the Law" at the Deer Park,—the present Sūrnāth near Benares. It is noteworthy that the Pālas of Bengal who preceded the Chandras, and who were Buddhists as well, had similar devices on their seals. The name of Śrī Śrī-Chandra-Dēva[*h*] is written in relief below the Wheel in the present seal.

The plate is incomplete and appears to be no grant at all, but only a plate kept ready, with the stereotyped portion of the grant inscribed in the office of issue, to be filled in with the necessary remaining portions as occasion arose. The plate is full of engraver's mistakes of a serious nature. It may be noted that Kēdārpur, where this plate was found, contains the ruins of a royal settlement surrounded by a broad ditch as well as a big silted up tank, commonly associated with the memory of Kēdār Rāy, one of the famous twelve chieftains who ruled Bengal before the country was completely dominated by the Mughals. Kēdār Rāy had his capital at Śripur, which, from the description of Ralph Fitch, appears to have been a flourishing town in 1585; and the reasonableness of having a second capital, only a few miles off, is not very apparent. Of course a thousand and one contingencies might have taken the present plate to Kēdārpur, where it has now been found, but the find of this unfinished plate also makes it possible that the ruins at Kēdārpur may be those of the Chandras who preceded Kēdār Rāy by no less than five hundred years.

The plate is inscribed on one side only and there is a vacant space of about two inches at the bottom. The inscription contains 18 lines of writing. The letters are .24 to .30 inch in height and are in most places well inscribed. Mistakes of engraver or scribe are, however,

numerous and they have rendered the preparation of a correct text an undertaking of exceptional difficulty.<sup>1</sup>

The inscription refers to the reign of Śrī-Chandra-Dēva of the Chandra family of Kings who held sovereignty in East Bengal for some decades before the rise of the Varmanas and the Sēnas in that part of the country, towards the end of the Pāla rule in North Bengal. It is written in what may be called the Bengali Script of the 10th-11th century A.D. The language of the inscription is correct Sanskrit verse, except in the portions spoiled by engraver's mistakes. The last three lines are in prose.

There is nothing very special as regards orthography. The use of *va* for *ba* is almost the rule in the later East Indian epigraphs, there being no discrimination between them, as in the modern Bengali language. The *avagraha* is once used and once omitted. The spelling of the word *nistrinśa* with *ś* is remarkable. Superimposed *r* has doubled almost all consonants.

From a comparison of the abstract of the Idilpur plate of Śrī-Chandra published in the *Dacca Review*, referred to above, with the contents of the present plate, it is evident that the two plates are copies of the same draft. The Idilpur plate seems to have an extra *Śloka* towards the end, borrowed from Śrī-Chandra's Rāmpāl plate, which is otherwise the copy of a draft different from that of the Idilpur and the Kēdārpur plates. It should be noted, however, that the opening invocatory *Śloka* is identical in all the three plates.

Śrī-Chandra seems to have been the only king of the Chandra family who was powerful enough to issue copper-plate grants, as the three plates hitherto discovered are all in his name. In order, therefore, to bring together all the epigraphical material available for his history, I quote below the necessary portions from Bābu Gaṅgāmōhan Laskar's abstract of the Idilpur plate, as published in the *Dacca Review*. The plate is reported to exist still; but it is in the custody of people who are unwilling to show it to anybody again.

<sup>2</sup> "The inscription gives the names of three kings :—(1) Suvarṇa-Chandra. (2) His son Trailōkya-Chandra. (3) Trailōkya-Chandra's son (Śrī)-Chandra-Dēva. The last of these kings issues a command from his victorious camp at Vikrampur making a gift of certain lands at the village called Leliyā in the Kumāratalakā sub-division (*maṇḍala*) of the Satāṭa-Padmā-vāṭi district (*vishaya*). The name Satāṭa-Padmā-vāṭi literally means 'with-bank-Padmā-house' and was most probably the name of a district on the banks of the Padmā river. The names of some of the donees are still legible and the measures of the area of the granted lands are called *drōṇas* and *pāṭakas*, as in the Āsrafpur plates. Paramount titles such as *Paramēśvara*, *Parama-bhaṭṭāraka* and *Mahārājādhirāja* are attached to the names of (Śrī)-Chandra-Dēva. The title *Parama-Saṅgata* (the devout worshipper of Sugata, i.e. Buddha) is prefixed to the name of the donor. The characters used are probably of the 12th century type of the Bengali alphabet. The seal attached to the top of the plate resembles the seals found on the plates of the Pāla kings of Bengal. The inscription under notice is very important, as it, like the Āsrafpur plates of Dēvakhaḍga, shows the existence of Buddhist kingdoms in East Bengal in the period not much anterior to the conquest of Bengal by the Mussalmans.

" . . . . . The plate is inscribed on one side fully and on another side partly. The writing on the second side has become almost defaced. This defaced portion contains the names of the donee and the particulars of the lands granted. There are altogether 36 lines of writing. An analysis is given below :—

Lines 1-4. Contain a verse in honour of Buddha, probably.

<sup>1</sup> I should gratefully acknowledge here the help that I have received in this respect from Prof. Abhayā Charaṇ Chakravarti, M.A., of the Jagannāth College, Dacca, without whose help I could hardly have made any headway, especially with the passages that are marred by the engraver's mistakes. I also owe some improvements in the reading of the text to the suggestions of my friend Prof. Basū, in whose company I had the opportunity of revising my first transcription.

<sup>2</sup> [In this extract, the diacritical marks, according to the latest emendation, have been adopted.—H. K. S.]

Lines 4-5. State that there was a king named Suvarṇṇa-Chandra who was neither purified in fire nor measured on the scales (like gold) but was by nature endowed with greatness (heaviness) and whose deeds were good.

Lines 5-6. State in a verse why the king was called Suvarṇṇa-Chandra.

Lines 6-9. The above king got a son named Trailōkya-Chandra, whose look was sacred, who was afraid of the next world, by whom the living world was consoled, whose meritorious deeds were well known throughout the three worlds.

Lines 9-10. Some further epithets of the same king who satisfied his desire of conquering the whole world and who extinguished the fire of his enemies.

Lines 11-13. More eulogistic epithets (of Trailōkya-Chandra-Dēva).

Lines 14-15. The above king had a son named (Śrī)-Chandra who was like Indra and whose prowess was like Indra and who was born at the auspicious moment and the signs at whose birth were indicative of royal fortune.

Lines 15-18. Some eulogistic epithets of (Śrī)-Chandra-Dēva.

Lines 18-19. From the victorious camp pitched at Vikramapura,

Line 20, the devout worshipper of Sugata (Buddha), the meditator of the feet of (i.e. the son of) *Mahārājādhirāja* Trailōkya-Chandra-Dēva, the *Paramēśvara*, the *Paramabhaṭṭāraka*,

Line 21, the *Mahārājādhirāja*, the *Śrīmān*, Śrī-Chandra-Dēva, being in good health and having done honour to all the following royal officers and villagers assembled at the village of Leliyā,

Line 22, in the Kumārātālakē-maṇḍala of Sataṭa-Padmāṅvā(ṭi) district,

Line 23, thus commands the above officers . . . . .

Lines 29-30. Contain the names of the donees."

The following is an abstract of the present Kōṣṭhārpur plate :—

The inscription opens with a salutation to the Buddha, the Dharma, and the Saṅgha,—the three jewels of the Buddhist faith. It then goes on to say that there was one Pūrṇa-Chandra by name who was the possessor of large forces. He was neither of royal birth nor of pure caste, but he obtained a son Suvarṇṇa-Chandra by name, resplendent as gold (v. 3). Suvarṇṇa-Chandra was a famous man of religious character, and his son was Trailōkya-Chandra (v. 4). Trailōkya's conquests extended far and wide and he was a terror to his foes (v. 5). Trailōkya's son was Śrī-Chandra who was extremely virtuous (v. 6). He was a great conqueror whose fame at arms had reached the heavens (v. 7). With this last king Śrī-Chandra-Dēva who was to have issued this plate from his victorious capital at Śrī-Vikramapura the inscription stops.

I edit the inscription from the original plate, now in the Dacca Museum.

Seal.

श्री श्रीचन्द्रदेव[ः]

TEXT.

1 सिद्धिरस्तु<sup>१</sup> स्वस्ति । वन्द्यो जिनः स भगवान् करुणैकपात्रं

2 धर्मो<sup>२</sup>प्यसौ<sup>३</sup> विजयते जगदेकदीपः [१\*] यत्नेवया

<sup>१</sup> Expressed by a symbol. [This symbol is generally taken for om, but the writer has put forward arguments in his article "Some Image Inscriptions from East Bengal" published below in favour of this symbol being read

'Siddhir-astu.'—Ed.]

<sup>२</sup> Read धर्मो.

<sup>३</sup> Read यो.

- 3 सकल एव महाशुभावः संसारपारमुपगच्छति भिक्षुसङ्घः<sup>1</sup> ॥[१\*] पूज्य-  
 4 चन्द्र इति श्रीमानासीनासीरजं रजः । यस्थोषध<sup>2</sup>योषत्तु<sup>3</sup>मातपत्रमपत्र  
 5 पाः<sup>4</sup> [२\*] नासी विद्युतो न तुलाधिरुदः किन्तु प्रकृत्येव युतो  
 त्रिरिम्णा । तथापि क-  
 6 व्याणसुवर्णकल्पः सुवर्णचन्द्रस्तुक्ती ततोभूत्<sup>5</sup> ॥[३\*] पुष्पावलोकः परलो-  
 7 कभीरोलोक्यः समाग्रासितजोवसोकः [१\*] द्वैलोक्यसंकीर्तितपुण्यकीर्तः त्रै-  
 8 लोकाचन्द्रोऽस्य व(व)भूव पुत्रः<sup>6</sup> ॥[४\*] चतुःप्रयोरग्निसमाप्तपृथ्वीजयाभिलाषो वि-  
 9 षयेष्वलुब्धः [१\*] युद्धेषु निष्किंयलताजलेन यो वैरिवकिं समयाश्च  
 कार<sup>7</sup> ॥[५\*]  
 10 श्रीमान् श्रीचन्द्रदेवः समजनि तनयस्तस्य सहरर्मव(व)न्धोः क्रूरारम्भे स<sup>8</sup>यातुः  
 11 परगुणमुखरो दोषघादैकभूकः [१\*] प्रेक्षः पीनो गुणानां निधिरिति  
 12 विषयासक्तिपक्षादिपक्षे यस्मिना(का)धत्त वेधा<sup>10</sup> त्रियमतिरभसादर्थतो ना-  
 13 मतश्च<sup>11</sup> ॥[६\*] स्मृष्टः पार्थिवपांसुदीहृदरसप्रधाघनेदिग्गजै<sup>12</sup>नेत्राणामनिमे-  
 14 षतः परिहृतो दूरेण हन्दारकैः [१\*] केरीश्वरसरसामपूर्वपलितभ्रान्तं  
 15 समारोपयन् सक्तानो रजसां रणेषु<sup>13</sup> जयिनो यस्य शुमान्  
 गतः<sup>14</sup> ॥ [७\*]  
 16 स खलु श्रीविक्रमपुरसमावासितश्रीमज्जयस्कन्धावारात् परमसीगतो  
 17 महाराजाधिराजः श्रीद्वैलोक्यचन्द्रदेवपादानुध्यातः परमेश्वरः प-  
 18 रमभट्टारको महाराजाधिराजः श्रीमान् श्रीचन्द्रदेवः कुण्डी ।

## TRANSLATION.

(Line 1.) May success attend ! May welfare accrue !

(Verse 1.) Adorable is the Lord Jina, the only receptacle of mercy. Victorious also is the Law, the only light of the world. By worshipping them, all the high-minded Congregation of Bhikshus cross to the other side of the world.

<sup>1</sup> Metre : Vasantatilakā.

<sup>2</sup> Read व.

<sup>3</sup> Read वृ. [This corrupt *pāda* has not been properly interpreted. The letter *g* after *y* (?) is not seen on the impression. A plausible emendation which I would offer, with much hesitation though, is *वृष्या* [दृष्टि] वृ[?] सि [?] वृ[?] and translate the passage thus : 'afraid of which (i.e. dust) the enemy (kings) sought refuge under his parasol giving up (all) shame.'—H. K. S.]

<sup>4</sup> Read वृ. Metre : Anushtubh.

<sup>5</sup> Metre : Upajāti.

<sup>6</sup> Metre : Indravajrā.

<sup>7</sup> Read ग.

<sup>8</sup> Metre : Upajāti.

<sup>9</sup> Read द.

<sup>10</sup> Read वेधा.

<sup>11</sup> Metre : Sragdhara.

<sup>12</sup> This line is proposed to be thus restored :—स्मृष्टः पार्थिवपांसुदीहृदरसप्रधाघनेदिग्गजैः

<sup>13</sup> Delete वृ.

<sup>14</sup> Metre : Śārdūlavikrīḍita.

(Verse 2.) There was one **Pūrṇa-Chandra** by name, favoured of the Goddess of fortune, the bold canopy of dust raised by whose vanguard (in battle) was welcomed by the wives of the Sun-God.<sup>1</sup>

(Verse 3.) By nature endowed with majesty, he was neither purified in fire (like gold or kings<sup>2</sup>) nor weighed in balance (like gold or like kings); yet from him came forth the meritorious **Suvarṇa-Chandra** resplendent as gold.

(Verse 4.) Of him, who was afraid of sinning against the other world and whose sacred fame was sung throughout the three worlds, was born the son **Trailōkya-Chandra**, the (mere) sight of whom was meritorious,—who was beautiful to look at, and who was a solace to mankind.

(Verse 5.) Not fond of (the possession of) *viśayas* (districts) [or, devoid of covetousness], but bent on conquering the (whole) earth limited by the four oceans, he put out in battles the fire, viz. his foes, by water, viz. his creeper-like sword.

(Verse 6.) To him, who was a friend of the right path, was born a son, the prosperous **Śrī-Chandra-Dēva** who was kind (even) towards mischievous endeavours, full of praise for others' good qualities, (but) absolutely dumb to the exposition of (others') faults; a well-built figure, pleasant to the sight and a repository of all virtues. Him, who was averse to all worldly attractions (*viśay-āśakti*), the Disposer forcibly endowed with **Śrī** (fortune) both in name and in reality.

(Verse 7.) The multitude of dust particles raised by the victorious (king) in battles, met by the Elephants, the lord of the (ten) quarters completely engrossed by the proud desire of coming in contact with the (aforesaid) kingly dust,<sup>3</sup> and avoided from a distance by the gods whose eyes could not close (against it), proceeded towards heaven, causing on the hair of the heavenly nymphs the unprecedented illusion of whiteness of old age.

(Lines 16 to 18.) From his prosperous and victorious capital established at **Śrī-Vikramapura**, he, the devout worshipper of Sugata, the **Paramēśvara** (great lord) **Paramabhaṭṭāraka**, (the great protector) **Mahārājādhirāja** (the paramount sovereign), the illustrious **Śrī-Chandra-Dēva**, who meditates on the feet of the **Mahārājādhirāja Śrī-Trailōkya-Chandra-Dēva**, in good health—.

<sup>1</sup> [See above, page 191, note 3.—Ed.]

<sup>2</sup> [The so-called Agnikula Kshatriyas.—Ed.]

<sup>3</sup> [पुष्पकम् is the dust of the Earth. It is a well known fact that elephants are fond of playing with dust.—Ed.]

No. 13.—A NOTE ON THE DATES OF THE GUPTA COPPER PLATES  
FROM DAMODARPUR.

By K. N. DIKSHIT, M.A.

The discovery of the Damodarpur plates has thrown new light on the fortunes of the Gupta dynasty in Eastern India. The plates have been edited by Mr. Radha Govinda Basak above. Vol. XV., pages 113-145. I wish here to point out certain inaccuracies in the readings of the dates as read by Mr. Basak, which I first noticed when I read his paper and subsequently verified by reference to the original plates, now preserved in the Varendra Research Society's Museum at Rajshahi.

The date of the second plate which has been read by Mr. Basak as 129 is to be read as 128. The unit figure which is a vertical line with a slight bend, and a seriph or small horizontal line at the top end, must be taken as the symbol for 8, while the symbol for 9 has a loop at the top.

The fifth plate has lost the name of the reigning Gupta sovereign, but the date has been fairly well preserved. It has been read as 214; but I see no trace of a 'ten' in the second figure, but a clear 'tha' denoting 20, the date thus being 224. That some Gupta sovereign held sway over North Bengal as late as 224 G.E. or 543 A.D., that is eleven years after the date of the Mandasor pillar inscription of Yaśodharman (532 A.D.) is an important result. It is no longer possible to assume with Mr. Basak that the Gupta Emperor who made the grant was Bhānugupta,<sup>1</sup> as the difference between the date of the plate and the only known date for Bhānugupta (*vis.*, 191 Gupta Era) is now 33 years. The fourth and fifth plates seem to be separated by a wider margin than that existing between any other two plates of the Damodarpur find. The intervening period of sixty years, roughly 164–224 Gupta Era (=483–543 A.D.) witnessed the gradual diminution of the Gupta dominion and the slow shifting of the centre of their power to the east. It also witnessed the rise and fall in succession of the Hūṇa chieftains Tōramāna and Mihirakula, and the transitory success of the Mālava chief Vishnudevadana Yaśodharman. Other dynasties like the 'Vardhana' kings of Thaneshvar and the Maukhari rulers of Kōśala were coming into power on the western outskirts of the Gupta Empire, the latter dynasty in particular having carried on an incessant warfare in Oudh and adjacent regions with the Guptas. It was probably the ascendancy of the Maukhari rulers in Ayōdhyā that drove the 'noble born' Amṛitadēva (the donor of the fifth Damodarpur plate) from his native place Ayōdhyā to the distant Paundravardhana province, which may seem to have been one of the last retreats of the Imperial Guptas. The Jaunpur inscription of the time of the Maukhari Śīvaravarman, though not dated, must belong to the same period as the fifth Damodarpur plate, as we know from the Haraha inscription that Śīvaravarman's son Śīśnavarman had fully established himself in Oudh by 555 A.D.

No. 14.—SOMALAPURAM GRANT OF VIRUPAKSHA : SAKA 1389.

By K. V. SUBRAHMANYA Aiyar, B.A., M.R.A.S., Ootacamund.

This set of three copper-plates, marked No. 2 in Appendix A of Rao Bahadur H. Krishna Sastri's Annual Report on Epigraphy for 1913-14,<sup>2</sup> is edited below for the first time with the help of one set of impressions kindly placed at my disposal by him.

The plates are reported to belong to a Kuruba ryot of Sōmalāpura in the Bellary talūka of the Bellary District. They were unearthed years ago while digging foundations for a house; but were secured in 1913, for the examination of the Assistant Archæological Superintendent,

<sup>1</sup> [The reading at the end of l. 1 in Plate V of the Damodarpur Plates is probably Kumāra.—Ed.]

<sup>2</sup> See also p. 95, paragraph 25, of the same report.



Southern Circle, through the kind offices of the Tahsildar of the taluka, by the then Kanarese Epigraphical Student, Mr. K. Rama Sastri. Regarding the description of the plates Mr. Krishna Sastri has made the following note on the cover of the ink-impressions he sent to me:—

"Three plates with rounded tops of which the first and last are written on the inner sides only. They are held together by a ring which passes through a round hole bored at the top of each plate. On the ring, which is nearly  $2\frac{1}{2}$ " in diameter and  $\frac{1}{4}$ " in thickness, slides a circular seal shaped like a signet ring. The seal measures  $1\frac{1}{2}$ " in diameter and bears in relief on its surface at the top the sun and the crescent and a standing boar facing the proper left. Below it is what looks like a floral device. The plates measure  $9\frac{1}{4}$ " by  $6\frac{1}{2}$ ". The circular top measures  $1\frac{1}{2}$ " from the base to the middle of the arc."

The plates are written in the Nandi-Nāgarī characters throughout excepting the syllables "Sri-Virūpāksha" at the end which are in Kannada. The inscription is in a good state of preservation: the only places where the letters appear slightly damaged are at the commencement of lines 20 and 68.

The language of the inscription is Sanskrit verse from beginning to end. The description of the boundaries in *śābhāśhā*, promised by verse 46 (ll. 71, 72), is left blank for reasons which cannot be guessed at this distance of time.

As is usual in the copper-plate grants of Vijayanagara kings, this record contains evident mistakes of spelling such as the frequent substitution of *sa* for *śa* (ll. 1, 4) and *vice versa* (ll. 1, 3); *tha* for *ta* (ll. 5, 16); *dha* for *tha* (l. 43); omission of *visarga* (ll. 5, 8, 13) and its retention in places where it has been changed into *ṣ* (l. 42); unnecessary insertion of *anuvāra* (ll. 37 and 38); etc. Conjunct consonants are sometimes written side by side as in *दद्यात्* (l. 2), *पातयन्* (l. 37) and *खड्गायन्* (l. 33). In *चतुष्टय* (l. 45) and *भूय* (l. 12) the rules of *sandhi* have not been properly observed. *n* has been unnecessarily doubled in *जिनन्विरा* and *visarga* has been changed into double *r* in *गुर्वरेने* (l. 27). Other instances of mistakes are *सौव* for *सुव* (l. 45), *सर्व* for *सर्व* (l. 13) and *वेनेष* for *वेनेष* (l. 17). As all the mistakes occurring in the record have been corrected in the text or in the foot notes, they have not been given here in more detail.

The first three verses are invocations addressed to Śiva, Gaṇapati and the boar incarnation of Viṣṇu. The fourth introduces the Moon, and the fifth refers to Yādu and Vāsudeva. The historical portion commences with Śaṅgama (v. 6). His son was Bukka. When he became king, the prosperity of the Karnāṭa kingdom was permanently established (vv. 7 and 8). Harihara (II) was born to him; he filled the quarters with the wealth of his charity (v. 9). He had a son named Pratāpa-Dēvarāya (I) by whom the Turushkas and hostile kings were overcome (vv. 12 and 13). His queen was Dēśāmbikā and their son was Vijayabhūpati, renowned for his wisdom (v. 14). Vijayabhūpati's son by Nārāyaṇidēvī was Pratāpa, also called Prāṇhapratāpa (v. 15), who obtained from his elder brother the kingdom of Ghaṇṣṍri (v. 16). His son by queen Śiddhaladēvī was Virūpāksha. The titles *Rājādhirāja* (v. 18), *Rājaparamēśvara* (l. 42), *Mūrūyāraganḍa*, *Pararāya-bhayaśhaka* and *Hindurāya-Suratrāṇa* and *Ohhurika-bhālanātra* (v. 20) are given him. It is said that he obtained the kingdom by his own prowess and ascended the ancestral throne on the bank of the Tungabhadra, in the presence of god Virūpāksha (vv. 21 and 22).

In speaking of the ancestors of Virūpāksha, our record refers to the valour of Bukka I, the munificence of Harihara II, the prowess of Dēvarāya I and the wisdom of Vijayabhūpati. The same is pithily expressed in a single couplet elsewhere<sup>1</sup> thus:—

प्रज्ञो बुद्धमहोपाक्षो दाने हरिहरेश्वरः ।  
शौर्ये श्रीदेवराजेशो ज्ञाने विजयभूपतिः ॥

<sup>1</sup> South-Ind. Inter., Vol. I, p. 163, verse 15.

The statement that when Bukka I, one of the two earliest sovereigns of the Vijayanagara dynasty, ascended the throne, the prosperity of the Karnāṭa kingdom was well established, is of particular interest to the student of history, as it seems to hint the probable fact that the Vijayanagara dominion was founded on the ruins of the Hoysala (i.e. the Karnāṭa) dominion, which was wrecked by the Muhammadan invasions of South India; and shows also that the inveterate feud between the Vijayanagara kings and the Muhammadan monarchs should have risen even from the very inception of the new Hindu kingdom. There is not much doubt that the country over which Bukka ruled was a portion of the Karnāṭa empire and that the Vijayanagara kings were the political successors of the Hoysalas.

Of greater importance are the statements of our plates that Pratāpa, also called Praudhapratāpa, was the younger son of Vijayabhūpati, that he obtained from his elder brother,—showing clearly that he held a subordinate position under him,<sup>1</sup>—the government of Ghanādri, and that Virūpāksha II was his son.

The Satyamangalam plates of Dēvarāya (II)<sup>2</sup> state that Vijayabhūpati had two sons of whom the elder was called Dēvarāya and the younger Pratāpa-Dēvarāya. From this it is clear that both the sons had in common the name Dēvarāya. The existence of these two sons of Vijayabhūpati, though not with their names specified, is recognised in the three copper-plate grants of Virūpāksha known to us so far, viz. the Sajjalār plates,<sup>3</sup> the Śrīśailam plates<sup>4</sup> and the present Somalapuram grant. These, being directly concerned in tracing the main line of Virūpāksha, naturally enough, omit to mention the name of the elder. While the Śrīśailam plates call the younger Pratāpa-Rāya, the other two give the additional information that he was renowned by his title *Praudhapratāpa*. Thus, from all these sources it can be gathered that while the first son of Vijayabhūpati was known by the mere name Dēvarāya—with or without the common addition of Virapratāpa which is generally assumed by Vijayanagara kings—the younger was always called *Praudhapratāpa* or *Pratāpa-Dēvarāya* which is sometimes supplemented in stone records by the epithet *gajavēṇṇai-kandaruṇṇiya*. Among the stone records of Vijayanagara kings, the following are clearly attributable to the second son of Vijayabhūpati:—

|                                                        |                                                                                                |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------|
| No. 92 of the Madras Epigraphical collection for 1918. | Dated in Śaka 1351 in the reign of Pratāpa-Dēvarāya, son of Vira-Vijayarāya.                   |
| No. 91 of 1918 . . . . .                               | Dated in Śaka 1352 in the reign of Praudha-Dēvarāya-Mahārāya, son of Vira-Vijayarāya-Mahārāya. |
| No. 68 of 1918 . . . . .                               | Dated in Śaka 1367 in the reign of Pratāpa-Dēvarāya-Mahārāya, son of Vira-Vijayarāya-Mahārāya. |

Thus it is beyond doubt that the second son of Vijayarāya or Vijayabhūpati was not only called Pratāparāya and Praudhapratāpa, but had the additional name Dēvarāya suffixed to these names. Further, the Madras Museum plates of Dēvarāya II<sup>5</sup> refer to a younger brother of his named Śrīgiri who was governing Maratakanagara in A.D. 1424-5 and the Satyamangalam plates of Dēvarāya II, dated in the same year, imply that his younger brother Pratāpa-Dēvarāya was

<sup>1</sup> If Mr. Rice has correctly read *nijāgrajāprāptam-anādī-rājyam* (p. 136 of *Ep. Carn.*, Vol. III), it is evidently a mistake of the engraver for *nijāgrajāt-prāpta-Ghanādri-rājyaḥ* given in our plates. His remarks (*ibid.*, introduction, p. 23) that Pratāpa or Praudha-pratāpa obtained the immemorial kingdom from his elder sister requires modification.

<sup>2</sup> *Ep. Ind.*, Vol. III, p. 37 f.

<sup>3</sup> *Ep. Ind.*, Vol. XV, pp. 8 ff.

<sup>4</sup> This is a shortened form of *Praudhapratāpa*.

<sup>5</sup> *Ep. Carn.*, Vol. III, pp. 135 ff., ML 191.

<sup>6</sup> *Ep. Ind.*, Vol. VIII, pp. 306 ff.

ruling over the same district. There is thus no doubt that Pratāpa-Dēvarāya is identical with Śrīgiri and this fact has been pointed out by Mr. Venkayya in his *Annual Report on Epigraphy* for 1906 (p. 82). It may be added that the name Praudhapratāpa-Dēvarāya was already assumed by Dēvarāya I.<sup>1</sup> A stone inscription of this second son under the name Śrīgirinātha-Uḍayār, dated in Śaka 1348, has also been discovered.<sup>2</sup>

In the face of the inscriptional evidence furnished in a number of genuine copper-plate grants and stone records referred to above, we do not attach any value to conclusions differing from recorded facts as have been arrived at by the late Mr. T. A. Gopinatha Rao in editing the Śrīśailam plates, where he has vainly attempted to show that there was but one son of Vijayabhūpati, by name Dēvarāya. He has advanced no valid grounds for disproving the identity of Śrīgiri with Praudhapratāpa-Dēvarāya, the second son of Vijayabhūpati.

The first two sons of Vijayabhūpati being known by the name Dēvarāya, it is but natural to mistake the sons of one of the Dēvarāyas for those of the other. But the fact mentioned in our inscription, viz. that Virūpāksha was the son of the second son of Vijayabhūpati, whom we have pointed out above to have borne the full name *gajavēṭṭai-kaṇḍarūṭiya* Praudhapratāpa Pratāpa Dēvarāya, is of importance as it conclusively controverts the commonly accepted view, viz. that Mallikārjuna and Virūpāksha were the sons of Dēvarāya II, the first son of Vijayabhūpati. In this connection, we may point out that two unpublished stone inscriptions furnish definite information. They come from Kundāni<sup>3</sup> in the Salem District and Conjeeveram<sup>4</sup> in the Chingleput District and state that Mallikārjuna and Virūpāksha were the sons of *Gajavēṭṭai-kaṇḍarūṭiya Praudha-pratāpa-Dēvarāya-Mahārāya*. Here the mention of the epithet Praudhapratāpa makes it certain that the king referred to is the younger son of Vijayabhūpati. Another stone inscription of Virūpāksha,<sup>5</sup> dated in the cyclic year Śārvari, calls him the son of *Gajavēṭṭai-Pratāpa-Dēvarāya*. It may be noted that while the mother of Virūpāksha was Śiddhaladēvi, the mother of Mallikārjuna was Ponnaladēvi, who must have been two different queens of *Praudhapratāpa-Dēvarāya*, the second son of Vijayabhūpati.

Our record is dated in Śaka 1389, expressed by the word *nav-aṣṭa-guṇa-bhū*, Sarvajit, Kārttika month, bright fortnight, Utthāna-dvādaśī. According to Dewan Bahadur L. D. Swamikkannu Pillai's 'Ephemeris,' this date corresponds to Monday, 9th November, A.D. 1467. It may be noted that the stone inscriptions of this king range in date from Śaka 1387,<sup>6</sup> Vyaya to Śaka 1407<sup>7</sup> from which it would appear that he ruled for at least ten years. But the latter date is very doubtful as the record is damaged.

The generals and officers of this king made known to us from inscriptions are Viṭṭharasa, Oḍeya,<sup>8</sup> Sāluva-Tirumalarāya,<sup>9</sup> Sāluva-Narasimha,<sup>10</sup> and Siṅgappa-(or Śingapa-) Daṇḍanāyaka.<sup>11</sup> Of these, Viṭṭharasa-Oḍeya was in charge of Bārakūru and Mangalore which he was governing from Śaka 1387 to 1398. Tirumalarāya was in charge of Trichinopoly and Sāluva-Narasimha developed into a usurper in later years. Two stone records of Virūpāksha in particular are

<sup>1</sup> No. 138 of the Madras Epigraphical Collection for 1889.

<sup>2</sup> No. 63 of the same collection for 1909.

<sup>3</sup> No. 208 ditto 1911.

<sup>4</sup> No. 39 ditto 1890.

<sup>5</sup> No. 661 ditto 1904.

<sup>6</sup> Nos. 130 and 153 of 1901.

<sup>7</sup> No. 398 of 1908.

<sup>8</sup> Nos. 30 and 153 of the Madras Epigraphical Collection for 1901.

<sup>9</sup> *Kōyilōḷu* makes mention of this chief—see *Ind. Ant.*, Vol. XI, p. 141.

<sup>10</sup> See note 6, below.

<sup>11</sup> Nos. 22 and 158 of the Madras Epigraphical Collection for 1901.

worth mentioning in this connection, of which the one, dated in Śaka 1390, registers a gift by an agent of Sāḷava-Narasimha, and the other, dated in Śaka 1394, records a gift for the merit of the same chief.<sup>1</sup>

The subjoined inscription registers (i) a gift of land situated to the west of the Hagari river within the boundary of the village of Yammegēnūru in Mūḍa-nāḍu, a sub-division of Hastināvati-valīta, to a Brāhmaṇa resident of Niṭṭura, the son of Śāraṅgīrya, learned in the Vēdas, Sāṅkhya and Mimāṃsā and reputed as the author of a work called *Bhīṣhya-Bhūṣhā*; (ii) gift of lands under the tanks called Kṛishṇa-taṭāka, Kariyakere and in the village of Chiṭukanāhālu to another Brahman named Virūpākshārya, a physician and the son of Rasēśvara; and (iii) gift of the village of Sōmalāpuram, with its name changed into Virūpikshapuram, to a certain Virapārya, who, in turn, appears to have distributed it among Brahmins, dividing it into 60 *vrittis*. The distribution of the full 60 *vrittis* among Brahmins is not given. But it is said that four Brahmins and three others connected with the issue of the copper-plate grant received  $8\frac{1}{2}$  shares. The account for the rest is omitted, but it is evident from the blank space preceding verse 46 that possibly one or more plates containing the names of the rest of the *vritti* holders, which were intended to be inserted, have not been so done. The description of the boundary marks too, which must have followed this verse, is omitted, as already remarked.

Of the geographical names found in this inscription, Niṭṭura, Chiṭukanāhālu, and Sōmalā-pura are villages situated in the Bellary taluka; Hastināvati is another name for Ānegondi near Hampi; Yammegēnūru is in the Bellary taluka at the place where it borders on Hospet; and the river Hagari bears the same name even now. It is noteworthy that the old name Sōmalāpura is retained at present while its later name Virūpikshapuram given in Śaka 1389 has not survived. *Khāri*, according to the dictionaries, is equal to 3 bushels and perhaps indicates the extent of land by its sowing capacity. The two tanks, Kṛishṇa-taṭāka and Kariyakere, must be looked for also in the Bellary taluka.

The composer of the grant was Durga-Bhaṭṭa, son of Mādhavārādhyā, who figures also in MI. 121; and the engraver was the goldsmith Virapārya, son of Muddanārya.<sup>2</sup> This engraver is perhaps identical with Virapārya, the father of Mallapa, who incised the inscription MI. 121.

[The following metres are employed: vv. 1-3, 5, 7, 11, 14, 15, 17, 20-53, *Anuṣṭubh*; vv. 4, 10, *Śāradavikrīḍita*; vv. 8, 12, 13, 16, 19, *Upajāti*; vv. 6 and 18, *Upēndravajrā*; v. 9, *Mālinī*; and v. 54, *Śālīnī*.]

#### TEXT.

##### First Plate.

- 1 श्रीगणाधिपतये नमः । नमस्तु(स्तु)गति(गि)रक्षुविचद्वामरचारवे । चे-
- 2 लोचनगरारंभमूलस्तंभाय शंभवे ॥ [१\*] रक्षायै जगतां भूयाददयाकुर्वि-
- 3 रदाननः [१\*] पायक्रोडाविधौ यस्य पश्यन्ति पयोधयः । [२\*]  
<sup>३</sup>नमस्तु(स्तु)गति(गि)रक्षु-  
 4 दाय यद्वानाकमूर्धनि । सप्तद्वीपवतो पृथ्वी लीलावज्रोरदृष्ट(श्च)तः<sup>४</sup> । [३\*]

<sup>1</sup> No. 79 of the Madras Epigraphical Collection for the year 1919 and No. 183 of the same collection for the year 1902.

<sup>2</sup> The Śrīsaḷam plates were also incised by the same person (see above, Vol. XV, p. 19) where the name of the person occurs as Virapāchārya, son of Muddanāchārya.

<sup>3</sup> Cancel the *visarga*.

<sup>4</sup> Omit the *visarga*, लीलावज्रोरदृष्टते is the reading in MI. 121.

- 5 'अस्मि(स्ति) श्रीकमलालयानुजतया दीव्यममोमंडले नक्षत्राधिपति[:\*] प्र-  
 6 भाभिरनिसं(ग्रं) दि[स्त्रं]डलोक्षासक[त्] [1\*] क्षोराविप्रभवः कलानिधिरि-  
 7 ति ख्यातसु(सु)धासु(शु)[:\*] च(स्त्र)यं <sup>1</sup> मोक्षो यस्य(च) विभूषणत्वमगम-  
 च्छभोर्भवा-  
 8 नीपते[:\*] ॥ [४\*] वंसे(शे) तस्यैव संजातो यदुर्नाम महीपतिः [1\*]  
 यद्वंस(श)जेन भू-  
 9 [रि]षा वासुदेवेन पालिता । [५\*] यस्मिन्संगरजिह्व<sup>३</sup>(त्य)भंगुरभर<sup>४</sup> प्रत्यर्थिपृष्ठी-  
 10 भृतां 'साथौ(यै)भंगमुपागतैरपि गता दिङ्मडलो संभ्रमा[त्\*] । तत्कोर्त्तिर्वि-  
 11 वरोषु<sup>५</sup> गच्छति पुरो दिङ्माथवृंदेष्वहो सहस्रः शशिमौळिमंडन-  
 12 मणि[:\*] शो(सो)भूत(च)पः सगमः ॥ [६\*] ततोभूदुक्तभूपालः सर्वभूप-  
 कुलाग्रणी[: 1\*]  
 13 यत्प्रतापानले सर्व(र्व) पतंगत्वरिभूभृतः ॥ [७\*] कर्नाटलक्ष्मी[:\*] सविलास[मा]-  
 14 स यस्मिन्महीपे महनोयकोत्तो(र्त्तौ) [1\*] भूमिस्तथैवाप<sup>६</sup> वसुंधरात्वं स्थिरिति नाम  
 15 प्रथमं गुणोषे<sup>७</sup> ॥ [८\*] उदयमुद[य\*]शैलादुद्यदुद्दामतेजा[:\*] शस(श)धर  
 इव ब्रू(वृ)कक्ष्मा-  
 16 'भृतःस्तुंगमौले । हरिहरनरपालः प्रापदास[रि](शा)[:\*] समस्था(स्ताः) कारष्टत-  
 वसुपूरे[:\*]  
 17 पूरयन् पूर्णधामा ॥ [९\*] येनाकारि कलो(लिः) कृताधिकतरो येने(नै)ष  
 [वं]द्वापत(यः) क-  
 18 मंत्र(त्र)पथोजनो(नि)<sup>१०</sup> प्रस(श)मिताशेषोपसर्गः परा(रं) [1\*] येनांभोनिधि-  
 मेखला वसु-  
 19 म[ती] धर्मेण संरक्ष(क्ष्य)ते तस्थानेकदिगीस(श)पालि[त]<sup>११</sup>यशोविभवस्य केनो.<sup>१२</sup>  
 20 पम(मा) ॥ [१०\*] [मे]कादेवीति विख्याता श्रीपार्वत्योस्तु मेकना[त्\*]  
 सासीव्याया<sup>१३</sup> महोभर्त्तु[:\*]

<sup>१</sup> Ml. 121 has स्तस्ति.<sup>२</sup> Delete the punctuation.<sup>३</sup> जिह्व is also the reading in the Kannada text of Ml. 121 (see p. 203 of *Ep. Carn.*, Vol. III); but it is read as जिह्व in the romanised text given on p. 135. Read यस्मिन् संगर.<sup>४</sup><sup>४</sup> Read 'भर'.<sup>५</sup> 'संघे' is the variant given in Ml. 121.<sup>६</sup> Read वरोषु.<sup>७</sup> 'सथा' is the reading in Ml. 121.<sup>८</sup> गु is a correction from पु; read गुणोषे.<sup>९</sup> Read भृतस्तुङ्गमौले.<sup>१०</sup> Ml. reads पथोजनी.<sup>११</sup> त is a correction from च.<sup>१२</sup> The Kannada text of Ml. 121 has सेनोपमा (p. 203 of *Ep. Carn.*, III) and the romanised text has *senoṣpama* *ibid.*, p. 135).<sup>१३</sup> Another variant of this is सासीव्याया which is found in Ml. 121.

- 21 स[र्व्वर्था]<sup>1</sup> पुस्सलक्षणा ॥ [११\*] इन्द्रः स्रदोषं परिहर्त्तुकम्पे भूमावधोस्ता(स्व) घ-  
 22 तिपन्न[रूपः] [1] प्रतापपूर्व[:\*] किल देवरायः प्रतापतो भूमिमपरलय-  
 23 [स्वः] [1] [१\*] प्रातापवन्हो<sup>2</sup> परिहृंभमाणे शुष्कास्तुष्टका अपि यस्य  
 राज्ञः [1\*] रि-

## Second Plate; First Side.

- 24 पुच्छितीश[1\*]स निरस्तधैर्यः<sup>3</sup> कातारवस्मोककतात्मरक्षाः ॥ [११\*] तस्य देमावि-  
 25 काभर्त्तुः पुत्रः शत्रुप्रमर्दनः [1\*] विद्यानिधिर्विशेषज्ञो वीरो विजयभूपतिः ॥ [१४\*]  
 26 तस्य नारायणीदेव्या<sup>4</sup> प्रादुरासीद्यशोधनः । प्रौढप्रतापविभवः प्रता-  
 27 पाख्यो महीपतिः ॥ [१५\*] गुणैर(र)नेकै वनौतकेस्मिन्<sup>5</sup> निराजमानस्यु-  
 28 क्ताप्तकीर्त्तिः [1\*] निजाप्रजात्<sup>6</sup> प्राप्तघनाद्विराज्यः सार्थीकृतार्थिव-  
 29 जपरिजातः ॥ [१६\*] तस्य शिङ्गलदेवीति भार्या सर्वगुणाश्रया ॥  
 30 लक्ष्मीना(नी)र[1\*]यणसे(स्वे)व स(श)[ची]व<sup>7</sup> नमुचिद्विषः ॥ [१७\*] तस्य<sup>8</sup>  
 सि(शि)वः प्रादुरभू-  
 31 हुणाख्यो नाम्ना विरूपाक्ष इति प्रसिद्धः [1\*] राजाधिराजः क्षितिपा-  
 32 लमौळि[र्व्व]दान्यमूर्त्ति(र्त्ति): कस्तुरैकसिंधुः ॥ [१८\*] निजप्रतापो[द]धि[ग]-  
 33 त्य राज्यं समस्तभाग्यै[:\*] परिसेव्यमानः [1\*] खड्ग(श्चा)घतः<sup>9</sup> सर्वरिपून्वि-  
 34 जित्य स मोदते वीरविलासभूमिः ॥ [१९\*] शु(शु)रिकाभालनेत्रो(त्रे)ति वि-  
 35 ख्यातः प्रतिपं(प)रधीः । मूरारायरगंडांकः पररायभं(भ)यंकरः [1\*]  
 36 हिंदुरायसुरजाण इत्यादि विरु[दो]क्षतः ॥ [२०\*] तुंगभद्रानदीती-  
 37 रे<sup>10</sup> विरूपाक्षस्य सनिधौ [1\*] पित्र्य<sup>11</sup> सिंहासनं प्राप्य पाण्ड्यगुण(क)-  
 वनोसिमां ॥ [२१\*] पुं(पु)-  
 38 ख्यसोकाग्रगं(ग)ख्योसौ विरूपाक्षचित्तीस्र(स्व)रः । धर्मस्थानगते[:]  
 39 सद्भिः संयुतो<sup>12</sup> चरणीसुरैः<sup>13</sup> ॥ [२२\*] शास्त्रिवाङ्मननिर्णीतशकच-  
 40 र्चक्रमागते । न[वाष्ट]गुणभूयुक्ते सर्वजिह्वसरे शुभे ॥ [२३\*] मासे कार्तिक-

<sup>1</sup> Perhaps the correct reading is सर्व्वर्था or सर्व्वर्था; Ml. 121 has सर्व्वर्था.

<sup>2</sup> Ml. 121 has वंशे; read प्रतापवन्हो.

<sup>3</sup> Read कातार°.

<sup>4</sup> Read देव्या°.

<sup>5</sup> Cancel न्.

<sup>6</sup> See note 3, p. 4, above.

<sup>7</sup> Ml. 121 has सिंङ्गलदेवी.

<sup>8</sup> सची नमुचिद्विषः is the reading in Ml. 121.

<sup>9</sup> The variant found in Ml. 121 is संयामतः.

<sup>10</sup> Cancel the *danḍa*.

<sup>11</sup> दिव्यं is the reading that occurs in Ml. 121.

<sup>12</sup> संयुक्ती is another variant found in Ml. 121.

<sup>13</sup> The Kannada text of Ml. 121 has चरणीसुरैः, but the romanised-text reads correctly सुरैः.

- 41 विख्याते सिते पक्ष[क्षे] विशेषतः । उत्थाना(न)द्वादसी(श्री)पुणा(स्थ)काले  
चापि नृपो-  
42 तमः [1] [२४\*] राजाधिराजः<sup>१</sup>स्तेजस्वी यो राजपरमेश्वरः [1] [वि]रूपाक्ष-  
क्षितोशो-  
43 ध(थ) धर्मबुद्ध्या युतः सुधीः । [२५\*] आचयेयाय <sup>२</sup>रुग्धयेने निद्रुरस्थस्त्वामि-  
44 ने । सां(सा)रंगार्यसुतायाय सर्वशास्त्रविदे तथा । [२६\*] भाष्यभूषाक[रा]-  
45 याय सांख्यामोसांसवेदिने । <sup>३</sup>सौवशास्त्रप्रवाणोय चतुष(ष)ष्टिकका(ला)-  
46 नि(वि)दे । [२७\*] षडंगसहितं वेदं वेदार्थं वेत्ति भूमुरः [1\*] तस्मै  
द्विजाय भू-  
47 [पालो] हस्तिनावतिवर्कितगं(गां) । [२८\*] मूडनाडस्थितं(तां) चैव हृगरे[\*]  
प[श्चि]-

*Second Plate; Second Side.*

- 48 मे स्थितं(तां) । यंमेगैरू सौम्येव ।<sup>४</sup> खारो भूमिं महीपतिः [1\*] [२९\*]  
प्रादात्तथा च स(म)हि-  
49 तं क्षेत्रं सख्यफलप्रदं ॥ [२९½\*] भारद्वाजाय विदुषे ।<sup>५</sup> रसेश्वरसु-  
50 ताय च । विरूपाक्षार्यमिषजे <sup>६</sup>रुक्म्याखां(खा)ध्या[यि]-  
51 ने तथा ॥ [३०\*] खारिसप्तप्रमाणं च [त]टाके क्षणसंज्ञिते[1\*]  
करियकेर्ये-  
52 ति विख्याते खारिचयमितां भुवं । [३१\*] चिटुकनाहाकु नाम्न्येव  
खारिचयमितां  
53 भू(भु)वं । मिक्त्वा खारिसंख्यां(ख्या)च त्रयोदश सुविश्रुता ॥ [३२\*] च(त)नख्यं  
ग्राममेकं तु सो-  
54 मलापुरनामकं [1\*] अस्माकं भो विरूपाक्षमहीनाय ददस्व नः<sup>७</sup> । [३३\*] इ[ति]  
55 विज्ञाप्य भूमर्त्तुविरूपा[क्ष]महीपतेः [1\*] वि(वो)रणार्य[\*] स्वयं लब्ध्वा(ब्ध्वा)  
ग्रामं<sup>८</sup> चा[त्र]  
56 महीस्व(श्च)रात् ॥ [३४\*] शृ(श्रु)त्वा विज्ञापनं तस्य विरूपाक्षमहीपतिः[\*] ।  
[३५\*] निधिनित्ये-

<sup>१</sup> Delete the *visarga*.

<sup>२</sup> Read *क्ष*.

<sup>३</sup> Read *क्ष*.

<sup>४</sup> Either the word *अस्माकं* or *नः* should be cancelled; otherwise there would be redundancy.

<sup>५</sup> We should have expected *वीरवार्द्धेय संज्ञा* *ग्राम* *नाम*. For the pleonastic use of the words *महीपते*; and *महीवरात्* see above, note 1.

<sup>६</sup> Read *सर्वशास्त्रप्रवीणाय*.

<sup>७</sup> Cancel the *danḍa*.

<sup>८</sup> The *ē* of *रे* seems to have been erased in the original.

- 57 यसंयुक्तं जलपाषाणमिश्रितं । अक्षिण्यागामिसंयुक्तं <sup>1</sup> सिद्धसाज्जस-  
 58 मन्वितं । [३६\*] अष्टभोगैश्च संयुक्तं कुल्याराममन्वितं [1\*] समस्तवक्सिंसंयु-  
 59 क्तं सर्वमान्यं फलप्र[दं] । [३७\*] तुंगभद्रानदीतीरे विरूपाक्षस्य सं(स)विधौ[1\*]  
 60 सहिरं(र)ण्योदक(कं) दानधारापूर्वं यथाविधि [॥३८\*] विरूपाक्षपुरं चेति-  
 61 प्रतिनाम विधाय च ॥ भोक्तुं दातुं द्विजेभ्यश्च प्रादादा[चंद्र]तारकं । [३९\*]  
 62 सोऽपि द्विजश्च संतुष्ट[1\*] संयुतः परया सुंदा [1\*] अक्षरं(रो)दाशिवं राक्षे  
 चिरं-  
 63 जीवी भवत्विति ॥[४०\*] गोत्रं शाखा पितुर्नाम द्विजानां च यथास्थितं [1\*]  
 लिख्यं-  
 64 ते वृत्तिसंख्यात्र षष्टिसंख्या यथाक्रमात् [॥ ४१\*] श्रीवत्सो <sup>३</sup>रुगधीतश्च [हेम]-  
 65 णार्यसुतः सु(स)धीः [1\*] मक्षिभट्टेति विख्या(स्था)तो वृत्तिमेकामिहान्युते ॥  
 [४२\*] वासि-  
 66 षो(ष्ठो) रुगधीतश्च <sup>४</sup>वक्षभट्टसुतः सुधीः[1\*] । [दु]र्गभट्टेति <sup>५</sup>विख्यातो  
 वृत्तिमे[का]मिहान्यु-  
 67 ते ॥[४३\*] हारीतो <sup>६</sup>रुगधीतश्च हंपणार्य[सु]तः सुधीः[1\*] [सारंगार्यश्च  
 वि]ख्यात[1\*] सार्ध[मेक]-  
 68 . .[सुतः] [॥ ४४\*] आचैयोथ रुगध्येत भायणा[र्य]स्य [नंदनः] [1\*] भायिभट्टो  
 द्विजश्रेष्ठो(ष्ठो) वृत्ति-  
 69 [द्वयमि]हान्युते ॥[४५\*]

Third Plate. <sup>८</sup>

- 70 <sup>९</sup>तैस्त्रै[स](स्त्र)मन्वितश्चिन्हे<sup>१०</sup>दि-  
 71 च्च प्रास्या(च्या)दिषु क्रमात् [1\*] सोमानोश्वा(स्वा)ग्रहारस्य लिख्यंते  
 द्वेष(श)भाषया [॥४६\*]  
 72 वासिष्ठो(ष्ठो) वं(व)न्व(वृ)चो विद्वान्  
 73 ऐतयार्यसुतः सुधीः [1\*] वक्षभो रायसञ्ज्ञा(स्वा)मि(मी) वृत्ति<sup>११</sup>मेकामिहान्युते ॥  
 [४७\*]

<sup>१</sup> Cancel the *danḍa*.<sup>२</sup> च is a correction from सु.<sup>३-४</sup> Read रुगधीतश्च.<sup>५</sup> Read ०मह वृत्ति.<sup>६</sup> Read रुगधीतश्च.<sup>७</sup> Read रुगधीता.<sup>८</sup> At the top of this plate, a little below the right side of the ring-hole, is the letter *vi* which I am not able to explain.<sup>९</sup> The line begins about the middle of the plate.<sup>१०</sup> Like वन्व in line 23 वृ is written with a preceding *va*. The grammatically correct form would be *viced*.<sup>११</sup> The two syllables मेका are written over an erasure.



- 74 त्वष्टा ओम्नुहवाचार्यस्तुः मासपत्नी[च]कः [1\*] वीरयः सुगुणो धौमा[न्]  
 75 वृत्तिमेकामिहाप्युते ॥[४८\*] आचैयो वाजुषो धौमाश्माधा(ध)वाराध्वनं-  
 76 नः [1\*] 'मासनः' शंयकविद्वान् दुष्मा(र्ग)भट्टोच वृत्तिभाक् ॥[४९\*]  
 दानपाल[नयो]-  
 77 मध्ये दानाच्छे(च्छे)योगुपालनं [1\*] दानास्व(स्व)र्ममवाप्नोति पालनादसु(सु)तं  
 78 पद ॥[५०\*] स्वदत्तादि(दि)गुणं पुं(पु)ण्यं परदत्तानुपालनं [1\*] परदत्ताप[हारे]-  
 79 ण स्वदत्तं निष्कलं भवेत् ॥[५१\*] स्वदत्ता(त्ता) परदत्ता वा यो हर(रि)त  
 वसुं-  
 80 धरा । वष्टिर्व[रस]हस्राणि विष्टायां जायते त्रि(क)मि[1\*] ॥ [५२\*]  
 एकैव भयि-  
 81 नी लोके सर्वेषामिव भूभुजा [1\*] न भोण्या न ख(क)रयाहा(ह्या)  
 विप्रदत्ता [वसुं]-  
 82 धरा ॥ [५३\*] सामान्योयं धर्मसेतुं<sup>४</sup>नृपाणां काले काले पाल[नीयो]  
 भवति[1\*] [1\*]  
 83 सर्वाने[ता]न् भाविनः पार्थिवेन्द्रान् भूयो भूयो याचते राम[चंद्रः] ॥[५४\*] सो[1\*]  
 84 Śrī-Virāpākṣa.<sup>5</sup>

## TRANSLATION.

(Line 1.) Obeisance to Gaṇādhīpati.

(V. 1.) Invocation to Śiva [by the common verse *namas=tuṅga*, etc.].

(V. 2.) May the merciful elephant-faced (god), in the course of whose water-sport the oceans become (mere) ponds, protect the worlds.

(V. 3.) Salutation to that boar, at the tip of whose stalk-like snout, the earth, comprising the seven islands, seemed (*to possess the beauty of*) a lovely lotus.

(V. 4.) There is the Lord of stars (*i.e.* Moon), the younger brother of her who resides in the lotus (*i.e.* Lakṣmī), who shines in the region of the firmament with his (lustrous) ray and constantly illuminates the quarters, who is born of the milk-ocean and is renowned as the depository of *kalas* (digits), himself being made of nectar rays and who has obtained the position of a jewel in the head of Śambhu, the consort of Bhavāni (*i.e.* Pārvatī).

(V. 5.) In his family was born the king named Yada; and this world was protected by Vāsudēva who was born in that family.

(V. 6.) There was king Saṅgama of good conduct, wearing Śaśimauli (Śiva) as an ornamental jewel; on whose victory in battles, the crowds of enemy kings heavily burdened (with numbers) though vanquished reach the cardinal points in great haste; (but) whose (*i.e.*, the King's) fame moves further on (passing) through intervening spaces amidst lords of the (eight) directions.

<sup>1</sup> Canceled the *virāga* after *n*.

<sup>2</sup> The rest of this line and the next line up to वृत्तिभिः are written on an erasure.

<sup>3</sup> Read 'वृत्ति'.

<sup>4</sup> Read 'सेतुनृपा' . . . . . In Kannada characters.

(Vv. 7 and 8.) Then came king Bukka, the foremost of the kingly race, in the fire of whose valour the hostile rulers were consumed as moths. In this king of great fame, the goddess of prosperity of the Karnāṭa (kingdom) rested with pleasure. And the goddess of the earth also for the first time realised the (significance of her) names *Vasundharā* and *Stihirā* on account of her qualities of bearing wealth and remaining permanent.

(V. 9.) Like the moon of bright lustre rising from the Udaiya-Śaila of lofty peak, king Harihara of rising full glory took his birth from king Bukka who wore a splendid crown and filled all the quarters with abundant wealth acquired by taxation as the moon with the exuberent lustre of his rays.

(V. 10.) What could stand comparison with him the reflection of whose fame is protected by the deities of the quarters, by whom the (stern) Kali age has been turned into one better than the (golden) Kṛita age; by whom was caused the highway of the school of philosophy which considers Duty (*Karma*) as god (*Brahmā*) free of all obstacles, and by whom the earth, having for (its) girdle the oceans, was ruled with justice.

(V. 11.) She, who was called *Mēlādēvi* because she was a combination of Śrī (i. e. *Lakṣmi*) and *Pārvatī* and was in every way possessed of auspicious marks, was the consort of this king.

(Vv. 12 and 13.) Indra, desirous of removing his stains, obtained on earth the form of this (king) and in the name of *Dēvarāya*, with *Pratāpa* prefixed to it, ruled the world with his prowess. In the glowing fire of this king's valour, the *Turushkas* were scorched up and (other) hostile monarchs, with (their) bravery lost, sought self-protection in forests and ant-hills.

(V. 14.) The son of this husband of *Dēvāmāyikā* was *Vijayabhūpati*, the destroyer of his enemies, the store-house of learning, of supreme knowledge and a hero.

(Vv. 15 and 16.) To him, through *Nārāyaṇidēvi*, was born the king called *Pratāpa*, renowned as *Praudhapratāpa*, who had fame for wealth. He shone on this earth with many virtues, obtained fame by meritorious deeds, got the (kingdom) of *Ghanādri-rājya* from his (uterine) elder brother and was a *Pārijāta* in granting their desired objects to crowds of mendicants.

(V. 17.) His wife was *Śiddhaladēvi*, the resort of all good qualities, like *Lakṣmi* to *Nārāyaṇa* and *Śachi* to the enemy of *Namuchi* (i. e. *Indra*).

(V. 18.) Śiva (himself) was born of her under the well-known name of *Virūpāksha*, full of good qualities, a *rājādhirāja*, the head-ornament of kings, a munificent person and the one ocean of mercy.

(V. 19.) Acquiring the kingdom through his own prowess, attended with all kinds of prosperity, and conquering all his enemies with the point of his sword, he, as the play-ground of heroism, rejoices.

(V. 20.) He who is renowned as *Chhurikā-Bhālanētra* (i. e. Śiva in wielding the sword) and ripe of wisdom holds the high (sounding) titles, such as *Mūruṇḍayagaṇḍa*, *Pararāya-bhayāṅkara* and *Hindurāyasuratrāṇa*.

(Vv. 21 to 29.) On the bank of the *Tuṅgabhadra* river (and) in the presence of (the god) *Virūpāksha*, having obtained his ancestral throne, this king *Virūpāksha*, the foremost (among those) possessing noble virtues, rules the earth, surrounded by pious *Brāhmaṇas* assembled in his court. In the course of the Śaka years determined by the *Śalivāhana*-[Era], in the excellent year *Sarvajit* (corresponding to the year) expressed by *nine, eight, guṇas* (three) and *bhū* (one) (i. e. 1389), on the auspicious occasion of *Uttānadvādasi*, in the bright half of the month of *Kārttika*, he, the best of kings, the wise *Virūpāksha*, a *rājādhirāja* (and) *rājaparamēśvara*, of great valour, with the intention of making charity, made a grant to a *Brāhmaṇa* resident of *Nittura*, who was the son of *Sāraṅgārya*, who belonged to the *Ātrēya*-[gōtra], and was a student of the *Rik*-[Śākha], who was well versed in all the *Sūtras*, who knew the sixty-four arts

as well as the Sāṅkhya and the Mīmāṃsā (systems of philosophy), who was learned in the Vēdas and the six *aṅgas* (branches) with their meaning, and who was the author of the *Bhāṣhya-Bhāṣhā*, of (one) *khāri* of land situated to the west of the Hagari (river), within the boundary of (the village of) Yammegēnūru in Māda-nāḍa and in (the sub-division of) Hastināvati-valita.

(Vv. 30 to 32.) Again he gave to the scholar and physician Virūpākshārya, son of Rasēśvara of the Bhāradvāja-[*gōtra*] and a student of the Rik-Śākhā, 7 *khāri* of valuable land yielding grain and fruit under the tank called Kṛishṇa, 3 *khāri* of land under (the tank) known as Kariya-kēre and of 3 *khāri* of land in (the village) called Chitukanāhāḷu—thus in all, the number of 13 *khāris*.

(Vv. 33 to 39.) Having petitioned thus to king Virūpāksha “Oh! King Virūpāksha! grant me the village situated there named Sōmalāpura”, Virāṇārya obtained from the king the (said) village. On hearing the request, king Virūpāksha made, in the presence of the god Virūpāksha on the bank of the river Tuṅgabhadra, a *sarvamānya* gift with gold and water, accompanied by libation of water as laid down by rule, of the fertile village (Sōmalāpuram) with all its royal revenue<sup>1</sup>, together with canals and gardens, with its name changed into Virūpākshapuram,—for being enjoyed as long as the Moon and the Sun endure, or for being given away to Brāhmanas,—together with the eight kinds of enjoyment, i.e. (the right to own) the *nidhi*, *nikṣēpa*, *jala*, *pāshāṇa*, *akṣhiṇi*, *āgāmi*, *siddha*, and *sādhya*.

(V. 40.) The Brahman too, pleased and overpowered with joy, blessed the king with long life.

(V. 41.) (Here) will be written, in order, the *gōtra*, *śākhā* and the father's name and the names of the Brahmanas. The number of *vriddhis* (who received shares in the village) is sixty.

(Vv. 42 to 45 contain the names of four of these donees.)

| Vers. | Name of the donee. | Father's name.        | Gōtra.          | Śākhā.    | Number of <i>vriddhis</i> owned. |
|-------|--------------------|-----------------------|-----------------|-----------|----------------------------------|
| 42    | Mallī-Bhaṭṭa . . . | Hēmanārya . . .       | Śrīvatsa . . .  | Rik . . . | 1                                |
| 43    | Durgā-Bhaṭṭa . . . | Vallabha-Bhaṭṭa . . . | Vāsishṭha . . . | Do. . .   | 1                                |
| 44    | Sāraṅgārya . . .   | Hampanārya . . .      | Hārīta . . .    | Do. . .   | 1½                               |
| 45    | Bhāyi-Bhaṭṭa . . . | Bhāyanārya . . .      | Ātrēya . . .    | Do. . .   | 2                                |

(V. 46.) The boundaries of this Brahman village (*agrahāra*) with their respective marks are written (below) in the language of the country, in the four directions commencing with the east, in order.

(V. 47.) The wise and learned Vallabha, son of Aitayārya, and the chief of the Secretaries (*Rāyasa*) belonging to the Vāsishṭha-[*gōtra*] and the Bahvricha-[*Śākhā*], holds one *vriddhi* (in this village).

(V. 48.) The intelligent smith Virāṇa of virtuous qualities, (who was) the engraver of this document and the son of the prosperous Muddanāchārya, holds one *vriddhi* (in this village).

(V. 49.) The learned and intelligent Durgā-Bhaṭṭa of the Ātrēya-[*gōtra*] and the Yajnas-[*Śākhā*], the composer of this document and the son of Mādhavarādhya, owns one *vriddhi* (in this village).

(Vv. 50 to 54.) [Five of the usual imprecatory verses.]

(Line 84.) *Śrī-Virūpāksha*.

<sup>1</sup> The word *वसु* has perhaps to be corrected into *वसि*

## No. 15.—THE BRAHMA-SIDDHĀNTA OF BRAHMAGUPTA, A.D. 628 :

## MEAN SYSTEM.

BY ROBERT SEWELL (I.C.S., RETIRED).

(Continued from Vol. XVII, p. 187.)

321. The Tables published in my last article (*above*, Vol. XVII) enabled the dates of ancient Indian inscriptions and records to be verified according to the requirements of the *Brahma-Siddhānta* with, as basis of calculation, the "true" or apparent motions of sun and moon. This mode of reckoning appears to have been introduced in the 11th century A.D. But the *Brahma-Siddhānta* was composed in A.D. 628 and for at least four centuries after its appearance details for the Calendar were almost certainly based on mean planetary motions; while it is believed that this mean system continued to guide the preparation of *pañchāṅgas* (almanacs) till a much later date—perhaps for several centuries in some parts of the country.

For the correct verification, therefore, of early dates it is necessary for historians to be provided with a set of Tables based on mean planetary motions and the postulates of the *Brahma-Siddhānta* in addition to those based on mean motions and the postulates of the *Ārya-Siddhānta*. The latter were provided in a previous article in this volume. The former are presented herewith. They cover a period of 800 years, from K.Y. 3700 to 4500, or from A.D. 599 to 1400.

The system of work is the same as in all my previous Tables, that is to say, it is the system of Largeteau as adopted by Professor H. Jacobi in the *Indian Antiquary*, Vol. VIII, and in the *Epigraphia Indica*, Vol. XI. Full examples shewing the method of work, which is very simple, are given in my former articles; others, specially concerning the system of mean reckoning on *Brahma-Siddhānta* principles, are given below.

In case of doubt as to which of the Tables already published should be used in the present case attention is directed to the accompanying § 329.

322. In examining the dates of records in earlier years it is necessary to remember that the modes of reckoning adopted were not always the same as those used in more recent years. As to eras, reference to articles 6-12 of my former work, *Indian Chronography*, is recommended. For other matters the late Dr. J. F. Fleet's remarks in the *Journal of the Royal Asiatic Society* for 1912, pp. 704-5, will be found very valuable.

Especially let it be borne in mind that the lunar month reckoning in early years was probably carried out on the *pūrṇimānta* system. According to the late Professor Kielhorn the earliest known date certainly in *amānta* reckoning belonged to the year A.D. 794. It is contained in the *Paithān* plates of the *Rāshtrakūṭa* king Govinda III (*Epig. Ind.*, III, 105; *Ind. Ant.*, XVII, p. 142, No. 9). As regards these two systems, the *amānta* and *pūrṇimānta* names of lunar months, see *Indian Calendar*, §§ 13, 45 (with Table on p. 26), 47, 51, and the late Sankara Balkrishna Dikshit's footnote on p. 31; also *Indian Chronography*, §§ 75, 76, p. 31.

*Elements of the Brahma-Siddhānta mean reckoning.*

323. The principal elements are fully stated in my former article on this authority (*above*, Vol. XVII, § 313). For calculation on the mean system the following notes are necessary.

(i) The length of the mean sidereal solar year is  $365^d 6^h 12^m 9^s$ , a fixture afterwards adopted by Bhāskarāchārya in his *Siddhānta-Sirṇmani*, A.D. 1150.

(ii) The advance of  $a$  (distance of mean moon from mean sun)—which finally fixes the index of the *tithi* ( $\frac{1}{30}$ th of a mean lunation) in measurement by 10,000ths of circle—in every civil day of 24 hours and in hours, minutes and seconds, has already been given for the *Siddhanta-Sirōmaṇi* in Tables LIV, A and B (*above*, Vol. XV). These Tables are applicable to the *Brahma-Siddhānta*.

(iii) For the sun's mean motion per day, hour, minute, etc., see Tables XLIII and XLIV (*above* Vol. XIV).

(iv) The advance of  $a$  in one mean solar month is, in 10,000ths of circle, 307·349156595.

(v) Each solar month consists of  $30^d 10^h 31^m 0^s \cdot 75$ . Table XCI below shews the interval of days, hours, etc., between the moment of mean *Mēsha-samkrānti*, when the mean sun is at celestial long.  $0^\circ$  (Table XC, cols. 13-17), and the moment of each subsequent *samkrānti* when the mean sun enters each of the twelve signs; and so enables the day and time when each mean solar month begins to be ascertained. The same Table gives the advance of  $a$  from its value at the moment of mean *Mēsha-samkrānti* to the same at each subsequent *samkrānti*.

(vi) The interval between the moments of true and mean *Mēsha-samkrānti*, i.e. between the moments of the astronomical beginning respectively of the true and mean solar year, which interval we call the *śodhya*, varies slightly year by year in consequence of the postulated shift of the sun's apsis (§ 313, VII, *above*). The exact intervals, century by century from K.Y. 3700 to 4300, were given above in § 315. The Table is here repeated and extended so as to embrace the whole period of the general Table XC below. The quantities were computed by Dr. Robert Schram.

TABLE B.

(*above*, p. 126.)

VALUE OF *śodhya* BY THE *Brahma-Siddhānta*.

| Kaliyuga. | A.D.      | ŚODHYA AT BEGINNING OF CENTURIES. |    |    |         | Days and decimals. |
|-----------|-----------|-----------------------------------|----|----|---------|--------------------|
|           |           | D.                                | H. | M. | S.      |                    |
| 3700      | 599-600   | 2                                 | 4  | 8  | 59·8128 | 2·1729145          |
| 3800      | 699-700   | 2                                 | 4  | 9  | 2·0160  | 2·1729400          |
| 3900      | 799-800   | 2                                 | 4  | 9  | 4·2192  | 2·1729655          |
| 4000      | 899-900   | 2                                 | 4  | 9  | 6·4224  | 2·1729910          |
| 4100      | 999-1000  | 2                                 | 4  | 9  | 8·6256  | 2·1730165          |
| 4200      | 1099-1100 | 2                                 | 4  | 9  | 10·8288 | 2·1730420          |
| 4300      | 1199-1200 | 2                                 | 4  | 9  | 13·0320 | 2·1730675          |
| 4400      | 1299-1300 | 2                                 | 4  | 9  | 15·2352 | 2·1730930          |
| 4500      | 1399-1400 | 2                                 | 4  | 9  | 17·4384 | 2·1731185          |

*The moment of mean Mēsha-samkrānti, or the beginning of the mean solar year.*

324. The general Table which follows (Table XC, cols. 13-17) states the moment of beginning of each mean solar year according to the *Brahma-Siddhānta*. The first entry is for the expired year 3700 of the Kaliyuga (A.D. 599-600), in which year the astronomical beginning is fixed as at 5<sup>h</sup> 15<sup>m</sup> after mean sunrise on Saturday, 21 March, A.D. 599. It is incumbent on me to prove the correctness of this fixture. Subsequent entries are based on it by the addition to it year by year of 365<sup>d</sup> 6<sup>h</sup> 12<sup>m</sup> 9<sup>s</sup>. Proof may be offered in three ways:—(A) by comparison with the date and time already found for the beginning of the true solar year K.Y. 3700, utilizing Dr. Schram's determination of the interval between the two occurrences; (B) by comparison with the date and time fixed for the beginning of the same mean solar year according to the *First Arya-Siddhānta*, allowing for the time-difference between the two authorities caused by their different estimate as to the length of the mean solar year, viz. 21<sup>s</sup>; (C) by direct computation from the moment in K. Y. 0 of mean Mēsha-samkrānti, 3,700 years earlier, which, according to the *Brahma-Siddhānta* (§ 313, v, above), was exactly at mean sunrise, or 0<sup>h</sup> 0<sup>m</sup> 0<sup>s</sup> Lankā time, on Friday, 18 Febr. (B.C. 3102).

| A                                                      |                    | h. m. s. |    |         |
|--------------------------------------------------------|--------------------|----------|----|---------|
| Moment of true Mēsha-samkrānti in K.                   |                    |          |    |         |
| Y. 3700 (A.D. 599) (Table LXXXII, Vol. XVII, above).   | (5) Thur., 19 Mar. | 1        | 6  | 0.1872  |
| Śōdhya as above (§ 323, Table) . . . + (2)             | 2                  | 4        | 8  | 59.8128 |
| Moment of mean Mēsha-samkrānti . . . (0) Sat., 21 Mar. |                    | 5        | 15 | 0       |

## B

[See *Indian Calendar*, Table I, cols. 13-17, for A.D. 599-600.]

|                                                             |                    | h. m. s. |    |      |
|-------------------------------------------------------------|--------------------|----------|----|------|
| True Mēsha-samkrānti by <i>Arya-Siddhānta</i> . . . . .     | (5) Thur., 19 Mar. | 23       | 17 | 30   |
| <i>Arya-Siddhānta</i> śōdhya . . . . . + (2)                | 2                  | 3        | 32 | 30   |
| Mean Mēsha-samkrānti by <i>Arya-Siddhānta</i> . . . . .     | (1) Sun., 22 Mar.  | 2        | 50 | 0    |
| Less Time-difference in 3,700 years <sup>1</sup> . . . . .  |                    | →        | 21 | 35 0 |
| Mean Mēsha-samkrānti . by <i>Brahma-Siddhānta</i> . . . . . | (0) Sat., 21 Mar.  | 5        | 15 | 0    |

## C

The epoch of the Kaliyuga was 0<sup>h</sup> 0<sup>m</sup> 0<sup>s</sup> Lankā time, or exactly at mean sunrise on Friday. The length of the mean solar year being 365<sup>d</sup> 6<sup>h</sup> 12<sup>m</sup> 9<sup>s</sup>, the beginning of the next mean solar year took place 6<sup>h</sup> 12<sup>m</sup> 9<sup>s</sup> after mean sunrise; and after the expiration of a century from the epoch the mean solar year began at 20<sup>h</sup> 15<sup>m</sup> 0<sup>s</sup> after mean sunrise; so that after 37 centuries had passed the mean solar year K.Y. 3700 began at 5<sup>h</sup> 15<sup>m</sup> 0<sup>s</sup> after mean sunrise.

When this latter calculation is carried out century by century, the figures shew that centuries 6, 12, 19, 25 and 32, five in all, were defective centuries consisting each of 36,525 days, the remainder being common centuries of 36,526 days. Since 36,526 divided by 7 leaves no

<sup>1</sup> See Table, § 273, in Article on the *Siddhānta-Śirōmaṇi* (Vol. XV above), which is equally applicable to the *Brahma-Siddhānta*; or refer to *Indian Chronography*, p. 61. The time-difference in 3,000 years is 17<sup>s</sup> 30<sup>m</sup>, in 700 years 4<sup>h</sup> 5<sup>m</sup>, total 21<sup>h</sup> 35<sup>m</sup>.

remainder and 36,525 divided by 7 leaves remainder 6, the results shew that whereas century 0 began on a Friday, century 37 began on a Saturday.

Table XC therefore, as regards the moment of mean *Mēsha-samkrānti* in K.Y. 3700 expired, A.D. 599-600, is proved to be correct.

*The beginning of the mean luni-solar year, i.e. the civil day on which the tithi Chaitra sukla 1 expired; and the value of a (mean tithi-index) at mean sunrise of that day. Amānta system.*

325. In § 317 of my article on the *Brahma-Siddhānta* as calculated by the true motions of the sun and moon (*above*, Vol. XVII) it will be seen that the value of *a* at mean sunrise of Sunday, 22 March, A.D. 599 (K.Y. 3700) was proved to be, in measurement by 10,000ths of a circle, 6567·108945284. The mean solar century, however, began on the previous day, Saturday, 21 March. Deducting one day's value of *a*, viz. 338·631985412, from the above, we find that at mean sunrise of that Saturday the value of *a*, or the mean moon's distance from mean sun, was 6228·476959872. This was its value at the beginning of the 37th century K.Y. Hence the first entry in Table XCII below which gives the values at mean sunrise on the day on which each century began. The remaining figures in that Table were obtained by the addition to this value of the increase of *a* in a century. [See § 316 of the same article. The increase of *a* in a century of 36,525 days is 997·678896964, and in a common century of 36,526 days is 0·416684507.] Centuries 38 and 44 were defective centuries; the rest were common ones. For the beginnings of the odd years of centuries Table LXXXVII was used, the value of *a* there given being added to that for the century.

Thus was determined the value of *a* at mean sunrise of the day on which each mean solar year begins (*see Example 1 below*). From this is found the value of *a* at mean sunrise of the day on which the luni-solar year begins.

326. The first day of the luni-solar year is, according to the general rule, the civil day on which expired the first *tithi* of the bright half (*sukla*) of the *amānta* lunar month Chaitra, i.e. the *tithi* which begins at the moment of the first new moon after the *Mina-samkrānti*, or at the moment of the new moon when that *amānta* lunar month begins within the limits of which the *Mēsha-samkrānti* occurs. Having already established the value of *a* on the day in any year on which mean *Mēsha-samkrānti* occurred, we have to subtract from that value the increase of *a* in whole days between the two dates, the day on which the luni-solar year began being the earlier. The first 30 days' entries in Table LIVA (*above*, Vol. XV) enable this to be done. We select in that Table the *a* in col. 3 the value of which is next lower than the *a* of mean *Mēsha-samkrānti*, and the Table then shews in col. 1 the number of intervening days, and therefrom the European day and month, and, by subtraction, also (col. 2), the week-day. Deducting the selected *a* from the *a* of mean *Mēsha-samkrānti*, we have the *a* of mean sunrise of the day, Chaitra *sukla* 1, on which the mean luni-solar year begins.

Thus,—mean *Mēsha-samkrānti* of the year K.Y. 3700, A.D. 599-600, was shewn in § 325 to have occurred on (0) Saturday, 21 March A.D. 599, at mean sunrise on which day the mean moon's *tithi*-index *a* was 6228·4770. In Table LIVA, amongst the values of *a* in the first 30 days, it is seen that the next lower value is 6095·3757.  $6228·4770 - 6095·3757 = 133·1013$ . Col. 1 shews that the interval of days was 18, and col. 2 shews the week-day 4. Mean *Mēsha-samkrānti* occurred on (0) Saturday.  $0 \text{ (or } 7) - 4 = 3$  Tuesday. It is therefore found that the day Chaitra *sukla* 1, the first civil day of the mean luni-solar year, was (3) Tuesday, 3 March A.D. 599, and that the value of *a* at mean sunrise on that day was 133·1013, shewing the currency of the *tithi sukla* 1. This is the entry in Table XC below.

It comes to the same thing if the *a* of Table XCIII below is added to the *a* of mean *Mēsha-samkrānti*, the Table being prepared for that purpose. The *a* of mean *Mēsha-*

All values of *a* below 838·5 prove the *tithi* to have been the first of the *amānta* lunar month, i.e., the first *tithi* of the first (*sukla*) fortnight.

*saṁkrānti* was 6228·4770. We select such a value of  $a$  in col. 3 of that Table as, added to the former, makes a value between 0 and 333·3, the limits of the *tithi śukla* 1; and note the interval of days, and the week-day resulting by addition of the given week-day (col. 2) to the week-day of mean *Mēsha-saṁkrānti*. Here the selected value of  $a$  is 3904·6243, since  $6228·4770 + 3904·6243 = 133·1013$ . The interval of days is 18 (col. 1). The week-day corresponding to the day *Chaitra śukla* 1 is  $(0+3=) 3$ . The result is the same as obtained by the former process.

All the entries in the general Table XC, cols. 19-23, can be proved in this way.

To find the exact phase of the mean moon, i.e. the mean *tithi*-index  $a$ , on any day of any year, or at any particular moment of any day, it is only necessary to add to the value of  $a$  given in col. 23 of Table XC for the first day of the luni-solar year the amount of increase of  $a$  during the intervening whole days, hours, etc., given in Tables LIVA and B (*above*, Vol. XV).

*The pūrṇimānta system of lunar months.*

327. The *amānta* lunar month begins at the moment of new moon, the *pūrṇimānta* month at the moment of full moon a fortnight earlier; so that the fortnight (*śukla*) between new moon and full moon bears the same month-name by both systems, while the fortnight (*kṛishṇa*) between full moon and new moon bears, in the *pūrṇimānta* system, the name of the lunar month next after that which it bears in the *amānta* system. The *śukla* fortnight of the first lunar month, for instance, belongs to *Chaitra* by both systems. The following *kṛishṇa* fortnight, however, belongs to *Chaitra* by the *amānta* system, but to *Vaiśākha* by the *pūrṇimānta* system.

This should always be borne in mind when examining dates of inscriptions, especially in earlier years. For references to already published explanations see § 322 *above*, and for a Table of corresponding fortnights and lunar months see *Indian Calendar*, Table II, Part I.

*The mean moon's nakshatra.*

328. The note on this subject already given (§ 308) in dealing with calculation by the *First Ārya-Siddhānta* mean system (*above*, Vol. XVI) applies equally to the *Brahma-Siddhānta* mean system. It is unnecessary to repeat it.

Tables LXXX and LXXXI, fixing the sun's mean longitude for every day of the mean solar year according to the *First Ārya-Siddhānta*, may safely be used for general calculation by the *Brahma-Siddhānta*, since the difference between the two authorities in their estimates of the length of the year only amounts to 21 seconds.<sup>1</sup> But in any exceptionally close case the exact value, at mean sunrise of any day in the year, of  $s$ , or the sun's mean longitude, can be found by multiplying the sun's mean motion in one day (Table XLIII, Vol. XIV *above*), by the number of days' interval between the day on which mean *Mēsha-saṁkrānti* occurred and the given day. The sun's mean motion in one day by the *Brahma-Siddhānta* is  $59^m 8^s 172655$ , or in 10,000ths of circle  $27·377875426$ .

The Rule for work is as follows. (i) Find, as *above*, value of " $a$ " at mean sunrise of given day. (ii) Note number of whole days intervening between the day of mean *Mēsha-saṁkrānti* (Table XC *below*, col. 13, *figure in brackets*) and the given day. Turn to Table LXXX and note the increase of sun's mean long., " $s$ ", during that interval. Deduct from this, by Table LXXXI, the increase of long. during the hours and minutes stated in col. 17 of Table XC. The result is the sun's mean long.,  $s$ , at mean sunrise of given day. (iii) Add  $s$  to  $a$ . This =  $n$ , the required index of the mean *nakshatra*, or the mean moon's place in the heavens at that moment. Table LXVIII *above*, or Table VIII, *Indian Calendar*, will shew in which *nakshatra* the mean moon stood at the time.

<sup>1</sup> In measurement by 10,000ths of circle the total difference in 365 days is 0·00665, by which amount the *Brahma-Siddhānta* is the greater.



*The 19-year intercalation cycle.*

329. [See *Indian Calendar*, § 50, p. 29, and notes in previous articles above on the working of the cycle by different systems.] The sequence in the present case works perfectly regularly except in four instances. In every case except these, after four successive intercalations of the same lunar month at intervals of 19 years each, the intercalated month gives way to the month next preceding it. The exceptions are—a run of five mean intercalary Bhādrapadas between A.D. 746 and 822, five Āśvins between 952 and 1009, five Kārttikas between 1120 and 1196, and five Paushas between 1231 and 1307.

*Working Tables.*

330. For general guidance the following Tables, as given for work by the *Ārya-Siddhānta* (above, Vol. XVI), should be used, or the similar Tables published in the *Indian Calendar*.

Table LXII, or *Ind. Cal.*, Table II, Parts I and II, for names of months and *nakshatras*.

Table LXIIIA, or *Ind. Cal.*, Table III, Part I, for collective duration of mean lunar months.

Table LXVIII, or *Ind. Cal.*, Table VIII, for indices of *tithis*, *karanas*, *nakshatras* and *yogas*.

Table LXIX, or *Ind. Cal.*, Table IX, for the serial number of days of the year and their names and numbers in European reckoning.

Table LXX, or *Ind. Cal.*, Table X, for conversion of the indices of *tithis*, *nakshatras* and *yogas* into time.

Table LXXI, the European Calendar for 23 centuries. [Table XIII, *Indian Calendar*, may also be used, but the former is easier.]

Table XCI below gives the collective duration of mean solar months, measured from the moment of mean *Mēsha-samkrānti*, the astronomical beginning of the mean solar year; also the increase of *a*, the mean *tithi*-index, during the interval.

Table XCII shews the value of *a* at the beginning of each mean solar century of the Kaliyuga, that is to say, its value at mean sunrise of the day on which each such solar century began.

For odd years of such centuries Table LXXXVII (above, Vol. XVII) is to be used in conjunction with Table XCII, addition of the two given values of *a* yielding the value of *a* at mean sunrise of the day on which each mean year of the Kaliyuga solar century began.

For increase of *a* in subsequent days, hours, etc., in any K.Y. year, or any moment of any day Tables LIV A and B (above, Vol. XV) are to be used.

The use of Table XCIII is explained in § 326 above.

Table XCIV-A to F enables the units and decimals of units of results obtained from our system of reckoning in measurement by 10,000ths of a circle, to be converted readily into time, if required. The same can be converted into space-measurement in degrees, etc., by Table XLVB (above, Vol. XIV).

**EXAMPLES.**

[N.B.—Work may always be done in whole numbers, resorting to decimals only in close cases.]

*Example 1.* To find the mean *tithi*-index, or phase of moon, at mean sunrise of the day on which mean *Mēsha-samkrānti* occurred in any year.

This is a necessary operation for finding the *tithi*-index *a* at the moment of mean *Mēsha-samkrānti*, which is obtained by addition of the *a* of subsequent hours, minutes, etc., to the *a*

of mean sunrise. [The intercalation of lunar months is decided by the value of  $a$  at the moment of mean *Mēsha-samkrānti*.] Two cases are considered, A and B.

A. Take the year Kaliyuga 3851 expired. This was the Śaka year 672 expired. It began (Table XC, cols. 13-17) astronomically at  $5^h 49^m 39^s$  after mean sunrise on Sunday, 22 March A.D. 750. We want to know the moon's phase, as shewn by the *tithi*-index  $a$ , at mean sunrise of that day. ["w.-d." = week-day.]

|                                                             | w.-d. | a.        |
|-------------------------------------------------------------|-------|-----------|
| (Table XCII.) At beginning of K.Y. Century 38, mean sunrise | (0)   | 5100·3761 |
| (Table LXXXVII.) At beginning of K.Y. year 51, do.          | (1)   | 8036·6243 |
| At mean sunrise on the Sunday in question                   | (1)   | 3137·0004 |

B. The year K.Y. 3849, Śaka 670 both expired. This began (Table XC) at  $17^h 25^m 21^s$  after mean sunrise on Thursday, 21 March A.D. 748. The first result shews the  $a$  for mean sunrise on Friday, 22 March, and the  $a$  for one day has to be deducted. This is due to the fact that Table LXXXVII has to serve for all K.Y. centuries, common or defective. The correction required is never more than that for one day.

|                                                             |      |           |
|-------------------------------------------------------------|------|-----------|
| (Table XCII.) At beginning of K.Y. Century 38, mean sunrise | (0)  | 5100·3761 |
| (Table LXXXVII.) At beginning of K.Y. year 49, do.          | (6)  | 835·2749  |
| At mean sunrise on Friday, 22 Mar.                          | (6)  | 5935·6510 |
| Deduct one day's value of $a$                               | —(1) | —338·6320 |
| At mean sunrise on Thursday, 21 Mar.                        | (5)  | 5597·0190 |

*Example 2.* To find the civil day corresponding to Chaitra *śukla* 1, or the first civil day of the luni-solar year; and the value of  $a$  (place of mean moon) at mean sunrise thereon.

The civil day corresponding to mean Chaitra *śukla* 1 is that on which the mean *tithi* "*śukla* 1" expired. The *tithi*-index ( $a$ ) = 333·3 marks the last instant of the first *śukla tithi*, so that we have to find a day on which at mean sunrise the *tithi*-index  $a$  was between 0 and 333·3. The *amānta* lunar month called "Chaitra" begins with the first new moon after the *Mina-samkrānti*, and the civil day called "Chaitra *śukla* 1" is necessarily earlier than the day on which mean *Mēsha-samkrānti* occurred. We have to find the number of days' interval between these two days. There are two ways of ascertaining these points, one by using Table XCIII and adding its figures, one by using Table LIVA and subtracting its figures.

(i) Take the year in Example 1, A, above. The value of  $a$  at mean sunrise of Sunday, 22 March A.D. 750, was found to be 3137·0004. We turn to Table XCIII and select in col. 3 such a value of  $a$  as, added to 3137·0004, will result in a total value of  $a$  between 0 and 333·3. This is found to be 6952·3121, the sum of the two (always disregarding quantities over 10,000) being 89·3125. The interval of whole days from mean *Mēsha-samkrānti* day was 9 (col. 1). Adding the number of the week-day (col. 2), viz. 5, to the week-day of mean *Mēsha-samkrānti*, viz. 1 Sunday, we have the week-day 6 Friday. Mean *Mēsha-samkrānti* occurred on Sunday, 22 March; and, therefore, it has been determined that the day Chaitra *śukla* 1, the first day of the luni-solar year, was Friday, 13 March A.D. 750, on which day,  $a$  being 89·3125, Chaitra *śukla* 1 was the current *tithi* at mean sunrise.

Similarly in Example 1, B. At mean sunrise of (5) Thursday, 21 March A.D. 748,  $a$  was 5597·0190. Add (Table XCIII, col. 3) 4581·8882. Result 178·9072. The interval of days was

(col. 1) 16. The week-day number was 5. The week-day of 21 March was 5 (Thursday). Hence the week-day 16 days earlier was  $5+5=3$  Tuesday. So the beginning of the mean luni-solar year was on Tuesday, 5 March A.D. 748, on which date at mean sunrise the mean *tithi* " *śukla 1* " was current, the value of *a* at that moment being 178·9072.

The entries in Table XC against these years correspond to these results.

(ii) The same results are obtained by using Table LIV A (above, Vol. XV) and deducting the figures for the interval of whole days between the two occurrences. We note that value of *a* in the first 30 days of that Table which is next lower than the value of *a* already found for the day of mean *Mēsha-samkrānti*, and deduct the former from the latter. The number of intervening days (col. 1) and the number of week-days (col. 2) stand against the selected entry. This week-day number is deducted, of course, from the week-day of mean *Mēsha-samkrānti*. Thus—

|                                                                |              |            |
|----------------------------------------------------------------|--------------|------------|
| A. For K.Y. 3851, A.D. 750.                                    | <i>w.-d.</i> | <i>a.</i>  |
| (Example 1, A.) For mean sunrise on Sunday, 22 March A.D. 750. | (1)          | 3137·0004  |
| (Table LIV A.) Next lower value of <i>a</i> , and week-day     | —(2)         | —3047·6879 |
| At mean sunrise of the day Chaitra <i>śukla 1</i>              | (6)          | 89·3125    |

The interval of days (col. 1) was nine. 6=Friday. Hence the day corresponding to Chaitra *śukla 1* was Friday, 13 March, and at mean sunrise the mean *tithi* Chaitra *śukla 1* was current, the value of *a* being 89·3125.

|                                                                 |      |            |
|-----------------------------------------------------------------|------|------------|
| B. For K.Y. 3849, A.D. 748.                                     |      |            |
| (Example 1, B.) At mean sunrise on Thursday, 21 March A.D. 748. | (5)  | 5597·0190  |
| (Table LIV A.) Next lower value of <i>a</i> , and week-day      | —(2) | —5418·1118 |
| At mean sunrise of the day Chaitra <i>śukla 1</i>               | (3)  | 178·9072   |

The interval of days was 16. 3=Tuesday. Hence the day corresponding to Chaitra *śukla 1* was Tuesday, 5 March A.D. 748, and at mean sunrise the value of *a* was 178·9072.

These results are the same as those found by the former process. The examples enable any worker to prove the correctness of all my entries in cols. 19-23 of the general Table XC below.

*Example 3. To find if a lunar month was or was not intercalated in the given year.*

It will be enough, for this problem, to refer to Example 3 (above, Vol. XVI) of my article on the *Ārya-Siddhānta—mean system*. The work here is precisely similar; but for the values of *a* for hours and minutes Table LIV B (Vol. XV above) should be used, and Table XCI for the advance of *a* during the mean solar months, etc.

*Example 4. To find the mean tithi-index a, shewing phase of moon, at mean sunrise of any day in the year; or at any moment of any day.*

Table XC (cols. 19-23) gives the civil day corresponding to mean Chaitra *śukla 1* (the initial day of the mean luni-solar year), its serial number (in brackets) from January 1st of the equivalent A.D. year, and the mean *tithi*-index *a* at mean sunrise. Calculate by Table III, *Indian Calendar*, or by Table LXIII A (above, Vol. XVI) the interval of whole days from that day to the given day, and, if necessary, the excess of hours, minutes, etc., to the given moment on that day. Add the increment of *a* for the interval of whole days from Table LIV A and for fractions of days from Table LIV B to the *a*, as above, of the initial day; as also the number of days' interval and the corresponding week-day.

*E.g.* Required the *tithi*-index at mean sunrise of the day called "Āshāḍha *śukla* 4" in Saka 547 expired, or A.D. 625-26, and the corresponding A.D. day and week-day.

In this year there was no intercalated month. The interval from the day "Chaitra *śukla* 1" to the day "Āshāḍha *śukla* 4" is approximately (Table LXIII-A above, p. 335) 93 days. We try this—

|                                                          | <i>d.</i> | <i>w.-d.</i> | <i>a.</i> |
|----------------------------------------------------------|-----------|--------------|-----------|
| Table XC. Chaitra <i>śukla</i> 1, mean sunrise . . . . . | (74)      | (6)          | 184·6506  |
| * Table LIVA for 93 days . . . . .                       | + (93)    | (2)          | 1492·7746 |
|                                                          | (167)     | (1)          | 1677·4252 |

This value of "*a*" (Table LXVIII) shews  
that the 6th *śukla tithi* was current at mean  
sunrise. ∴ Deduct for 2 days . . . . .

—(2) —(2) —677·2640

At mean sunrise on Āshāḍha *śukla* 4 . . . . . (165) (6) 1000·1612

Table LXVIII or VIII *Indian Calendar*, shews the currency of the 4th *śukla tithi*, at that mean sunrise, since its first point is when  $a=1,000$ . Day 165 was (Table IX, *Indian Calendar*, or LXIX, above) 14th June A.D. 625. 6=Friday. We learn, however, that the 4th mean *tithi* had begun only about  $\frac{1}{4}$  of a minute before the moment of mean sunrise; so that if the basis of calculation had been the moment of true sunrise (a little earlier than mean sunrise) the corresponding day might have been Thursday, 13 June.

*Example 5.* To find the *nakshatra*, or place in the heavens of the mean moon, at mean sunrise of any day or of any later moment in the day.

Take the case in the last example. It is required to find the value of "*n*", the *nakshatra*-index, at mean sunrise of the day called, in the mean system, "Āshāḍha *śukla* 4" in the given year, A.D. 625.

The mean *tithi*-index, "*a*", at that mean sunrise was found to be 1000·1612. Since  $s+a=n$  (§ 327 above), we have to ascertain the value of "*s*", the sun's mean longitude at that moment.

The day, 14 June, was the 165th day after Jan. 1 in that year. Mean *Mēsha-saṁkrānti* had taken place on (Table XC, cols. 13-17) the 79th day at 22<sup>h</sup> 30<sup>m</sup> 54<sup>s</sup> after mean sunrise. The day 14 June was (165-79) 86 days later. We proceed as follows:—

|                                                   | <i>s.</i> |
|---------------------------------------------------|-----------|
| Table LXXX, p. 444. Interval of 86 days . . . . . | 2354·4957 |
| Less (Table LXXXI) for 22 <sup>h</sup> . . . . .  | 25·0964   |
| 30 <sup>m</sup> . . . . .                         | 0·5704    |
| 54 <sup>s</sup> . . . . .                         | 0·0171    |
|                                                   | 25·6839   |
|                                                   | —25·6839  |

At mean sunrise on the day Āshāḍha *śukla* 4 sun's mean long., "*s*" = 2328·8118  
Add "*a*" as already found for that moment . . . . . 1000·1612

At mean sunrise on that day "*n*" = 3328·9730

This last is the required *nakshatra*-index. Reference to Table VIII, *Indian Calendar*, or Table LXVIII (above Vol. XVI) shews that the moon was then in the *nakshatra* *Aślēṣā* by the

equal-space system of division of the ecliptic, which ended when " $n$ " = 3333·3; but that by the system of Garga or the *Brahma-Siddhanta* (our present authority) she was in Maghā, of which the ending points are respectively 3518·5 and 3477·1. Converted into degrees (Table VIII-B, *Indian Calendar*, or Table XLV-B, *above*) the moon at that mean sunrise stood at about  $119^{\circ}51'$ .

For the value of " $n$ " at any later hour of the given day the index-value for the time since mean sunrise must be added (Table LXXXI) to the " $n$ " of mean sunrise. At about 3 hours 50 min. after mean sunrise, for instance, the mean moon entered Maghā by the equal-space system; for the beginning point of that *nakshatra* is 3333·3. The increase of " $n$ " in 3 hours 50 min. is 4·3728, and  $3328\cdot9730 + 4\cdot3728 = 3333\cdot3458$ .

*Example 6.* To find the *yōga*, " $y$ ", at the same moment as in Example 5.

The formula for finding the *yōga*-index is either  $s+n="y"$ , the *yōga*-index; or, in cases where it is not necessary to calculate  $n$  (the *nakshatra*),  $2"s+a="y"$ . Here, at mean sunrise on 14 June A.D. 625, we have found " $s$ " = 2328·8118 and " $n$ " = 3328·9730. The *yōga*-index, " $y$ ", therefore, = 5657·7848; and reference to Table VIII, *Indian Calendar*, cols. 12-13, or Table LXVIII (*above*, Vol. XVI, cols. 6, 8, 9, 10), shows that the mean moon was at that moment in the *yōga* Siddhi. Again  $2s=4657\cdot6236$ , and this + " $a$ ," which was found to be 1000·1612 = 5657·7848, the same as before.

TABLE XC.

## REMARKS.

K.Y. 3736 expired, A.D. 635-36. A very close case in the matter of intercalation of lunar month. Mean new moon occurred about 2<sup>m</sup> after the moment of the Karka-*saṃkrānti* (mean sun at long. 90°), and, therefore, at that moment the mean moon was waning, while she was waxing at the next, Siṃha-*saṃkrānti* (mean sun at 120°). Accordingly the intercalated month was Śrāvaṇa.

K.Y. 3923 expired, A.D. 822-23. According to the 19-year sequence of intercalations the same month is generally intercalated four times running, i.e. at intervals of 19 years each. Here, however, is an instance of a fifth intercalation of the same month. [See § 329 of text above.]

K.Y. 4110 expired, A.D. 1009-10. A similar case. Āśvina intercalated for the fifth time.

K.Y. 4297 expired, A.D. 1196-97. Another. Kārttika intercalated for the fifth time.

K.Y. 4408 expired, A.D. 1307-08. Another. Pausa intercalated for the fifth time. This was a very close case. The moment of mean new moon was about 1 minute after the mean sun reached the Dhanu-*saṃkrānti* (mean sun at long. 240°), but she was actually waning at the moment of the *saṃkrānti* and was waxing at the next, Makara, *saṃkrānti*. Consequently the lunar month Pausa was intercalated.

TABLE

MEAN SYSTEM TABLE,

Numbers of columns conform

(Cols. 1 to 4).—The years herein stated are the *current* years corresponding(Cols. 6 and 7).—*Samvatsara*-names of mean solar years in italics shew cases

| CONCURRENT YEAR. |       |                   |                                  |         |         |                        |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|-------------------|----------------------------------|---------|---------|------------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikram. | Mēbhādi solar year in<br>Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.     |                     |                                                           |
|                  |       |                   |                                  |         |         | Southern<br>system.    | Northern<br>system. |                                                           |
| 1                | 2     | 3                 | 3a                               | 4       | 5       | 6                      | 7                   | 8a                                                        |
| 3701             | 522   | 657               | 6                                |         | 599-600 | 50 Anala . . .         |                     | ...                                                       |
| 3702             | 523   | 658               | 7                                |         | *600-01 | 51 Piṅgala . . .       |                     | 2 Vaiśākha .                                              |
| 3703             | 524   | 659               | 8                                |         | 601-02  | 52 Kālayukta . . .     |                     | ...                                                       |
| 3704             | 525   | 660               | 9                                |         | 602-03  | 53 Siddhārthin . . .   |                     | 10 Pausa .                                                |
| 3705             | 526   | 661               | 10                               |         | 603-04  | 54 Raudra . . .        |                     | ...                                                       |
| 3706             | 527   | 662               | 11                               |         | *604-05 | 55 Dumatī . . .        |                     | ...                                                       |
| 3707             | 528   | 663               | 12                               |         | 605-06  | 56 Dundubhi . . .      |                     | 7 Āśvina .                                                |
| 3708             | 529   | 664               | 13                               |         | 606-07  | 57 Rudhīrōdgārīn . . . |                     | ...                                                       |
| 3709             | 530   | 665               | 14                               |         | 607-08  | 58 Baktāksha . . .     |                     | ...                                                       |
| 3710             | 531   | 666               | 15                               |         | *608-09 | 59 Krōdhana . . .      |                     | 3 Jyēṣṭha .                                               |
| 3711             | 532   | 667               | 16                               |         | 609-10  | 60 Keshava . . .       |                     | ...                                                       |
| 3712             | 533   | 668               | 17                               |         | 610-11  | 1 Prabhava . . .       |                     | 12 Phālguna .                                             |
| 3713             | 534   | 669               | 18                               |         | 611-12  | 2 Vibhava . . .        |                     | ...                                                       |
| 3714             | 535   | 670               | 19                               |         | *612-13 | 3 Śukla . . .          |                     | ...                                                       |
| 3715             | 536   | 671               | 20                               |         | 613-14  | 4 Pramōda . . .        |                     | 8 Kārttika .                                              |
| 3716             | 537   | 672               | 21                               |         | 614-15  | 5 Prajāpati . . .      |                     | ...                                                       |
| 3717             | 538   | 673               | 22                               |         | 615-16  | 6 Angīras . . .        |                     | ...                                                       |
| 3718             | 539   | 674               | 23                               |         | *616-17 | 7 Ścīmukha . . .       |                     | 5 Śrāvapa .                                               |
| 3719             | 540   | 675               | 24                               |         | 617-18  | 8 Bhāva . . .          |                     | ...                                                       |
| 3720             | 541   | 676               | 25                               |         | 618-19  | 9 Yuvan . . .          |                     | ...                                                       |

XC.

BRAHMA-SIDDHĀNTA.

to Table I, "Indian Calendar."

to the A.D. years in col. 5; as in Table I, "Indian Calendar."

where differences exist from *Sūrya-Siddhānta* nomenclature in true solar years.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                                              |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                                              | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | <i>a</i> (here = <i>t</i> , the index of the <i>tithi</i> ). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                                           |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                                              | 1     |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 5 15 0                        | 3 Mar. (62) . . .                                                                   | 3 Tues. . . | 133-1013                                                     | 3701  |
| 20 Mar. (80) . . .  | 1 Sun. . .  | 11 27 9                       | 20 Feb. (51) . . .                                                                  | 0 Sat. . .  | 8-8241                                                       | 3702  |
| 20 Mar. (79) . . .  | 2 Mon. . .  | 17 39 18                      | 10 Mar. (69) . . .                                                                  | 6 Fri. . .  | 43-5065                                                      | 3703  |
| 20 Mar. (79) . . .  | 3 Tues. . . | 23 51 27                      | 28 Feb. (59) . . .                                                                  | 4 Wed. . .  | 257-8614                                                     | 3704  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 6 3 36                        | 19 Mar. (78) . . .                                                                  | 3 Tues. . . | 292-5437                                                     | 3705  |
| 20 Mar. (80) . . .  | 6 Fri. . .  | 12 15 45                      | 7 Mar. (67) . . .                                                                   | 0 Sat. . .  | 168-2666                                                     | 3706  |
| 20 Mar. (79) . . .  | 0 Sat. . .  | 18 27 54                      | 24 Feb. (55) . . .                                                                  | 4 Wed. . .  | 43-3394                                                      | 3707  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 0 40 3                        | 15 Mar. (74) . . .                                                                  | 3 Tues. . . | 78-6718                                                      | 3708  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 6 52 12                       | 5 Mar. (64) . . .                                                                   | 1 Sun. . .  | 293-0266                                                     | 3709  |
| 20 Mar. (80) . . .  | 4 Wed. . .  | 13 4 21                       | 22 Feb. (53) . . .                                                                  | 5 Thur. . . | 168-7494                                                     | 3710  |
| 20 Mar. (79) . . .  | 5 Thur. . . | 19 16 30                      | 12 Mar. (71) . . .                                                                  | 4 Wed. . .  | 203-4218                                                     | 3711  |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 1 28 39                       | 1 Mar. (60) . . .                                                                   | 1 Sun. . .  | 79-1547                                                      | 3712  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 7 40 48                       | 20 Mar. (79) . . .                                                                  | 0 Sat. . .  | 118-8371                                                     | 3713  |
| 20 Mar. (80) . . .  | 2 Mon. . .  | 18 52 57                      | 9 Mar. (69) . . .                                                                   | 5 Thur. . . | 328-1918                                                     | 3714  |
| 20 Mar. (79) . . .  | 3 Tues. . . | 20 5 6                        | 26 Feb. (57) . . .                                                                  | 2 Mon. . .  | 203-9147                                                     | 3715  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 2 17 15                       | 17 Mar. (76) . . .                                                                  | 1 Sun. . .  | 238-5972                                                     | 3716  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 8 29 24                       | 6 Mar. (65) . . .                                                                   | 5 Thur. . . | 114-3199                                                     | 3717  |
| 20 Mar. (80) . . .  | 0 Sat. . .  | 14 41 33                      | 24 Feb. (55) . . .                                                                  | 3 Tues. . . | 328-6747                                                     | 3718  |
| 20 Mar. (79) . . .  | 1 Sun. . .  | 20 53 42                      | 13 Mar. (72) . . .                                                                  | 1 Sun. . .  | 24-7252                                                      | 3719  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 3 5 51                        | 3 Mar. (62) . . .                                                                   | 6 Fri. . .  | 239-0801                                                     | 3720  |



TABLE

| CONCURRENT YEAR. |       |                    |                               |         |         |                      |                  |                                                  |
|------------------|-------|--------------------|-------------------------------|---------|---------|----------------------|------------------|--------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                  | Mean intercalated ( <i>adhika</i> ) lunar month. |
|                  |       |                    |                               |         |         | Southern system.     | Northern system. |                                                  |
| 1                | 2     | 3                  | 3a                            | 4       | 5       | 6                    | 7                | 8a                                               |
| 3721             | 542   | 677                | 26                            |         | 619-20  | 10 Dhātṛi . . .      |                  | 1 Chaitra .                                      |
| 3722             | 543   | 678                | 27                            |         | *620-21 | 11 Śvara . . .       |                  | ...                                              |
| 3723             | 544   | 679                | 28                            |         | 621-22  | 12 Bahudhānya . . .  |                  | 10 Pausa .                                       |
| 3724             | 545   | 680                | 29                            |         | 622-23  | 13 Pramāthin . . .   |                  | ...                                              |
| 3725             | 546   | 681                | 30                            |         | 623-24  | 14 Vikrama . . .     |                  | ...                                              |
| 3726             | 547   | 682                | 31                            |         | *624-25 | 15 Vṛsha . . .       |                  | 6 Bhādrapada .                                   |
| 3727             | 548   | 683                | 32                            |         | 625-26  | 16 Chitrabhānu . . . |                  | ...                                              |
| 3728             | 549   | 684                | 33                            |         | 626-27  | 17 Subhānu . . .     |                  | ...                                              |
| 3729             | 550   | 685                | 34                            |         | 627-28  | 18 Tārana . . .      |                  | 3 Jyēṣṭha .                                      |
| 3730             | 551   | 686                | 35                            |         | *628-29 | 19 Pārthiva . . .    |                  | ...                                              |
| 3731             | 552   | 687                | 36                            |         | 629-30  | 20 Vyaya . . .       |                  | 11 Māgha .                                       |
| 3732             | 553   | 688                | 37                            |         | 630-31  | 21 Sarvajit . . .    |                  | ...                                              |
| 3733             | 554   | 689                | 38                            |         | 631-32  | 22 Sarvabhārin . . . |                  | ...                                              |
| 3734             | 555   | 690                | 39                            |         | *632-33 | 23 Virōdhin . . .    |                  | 8 Kārttika .                                     |
| 3735             | 556   | 691                | 40                            |         | 633-34  | 24 Vikṛita . . .     |                  | ...                                              |
| 3736             | 557   | 692                | 41                            |         | 634-35  | 25 Khara . . .       |                  | ...                                              |
| 3737             | 558   | 693                | 42                            |         | 635-36  | 26 Nandana . . .     |                  | 5 Śrāvaṇa § .                                    |
| 3738             | 559   | 694                | 43                            |         | *636-37 | 27 Vijaya . . .      |                  | ...                                              |
| 3739             | 560   | 695                | 44                            |         | 637-38  | 28 Jaya . . .        |                  | ...                                              |
| 3740             | 561   | 696                | 45                            |         | 638-39  | 29 Manmatha . . .    |                  | 1 Chaitra .                                      |
| 3741             | 562   | 697                | 46                            |         | 639-40  | 30 Durmukha . . .    |                  | ...                                              |
| 3742             | 563   | 698                | 47                            |         | *640-41 | 31 Hēmalamba . . .   |                  | 10 Pausa .                                       |
| 3743             | 564   | 699                | 48                            |         | 641-42  | 32 Vilamba . . .     |                  | ...                                              |
| 3744             | 565   | 700                | 49                            |         | 642-43  | 33 Vikārin . . .     |                  | ...                                              |
| 3745             | 566   | 701                | 50                            |         | 643-44  | 34 Śarvarin . . .    |                  | 6 Bhādrapada .                                   |

§ See "Remarks," p. 215 above.

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                               |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|-----------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                               | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | a (here = f, the index of the <i>ti/hi</i> ). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                            |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                               |       |
| 21 Mar. (80) . . .  | 4 Wed. . .  | 9 18 0                        | 20 Feb. (51) . . .                                                                  | 3 Tues. . . | 114-8028                                      | 3721  |
| 20 Mar. (80) . . .  | 5 Thur. . . | 15 30 9                       | 10 Mar. (70) . . .                                                                  | 2 Mon. . .  | 149-4852                                      | 3722  |
| 20 Mar. (79) . . .  | 6 Fri. . .  | 21 42 18                      | 27 Feb. (58) . . .                                                                  | 6 Fri. . .  | 25-2081                                       | 3723  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 3 54 27                       | 18 Mar. (77) . . .                                                                  | 5 Thur. . . | 59-8904                                       | 3724  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 10 6 36                       | 8 Mar. (67) . . .                                                                   | 3 Tues. . . | 274-2453                                      | 3725  |
| 20 Mar. (80) . . .  | 3 Tues. . . | 16 18 45                      | 25 Feb. (56) . . .                                                                  | 0 Sat. . .  | 149-9682                                      | 3726  |
| 20 Mar. (79) . . .  | 4 Wed. . .  | 22 30 54                      | 15 Mar. (74) . . .                                                                  | 6 Fri. . .  | 184-6506                                      | 3727  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 4 43 3                        | 4 Mar. (63) . . .                                                                   | 3 Tues. . . | 60-3734                                       | 3728  |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 10 55 12                      | 22 Feb. (53) . . .                                                                  | 1 Sun. . .  | 274-7282                                      | 3729  |
| 20 Mar. (80) . . .  | 1 Sun. . .  | 17 7 21                       | 12 Mar. (72) . . .                                                                  | 0 Sat. . .  | 309-4106                                      | 3730  |
| 20 Mar. (79) . . .  | 2 Mon. . .  | 23 19 30                      | 1 Mar. (60) . . .                                                                   | 4 Wed. . .  | 185-1334                                      | 3731  |
| 21 Mar. (80) . . .  | 4 Wed. . .  | 5 31 39                       | 20 Mar. (79) . . .                                                                  | 3 Tues. . . | 219-8158                                      | 3732  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 11 43 48                      | 9 Mar. (68) . . .                                                                   | 0 Sat. . .  | 95-5887                                       | 3733  |
| 20 Mar. (80) . . .  | 6 Fri. . .  | 17 53 57                      | 27 Feb. (58) . . .                                                                  | 5 Thur. . . | 809-8935                                      | 3734  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 0 8 6                         | 16 Mar. (75) . . .                                                                  | 3 Tues. . . | 5-9439                                        | 3735  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 6 20 15                       | 6 Mar. (65) . . .                                                                   | 1 Sun. . .  | 220-2987                                      | 3736  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 12 32 24                      | 23 Feb. (54) . . .                                                                  | 5 Thur. . . | 96-0216                                       | 3737  |
| 20 Mar. (80) . . .  | 4 Wed. . .  | 18 44 33                      | 13 Mar. (73) . . .                                                                  | 4 Wed. . .  | 130-7040                                      | 3738  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 0 56 42                       | 2 Mar. (61) . . .                                                                   | 1 Sun. . .  | 6-4268                                        | 3739  |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 7 8 51                        | 20 Feb. (51) . . .                                                                  | 6 Fri. . .  | 220-7816                                      | 3740  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 13 21 0                       | 11 Mar. (70) . . .                                                                  | 5 Thur. . . | 255-4640                                      | 3741  |
| 20 Mar. (80) . . .  | 2 Mon. . .  | 19 33 9                       | 28 Feb. (59) . . .                                                                  | 2 Mon. . .  | 131-1868                                      | 3742  |
| 21 Mar. (80) . . .  | 4 Wed. . .  | 1 45 18                       | 18 Mar. (77) . . .                                                                  | 1 Sun. . .  | 165-8692                                      | 3743  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 7 57 27                       | 7 Mar. (66) . . .                                                                   | 5 Thur. . . | 41-5921                                       | 3744  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 14 9 36                       | 25 Feb. (56) . . .                                                                  | 3 Tues. . . | 255-0470                                      | 3745  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                      |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Śaka. | Chaitradī Vikrama. | Mēshādī solar year in<br>Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                     |                                                           |
|                  |       |                    |                                  |         |         | Southern<br>system.  | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                    | 7                   | 8a                                                        |
| 3746             | 567   | 702                | 51                               |         | *644-45 | 35 Plava . . .       |                     | ...                                                       |
| 3747             | 568   | 703                | 52                               |         | 645-46  | 36 Śubhakṛit . . .   |                     | ...                                                       |
| 3748             | 569   | 704                | 53                               |         | 646-47  | 37 Śobhana . . .     |                     | 3 Jyēṣṭha .                                               |
| 3749             | 570   | 705                | 54                               |         | 647-48  | 38 Krōdhin . . .     |                     | ...                                                       |
| 3750             | 571   | 706                | 55                               |         | *648-49 | 39 Viśvāvasu † . .   |                     | 11 Māgha .                                                |
| 3751             | 572   | 707                | 56                               |         | 649-50  | 41 Plavaṅga . . .    |                     | ...                                                       |
| 3752             | 573   | 708                | 57                               |         | 650-51  | 42 Kīlaka . . .      |                     | ...                                                       |
| 3753             | 574   | 709                | 58                               |         | 651-52  | 43 Saumya . . .      |                     | 8 Kārttika .                                              |
| 3754             | 575   | 710                | 59                               |         | *652-53 | 44 Sādhārana . . .   |                     | ...                                                       |
| 3755             | 576   | 711                | 60                               |         | 653-54  | 45 Pīrōdhakṛit . . . |                     | ...                                                       |
| 3756             | 577   | 712                | 61                               |         | 654-55  | 46 Paridhāvin . . .  |                     | 4 Āshāḍha .                                               |
| 3757             | 578   | 713                | 62                               |         | 655-56  | 47 Pramādin . . .    |                     | ...                                                       |
| 3758             | 579   | 714                | 63                               |         | *656-57 | 48 Ānanda . . .      |                     | ...                                                       |
| 3759             | 580   | 715                | 64                               |         | 657-58  | 49 Rākhaṣa . . .     |                     | 1 Chaitra .                                               |
| 3760             | 581   | 716                | 65                               |         | 658-59  | 50 Anala . . .       |                     | ...                                                       |
| 3761             | 582   | 717                | 66                               |         | 659-60  | 51 Pīṅgala . . .     |                     | 9 Mārgaśīra .                                             |
| 3762             | 583   | 718                | 67                               |         | *660-61 | 52 Kālayakṛta . . .  |                     | ...                                                       |
| 3763             | 584   | 719                | 68                               |         | 661-62  | 53 Siddhārthin . . . |                     | ...                                                       |
| 3764             | 585   | 720                | 69                               |         | 662-63  | 54 Randra . . .      |                     | 6 Bhādrapada .                                            |
| 3765             | 586   | 721                | 70                               |         | 663-64  | 55 Durmati . . .     |                     | ...                                                       |
| 3766             | 587   | 722                | 71                               |         | *664-65 | 56 Dundubhi . . .    |                     | ...                                                       |
| 3767             | 588   | 723                | 72                               |         | 665-66  | 57 Rudhīrōdgārin . . |                     | 2 Vaiśākha .                                              |
| 3768             | 589   | 724                | 73                               |         | 666-67  | 58 Raktakṛta . . .   |                     | ...                                                       |
| 3769             | 590   | 725                | 74                               |         | 667-68  | 59 Krōdhana . . .    |                     | 11 Māgha .                                                |
| 3770             | 591   | 726                | 75                               |         | *668-69 | 60 Kṣhaya . . .      |                     | ...                                                       |

† 40 Parābhava was suppressed, both in mean and true reckoning.

XC—*contd.*

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                                         |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SÜELA 1 ENDS). |             |                                                         | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | $\alpha$ (here = $t$ , the index of the <i>tithi</i> ). |       |
| 18                  | 14          | 17                            | 19                                                                                  | 20          | 23                                                      | 1     |
|                     |             | H. M. S.                      |                                                                                     |             |                                                         |       |
| 20 Mar. (80) . . .  | 0 Sat. . .  | 20 21 45                      | 15 Mar. (75) . . .                                                                  | 2 Mon. . .  | 290·3293                                                | 3746  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 2 33 54                       | 4 Mar. (63) . . .                                                                   | 6 Fri. . .  | 166·3522                                                | 3747  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 8 46 3                        | 21 Feb. (52) . . .                                                                  | 3 Tues. . . | 42·0750                                                 | 3748  |
| 21 Mar. (80) . . .  | 4 Wed. . .  | 14 58 12                      | 12 Mar. (71) . . .                                                                  | 2 Mon. . .  | 76·7573                                                 | 3749  |
| 20 Mar. (80) . . .  | 5 Thur. . . | 21 10 21                      | 1 Mar. (61) . . .                                                                   | 0 Sat. . .  | 291·1122                                                | 3750  |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 3 22 30                       | 20 Mar. (79) . . .                                                                  | 6 Fri. . .  | 325·7946                                                | 3751  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 9 34 39                       | 9 Mar. (68) . . .                                                                   | 3 Tues. . . | 201·5175                                                | 3752  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 15 46 48                      | 26 Feb. (57) . . .                                                                  | 0 Sat. . .  | 77·2402                                                 | 3753  |
| 20 Mar. (80) . . .  | 3 Tues. . . | 21 58 57                      | 16 Mar. (76) . . .                                                                  | 0 Sat. . .  | 111·9227                                                | 3754  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 4 11 6                        | 8 Mar. (65) . . .                                                                   | 4 Wed. . .  | 326·2775                                                | 3755  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 10 23 15                      | 23 Feb. (54) . . .                                                                  | 1 Sun. . .  | 202·0003                                                | 3756  |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 16 35 24                      | 14 Mar. (73) . . .                                                                  | 0 Sat. . .  | 236·6827                                                | 3757  |
| 20 Mar. (80) . . .  | 1 Sun. . .  | 22 47 33                      | 2 Mar. (62) . . .                                                                   | 4 Wed. . .  | 112·4056                                                | 3758  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 4 59 42                       | 20 Feb. (51) . . .                                                                  | 2 Mon. . .  | 326·7004                                                | 3759  |
| 21 Mar. (80) . . .  | 4 Wed. . .  | 11 11 51                      | 10 Mar. (69) . . .                                                                  | 0 Sat. . .  | 22·8108                                                 | 3760  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 17 24 0                       | 28 Feb. (59) . . .                                                                  | 5 Thur. . . | 237·1656                                                | 3761  |
| 20 Mar. (80) . . .  | 6 Fri. . .  | 23 36 9                       | 18 Mar. (78) . . .                                                                  | 4 Wed. . .  | 271·8440                                                | 3762  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 5 48 18                       | 7 Mar. (66) . . .                                                                   | 1 Sun. . .  | 147·5708                                                | 3763  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 12 0 27                       | 24 Feb. (55) . . .                                                                  | 5 Thur. . . | 23·2037                                                 | 3764  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 18 12 36                      | 15 Mar. (74) . . .                                                                  | 4 Wed. . .  | 57·9761                                                 | 3765  |
| 21 Mar. (81) . . .  | 5 Thur. . . | 0 24 45                       | 4 Mar. (64) . . .                                                                   | 2 Mon. . .  | 272·3310                                                | 3766  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 6 36 54                       | 21 Feb. (52) . . .                                                                  | 6 Fri. . .  | 148·0537                                                | 3767  |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 12 49 3                       | 12 Mar. (71) . . .                                                                  | 5 Thur. . . | 182·7361                                                | 3768  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 19 1 12                       | 1 Mar. (60) . . .                                                                   | 2 Mon. . .  | 58·4590                                                 | 3769  |
| 21 Mar. (81) . . .  | 3 Tues. . . | 1 13 21                       | 19 Mar. (79) . . .                                                                  | 1 Sun. . .  | 93·1413                                                 | 3770  |

TABLE

| CONCURRENT YEAR. |       |                    |                              |         |         |                      |                  |                                         |
|------------------|-------|--------------------|------------------------------|---------|---------|----------------------|------------------|-----------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Māhādi solar year in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                  | Mean intercalated (adhika) lunar month. |
|                  |       |                    |                              |         |         | Southern system.     | Northern system. |                                         |
| 1                | 2     | 3                  | 3a                           | 4       | 5       | 6                    | 7                | 8a                                      |
| 3771             | 592   | 727                | 76                           |         | 669-70  | 1 Prabhava . . .     |                  | ...                                     |
| 3772             | 593   | 728                | 77                           |         | 670-71  | 2 Vibhava . . .      |                  | 7 Āsvina .                              |
| 3773             | 594   | 729                | 78                           |         | 671-72  | 3 Sukla . . .        |                  | ...                                     |
| 3774             | 595   | 730                | 79                           |         | *672-73 | 4 Pramōda . . .      |                  | ...                                     |
| 3775             | 596   | 731                | 80                           |         | 673-74  | 5 Prajāpati . . .    |                  | 4 Āshāḍha .                             |
| 3776             | 597   | 732                | 81                           |         | 674-75  | 6 Aṅgiras . . .      |                  | ...                                     |
| 3777             | 598   | 733                | 82                           |         | 675-76  | 7 Śrīmukha . . .     |                  | ...                                     |
| 3778             | 599   | 734                | 83                           |         | *676-77 | 8 Bhāva . . .        |                  | 1 Chaitra .                             |
| 3779             | 600   | 735                | 84                           |         | 677-78  | 9 Yavan . . .        |                  | ...                                     |
| 3780             | 601   | 736                | 85                           |         | 678-79  | 10 Dhātṛi . . .      |                  | 9 Mārgaśīra .                           |
| 3781             | 602   | 737                | 86                           |         | 679-80  | 11 Ívara . . .       |                  | ...                                     |
| 3782             | 603   | 738                | 87                           |         | *680-81 | 12 Bahudhānya . . .  |                  | ...                                     |
| 3783             | 604   | 739                | 88                           |         | 681-82  | 13 Pramāthin . . .   |                  | 6 Bhādrapada .                          |
| 3784             | 605   | 740                | 89                           |         | 682-83  | 14 Vikrama . . .     |                  | ...                                     |
| 3785             | 606   | 741                | 90                           |         | 683-84  | 15 Vṛisha . . .      |                  | ...                                     |
| 3786             | 607   | 742                | 91                           |         | *684-85 | 16 Chitrabhānu . . . |                  | 2 Vaisākha .                            |
| 3787             | 608   | 743                | 92                           |         | 685-86  | 17 Subbhānu . . .    |                  | ...                                     |
| 3788             | 609   | 744                | 93                           |         | 686-87  | 18 Tārana . . .      |                  | 11 Māgha .                              |
| 3789             | 610   | 745                | 94                           |         | 687-88  | 19 Pārthiva . . .    |                  | ...                                     |
| 3790             | 611   | 746                | 95                           |         | *688-89 | 20 Vyaya . . .       |                  | ...                                     |
| 3791             | 612   | 747                | 96                           |         | 689-90  | 21 Sarvajit . . .    |                  | 7 Āsvina .                              |
| 3792             | 613   | 748                | 97                           |         | 690-91  | 22 Sarvadhārin . . . |                  | ...                                     |
| 3793             | 614   | 749                | 98                           |         | 691-92  | 23 Virōdhin . . .    |                  | ...                                     |
| 3794             | 615   | 750                | 99                           |         | *692-93 | 24 Vikṛita . . .     |                  | 4 Āshāḍha .                             |
| 3795             | 616   | 751                | 100                          |         | 693-94  | 25 Khara . . .       |                  | ...                                     |

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                                    |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|----------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                                    | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | $\alpha$ (here = $t$ , the index of the $t:24h$ ). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                                 |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                                    | 1     |
| 21 Mar. (80) . . .  | 4 Wed. . .  | 7 25 30                       | 9 Mar. (68) . . .                                                                   | 6 Fri. . .  | 307-4962                                           | 3771  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 13 37 39                      | 26 Feb. (57) . . .                                                                  | 3 Tues. . . | 183-2190                                           | 3772  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 19 49 48                      | 17 Mar. (76) . . .                                                                  | 2 Mon. . .  | 217-9016                                           | 3773  |
| 21 Mar. (81) . . .  | 1 Sun. . .  | 2 1 57                        | 5 Mar. (65) . . .                                                                   | 6 Fri. . .  | 93-6242                                            | 3774  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 8 14 6                        | 23 Feb. (54) . . .                                                                  | 4 Wed. . .  | 307-9791                                           | 3775  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 14 26 15                      | 13 Mar. (72) . . .                                                                  | 2 Mon. . .  | 4-0295                                             | 3776  |
| 21 Mar. (80) . . .  | 4 Wed. . .  | 20 38 24                      | 3 Mar. (62) . . .                                                                   | 0 Sat. . .  | 218-3843                                           | 3777  |
| 21 Mar. (81) . . .  | 6 Fri. . .  | 2 50 33                       | 20 Feb. (51) . . .                                                                  | 4 Wed. . .  | 94-1071                                            | 3778  |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 9 2 42                        | 10 Mar. (69) . . .                                                                  | 3 Tues. . . | 128-7896                                           | 3779  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 15 14 51                      | 27 Feb. (58) . . .                                                                  | 0 Sat. . .  | 4-5124                                             | 3780  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 21 27 0                       | 18 Mar. (77) . . .                                                                  | 6 Fri. . .  | 39-1947                                            | 3781  |
| 21 Mar. (81) . . .  | 4 Wed. . .  | 3 39 9                        | 7 Mar. (67) . . .                                                                   | 4 Wed. . .  | 253-5496                                           | 3782  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 9 51 18                       | 24 Feb. (55) . . .                                                                  | 1 Sun. . .  | 129-2725                                           | 3783  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 16 3 27                       | 15 Mar. (74) . . .                                                                  | 0 Sat. . .  | 183-9549                                           | 3784  |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 22 15 36                      | 4 Mar. (63) . . .                                                                   | 4 Wed. . .  | 39-6776                                            | 3785  |
| 21 Mar. (81) . . .  | 2 Mon. . .  | 4 27 45                       | 22 Feb. (53) . . .                                                                  | 2 Mon. . .  | 254-0325                                           | 3786  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 10 39 54                      | 12 Mar. (71) . . .                                                                  | 1 Sun. . .  | 288-7149                                           | 3787  |
| 21 Mar. (80) . . .  | 4 Wed. . .  | 16 52 3                       | 1 Mar. (60) . . .                                                                   | 5 Thur. . . | 164-4377                                           | 3788  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 23 4 12                       | 20 Mar. (79) . . .                                                                  | 4 Wed. . .  | 199-1200                                           | 3789  |
| 21 Mar. (81) . . .  | 0 Sat. . .  | 5 16 21                       | 8 Mar. (66) . . .                                                                   | 1 Sun. . .  | 74-6430                                            | 3790  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 11 28 30                      | 26 Feb. (57) . . .                                                                  | 6 Fri. . .  | 289-1978                                           | 3791  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 17 40 39                      | 17 Mar. (76) . . .                                                                  | 5 Thur. . . | 323-6802                                           | 3792  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 23 52 48                      | 6 Mar. (65) . . .                                                                   | 2 Mon. . .  | 199-6030                                           | 3793  |
| 21 Mar. (81) . . .  | 5 Thur. . . | 6 4 57                        | 23 Feb. (54) . . .                                                                  | 6 Fri. . .  | 75-3259                                            | 3794  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 13 17 6                       | 13 Mar. (72) . . .                                                                  | 5 Thur. . . | 110-0062                                           | 3795  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                      |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Meshādi solar year in<br>Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                     |                                                           |
|                  |       |                    |                                  |         |         | Southern<br>system.  | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                    | 7                   | 8a                                                        |
| 3796             | 617   | 752                | 101                              |         | 694-95  | 26 Nandana . . .     |                     | 12 Phālguna .                                             |
| 3797             | 618   | 753                | 102                              |         | 695-96  | 27 Vijaya . . .      |                     | ...                                                       |
| 3798             | 619   | 754                | 103                              |         | *696-97 | 28 Jaya . . .        |                     | ...                                                       |
| 3799             | 620   | 755                | 104                              |         | 697-98  | 29 Manmatha . . .    |                     | 9 Mārgasīra .                                             |
| 3800             | 621   | 756                | 105                              |         | 698-99  | 30 Darmukha . . .    |                     | ...                                                       |
| 3801             | 622   | 757                | 106                              |         | 699-700 | 31 Hēmalamba . . .   |                     | ...                                                       |
| 3802             | 623   | 758                | 107                              |         | *700-01 | 32 Vilamba . . .     |                     | 5 Śrāvapa .                                               |
| 3803             | 624   | 759                | 108                              |         | 701-02  | 33 Vikārin . . .     |                     | ...                                                       |
| 3804             | 625   | 760                | 109                              |         | 702-03  | 34 Śārvarin . . .    |                     | ...                                                       |
| 3805             | 626   | 761                | 110                              |         | 703-04  | 35 Plava . . .       |                     | 2 Vaiśākha .                                              |
| 3806             | 627   | 762                | 111                              |         | *704-05 | 36 Śubhakṛit . . .   |                     | ...                                                       |
| 3807             | 628   | 763                | 112                              |         | 705-06  | 37 Śōbbana . . .     |                     | 10 Pausa .                                                |
| 3808             | 629   | 764                | 113                              |         | 706-07  | 38 Krōdhin . . .     |                     | ...                                                       |
| 3809             | 630   | 765                | 114                              |         | 707-08  | 39 Viśvāvasu . . .   |                     | ...                                                       |
| 3810             | 631   | 766                | 115                              |         | *708-09 | 40 Parābhava . . .   |                     | 7 Āsvina .                                                |
| 3811             | 632   | 767                | 116                              |         | 709-10  | 41 Plavaṅga . . .    |                     | ...                                                       |
| 3812             | 633   | 768                | 117                              |         | 710-11  | 42 Kilaka . . .      |                     | ...                                                       |
| 3813             | 634   | 769                | 118                              |         | 711-12  | 43 Saumya . . .      |                     | 4 Ashāḍha .                                               |
| 3814             | 635   | 770                | 119                              |         | *712-13 | 44 Sādhāraṇa . . .   |                     | ...                                                       |
| 3815             | 636   | 771                | 120                              |         | 713-14  | 45 Virōdhakṛit . . . |                     | 12 Phālguna .                                             |
| 3816             | 637   | 772                | 121                              |         | 714-15  | 46 Paridhāvin . . .  |                     | ...                                                       |
| 3817             | 638   | 773                | 122                              |         | 715-16  | 47 Pramādin . . .    |                     | ...                                                       |
| 3818             | 639   | 774                | 123                              |         | *716-17 | 48 Ānanda . . .      |                     | 9 Mārgasīra .                                             |
| 3819             | 640   | 775                | 124                              |         | 717-18  | 49 Rikshaṇa . . .    |                     | ...                                                       |
| 3820             | 641   | 776                | 125                              |         | 718-19  | 50 Ānala . . .       |                     | ...                                                       |

XC—contd.

| COMMENCEMENT OF THE |             |                              |                                                                                     |             |                                       |       |
|---------------------|-------------|------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                              | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                       | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēṣa-sankranti. | Day and month, A.D.                                                                 | Week-day.   | a (here = t, the index of the title). |       |
| 13                  | 14          | 17                           | 19                                                                                  | 20          | 23                                    |       |
|                     |             | H. M. S.                     |                                                                                     |             |                                       | 1     |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 18 29 15                     | 3 Mar. (82) . . .                                                                   | 8 Tues. . . | 324-3631                              | 3795  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 0 41 24                      | 21 Mar. (80) . . .                                                                  | 1 Sun. . .  | 20-4135                               | 3797  |
| 21 Mar. (81) . . .  | 3 Tues. . . | 6 53 33                      | 10 Mar. (70) . . .                                                                  | 6 Fri. . .  | 234-7683                              | 3798  |
| 21 Mar. (80) . . .  | 4 Wed. . .  | 13 5 42                      | 27 Feb. (58) . . .                                                                  | 3 Tues. . . | 110-4911                              | 3799  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 19 17 51                     | 18 Mar. (77) . . .                                                                  | 2 Mon. . .  | 145-1735                              | 3800  |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 1 30 0                       | 7 Mar. (66) . . .                                                                   | 6 Fri. . .  | 20-8963                               | 3801  |
| 21 Mar. (81) . . .  | 1 Sun. . .  | 7 42 9                       | 25 Feb. (56) . . .                                                                  | 4 Wed. . .  | 235-2512                              | 3802  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 13 54 18                     | 15 Mar. (74) . . .                                                                  | 3 Tues. . . | 269-9386                              | 3803  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 20 6 27                      | 4 Mar. (63) . . .                                                                   | 0 Sat. . .  | 145-6564                              | 3804  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 2 18 36                      | 21 Feb. (52) . . .                                                                  | 4 Wed. . .  | 21-3792                               | 3805  |
| 21 Mar. (81) . . .  | 6 Fri. . .  | 8 30 45                      | 11 Mar. (71) . . .                                                                  | 3 Tues. . . | 56-0616                               | 3806  |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 14 42 54                     | 1 Mar. (60) . . .                                                                   | 1 Sun. . .  | 270-4164                              | 3807  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 20 55 3                      | 20 Mar. (79) . . .                                                                  | 0 Sat. . .  | 306-0988                              | 3808  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 3 7 12                       | 9 Mar. (68) . . .                                                                   | 4 Wed. . .  | 180-8217                              | 3809  |
| 21 Mar. (81) . . .  | 4 Wed. . .  | 9 19 21                      | 26 Feb. (57) . . .                                                                  | 1 Sun. . .  | 56-5444                               | 3810  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 15 31 30                     | 16 Mar. (75) . . .                                                                  | 0 Sat. . .  | 91-2269                               | 3811  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 21 43 39                     | 6 Mar. (65) . . .                                                                   | 5 Thur. . . | 305-5817                              | 3812  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 3 55 48                      | 23 Feb. (54) . . .                                                                  | 2 Mon. . .  | 181-2046                              | 3813  |
| 21 Mar. (81) . . .  | 2 Mon. . .  | 10 7 57                      | 13 Mar. (73) . . .                                                                  | 1 Sun. . .  | 215-9869                              | 3814  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 16 20 6                      | 2 Mar. (61) . . .                                                                   | 5 Thur. . . | 91-7098                               | 3815  |
| 21 Mar. (80) . . .  | 4 Wed. . .  | 22 32 15                     | 21 Mar. (80) . . .                                                                  | 4 Wed. . .  | 126-3922                              | 3816  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 4 44 24                      | 10 Mar. (69) . . .                                                                  | 1 Sun. . .  | 2-1150                                | 3817  |
| 21 Mar. (81) . . .  | 0 Sat. . .  | 10 56 33                     | 28 Feb. (59) . . .                                                                  | 6 Fri. . .  | 216-4693                              | 3818  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 17 8 42                      | 18 Mar. (77) . . .                                                                  | 5 Thur. . . | 251-1632                              | 3819  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 23 20 51                     | Mar. (66) . . .                                                                     | 2 Mon. . .  | 126-8751                              | 3820  |



TABLE

| CONCURRENT YEAR. |       |                    |                              |         |         |                    |                  |                                         |
|------------------|-------|--------------------|------------------------------|---------|---------|--------------------|------------------|-----------------------------------------|
| Kali.            | Śaka. | Chaitradī Vikrama. | Māhādī solar year in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA. |                  | Mean intercalated (adhika) lunar month. |
|                  |       |                    |                              |         |         | Southern system.   | Northern system. |                                         |
| 1                | 2     | 3                  | 3a                           | 4       | 5       | 6                  | 7                | 8a                                      |
| 3821             | 642   | 777                | 126                          |         | 719-20  | 51 Pīṅga           |                  | 5 Śrāvana                               |
| 3822             | 643   | 778                | 127                          |         | *720-21 | 52 Kālayukta       |                  | ...                                     |
| 3823             | 644   | 779                | 128                          |         | 721-22  | 53 Siddhārthin     |                  | ...                                     |
| 3824             | 645   | 780                | 129                          |         | 722-23  | 54 Raudra          |                  | 2 Vaiśākha                              |
| 3825             | 646   | 781                | 130                          |         | 723-24  | 55 Darmati         |                  | ...                                     |
| 3826             | 647   | 782                | 131                          |         | *724-25 | 56 Dundabhi        |                  | 10 Pausa                                |
| 3827             | 648   | 783                | 132                          |         | 725-26  | 57 Rudhīrōdgārin   |                  | ...                                     |
| 3828             | 649   | 784                | 133                          |         | 726-27  | 58 Raktāksha       |                  | ...                                     |
| 3829             | 650   | 785                | 134                          |         | 727-28  | 59 Krōdhana        |                  | 7 Āśvina                                |
| 3830             | 651   | 786                | 135                          |         | *728-29 | 60 Kshaya          |                  | ...                                     |
| 3831             | 652   | 787                | 136                          |         | 729-30  | 1 Prabhava         |                  | ...                                     |
| 3832             | 653   | 788                | 137                          |         | 730-31  | 2 Vibhava          |                  | 3 Jyēshtha                              |
| 3833             | 654   | 789                | 138                          |         | 731-32  | 3 Śukla            |                  | ...                                     |
| 3834             | 655   | 790                | 139                          |         | *732-33 | 4 Pramōda          |                  | 12 Phālguna                             |
| 3835             | 656   | 791                | 140                          |         | 733-34  | 5 Prajāpati†       |                  | ...                                     |
| 3836             | 657   | 792                | 141                          |         | 734-35  | 7 Śrīmukha         |                  | ...                                     |
| 3837             | 658   | 793                | 142                          |         | 735-36  | 8 Bhāva            |                  | 8 Kārttika                              |
| 3838             | 659   | 794                | 143                          |         | *736-37 | 9 Yuvana           |                  | ...                                     |
| 3839             | 660   | 795                | 144                          |         | 737-38  | 10 Dhātṛi          |                  | ...                                     |
| 3840             | 661   | 796                | 145                          |         | 738-39  | 11 Ivara           |                  | 5 Śrāvana                               |
| 3841             | 662   | 797                | 146                          |         | 739-40  | 12 Bahudhānya      |                  | ...                                     |
| 3842             | 663   | 798                | 147                          |         | *740-41 | 13 Pramāthin       |                  | ...                                     |
| 3843             | 664   | 799                | 148                          |         | 741-42  | 14 Vikrama         |                  | 1 Chaitra                               |
| 3844             | 665   | 800                | 149                          |         | 742-43  | 15 Vṛisha          |                  | ...                                     |
| 3845             | 666   | 801                | 150                          |         | 743-44  | 16 Chitrabhānu     |                  | 10 Pausa                                |

† No. 6 Āgiras was suppressed according to the mean system. By the *Brahma-Siddhānta* 'true' system K.Y. 3836, A.D. 734-735, was called Āgiras, 7 Śrīmukha being suppressed. K.Y. 3837, A.D. 735-36, was 8 Bhāva by both systems.

XC—contd.

| COMMENCEMENT OF THE |             |                                |                                                                                     |             |                                       |       |
|---------------------|-------------|--------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                                | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                       | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-sarākrānti. | Day and month, A.D.                                                                 | Week-day.   | a (here = t, the index of the tithi). |       |
| 13                  | 14          | 17                             | 19                                                                                  | 20          | 23                                    |       |
|                     |             | H. M. S.                       |                                                                                     |             |                                       |       |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 5 33 0                         | 24 Feb. (55) . . .                                                                  | 6 Fri. . .  | 2-5979                                | 3821  |
| 21 Mar. (81) . . .  | 5 Thur. . . | 11 45 9                        | 14 Mar. (74) . . .                                                                  | 5 Thur. . . | 37-2803                               | 3822  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 17 57 18                       | 4 Mar. (63) . . .                                                                   | 3 Tues. . . | 251-6352                              | 3823  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 0 9 27                         | 21 Feb. (52) . . .                                                                  | 0 Sat. . .  | 127-3579                              | 3824  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 6 21 36                        | 12 Mar. (71) . . .                                                                  | 6 Fri. . .  | 162-0403                              | 3825  |
| 21 Mar. (81) . . .  | 3 Tues. . . | 12 38 45                       | 29 Feb. (60) . . .                                                                  | 3 Tues. . . | 37-7632                               | 3826  |
| 21 Mar. (80) . . .  | 4 Wed. . .  | 18 45 54                       | 19 Mar. (78) . . .                                                                  | 2 Mon. . .  | 72-4457                               | 3827  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 0 58 3                         | 9 Mar. (68) . . .                                                                   | 0 Sat. . .  | 286-8004                              | 3828  |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 7 10 12                        | 26 Feb. (57) . . .                                                                  | 4 Wed. . .  | 162-5233                              | 3829  |
| 21 Mar. (81) . . .  | 1 Sun. . .  | 13 22 21                       | 16 Mar. (76) . . .                                                                  | 3 Tues. . . | 197-2057                              | 3830  |
| 21 Mar. (80) . . .  | 2 Mon. . .  | 19 34 30                       | 5 Mar. (64) . . .                                                                   | 0 Sat. . .  | 72-9284                               | 3831  |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 1 46 39                        | 23 Feb. (54) . . .                                                                  | 5 Thur. . . | 287-2838                              | 3832  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 7 58 48                        | 14 Mar. (73) . . .                                                                  | 4 Wed. . .  | 321-9657                              | 3833  |
| 21 Mar. (81) . . .  | 6 Fri. . .  | 14 10 57                       | 2 Mar. (62) . . .                                                                   | 1 Sun. . .  | 197-6886                              | 3834  |
| 21 Mar. (80) . . .  | 0 Sat. . .  | 20 23 6                        | 21 Mar. (80) . . .                                                                  | 0 Sat. . .  | 232-3709                              | 3835  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 2 35 15                        | 10 Mar. (69) . . .                                                                  | 4 Wed. . .  | 108-0938                              | 3836  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 8 47 24                        | 28 Feb. (59) . . .                                                                  | 2 Mon. . .  | 322-4486                              | 3837  |
| 21 Mar. (81) . . .  | 4 Wed. . .  | 14 59 33                       | 17 Mar. (77) . . .                                                                  | 0 Sat. . .  | 18-4990                               | 3838  |
| 21 Mar. (80) . . .  | 5 Thur. . . | 21 11 42                       | 7 Mar. (66) . . .                                                                   | 5 Thur. . . | 232-8538                              | 3839  |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 3 23 51                        | 24 Feb. (55) . . .                                                                  | 2 Mon. . .  | 108-5767                              | 3840  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 9 36 0                         | 15 Mar. (74) . . .                                                                  | 1 Sun. . .  | 143-2591                              | 3841  |
| 21 Mar. (81) . . .  | 2 Mon. . .  | 15 48 9                        | 3 Mar. (63) . . .                                                                   | 5 Thur. . . | 18-9819                               | 3842  |
| 21 Mar. (80) . . .  | 3 Tues. . . | 22 0 18                        | 21 Feb. (52) . . .                                                                  | 3 Tues. . . | 233-3367                              | 3843  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 4 12 27                        | 12 Mar. (71) . . .                                                                  | 2 Mon. . .  | 268-0191                              | 3844  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 10 24 36                       | 1 Mar. (60) . . .                                                                   | 6 Fri. . .  | 143-7420                              | 3845  |

TABLE

CONCURRENT YEAR.

| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                  | Mean intercalated (adhika) lunar month. |
|-------|-------|--------------------|-------------------------------|---------|---------|----------------------|------------------|-----------------------------------------|
|       |       |                    |                               |         |         | Southern system.     | Northern system. |                                         |
| 1     | 2     | 3                  | 3a                            | 4       | 5       | 6                    | 7                | 8a                                      |
| 3846  | 687   | 802                | 151                           |         | *744-45 | 17 Subhānu . . .     |                  | ...                                     |
| 3847  | 688   | 803                | 152                           |         | 745-46  | 18 Tārana . . .      |                  | ...                                     |
| 3848  | 689   | 804                | 153                           |         | 746-47  | 19 Pārthiva . . .    |                  | 6 Bhādrapada .                          |
| 3849  | 690   | 805                | 154                           |         | 747-48  | 20 Vyaya . . .       |                  | ...                                     |
| 3850  | 691   | 806                | 155                           |         | *748-49 | 21 Sarvajit . . .    |                  | ...                                     |
| 3851  | 692   | 807                | 156                           |         | 749-50  | 22 Sarvadhārin . . . |                  | 8 Jyēṣṭha .                             |
| 3852  | 693   | 808                | 157                           |         | 750-51  | 23 Virōdhin . . .    |                  | ...                                     |
| 3853  | 694   | 809                | 158                           |         | 751-52  | 24 Vikṛita . . .     |                  | 12 Phālguna .                           |
| 3854  | 695   | 810                | 159                           |         | *752-53 | 25 Khara . . .       |                  | ...                                     |
| 3855  | 696   | 811                | 160                           |         | 753-54  | 26 Nandana . . .     |                  | ...                                     |
| 3856  | 697   | 812                | 161                           |         | 754-55  | 27 Vijaya . . .      |                  | 8 Kārttika .                            |
| 3857  | 698   | 813                | 162                           |         | 755-56  | 28 Jaya . . .        |                  | ...                                     |
| 3858  | 699   | 814                | 163                           |         | *756-57 | 29 Manmatha . . .    |                  | ...                                     |
| 3859  | 700   | 815                | 164                           |         | 757-58  | 30 Darmukha . . .    |                  | 5 Śrāvaṇa .                             |
| 3860  | 701   | 816                | 165                           |         | 758-59  | 31 Hēmalamba . . .   |                  | ...                                     |
| 3861  | 702   | 817                | 166                           |         | 759-60  | 32 Vilamba . . .     |                  | ...                                     |
| 3862  | 703   | 818                | 167                           |         | *760-61 | 33 Vikārin . . .     |                  | 1 Chaitra .                             |
| 3863  | 704   | 819                | 168                           |         | 761-62  | 34 Śārvarin . . .    |                  | ...                                     |
| 3864  | 705   | 820                | 169                           |         | 762-63  | 35 Plava . . .       |                  | 10 Pausa .                              |
| 3865  | 706   | 821                | 170                           |         | 763-64  | 36 Subhakṛit . . .   |                  | ...                                     |
| 3866  | 707   | 822                | 171                           |         | *764-65 | 37 Śōbhana . . .     |                  | ...                                     |
| 3867  | 708   | 823                | 172                           |         | 765-66  | 38 Krōdhin . . .     |                  | 6 Bhādrapada .                          |
| 3868  | 709   | 824                | 173                           |         | 766-67  | 39 Viśvāvasu . . .   |                  | ...                                     |
| 3869  | 710   | 825                | 174                           |         | 767-68  | 40 Parābhava . . .   |                  | ...                                     |
| 3870  | 711   | 826                | 175                           |         | *768-69 | 41 Plavaṅga . . .    |                  | 3 Jyēṣṭha .                             |

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                               |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|-----------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                               | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | a (here = t, the index of the <i>tithi</i> ). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                            |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                               |       |
| 21 Mar. (81) . . .  | 0 Sat. . .  | 16 36 45                      | 19 Mar. (79) . . .                                                                  | 5 Thur. . . | 178-4243                                      | 3846  |
| 21 Mar. (80) . . .  | 1 Sun. . .  | 22 48 54                      | 8 Mar. (67) . . .                                                                   | 2 Mon. . .  | 54-1472                                       | 3847  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 5 1 3                         | 26 Feb. (57) . . .                                                                  | 0 Sat. . .  | 268-5021                                      | 3848  |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 11 13 12                      | 17 Mar. (76) . . .                                                                  | 6 Fri. . .  | 308-1844                                      | 3849  |
| 21 Mar. (81) . . .  | 5 Thur. . . | 17 25 21                      | 5 Mar. (65) . . .                                                                   | 3 Tues. . . | 178-9072                                      | 3850  |
| 21 Mar. (80) . . .  | 6 Fri. . .  | 23 37 30                      | 22 Feb. (53) . . .                                                                  | 0 Sat. . .  | 54-6301                                       | 3851  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 5 49 39                       | 13 Mar. (72) . . .                                                                  | 6 Fri. . .  | 89-3125                                       | 3852  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 12 1 48                       | 3 Mar. (62) . . .                                                                   | 4 Wed. . .  | 308-6673                                      | 3853  |
| 21 Mar. (81) . . .  | 3 Tues. . . | 18 13 57                      | 20 Mar. (80) . . .                                                                  | 2 Mon. . .  | 9999-71775                                    | 3854  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 0 26 6                        | 10 Mar. (69) . . .                                                                  | 0 Sat. . .  | 214-0726                                      | 3855  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 6 38 15                       | 27 Feb. (58) . . .                                                                  | 4 Wed. . .  | 89-7958                                       | 3856  |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 12 60 24                      | 18 Mar. (77) . . .                                                                  | 3 Tues. . . | 124-4778                                      | 3857  |
| 21 Mar. (81) . . .  | 1 Sun. . .  | 19 2 33                       | 6 Mar. (66) . . .                                                                   | 0 Sat. . .  | 0-2006                                        | 3858  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 1 14 42                       | 24 Feb. (55) . . .                                                                  | 5 Thur. . . | 214-5555                                      | 3859  |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 7 26 51                       | 15 Mar. (74) . . .                                                                  | 4 Wed. . .  | 249-2378                                      | 3860  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 13 39 0                       | 4 Mar. (63) . . .                                                                   | 1 Sun. . .  | 124-9607                                      | 3861  |
| 21 Mar. (81) . . .  | 6 Fri. . .  | 19 51 9                       | 21 Feb. (52) . . .                                                                  | 5 Thur. . . | 0-6835                                        | 3862  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 2 3 18                        | 11 Mar. (70) . . .                                                                  | 4 Wed. . .  | 35-3658                                       | 3863  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 8 15 27                       | 1 Mar. (60) . . .                                                                   | 2 Mon. . .  | 249-7207                                      | 3864  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 14 27 36                      | 20 Mar. (79) . . .                                                                  | 1 Sun. . .  | 284-4031                                      | 3865  |
| 21 Mar. (81) . . .  | 4 Wed. . .  | 20 39 45                      | 8 Mar. (68) . . .                                                                   | 5 Thur. . . | 160-1261                                      | 3866  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 2 51 54                       | 25 Feb. (56) . . .                                                                  | 2 Mon. . .  | 35-8488                                       | 3867  |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 9 4 3                         | 16 Mar. (75) . . .                                                                  | 1 Sun. . .  | 70-5312                                       | 3868  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 15 16 12                      | 6 Mar. (65) . . .                                                                   | 6 Fri. . .  | 284-8660                                      | 3869  |
| 21 Mar. (81) . . .  | 2 Mon. . .  | 21 28 21                      | 23 Feb. (54) . . .                                                                  | 3 Tues. . . | 160-6086                                      | 3870  |

§ Chaitra śukla 1 was suppressed.

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                        |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Māshādi solar year in<br>Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSAKA.     |                     |                                                           |
|                  |       |                    |                                  |         |         | Southern<br>system.    | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                      | 7                   | 8a                                                        |
| 3871             | 692   | 827                | 176                              |         | 769-70  | 42 Kṛitika . . .       |                     | ...                                                       |
| 3872             | 693   | 828                | 177                              |         | 770-71  | 43 Saumya . . .        |                     | 11 Māgha .                                                |
| 3873             | 694   | 829                | 178                              |         | 771-72  | 44 Śadhārāṇa . . .     |                     | ...                                                       |
| 3874             | 695   | 830                | 179                              |         | *772-73 | 45 Virōdhakṛit . . .   |                     | ...                                                       |
| 3875             | 696   | 831                | 180                              |         | 773-74  | 46 Paridhāvin . . .    |                     | 8 Kārttika .                                              |
| 3876             | 697   | 832                | 181                              |         | 774-75  | 47 Pramādin . . .      |                     | ...                                                       |
| 3877             | 698   | 833                | 182                              |         | 775-76  | 48 Ānanda . . .        |                     | ...                                                       |
| 3878             | 699   | 834                | 183                              |         | *776-77 | 49 Rākshasa . . .      |                     | 4 Āshādha .                                               |
| 3879             | 700   | 835                | 184                              |         | 777-78  | 50 Anala . . .         |                     | ...                                                       |
| 3880             | 701   | 836                | 185                              |         | 778-79  | 51 Piṅgala . . .       |                     | ...                                                       |
| 3881             | 702   | 837                | 186                              |         | 779-80  | 52 Kālayukta . . .     |                     | 1 Chaitra .                                               |
| 3882             | 703   | 838                | 187                              |         | *780-81 | 53 Siddhārthin . . .   |                     | ...                                                       |
| 3883             | 704   | 839                | 188                              |         | 781-82  | 54 Randra . . .        |                     | 9 Mārgaśīra .                                             |
| 3884             | 705   | 840                | 189                              |         | 782-83  | 55 Durmati . . .       |                     | ...                                                       |
| 3885             | 706   | 841                | 190                              |         | 783-84  | 56 Dundubhi . . .      |                     | ...                                                       |
| 3886             | 707   | 842                | 191                              |         | *784-85 | 57 Rudhirōdgārin . . . |                     | 6 Bhādrapada .                                            |
| 3887             | 708   | 843                | 192                              |         | 785-86  | 58 Raktāksha . . .     |                     | ...                                                       |
| 3888             | 709   | 844                | 193                              |         | 786-87  | 59 Krōdhana . . .      |                     | ...                                                       |
| 3889             | 710   | 845                | 194                              |         | 787-88  | 60 Kshaya . . .        |                     | 3 Jyēṣṭha .                                               |
| 3890             | 711   | 846                | 195                              |         | *788-89 | 1 Prabhava . . .       |                     | ...                                                       |
| 3891             | 712   | 847                | 196                              |         | 789-90  | 2 Vibhava . . .        |                     | 11 Māgha .                                                |
| 3892             | 713   | 848                | 197                              |         | 790-91  | 3 Śukla . . .          |                     | ...                                                       |
| 3893             | 714   | 849                | 198                              |         | 791-92  | 4 Pramōda . . .        |                     | ...                                                       |
| 3894             | 715   | 850                | 199                              |         | *792-93 | 5 Prajāpati . . .      |                     | 8 Kārttika .                                              |
| 3895             | 716   | 851                | 200                              |         | 793-94  | 6 Āngiras . . .        |                     | ...                                                       |

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                       |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                       | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-sankranti. | Day and month, A.D.                                                                 | Week-day.   | a (here = t, the index of the tithi). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                    |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                       |       |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 8 40 30                       | 13 Mar. (72) . . .                                                                  | 2 Mon. . .  | 195-2912                              | 3871  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 9 52 39                       | 2 Mar. (61) . . .                                                                   | 6 Fri. . .  | 71-0141                               | 3872  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 16 4 48                       | 21 Mar. (80) . . .                                                                  | 5 Thur. . . | 105-6965                              | 3873  |
| 21 Mar. (81) . . .  | 0 Sat. . .  | 22 16 57                      | 10 Mar. (70) . . .                                                                  | 3 Tues. . . | 320-0513                              | 3874  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 4 29 6                        | 27 Feb. (58) . . .                                                                  | 0 Sat. . .  | 195-7741                              | 3875  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 10 41 15                      | 18 Mar. (77) . . .                                                                  | 6 Fri. . .  | 230-4566                              | 3876  |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 16 53 24                      | 7 Mar. (66) . . .                                                                   | 3 Tues. . . | 106-1793                              | 3877  |
| 21 Mar. (81) . . .  | 5 Thur. . . | 23 5 33                       | 25 Feb. (56) . . .                                                                  | 1 Sun. . .  | 320-5342                              | 3878  |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 5 17 42                       | 14 Mar. (73) . . .                                                                  | 6 Fri. . .  | 16-5848                               | 3879  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 11 29 51                      | 4 Mar. (63) . . .                                                                   | 4 Wed. . .  | 230-9395                              | 3880  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 17 42 0                       | 21 Feb. (52) . . .                                                                  | 1 Sun. . .  | 106-6622                              | 3881  |
| 21 Mar. (81) . . .  | 3 Tues. . . | 23 54 9                       | 11 Mar. (71) . . .                                                                  | 0 Sat. . .  | 141-3446                              | 3882  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 6 6 18                        | 28 Feb. (59) . . .                                                                  | 4 Wed. . .  | 17-0675                               | 3883  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 12 18 27                      | 19 Mar. (78) . . .                                                                  | 3 Tues. . . | 51-7499                               | 3884  |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 18 30 36                      | 9 Mar. (68) . . .                                                                   | 1 Sun. . .  | 266-1047                              | 3885  |
| 22 Mar. (82) . . .  | 2 Mon. . .  | 0 42 45                       | 28 Feb. (57) . . .                                                                  | 5 Thur. . . | 141-8276                              | 3886  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 6 54 54                       | 16 Mar. (75) . . .                                                                  | 4 Wed. . .  | 176-5100                              | 3887  |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 13 7 3                        | 5 Mar. (64) . . .                                                                   | 1 Sun. . .  | 52-2327                               | 3888  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 19 19 12                      | 23 Feb. (54) . . .                                                                  | 6 Fri. . .  | 266-5876                              | 3889  |
| 22 Mar. (82) . . .  | 0 Sat. . .  | 1 31 21                       | 13 Mar. (73) . . .                                                                  | 5 Thur. . . | 301-2700                              | 3890  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 7 43 30                       | 2 Mar. (61) . . .                                                                   | 2 Mon. . .  | 176-9929                              | 3891  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 13 55 39                      | 21 Mar. (80) . . .                                                                  | 1 Sun. . .  | 211-6752                              | 3892  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 20 7 48                       | 10 Mar. (69) . . .                                                                  | 5 Thur. . . | 87-3981                               | 3893  |
| 22 Mar. (82) . . .  | 5 Thur. . . | 2 19 57                       | 28 Feb. (59) . . .                                                                  | 3 Tues. . . | 301-7530                              | 3894  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 8 32 6                        | 17 Mar. (76) . . .                                                                  | 1 Sun. . .  | 9997-8033 §                           | 3895  |

§ Chaitra *śukla* 1 was suppressed.

TABLE

| CONCURRENT YEAR. |       |                    |                               |         |         |                      |                  |                                          |
|------------------|-------|--------------------|-------------------------------|---------|---------|----------------------|------------------|------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D.    | JUVIAN SAMVATSARA.   |                  | Mean intercalated (āshāṭha) lunar month. |
|                  |       |                    |                               |         |         | Southern system.     | Northern system. |                                          |
| 1                | 2     | 3                  | 3a                            | 4       | 5       | 6                    | 7                | 8a                                       |
| 3896             | 717   | 852                | 201                           |         | 794-95  | 7 Śrīmukha . . .     |                  | ...                                      |
| 3897             | 718   | 853                | 202                           |         | 795-96  | 8 Bhāva . . .        |                  | 4 Āshāḍha .                              |
| 3898             | 719   | 854                | 203                           |         | *796-97 | 9 Yavan . . .        |                  | ...                                      |
| 3899             | 720   | 855                | 204                           |         | 797-98  | 10 Dhātṛi . . .      |                  | ...                                      |
| 3900             | 721   | 856                | 205                           |         | 798-99  | 11 Isvara . . .      |                  | 1 Chaitra .                              |
| 3901             | 722   | 857                | 206                           |         | 799-800 | 12 Bahudhānya . . .  |                  | ...                                      |
| 3902             | 723   | 858                | 207                           |         | *800-01 | 13 Pramāthin . . .   |                  | 9 Mārgaśīra .                            |
| 3903             | 724   | 859                | 208                           |         | 801-02  | 14 Vikrama . . .     |                  | ...                                      |
| 3904             | 725   | 860                | 209                           |         | 802-03  | 15 Vṛisha . . .      |                  | ...                                      |
| 3905             | 726   | 861                | 210                           |         | 803-04  | 16 Chitrabhānu . . . |                  | 6 Bhādrapada .                           |
| 3906             | 727   | 862                | 211                           |         | *804-05 | 17 Subhānu . . .     |                  | ...                                      |
| 3907             | 728   | 863                | 212                           |         | 805-06  | 18 Tārana . . .      |                  | ...                                      |
| 3908             | 729   | 864                | 213                           |         | 806-07  | 19 Pārthiva . . .    |                  | 2 Vaiśākha .                             |
| 3909             | 730   | 865                | 214                           |         | 807-08  | 20 Vyasa . . .       |                  | ...                                      |
| 3910             | 731   | 866                | 215                           |         | *808-09 | 21 Saṅvajit . . .    |                  | 11 Māgha .                               |
| 3911             | 732   | 867                | 216                           |         | 809-10  | 22 Sarvadhārin . . . |                  | ...                                      |
| 3912             | 733   | 868                | 217                           |         | 810-11  | 23 Virōdhin . . .    |                  | ...                                      |
| 3913             | 734   | 869                | 218                           |         | 811-12  | 24 Vikṛita . . .     |                  | 7 Āśvina .                               |
| 3914             | 735   | 870                | 219                           |         | *812-13 | 25 Khara . . .       |                  | ...                                      |
| 3915             | 736   | 871                | 220                           |         | 813-14  | 26 Nandana . . .     |                  | ...                                      |
| 3916             | 737   | 872                | 221                           |         | 814-15  | 27 Vijaya . . .      |                  | 4 Āshāḍha .                              |
| 3917             | 738   | 873                | 222                           |         | 815-16  | 28 Jaya . . .        |                  | ...                                      |
| 3918             | 739   | 874                | 223                           |         | *816-17 | 29 Manmatha . . .    |                  | 12 Phālguna .                            |
| 3919             | 740   | 875                | 224                           |         | 817-18  | 30 Darmakha . . .    |                  | ...                                      |
| 3920             | 741   | 876                | 225                           |         | 818-19  | 31 Hēmalambā† . . .  |                  | ...                                      |

† 32 Vilamba was suppressed by mean reckoning. By *Brāhma-Siddhānta* "true" reckoning the year K. Y. 3921, A.D. 819-20, was 32 "Vilamba," and 33 Vikātin was suppressed.

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                               |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|-----------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                               | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | a (here = t, the index of the <i>tittā</i> ). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                            |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                               |       |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 14 44 15                      | 7 Mar. (66) . . .                                                                   | 6 Fri. . .  | 212-1581                                      | 3896  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 20 56 24                      | 24 Feb. (55) . . .                                                                  | 3 Tues. . . | 87-8810                                       | 3897  |
| 22 Mar. (82) . . .  | 3 Tues. . . | 3 8 33                        | 14 Mar. (74) . . .                                                                  | 2 Mon. . .  | 122-5633                                      | 3898  |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 9 20 42                       | 3 Mar. (62) . . .                                                                   | 6 Fri. . .  | 9998-2862§                                    | 3899  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 15 32 51                      | 21 Feb. (52) . . .                                                                  | 4 Wed. . .  | 212-6410                                      | 3900  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 21 45 0                       | 12 Mar. (71) . . .                                                                  | 3 Tues. . . | 247-3234                                      | 3901  |
| 22 Mar. (82) . . .  | 1 Sun. . .  | 3 57 9                        | 29 Feb. (60) . . .                                                                  | 0 Sat. . .  | 123-0463                                      | 3902  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 10 9 18                       | 19 Mar. (78) . . .                                                                  | 6 Fri. . .  | 157-7287                                      | 3903  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 16 21 27                      | 8 Mar. (67) . . .                                                                   | 3 Tues. . . | 33-4515                                       | 3904  |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 22 33 36                      | 28 Feb. (57) . . .                                                                  | 1 Sun. . .  | 247-8064                                      | 3905  |
| 22 Mar. (82) . . .  | 6 Fri. . .  | 4 45 45                       | 16 Mar. (76) . . .                                                                  | 0 Sat. . .  | 282-4888                                      | 3906  |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 10 57 54                      | 5 Mar. (64) . . .                                                                   | 4 Wed. . .  | 158-2115                                      | 3907  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 17 10 3                       | 22 Feb. (53) . . .                                                                  | 1 Sun. . .  | 33-9344                                       | 3908  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 23 22 12                      | 13 Mar. (72) . . .                                                                  | 0 Sat. . .  | 68-6168                                       | 3909  |
| 22 Mar. (82) . . .  | 4 Wed. . .  | 5 34 21                       | 2 Mar. (62) . . .                                                                   | 6 Thur. . . | 282-9716                                      | 3910  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 11 46 30                      | 21 Mar. (80) . . .                                                                  | 4 Wed. . .  | 317-6540                                      | 3911  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 17 58 39                      | 10 Mar. (69) . . .                                                                  | 1 Sun. . .  | 193-3769                                      | 3912  |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 0 10 48                       | 27 Feb. (58) . . .                                                                  | 6 Thur. . . | 69-0998                                       | 3913  |
| 22 Mar. (82) . . .  | 2 Mon. . .  | 6 22 57                       | 17 Mar. (77) . . .                                                                  | 4 Wed. . .  | 103-7821                                      | 3914  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 12 36 6                       | 7 Mar. (66) . . .                                                                   | 2 Mon. . .  | 318-1369                                      | 3915  |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 18 47 15                      | 24 Feb. (55) . . .                                                                  | 6 Fri. . .  | 193-8598                                      | 3916  |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 0 59 24                       | 15 Mar. (74) . . .                                                                  | 5 Thur. . . | 228-5421                                      | 3917  |
| 22 Mar. (82) . . .  | 0 Sat. . .  | 7 11 33                       | 3 Mar. (63) . . .                                                                   | 2 Mon. . .  | 104-2650                                      | 3918  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 13 23 42                      | 22 Mar. (81) . . .                                                                  | 1 Sun. . .  | 138-9474                                      | 3919  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 19 35 51                      | 11 Mar. (70) . . .                                                                  | 5 Thur. . . | 14-6703                                       | 3920  |

§ Chaitra *śukla* 1 was suppressed.



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                         |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|-------------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māghādi solar year in<br>Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.      |                     |                                                           |
|                  |       |                    |                                  |         |         | Southern<br>system.     | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                       | 7                   | 8a                                                        |
| 3021             | 742   | 877                | 226                              |         | 819-20  | 33 <i>Vikārin</i>       |                     | 9 Mārgasīra                                               |
| 3022             | 743   | 878                | 227                              |         | *820-21 | 34 <i>Śarvarin</i>      |                     | ...                                                       |
| 3023             | 744   | 879                | 228                              |         | 821-22  | 35 <i>Plava</i>         |                     | ...                                                       |
| 3024             | 745   | 880                | 229                              |         | 822-23  | 36 <i>Śubhakṛit</i>     |                     | 6 Bhādrapada†                                             |
| 3025             | 746   | 881                | 230                              |         | 823-24  | 37 <i>Śobhana</i>       |                     | ...                                                       |
| 3026             | 747   | 882                | 231                              |         | *824-25 | 38 <i>Krōdhin</i>       |                     | ...                                                       |
| 3027             | 748   | 883                | 232                              | 0-1     | 825-26  | 39 <i>Viśvāvasu</i>     |                     | 2 Vaiśākha                                                |
| 3028             | 749   | 884                | 233                              | 1-2     | 826-27  | 40 <i>Parābhava</i>     |                     | ...                                                       |
| 3029             | 750   | 885                | 234                              | 2-3     | 827-28  | 41 <i>Plavaṅga</i>      |                     | 11 Māgha                                                  |
| 3030             | 751   | 886                | 235                              | 3-4     | *828-29 | 42 <i>Kilaka</i>        |                     | ...                                                       |
| 3031             | 752   | 887                | 236                              | 4-5     | 829-30  | 43 <i>Saunhya</i>       |                     | ...                                                       |
| 3032             | 753   | 888                | 237                              | 5-6     | 830-31  | 44 <i>Sādhārṇa</i>      |                     | 7 Āśvina                                                  |
| 3033             | 754   | 889                | 238                              | 6-7     | 831-32  | 45 <i>Virōdhakṛit</i>   |                     | ...                                                       |
| 3034             | 755   | 890                | 239                              | 7-8     | *832-33 | 46 <i>Paridhāvin</i>    |                     | ...                                                       |
| 3035             | 756   | 891                | 240                              | 8-9     | 833-34  | 47 <i>Pramādin</i>      |                     | 4 Āshāḍha                                                 |
| 3036             | 757   | 892                | 241                              | 9-10    | 834-35  | 48 <i>Ānanda</i>        |                     | ...                                                       |
| 3037             | 758   | 893                | 242                              | 10-11   | 835-36  | 49 <i>Rākehasa</i>      |                     | 12 Phālguna                                               |
| 3038             | 759   | 894                | 243                              | 11-12   | *836-37 | 50 <i>Anala</i>         |                     | ...                                                       |
| 3039             | 760   | 895                | 244                              | 12-13   | 837-38  | 51 <i>Piṅgala</i>       |                     | ...                                                       |
| 3040             | 761   | 896                | 245                              | 13-14   | 838-39  | 52 <i>Kālayukta</i>     |                     | 9 Mārgasīra                                               |
| 3041             | 762   | 897                | 245                              | 14-15   | 839-40  | 53 <i>Siddhārthin</i>   |                     | ...                                                       |
| 3042             | 763   | 898                | 247                              | 15-16   | *840-41 | 54 <i>Randra</i>        |                     | ...                                                       |
| 3043             | 764   | 899                | 248                              | 16-17   | 841-42  | 55 <i>Durmati</i>       |                     | 5 Śrāvaṇa                                                 |
| 3044             | 765   | 900                | 249                              | 17-18   | 842-43  | 56 <i>Dundubhi</i>      |                     | ...                                                       |
| 3045             | 766   | 901                | 250                              | 18-19   | 843-44  | 57 <i>Rudhirōdgaṇin</i> |                     | ...                                                       |

† See "Remarks," p. 215 above.

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| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                       |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                       | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | a (here = t, the index of the titāi). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                    | 1     |
|                     |             | H. M. S.                      |                                                                                     |             |                                       |       |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 1 48 0                        | 1 Mar. (60) . . .                                                                   | 3 Tues. . . | 229-0250                              | 3921  |
| 22 Mar. (82) . . .  | 5 Thur. . . | 8 0 9                         | 19 Mar. (79) . . .                                                                  | 2 Mon. . .  | 263-7074                              | 3922  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 14 12 18                      | 8 Mar. (67) . . .                                                                   | 6 Fri. . .  | 139-4313                              | 3923  |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 20 24 27                      | 25 Feb. (56) . . .                                                                  | 3 Tues. . . | 15-1531                               | 3924  |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 2 36 36                       | 16 Mar. (75) . . .                                                                  | 2 Mon. . .  | 49-8355                               | 3925  |
| 22 Mar. (82) . . .  | 3 Tues. . . | 8 48 45                       | 5 Mar. (65) . . .                                                                   | 0 Sat. . .  | 264-1904                              | 3926  |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 15 0 54                       | 22 Feb. (53) . . .                                                                  | 4 Wed. . .  | 139-9132                              | 3927  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 21 13 3                       | 13 Mar. (72) . . .                                                                  | 3 Tues. . . | 174-5955                              | 3928  |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 3 25 12                       | 2 Mar. (61) . . .                                                                   | 0 Sat. . .  | 50-3184                               | 3929  |
| 22 Mar. (82) . . .  | 1 Sun. . .  | 9 37 21                       | 20 Mar. (80) . . .                                                                  | 6 Fri. . .  | 85-0009                               | 3930  |
| 22 Mar. (81) . . .  | 2 Mon. . .  | 15 49 30                      | 10 Mar. (69) . . .                                                                  | 4 Wed. . .  | 299-3556                              | 3931  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 22 1 39                       | 27 Feb. (58) . . .                                                                  | 1 Sun. . .  | 175-0784                              | 3932  |
| 23 Mar. (82) . . .  | 5 Thur. . . | 4 13 48                       | 18 Mar. (77) . . .                                                                  | 0 Sat. . .  | 209-7609                              | 3933  |
| 22 Mar. (82) . . .  | 6 Fri. . .  | 16 26 57                      | 6 Mar. (66) . . .                                                                   | 4 Wed. . .  | 85-4837                               | 3934  |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 16 38 6                       | 24 Feb. (55) . . .                                                                  | 2 Mon. . .  | 299-8385                              | 3935  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 22 50 16                      | 14 Mar. (78) . . .                                                                  | 0 Sat. . .  | 9995-8889 §                           | 3936  |
| 23 Mar. (82) . . .  | 3 Tues. . . | 5 2 24                        | 4 Mar. (63) . . .                                                                   | 5 Thur. . . | 210-2438                              | 3937  |
| 22 Mar. (82) . . .  | 4 Wed. . .  | 11 14 33                      | 22 Mar. (82) . . .                                                                  | 4 Wed. . .  | 244-9262                              | 3938  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 17 26 42                      | 11 Mar. (70) . . .                                                                  | 1 Sun. . .  | 120-6490                              | 3939  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 23 38 51                      | 28 Feb. (59) . . .                                                                  | 5 Thur. . . | 9996-3718 §                           | 3940  |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 5 51 0                        | 19 Mar. (78) . . .                                                                  | 4 Wed. . .  | 31-0542                               | 3941  |
| 22 Mar. (82) . . .  | 2 Mon. . .  | 12 3 9                        | 8 Mar. (68) . . .                                                                   | 2 Mon. . .  | 245-4090                              | 3942  |
| 22 Mar. (81) . . .  | 3 Tues. . . | 18 15 18                      | 25 Feb. (56) . . .                                                                  | 6 Fri. . .  | 121-1819                              | 3943  |
| 23 Mar. (82) . . .  | 5 Thur. . . | 0 27 27                       | 16 Mar. (75) . . .                                                                  | 5 Thur. . . | 155-8143                              | 3944  |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 6 39 36                       | 5 Mar. (64) . . .                                                                   | 2 Mon. . .  | 31-5372                               | 3945  |

§ Chaitra śukla 1 was suppressed.

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |         |                      |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|---------|----------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēhādī solar year in<br>Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.   |                     |                                                           |
|                  |       |                    |                                 |         |         | Southern<br>system.  | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                              | 4       | 5       | 6                    | 7                   | 8a                                                        |
| 3946             | 767   | 902                | 251                             | 19-20   | *844-45 | 58 Raktākṣha . . .   |                     | 2 Vaiśākha . . .                                          |
| 3947             | 768   | 903                | 252                             | 20-21   | 845-46  | 59 Krodhana . . .    |                     | ...                                                       |
| 3948             | 769   | 904                | 253                             | 21-22   | 846-47  | 60 Kshaya . . .      |                     | 10 Pausa . . .                                            |
| 3949             | 770   | 905                | 254                             | 22-23   | 847-48  | 1 Prabhava . . .     |                     | ...                                                       |
| 3950             | 771   | 906                | 255                             | 23-24   | *848-49 | 2 Vibhava . . .      |                     | ...                                                       |
| 3951             | 772   | 907                | 256                             | 24-25   | 849-50  | 3 Śukla . . .        |                     | 7 Āśvina . . .                                            |
| 3952             | 773   | 908                | 257                             | 25-26   | 850-51  | 4 Pramōda . . .      |                     | ...                                                       |
| 3953             | 774   | 909                | 258                             | 26-27   | 851-52  | 5 Prajāpati . . .    |                     | ...                                                       |
| 3954             | 775   | 910                | 259                             | 27-28   | *852-53 | 6 Āngiras . . .      |                     | 3 Jyēṣṭha . . .                                           |
| 3955             | 776   | 911                | 260                             | 28-29   | 853-54  | 7 Śrīmukha . . .     |                     | ...                                                       |
| 3956             | 777   | 912                | 261                             | 29-30   | 854-55  | 8 Bhāva . . .        |                     | 12 Phalguna . . .                                         |
| 3957             | 778   | 913                | 262                             | 30-31   | 855-56  | 9 Yavan . . .        |                     | ...                                                       |
| 3958             | 779   | 914                | 263                             | 31-32   | *856-57 | 10 Dhātṛi . . .      |                     | ...                                                       |
| 3959             | 780   | 915                | 264                             | 32-33   | 857-58  | 11 Īvara . . .       |                     | 8 Kārttika . . .                                          |
| 3960             | 781   | 916                | 265                             | 33-34   | 858-59  | 12 Bahubhānya . . .  |                     | ...                                                       |
| 3961             | 782   | 917                | 266                             | 34-35   | 859-60  | 13 Pramāthin . . .   |                     | ...                                                       |
| 3962             | 783   | 918                | 267                             | 35-36   | *860-61 | 14 Vikrama . . .     |                     | 5 Śrāvaṇa . . .                                           |
| 3963             | 784   | 919                | 268                             | 36-37   | 861-62  | 15 Vṛiṣha . . .      |                     | ...                                                       |
| 3964             | 785   | 920                | 269                             | 37-38   | 862-63  | 16 Chitrabhānu . . . |                     | ...                                                       |
| 3965             | 786   | 921                | 270                             | 38-39   | 863-64  | 17 Subhānu . . .     |                     | 2 Vaiśākha . . .                                          |
| 3966             | 787   | 922                | 271                             | 39-40   | *864-65 | 18 Tārana . . .      |                     | ...                                                       |
| 3967             | 788   | 923                | 272                             | 40-41   | 865-66  | 19 Pārthiva . . .    |                     | 10 Pausa . . .                                            |
| 3968             | 789   | 924                | 273                             | 41-42   | 866-67  | 20 Vyaya . . .       |                     | ...                                                       |
| 3969             | 790   | 925                | 274                             | 42-43   | 867-68  | 21 Sarvajit . . .    |                     | ...                                                       |
| 3970             | 791   | 926                | 275                             | 43-44   | *868-69 | 22 Sarvadhārin . . . |                     | 7 Āśvina . . .                                            |

XC—*contd.*

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                               |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|-----------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                               | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-saṁkrānti. | Day and month, A.D.                                                                 | Week-day.   | a (here = t, the index of the <i>tīthi</i> ). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                            |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                               | 1     |
| 22 Mar. (82) . . .  | 0 Sat. . .  | 12 51 45                      | 28 Feb. (54) . . .                                                                  | 0 Sat. . .  | 245-8919                                      | 3946  |
| 22 Mar. (81) . . .  | 1 Sun. . .  | 19 3 54                       | 18 Mar. (76) . . .                                                                  | 6 Fri. . .  | 280-5743                                      | 3947  |
| 23 Mar. (82) . . .  | 3 Tues. . . | 1 16 3                        | 2 Mar. (81) . . .                                                                   | 3 Tues. . . | 156-2972                                      | 3948  |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 7 28 12                       | 21 Mar. (80) . . .                                                                  | 2 Mon. . .  | 190-9798                                      | 3949  |
| 22 Mar. (82) . . .  | 5 Thur. . . | 13 40 21                      | 9 Mar. (69) . . .                                                                   | 6 Fri. . .  | 66-7024                                       | 3950  |
| 22 Mar. (81) . . .  | 6 Fri. . .  | 19 52 30                      | 27 Feb. (58) . . .                                                                  | 4 Wed. . .  | 281-0572                                      | 3951  |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 2 4 39                        | 18 Mar. (77) . . .                                                                  | 3 Tues. . . | 315-7397                                      | 3952  |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 8 16 48                       | 7 Mar. (66) . . .                                                                   | 0 Sat. . .  | 191-4624                                      | 3953  |
| 22 Mar. (82) . . .  | 3 Tues. . . | 14 23 57                      | 24 Feb. (55) . . .                                                                  | 4 Wed. . .  | 67-1853                                       | 3954  |
| 22 Mar. (81) . . .  | 4 Wed. . .  | 20 41 6                       | 14 Mar. (73) . . .                                                                  | 3 Tues. . . | 101-8677                                      | 3955  |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 2 53 15                       | 4 Mar. (63) . . .                                                                   | 1 Sun. . .  | 316-2225                                      | 3956  |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 9 5 24                        | 22 Mar. (81) . . .                                                                  | 6 Fri. . .  | 12-2729                                       | 3957  |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 15 17 33                      | 11 Mar. (71) . . .                                                                  | 4 Wed. . .  | 226-6278                                      | 3958  |
| 23 Mar. (81) . . .  | 2 Mon. . .  | 21 29 42                      | 28 Feb. (59) . . .                                                                  | 1 Sun. . .  | 102-3506                                      | 3959  |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 3 41 51                       | 19 Mar. (78) . . .                                                                  | 0 Sat. . .  | 137-0329                                      | 3960  |
| 23 Mar. (82) . . .  | 5 Thur. . . | 9 54 0                        | 8 Mar. (67) . . .                                                                   | 4 Wed. . .  | 12-7558                                       | 3961  |
| 22 Mar. (82) . . .  | 6 Fri. . .  | 16 6 9                        | 26 Feb. (57) . . .                                                                  | 2 Mon. . .  | 227-1107                                      | 3962  |
| 22 Mar. (81) . . .  | 0 Sat. . .  | 22 18 18                      | 16 Mar. (75) . . .                                                                  | 1 Sun. . .  | 261-7930                                      | 3963  |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 4 30 27                       | 5 Mar. (64) . . .                                                                   | 5 Thur. . . | 137-5159                                      | 3964  |
| 23 Mar. (82) . . .  | 3 Tues. . . | 10 42 36                      | 23 Feb. (53) . . .                                                                  | 2 Mon. . .  | 13-2387                                       | 3965  |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 16 54 45                      | 12 Mar. (72) . . .                                                                  | 1 Sun. . .  | 47-9211                                       | 3966  |
| 22 Mar. (81) . . .  | 5 Thur. . . | 23 6 54                       | 2 Mar. (61) . . .                                                                   | 6 Fri. . .  | 262-2759                                      | 3967  |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 5 19 3                        | 21 Mar. (80) . . .                                                                  | 5 Thur. . . | 296-9584                                      | 3968  |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 11 31 12                      | 10 Mar. (69) . . .                                                                  | 2 Mon. . .  | 172-6812                                      | 3969  |
| 22 Mar. (82) . . .  | 2 Mon. . .  | 17 43 21                      | 27 Feb. (58) . . .                                                                  | 6 Fri. . .  | 48-4039                                       | 3970  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                      |                     | Mean<br>intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in<br>Bengal. | Kollam. | A.D.    | JOVIAN SĀMVATSARA.   |                     |                                                  |
|                  |       |                    |                                  |         |         | Southern<br>system.  | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                    | 7                   | 8a                                               |
| 3971             | 792   | 927                | 276                              | 44-45   | 869-70  | 23 Virōdhin . . .    |                     | ...                                              |
| 3972             | 793   | 928                | 277                              | 45-46   | 870-71  | 24 Vikṛita . . .     |                     | ...                                              |
| 3973             | 794   | 929                | 278                              | 46-47   | 871-72  | 25 Khara . . .       |                     | 8 Jyēshṭha .                                     |
| 3974             | 795   | 930                | 279                              | 47-48   | *872-73 | 26 Nandana . . .     |                     | ...                                              |
| 3975             | 796   | 931                | 280                              | 48-49   | 873-74  | 27 Vijaya . . .      |                     | 12 Phālguna .                                    |
| 3976             | 797   | 932                | 281                              | 49-50   | 874-75  | 28 Jaya . . .        |                     | ...                                              |
| 3977             | 798   | 933                | 282                              | 50-51   | 875-76  | 29 Maṃmatha . . .    |                     | ...                                              |
| 3978             | 799   | 934                | 283                              | 51-52   | *876-77 | 30 Durnukha . . .    |                     | 8 Kārttika .                                     |
| 3979             | 800   | 935                | 284                              | 52-53   | 877-78  | 31 Hēmalamba . . .   |                     | ...                                              |
| 3980             | 801   | 936                | 285                              | 53-54   | 878-79  | 32 Vilamba . . .     |                     | ...                                              |
| 3981             | 802   | 937                | 286                              | 54-55   | 879-80  | 33 Vikarin . . .     |                     | 5 Śrāvana .                                      |
| 3982             | 803   | 938                | 287                              | 55-56   | *880-81 | 34 Śārvarin . . .    |                     | ...                                              |
| 3983             | 804   | 939                | 288                              | 56-57   | 881-82  | 35 Plava . . .       |                     | ...                                              |
| 3984             | 805   | 940                | 289                              | 57-58   | 882-83  | 36 Śubhakṛit . . .   |                     | 1 Chaitra .                                      |
| 3985             | 806   | 941                | 290                              | 58-59   | 883-84  | 37 Śōbhana . . .     |                     | ...                                              |
| 3986             | 807   | 942                | 291                              | 59-60   | *884-85 | 38 Krōdhin . . .     |                     | 10 Pausa .                                       |
| 3987             | 808   | 943                | 292                              | 60-61   | 885-86  | 39 Viśvāvasu . . .   |                     | ...                                              |
| 3988             | 809   | 944                | 293                              | 61-62   | 886-87  | 40 Parābhava . . .   |                     | ...                                              |
| 3989             | 810   | 945                | 294                              | 62-63   | 887-88  | 41 Plavaṅga . . .    |                     | 6 Bhādrapada .                                   |
| 3990             | 811   | 946                | 295                              | 63-64   | *888-89 | 42 Klaka . . .       |                     | ...                                              |
| 3991             | 812   | 947                | 296                              | 64-65   | 889-90  | 43 Saumya . . .      |                     | ...                                              |
| 3992             | 813   | 948                | 297                              | 65-66   | 890-91  | 44 Sādhārana . . .   |                     | 3 Jyēshṭha .                                     |
| 3993             | 814   | 949                | 298                              | 66-67   | 891-92  | 45 Virōdhakṛit . . . |                     | ...                                              |
| 3994             | 815   | 950                | 299                              | 67-68   | *892-93 | 46 Paridhāvin . . .  |                     | 11 Māgha .                                       |
| 3995             | 816   | 951                | 300                              | 68-69   | 893-94  | 47 Pramādin . . .    |                     | ...                                              |

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                                             |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                                             | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | <i>a</i> (here= <i>t</i> , the index of the <i>tithi</i> ). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                                          |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                                             |       |
| 22 Mar. (81) . . .  | 3 Tues. . . | 23 55 30                      | 17 Mar. (76) . . .                                                                  | 5 Thur. . . | 83-0864                                                     | 3971  |
| 23 Mar. (82) . . .  | 5 Thur. . . | 6 7 39                        | 7 Mar. (86) . . .                                                                   | 3 Tues. . . | 297-4412                                                    | 3972  |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 12 19 48                      | 24 Feb. (55) . . .                                                                  | 0 Sat. . .  | 173-1641                                                    | 3973  |
| 22 Mar. (82) . . .  | 0 Sat. . .  | 18 31 57                      | 14 Mar. (74) . . .                                                                  | 6 Fri. . .  | 207-8464                                                    | 3974  |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 0 44 6                        | 3 Mar. (82) . . .                                                                   | 3 Tues. . . | 83-5693                                                     | 3975  |
| 23 Mar. (82) . . .  | 3 Tues. . . | 6 56 15                       | 22 Mar. (81) . . .                                                                  | 2 Mon. . .  | 118-2517                                                    | 3976  |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 13 6 24                       | 12 Mar. (71) . . .                                                                  | 0 Sat. . .  | 332-6065                                                    | 3977  |
| 22 Mar. (82) . . .  | 5 Thur. . . | 19 20 33                      | 29 Feb. (60) . . .                                                                  | 4 Wed. . .  | 208-3293                                                    | 3978  |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 1 32 42                       | 19 Mar. (78) . . .                                                                  | 3 Tues. . . | 243-0118                                                    | 3979  |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 7 44 51                       | 8 Mar. (87) . . .                                                                   | 0 Sat. . .  | 118-7346                                                    | 3980  |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 13 57 0                       | 26 Feb. (57) . . .                                                                  | 5 Thur. . . | 383-0894                                                    | 3981  |
| 22 Mar. (82) . . .  | 3 Tues. . . | 20 9 9                        | 15 Mar. (75) . . .                                                                  | 3 Tues. . . | 29-1398                                                     | 3982  |
| 23 Mar. (82) . . .  | 5 Thur. . . | 2 21 18                       | 5 Mar. (84) . . .                                                                   | 1 Sun. . .  | 243-4947                                                    | 3983  |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 8 33 27                       | 22 Feb. (53) . . .                                                                  | 5 Thur. . . | 119-2175                                                    | 3984  |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 14 45 36                      | 13 Mar. (72) . . .                                                                  | 4 Wed. . .  | 153-8998                                                    | 3985  |
| 22 Mar. (82) . . .  | 1 Sun. . .  | 20 57 45                      | 1 Mar. (61) . . .                                                                   | 1 Sun. . .  | 29-6227                                                     | 3986  |
| 23 Mar. (82) . . .  | 3 Tues. . . | 3 9 54                        | 20 Mar. (79) . . .                                                                  | 0 Sat. . .  | 64-3052                                                     | 3987  |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 9 22 3                        | 10 Mar. (69) . . .                                                                  | 5 Thur. . . | 278-6599                                                    | 3988  |
| 23 Mar. (82) . . .  | 5 Thur. . . | 15 34 12                      | 27 Feb. (58) . . .                                                                  | 2 Mon. . .  | 154-3828                                                    | 3989  |
| 22 Mar. (82) . . .  | 6 Fri. . .  | 21 46 21                      | 17 Mar. (77) . . .                                                                  | 1 Sun. . .  | 189-0652                                                    | 3990  |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 3 58 30                       | 6 Mar. (85) . . .                                                                   | 5 Thur. . . | 64-7881                                                     | 3991  |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 10 10 39                      | 24 Feb. (56) . . .                                                                  | 3 Tues. . . | 279-1428                                                    | 3992  |
| 23 Mar. (82) . . .  | 3 Tues. . . | 16 22 48                      | 15 Mar. (74) . . .                                                                  | 2 Mon. . .  | 313-8252                                                    | 3993  |
| 22 Mar. (82) . . .  | 4 Wed. . .  | 22 34 57                      | 3 Mar. (63) . . .                                                                   | 6 Fri. . .  | 189-5481                                                    | 3994  |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 4 47 6                        | 22 Mar. (81) . . .                                                                  | 5 Thur. . . | 224-2304                                                    | 3995  |

TABLE

| CONCURRENT YEAR. |       |                   |                               |         |         |                         |                     |                                                  |
|------------------|-------|-------------------|-------------------------------|---------|---------|-------------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chakrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSABA.      |                     | Mean intercalated ( <i>adhika</i> ) lunar month. |
|                  |       |                   |                               |         |         | Southern system.        | Northern system.    |                                                  |
| 1                | 2     | 3                 | 3a                            | 4       | 5       | 6                       | 7                   | 8a                                               |
| 3996             | 817   | 952               | 301                           | 69-70   | 894-95  | 48 Ānanda . . .         |                     | ...                                              |
| 3997             | 818   | 953               | 302                           | 70-71   | 895-96  | 49 Rākshasa . . .       |                     | 8 Kārttika .                                     |
| 3998             | 819   | 954               | 303                           | 71-72   | *896-97 | 50 Anala . . .          |                     | ...                                              |
| 3999             | 820   | 955               | 304                           | 72-73   | 897-98  | 51 Pīngala . . .        |                     | ...                                              |
| 4000             | 821   | 956               | 305                           | 73-74   | 898-99  | 52 Kālayukta . . .      |                     | 5 Śrāvana .                                      |
| 4001             | 822   | 957               | 306                           | 74-75   | 899-900 | 53 Siddhārthin . . .    |                     | ...                                              |
| 4002             | 823   | 958               | 307                           | 75-76   | *900-01 | 54 Raudra . . .         |                     | ...                                              |
| 4003             | 824   | 959               | 308                           | 76-77   | 901-02  | 55 Darmati . . .        |                     | 1 Chaitra .                                      |
| 4004             | 825   | 960               | 309                           | 77-78   | 902-03  | 56 Dundubhi . . .       |                     | ...                                              |
| 4005             | 826   | 961               | 310                           | 78-79   | 903-04  | 57 Rudhirōdgārin† . . . |                     | 10 Pausa .                                       |
| 4006             | 827   | 962               | 311                           | 79-80   | *904-05 | 58 Raktāksha . . .      | 59 Krōdhana . . .   | ...                                              |
| 4007             | 828   | 963               | 312                           | 80-81   | 905-06  | 59 Krōdhana . . .       | 60 Kāyā . . .       | ...                                              |
| 4008             | 829   | 964               | 313                           | 81-82   | 906-07  | 60 Kāyā . . .           | 1 Prabhava . . .    | 6 Bhādrapada .                                   |
| 4009             | 830   | 965               | 314                           | 82-83   | 907-08  | 1 Prabhava . . .        | 2 Vibhava . . .     | ...                                              |
| 4010             | 831   | 966               | 315                           | 83-84   | *908-09 | 2 Vibhava . . .         | 3 Śukla . . .       | ...                                              |
| 4011             | 832   | 967               | 316                           | 84-85   | 909-10  | 3 Śukla . . .           | 4 Pramōda . . .     | 3 Jyēṣṭha .                                      |
| 4012             | 833   | 968               | 317                           | 85-86   | 910-11  | 4 Pramōda . . .         | 5 Prajāpati . . .   | ...                                              |
| 4013             | 834   | 969               | 318                           | 86-87   | 911-12  | 5 Prajāpati . . .       | 6 Aṅgīra . . .      | 11 Māgha .                                       |
| 4014             | 835   | 970               | 319                           | 87-88   | *912-13 | 6 Aṅgīra . . .          | 7 Śrīmukha . . .    | ...                                              |
| 4015             | 836   | 971               | 320                           | 88-89   | 913-14  | 7 Śrīmukha . . .        | 8 Bhāva . . .       | ...                                              |
| 4016             | 837   | 972               | 321                           | 89-90   | 914-15  | 8 Bhāva . . .           | 9 Yuvan . . .       | 8 Kārttika .                                     |
| 4017             | 838   | 973               | 322                           | 90-91   | 915-16  | 9 Yuvan . . .           | 10 Dhātṛi . . .     | ...                                              |
| 4018             | 839   | 974               | 323                           | 91-92   | *916-17 | 10 Dhātṛi . . .         | 11 Isvara . . .     | ...                                              |
| 4019             | 840   | 975               | 324                           | 92-93   | 917-18  | 11 Isvara . . .         | 12 Bahudhānya . . . | 4 Ashāḍha .                                      |
| 4020             | 841   | 976               | 325                           | 93-94   | 918-19  | 12 Bahudhānya . . .     | 13 Prumāthin . . .  | ...                                              |

† 58 Raktāksha was suppressed in the north. By southern reckoning there was no suppression, and there has been none since. By *Brahma-Siddhānta* "true" reckoning K.Y. 4006, A.D. 904-05, was 58 Raktāksha, 59 Krōdhana being suppressed in the north.

XC—*contd.*

| COMMENCEMENT OF THE |             |                              |                                                                                     |             |                                                   |       |
|---------------------|-------------|------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                              | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                                   | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Māsa-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | $a$ (here= $t$ , the index of the <i>tithi</i> ). |       |
| 13                  | 14          | 17                           | 19                                                                                  | 20          | 23                                                | 1     |
|                     |             | H. M. S.                     |                                                                                     |             |                                                   |       |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 10 59 15                     | 11 Mar. (70) . . .                                                                  | 2 Mon. . .  | 99-9533                                           | 3996  |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 17 11 24                     | 1 Mar. (60) . . .                                                                   | 0 Sat. . .  | 314-3061                                          | 3997  |
| 22 Mar. (82) . . .  | 2 Mon. . .  | 23 23 33                     | 18 Mar. (78) . . .                                                                  | 5 Thur. . . | 10-3584                                           | 3998  |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 5 35 42                      | 8 Mar. (67) . . .                                                                   | 3 Tues. . . | 224-7133                                          | 3999  |
| 23 Mar. (82) . . .  | 5 Thur. . . | 11 47 51                     | 25 Feb. (56) . . .                                                                  | 0 Sat. . .  | 100-4362                                          | 4000  |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 18 0 0                       | 16 Mar. (75) . . .                                                                  | 6 Fri. . .  | 135-1186                                          | 4001  |
| 23 Mar. (83) . . .  | 1 Sun. . .  | 0 12 9                       | 4 Mar. (64) . . .                                                                   | 3 Tues. . . | 10-8415                                           | 4002  |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 6 24 18                      | 22 Feb. (53) . . .                                                                  | 1 Sun. . .  | 225-4963                                          | 4003  |
| 23 Mar. (82) . . .  | 3 Tues. . . | 12 36 27                     | 13 Mar. (72) . . .                                                                  | 0 Sat. . .  | 259-8786                                          | 4004  |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 18 48 36                     | 2 Mar. (61) . . .                                                                   | 4 Wed. . .  | 135-6015                                          | 4005  |
| 23 Mar. (83) . . .  | 6 Fri. . .  | 1 0 45                       | 20 Mar. (80) . . .                                                                  | 3 Tues. . . | 170-2839                                          | 4006  |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 7 12 54                      | 9 Mar. (68) . . .                                                                   | 0 Sat. . .  | 46-0067                                           | 4007  |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 13 25 3                      | 27 Feb. (58) . . .                                                                  | 5 Thur. . . | 260-3616                                          | 4008  |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 19 37 12                     | 18 Mar. (77) . . .                                                                  | 4 Wed. . .  | 295-0440                                          | 4009  |
| 23 Mar. (83) . . .  | 4 Wed. . .  | 1 49 21                      | 8 Mar. (66) . . .                                                                   | 1 Sun. . .  | 170-7668                                          | 4010  |
| 23 Mar. (82) . . .  | 5 Thur. . . | 8 1 30                       | 23 Feb. (54) . . .                                                                  | 5 Thur. . . | 46-4896                                           | 4011  |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 14 13 39                     | 14 Mar. (73) . . .                                                                  | 4 Wed. . .  | 81-1720                                           | 4012  |
| 23 Mar. (82) . . .  | 0 Sat. . .  | 20 25 48                     | 4 Mar. (63) . . .                                                                   | 2 Mon. . .  | 295-5269                                          | 4013  |
| 23 Mar. (83) . . .  | 2 Mon. . .  | 2 37 57                      | 22 Mar. (82) . . .                                                                  | 1 Sun. . .  | 330-2092                                          | 4014  |
| 23 Mar. (82) . . .  | 3 Tues. . . | 8 50 6                       | 11 Mar. (70) . . .                                                                  | 5 Thur. . . | 205-9321                                          | 4015  |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 15 2 15                      | 28 Feb. (59) . . .                                                                  | 2 Mon. . .  | 81-6549                                           | 4016  |
| 23 Mar. (82) . . .  | 5 Thur. . . | 21 14 24                     | 19 Mar. (78) . . .                                                                  | 1 Sun. . .  | 116-3373                                          | 4017  |
| 23 Mar. (83) . . .  | 0 Sat. . .  | 3 26 33                      | 8 Mar. (68) . . .                                                                   | 6 Fri. . .  | 330-6921                                          | 4018  |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 9 38 42                      | 25 Feb. (56) . . .                                                                  | 3 Tues. . . | 206-4160                                          | 4019  |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 15 50 51                     | 16 Mar. (75) . . .                                                                  | 2 Mon. . .  | 241-0974                                          | 4020  |



TABLE

| CONCURRENT YEAR. |       |                    |                              |         |         |                     |                     |                                                           |
|------------------|-------|--------------------|------------------------------|---------|---------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māhādī solar year in Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.  |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|                  |       |                    |                              |         |         | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                           | 4       | 5       | 6                   | 7                   | 8a                                                        |
| 4021             | 842   | 977                | 826                          | 94-95   | 913-20  | 13 Pramāthīn        | 14 Vikrama          | ...                                                       |
| 4022             | 843   | 978                | 827                          | 95-96   | *920-21 | 14 Vikrama          | 15 Vṛiṣa            | 1 Chaitra                                                 |
| 4023             | 844   | 979                | 828                          | 96-97   | 921-22  | 15 Vṛiṣa            | 16 Chitrabhānu      | ...                                                       |
| 4024             | 845   | 980                | 829                          | 97-98   | 922-23  | 16 Chitrabhānu      | 17 Subhānu          | 9 Mārgaśīra                                               |
| 4025             | 846   | 981                | 830                          | 98-99   | 923-24  | 17 Subhānu          | 18 Tāraṇa           | ...                                                       |
| 4026             | 847   | 982                | 831                          | 99-100  | *924-25 | 18 Tāraṇa           | 19 Pārthiva         | ...                                                       |
| 4027             | 848   | 983                | 832                          | 100-01  | 925-26  | 19 Pārthiva         | 20 Vyaya            | 6 Bhādrapada                                              |
| 4028             | 849   | 984                | 833                          | 101-02  | 926-27  | 20 Vyaya            | 21 Sarvajit         | ...                                                       |
| 4029             | 850   | 985                | 834                          | 102-03  | 927-28  | 21 Sarvajit         | 22 Sarvadhārin      | ...                                                       |
| 4030             | 851   | 986                | 835                          | 103-04  | *928-29 | 22 Sarvadhārin      | 23 Virōdhin         | 2 Vaiśākha                                                |
| 4031             | 852   | 987                | 836                          | 104-05  | 929-30  | 23 Virōdhin         | 24 Vikṛita          | ...                                                       |
| 4032             | 853   | 988                | 837                          | 105-06  | 930-31  | 24 Vikṛita          | 25 Khara            | 11 Māgha                                                  |
| 4033             | 854   | 989                | 838                          | 106-07  | 931-32  | 25 Khara            | 26 Nandana          | ...                                                       |
| 4034             | 855   | 990                | 839                          | 107-08  | *932-33 | 26 Nandana          | 27 Vijaya           | ...                                                       |
| 4035             | 856   | 991                | 840                          | 108-09  | 933-34  | 27 Vijaya           | 28 Jaya             | 7 Āśvina                                                  |
| 4036             | 857   | 992                | 841                          | 109-10  | 934-35  | 28 Jaya             | 29 Manmatha         | ...                                                       |
| 4037             | 858   | 993                | 842                          | 110-11  | 935-36  | 29 Manmatha         | 30 Durmukha         | ...                                                       |
| 4038             | 859   | 994                | 843                          | 111-12  | *936-37 | 30 Durmukha         | 31 Hēmalamba        | 4 Āshāḍha                                                 |
| 4039             | 860   | 995                | 844                          | 112-13  | 937-38  | 31 Hēmalamba        | 32 Vilamba          | ...                                                       |
| 4040             | 861   | 996                | 845                          | 113-14  | 938-39  | 32 Vilamba          | 33 Vikārin          | ...                                                       |
| 4041             | 862   | 997                | 846                          | 114-15  | 939-40  | 33 Vikārin          | 34 Śārvarin         | 1 Chaitra                                                 |
| 4042             | 863   | 998                | 847                          | 115-16  | *940-41 | 34 Śārvarin         | 35 Plava            | ...                                                       |
| 4043             | 864   | 999                | 848                          | 116-17  | 941-42  | 35 Plava            | 36 Subhakṛit        | 9 Mārgaśīra                                               |
| 4044             | 865   | 1000               | 849                          | 117-18  | 942-43  | 36 Subhakṛit        | 37 Śobhana          | ...                                                       |
| 4045             | 866   | 1001               | 850                          | 118-19  | 943-44  | 37 Śobhana          | 38 Krōdhin          | ...                                                       |

XC—contd.

| COMMENCEMENT OF THE |           |                               |                                                                                     |           |                                       |       |
|---------------------|-----------|-------------------------------|-------------------------------------------------------------------------------------|-----------|---------------------------------------|-------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                       | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day. | a (here = f, the index of the tīfār). |       |
| 13                  | 14        | 17                            | 19                                                                                  | 20        | 23                                    |       |
|                     |           | H. M. S.                      |                                                                                     |           |                                       |       |
| 23 Mar. (82)        | 3 Tues.   | 22 3 0                        | 5 Mar. (84)                                                                         | 6 Fri.    | 116-8202                              | 4021  |
| 23 Mar. (83)        | 5 Thur.   | 4 15 9                        | 23 Feb. (54)                                                                        | 4 Wed.    | 331-1750                              | 4022  |
| 23 Mar. (82)        | 6 Fri.    | 10 27 18                      | 12 Mar. (71)                                                                        | 2 Mon.    | 27-2254                               | 4023  |
| 23 Mar. (82)        | 0 Sat.    | 16 39 27                      | 2 Mar. (61)                                                                         | 0 Sat.    | 241-5902                              | 4024  |
| 23 Mar. (82)        | 1 Sun.    | 22 51 36                      | 21 Mar. (80)                                                                        | 6 Fri.    | 276-2826                              | 4025  |
| 23 Mar. (83)        | 3 Tues.   | 5 3 45                        | 9 Mar. (69)                                                                         | 3 Tues.   | 151-9855                              | 4026  |
| 23 Mar. (82)        | 4 Wed.    | 11 15 54                      | 26 Feb. (57)                                                                        | 0 Sat.    | 27-7084                               | 4027  |
| 23 Mar. (82)        | 5 Thur.   | 17 28 3                       | 17 Mar. (76)                                                                        | 6 Fri.    | 62-3907                               | 4028  |
| 23 Mar. (82)        | 6 Fri.    | 23 40 12                      | 7 Mar. (66)                                                                         | 4 Wed.    | 276-7455                              | 4029  |
| 23 Mar. (83)        | 1 Sun.    | 5 52 21                       | 24 Feb. (55)                                                                        | 1 Sun.    | 152-4884                              | 4030  |
| 23 Mar. (82)        | 2 Mon.    | 12 4 30                       | 14 Mar. (73)                                                                        | 0 Sat.    | 187-1507                              | 4031  |
| 23 Mar. (82)        | 3 Tues.   | 18 16 39                      | 3 Mar. (62)                                                                         | 4 Wed.    | 62-8738                               | 4032  |
| 24 Mar. (83)        | 5 Thur.   | 0 28 48                       | 22 Mar. (81)                                                                        | 3 Tues.   | 97-5560                               | 4033  |
| 23 Mar. (83)        | 6 Fri.    | 6 40 57                       | 11 Mar. (71)                                                                        | 1 Sun.    | 311-9109                              | 4034  |
| 23 Mar. (82)        | 0 Sat.    | 12 53 6                       | 28 Feb. (59)                                                                        | 5 Thur.   | 187-6836                              | 4035  |
| 23 Mar. (82)        | 1 Sun.    | 19 5 15                       | 19 Mar. (78)                                                                        | 4 Wed.    | 222-3161                              | 4036  |
| 24 Mar. (83)        | 3 Tues.   | 1 17 24                       | 8 Mar. (67)                                                                         | 1 Sun.    | 98-0839                               | 4037  |
| 23 Mar. (83)        | 4 Wed.    | 7 29 38                       | 26 Feb. (57)                                                                        | 6 Fri.    | 312-8928                              | 4038  |
| 23 Mar. (82)        | 5 Thur.   | 13 41 42                      | 15 Mar. (74)                                                                        | 4 Wed.    | 8-4441                                | 4039  |
| 23 Mar. (82)        | 6 Fri.    | 19 53 51                      | 5 Mar. (64)                                                                         | 2 Mon.    | 222-7990                              | 4040  |
| 24 Mar. (83)        | 1 Sun.    | 2 6 0                         | 22 Feb. (53)                                                                        | 6 Fri.    | 98-5213                               | 4041  |
| 23 Mar. (83)        | 2 Mon.    | 8 18 9                        | 12 Mar. (72)                                                                        | 5 Thur.   | 133-2042                              | 4042  |
| 23 Mar. (82)        | 3 Tues.   | 14 30 18                      | 1 Mar. (60)                                                                         | 2 Mon.    | 8-9270                                | 4043  |
| 23 Mar. (82)        | 4 Wed.    | 20 42 27                      | 20 Mar. (79)                                                                        | 1 Sun.    | 43-6084                               | 4044  |
| 24 Mar. (83)        | 6 Fri.    | 2 54 36                       | 10 Mar. (69)                                                                        | 6 Fri.    | 257-9643                              | 4045  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in<br>Bengal. | Kollam. | A.D.    | JOVIAN SAMVATSARA.  |                     |                                                           |
|                  |       |                    |                                  |         |         | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3 a                              | 4       | 5       | 6                   | 7                   | 8a                                                        |
| 4046             | 867   | 1002               | 351                              | 119-20  | *944-45 | 38 Krōdhin .        | 39 Viśvāvasu .      | 6 Bhādrapada .                                            |
| 4047             | 868   | 1003               | 352                              | 120-21  | 945-46  | 39 Viśvāvasu .      | 40 Parābhava .      | ...                                                       |
| 4048             | 869   | 1004               | 353                              | 121-22  | 946-47  | 40 Parābhava .      | 41 Plavaṅga .       | ...                                                       |
| 4049             | 870   | 1005               | 354                              | 122-23  | 947-48  | 41 Plavaṅga .       | 42 Kilaka .         | 2 Vaiśākha .                                              |
| 4050             | 871   | 1006               | 355                              | 123-24  | *948-49 | 42 Kilaka .         | 43 Saumya .         | ...                                                       |
| 4051             | 872   | 1007               | 356                              | 124-25  | 949-50  | 43 Saumya .         | 44 Sādhārana .      | 11 Māgha .                                                |
| 4052             | 873   | 1008               | 357                              | 125-26  | 950-51  | 44 Sādhārana .      | 45 Virōdhakṛit .    | ...                                                       |
| 4053             | 874   | 1009               | 358                              | 126-27  | 951-52  | 45 Virōdhakṛit .    | 46 Paridhāvin .     | ...                                                       |
| 4054             | 875   | 1010               | 359                              | 127-28  | *952-53 | 46 Paridhāvin .     | 47 Pramādin .       | 7 Āsvina .                                                |
| 4055             | 876   | 1011               | 360                              | 128-29  | 953-54  | 47 Pramādin .       | 48 Ānanda .         | ...                                                       |
| 4056             | 877   | 1012               | 361                              | 129-30  | 954-55  | 48 Ānanda .         | 49 Rākshasa .       | ...                                                       |
| 4057             | 878   | 1013               | 362                              | 130-31  | 955-56  | 49 Rākshasa .       | 50 Anala .          | 4 Āshādhya .                                              |
| 4058             | 879   | 1014               | 363                              | 131-32  | *956-57 | 50 Anala .          | 51 Piṅgala .        | ...                                                       |
| 4059             | 880   | 1015               | 364                              | 132-33  | 957-58  | 51 Piṅgala .        | 52 Kālayukta .      | 12 Phālguna .                                             |
| 4060             | 881   | 1016               | 365                              | 133-34  | 958-59  | 52 Kālayukta .      | 53 Siddhārthin .    | ...                                                       |
| 4061             | 882   | 1017               | 366                              | 134-35  | 959-60  | 53 Siddhārthin .    | 54 Randra .         | ...                                                       |
| 4062             | 883   | 1018               | 367                              | 135-36  | *960-61 | 54 Randra .         | 55 Durmati .        | 9 Mārgaśīra .                                             |
| 4063             | 884   | 1019               | 368                              | 136-37  | 961-62  | 55 Durmati .        | 56 Dundubhi .       | ...                                                       |
| 4064             | 885   | 1020               | 369                              | 137-38  | 962-63  | 56 Dundubhi .       | 57 Rudhirōdgārin .  | ...                                                       |
| 4065             | 886   | 1021               | 370                              | 138-39  | 963-64  | 57 Rudhirōdgārin .  | 58 Raktāksha .      | 5 Śrāvaṇa .                                               |
| 4066             | 887   | 1022               | 371                              | 139-40  | *964-65 | 58 Raktāksha .      | 59 Krōdhana .       | ...                                                       |
| 4067             | 888   | 1023               | 372                              | 140-41  | 965-66  | 59 Krōdhana .       | 60 Kshaya .         | ...                                                       |
| 4068             | 889   | 1024               | 373                              | 141-42  | 966-67  | 60 Kshaya .         | 1 Prabhava .        | 2 Vaiśākha .                                              |
| 4069             | 890   | 1025               | 374                              | 142-43  | 967-68  | 1 Prabhava .        | 2 Vibhava .         | ...                                                       |
| 4070             | 891   | 1026               | 375                              | 143-44  | *968-69 | 2 Vibhava .         | 3 Sukla .           | 10 Pausa .                                                |

XC—contd.

| COMMENCEMENT OF THE |           |                               |                                                                                     |           |                                                               |       |
|---------------------|-----------|-------------------------------|-------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                                               | Kali, |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week day. | $\alpha$ (here $\alpha = t$ , the index of the <i>tikā</i> ). |       |
| 13                  | 14        | 17                            | 19                                                                                  | 20        | 23                                                            | 1     |
|                     |           | H. M. S.                      |                                                                                     |           |                                                               |       |
| 23 Mar. (83)        | 0 Sat.    | 9 6 45                        | 27 Feb. (58)                                                                        | 3 Tues.   | 193-6871                                                      | 4046  |
| 23 Mar. (82)        | 1 Sun.    | 15 18 54                      | 17 Mar. (76)                                                                        | 2 Mon.    | 168-3695                                                      | 4047  |
| 23 Mar. (82)        | 2 Mon.    | 21 31 3                       | 6 Mar. (65)                                                                         | 6 Fri.    | 44-0923                                                       | 4048  |
| 24 Mar. (83)        | 4 Wed.    | 3 43 12                       | 24 Feb. (55)                                                                        | 4 Wed.    | 258-4471                                                      | 4049  |
| 23 Mar. (83)        | 5 Thur.   | 9 55 21                       | 14 Mar. (74)                                                                        | 3 Tues.   | 293-1295                                                      | 4050  |
| 23 Mar. (82)        | 6 Fri.    | 16 7 30                       | 3 Mar. (62)                                                                         | 0 Sat.    | 168-8524                                                      | 4051  |
| 23 Mar. (82)        | 0 Sat.    | 22 19 39                      | 22 Mar. (81)                                                                        | 6 Fri.    | 203-5348                                                      | 4052  |
| 24 Mar. (83)        | 2 Mon.    | 4 31 48                       | 11 Mar. (70)                                                                        | 3 Tues.   | 79-2576                                                       | 4053  |
| 23 Mar. (83)        | 3 Tues.   | 10 43 57                      | 29 Feb. (60)                                                                        | 1 Sun.    | 293-6125                                                      | 4054  |
| 23 Mar. (82)        | 4 Wed.    | 16 56 6                       | 19 Mar. (78)                                                                        | 0 Sat.    | 328-2949                                                      | 4055  |
| 23 Mar. (82)        | 5 Thur.   | 23 8 15                       | 8 Mar. (67)                                                                         | 4 Wed.    | 204-0176                                                      | 4056  |
| 24 Mar. (83)        | 0 Sat.    | 5 20 24                       | 25 Feb. (58)                                                                        | 1 Sun.    | 79-7405                                                       | 4057  |
| 23 Mar. (83)        | 1 Sun.    | 11 32 33                      | 15 Mar. (75)                                                                        | 0 Sat.    | 114-4229                                                      | 4058  |
| 23 Mar. (82)        | 2 Mon.    | 17 44 42                      | 5 Mar. (64)                                                                         | 5 Thur.   | 328-7778                                                      | 4059  |
| 23 Mar. (82)        | 3 Tues.   | 23 56 51                      | 23 Mar. (82)                                                                        | 1 Sun.    | 24-8281                                                       | 4060  |
| 24 Mar. (83)        | 5 Thur.   | 6 9 0                         | 13 Mar. (72)                                                                        | 1 Sun.    | 239-1830                                                      | 4061  |
| 23 Mar. (83)        | 6 Fri.    | 12 21 9                       | 1 Mar. (61)                                                                         | 5 Thur.   | 114-9058                                                      | 4062  |
| 23 Mar. (82)        | 0 Sat.    | 18 33 18                      | 20 Mar. (79)                                                                        | 4 Wed.    | 149-5881                                                      | 4063  |
| 24 Mar. (83)        | 2 Mon.    | 0 45 27                       | 9 Mar. (68)                                                                         | 1 Sun.    | 25-3110                                                       | 4064  |
| 24 Mar. (83)        | 3 Tues.   | 6 57 36                       | 27 Feb. (58)                                                                        | 6 Fri.    | 239-6659                                                      | 4065  |
| 23 Mar. (83)        | 4 Wed.    | 13 9 45                       | 17 Mar. (77)                                                                        | 5 Thur.   | 274-3483                                                      | 4066  |
| 23 Mar. (82)        | 5 Thur.   | 19 21 54                      | 6 Mar. (65)                                                                         | 2 Mon.    | 150-0710                                                      | 4067  |
| 24 Mar. (83)        | 0 Sat.    | 1 34 3                        | 23 Feb. (54)                                                                        | 6 Fri.    | 25-7939                                                       | 4068  |
| 24 Mar. (83)        | 1 Sun.    | 7 46 12                       | 14 Mar. (73)                                                                        | 5 Thur.   | 60-4763                                                       | 4069  |
| 23 Mar. (83)        | 2 Mon.    | 13 58 21                      | 3 Mar. (63)                                                                         | 3 Tues.   | 274-8311                                                      | 4070  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |         |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in<br>Bengal. | Kollam. | A.D.    | JOVIAN SAMVATARA.   |                     |                                                           |
|                  |       |                    |                                  |         |         | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                               | 4       | 5       | 6                   | 7                   | 8a                                                        |
| 4071             | 892   | 1027               | 376                              | 144-45  | 969-70  | 3 Śukla . .         | 4 Pramōda . .       | ...                                                       |
| 4072             | 893   | 1028               | 377                              | 145-46  | 970-71  | 4 Pramōda . .       | 5 Prajāpati . .     | ...                                                       |
| 4073             | 894   | 1029               | 378                              | 146-47  | 971-72  | 5 Prajāpati . .     | 6 Angiras . .       | 7 Āsvina .                                                |
| 4074             | 895   | 1030               | 379                              | 147-48  | *972-73 | 6 Angiras . .       | 7 Śrīmukha . .      | ...                                                       |
| 4075             | 896   | 1031               | 380                              | 148-49  | 973-74  | 7 Śrīmukha . .      | 8 Bhāva . .         | ...                                                       |
| 4076             | 897   | 1032               | 381                              | 149-50  | 974-75  | 8 Bhāva . .         | 9 Yuvan . .         | 4 Āshādha .                                               |
| 4077             | 898   | 1033               | 382                              | 150-51  | 975-76  | 9 Yuvan . .         | 10 Dhātṛi . .       | ...                                                       |
| 4078             | 899   | 1034               | 383                              | 151-52  | *976-77 | 10 Dhātṛi . .       | 11 Īvara . .        | 12 Phālguna .                                             |
| 4079             | 900   | 1035               | 384                              | 152-53  | 977-78  | 11 Īvara . .        | 12 Bahudhānya .     | ...                                                       |
| 4080             | 901   | 1036               | 385                              | 153-54  | 978-79  | 12 Bahudhānya .     | 13 Pramāthin .      | ...                                                       |
| 4081             | 902   | 1037               | 386                              | 154-55  | 979-80  | 13 Pramāthin .      | 14 Vikrama . .      | 9 Māgadhira .                                             |
| 4082             | 903   | 1038               | 387                              | 155-56  | *980-81 | 14 Vikrama . .      | 15 Vyāsha . .       | ...                                                       |
| 4083             | 904   | 1039               | 388                              | 156-57  | 981-82  | 15 Vyāsha . .       | 16 Chitrabhānu .    | ...                                                       |
| 4084             | 905   | 1040               | 389                              | 157-58  | 982-83  | 16 Chitrabhānu .    | 17 Subhānu . .      | 5 Śrāvāṇa .                                               |
| 4085             | 906   | 1041               | 390                              | 158-59  | 983-84  | 17 Subhānu . .      | 18 Tārāṇa . .       | ...                                                       |
| 4086             | 907   | 1042               | 391                              | 159-60  | *984-85 | 18 Tārāṇa . .       | 19 Pārthiva . .     | ...                                                       |
| 4087             | 908   | 1043               | 392                              | 160-61  | 985-86  | 19 Pārthiva . .     | 20 Vyāsa . .        | 2 Vaiśākha .                                              |
| 4088             | 909   | 1044               | 393                              | 161-62  | 986-87  | 20 Vyāsa . .        | 21 Sarvajit . .     | ...                                                       |
| 4089             | 910   | 1045               | 394                              | 162-63  | 987-88  | 21 Sarvajit . .     | 22 Sarvadhārin .    | 10 Pausa .                                                |
| 4090             | 911   | 1046               | 395                              | 163-64  | *988-89 | 22 Sarvadhārin .    | 23 Virōdhin . .     | ...                                                       |
| 4091             | 912   | 1047               | 396                              | 164-65  | 989-90  | 23 Virōdhin . .     | 24 Vikṛita † .      | ...                                                       |
| 4092             | 913   | 1048               | 397                              | 165-66  | 990-91  | 24 Vikṛita . .      | 25 Nandana . .      | 7 Āsvina .                                                |
| 4093             | 914   | 1049               | 398                              | 166-67  | 991-92  | 25 Khara . .        | 27 Vijaya . .       | ...                                                       |
| 4094             | 915   | 1050               | 399                              | 167-68  | *992-93 | 26 Nandana . .      | 28 Jaya . .         | ...                                                       |
| 4095             | 916   | 1051               | 400                              | 168-69  | 993-94  | 27 Vijaya . .       | 29 Maamathā .       | 3 Jyēṣṭha .                                               |

† 25 Khara was suppressed in the north by the *Brahma-Siddhānta* system, whether calculated by "true" or mean reckoning.

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| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                                    |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|----------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                                    | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-sankrānti. | Day and month, A.D.                                                                 | Week-day.   | $\alpha$ (here = $t$ , the index of the $tīthi$ ). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                                 |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                                    |       |
| 23 Mar. (82) . . .  | 3 Tues. . . | 20 10 30                      | 22 Mar. (81) . . .                                                                  | 2 Mon. . .  | 309-5135                                           | 4071  |
| 24 Mar. (83) . . .  | 5 Thur. . . | 2 22 39                       | 11 Mar. (70) . . .                                                                  | 6 Fri. . .  | 185-2364                                           | 4072  |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 8 34 48                       | 28 Feb. (69) . . .                                                                  | 3 Tues. . . | 60-9593                                            | 4073  |
| 23 Mar. (83) . . .  | 0 Sat. . .  | 14 46 57                      | 18 Mar. (78) . . .                                                                  | 2 Mon. . .  | 95-6416                                            | 4074  |
| 23 Mar. (82) . . .  | 1 Sun. . .  | 20 59 6                       | 8 Mar. (67) . . .                                                                   | 0 Sat. . .  | 309-9964                                           | 4075  |
| 24 Mar. (83) . . .  | 3 Tues. . . | 3 11 15                       | 25 Feb. (66) . . .                                                                  | 4 Wed. . .  | 185-7193                                           | 4076  |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 9 23 24                       | 16 Mar. (75) . . .                                                                  | 3 Tues. . . | 220-4016                                           | 4077  |
| 23 Mar. (83) . . .  | 5 Thur. . . | 15 35 33                      | 4 Mar. (64) . . .                                                                   | 0 Sat. . .  | 96-1245                                            | 4078  |
| 23 Mar. (82) . . .  | 6 Fri. . .  | 21 47 42                      | 23 Mar. (82) . . .                                                                  | 6 Fri. . .  | 180-8069                                           | 4079  |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 3 59 51                       | 12 Mar. (71) . . .                                                                  | 3 Tues. . . | 6-5298                                             | 4080  |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 10 12 0                       | 2 Mar. (61) . . .                                                                   | 1 Sun. . .  | 220-8845                                           | 4081  |
| 23 Mar. (83) . . .  | 3 Tues. . . | 16 24 9                       | 20 Mar. (80) . . .                                                                  | 0 Sat. . .  | 255-5669                                           | 4082  |
| 23 Mar. (82) . . .  | 4 Wed. . .  | 22 36 18                      | 9 Mar. (68) . . .                                                                   | 4 Wed. . .  | 131-2398                                           | 4083  |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 4 48 27                       | 26 Feb. (67) . . .                                                                  | 1 Sun. . .  | 7-0127                                             | 4084  |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 11 0 36                       | 17 Mar. (76) . . .                                                                  | 0 Sat. . .  | 41-6950                                            | 4085  |
| 23 Mar. (83) . . .  | 1 Sun. . .  | 17 12 45                      | 6 Mar. (66) . . .                                                                   | 5 Thur. . . | 256-0499                                           | 4086  |
| 23 Mar. (82) . . .  | 2 Mon. . .  | 23 24 54                      | 23 Feb. (64) . . .                                                                  | 2 Mon. . .  | 131-7727                                           | 4087  |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 5 37 3                        | 14 Mar. (73) . . .                                                                  | 1 Sun. . .  | 166-4550                                           | 4088  |
| 24 Mar. (83) . . .  | 5 Thur. . . | 11 49 12                      | 3 Mar. (62) . . .                                                                   | 5 Thur. . . | 42-1779                                            | 4089  |
| 23 Mar. (83) . . .  | 6 Fri. . .  | 18 1 21                       | 21 Mar. (81) . . .                                                                  | 4 Wed. . .  | 76-8603                                            | 4090  |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 0 13 30                       | 11 Mar. (70) . . .                                                                  | 2 Mon. . .  | 291-2152                                           | 4091  |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 6 25 39                       | 23 Feb. (69) . . .                                                                  | 6 Fri. . .  | 166-9898                                           | 4092  |
| 24 Mar. (83) . . .  | 3 Tues. . . | 12 37 48                      | 19 Mar. (78) . . .                                                                  | 5 Thur. . . | 201-6204                                           | 4093  |
| 23 Mar. (83) . . .  | 4 Wed. . .  | 18 49 57                      | 7 Mar. (67) . . .                                                                   | 2 Mon. . .  | 77-2432                                            | 4094  |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 1 2 6                         | 25 Feb. (66) . . .                                                                  | 0 Sat. . .  | 291-6980                                           | 4095  |

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |          |                      |                      | Mean<br>intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|----------------------|----------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māhādi solar year in<br>Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.   |                      |                                                  |
|                  |       |                    |                                 |         |          | Southern<br>system.  | Northern<br>system.  |                                                  |
| 1                | 2     | 3                  | 3a                              | 4       | 5        | 6                    | 7                    | 8a                                               |
| 4096             | 917   | 1052               | 401                             | 189-70  | 994-95   | 28 Jaya .            | 30 <i>Durmukha</i> . | ...                                              |
| 4097             | 918   | 1053               | 402                             | 170-71  | 995-96   | 29 Manmatha .        | 31 Hēmalamba .       | 12 Phālguna .                                    |
| 4098             | 919   | 1054               | 403                             | 171-72  | *996-97  | 30 <i>Durmukha</i> . | 32 Vilamba .         | ...                                              |
| 4099             | 920   | 1055               | 404                             | 172-73  | 997-98   | 31 Hēmalamba .       | 33 Vikārin .         | ...                                              |
| 4100             | 921   | 1056               | 405                             | 173-74  | 998-99   | 32 Vilamba .         | 34 Śārvarin .        | 8 Kārttika .                                     |
| 4101             | 922   | 1057               | 406                             | 174-75  | 999-1000 | 33 Vikārin .         | 35 Plava .           | ...                                              |
| 4102             | 923   | 1058               | 407                             | 175-76  | *1000-01 | 34 Śārvarin .        | 36 Śubhakṛit .       | ...                                              |
| 4103             | 924   | 1059               | 408                             | 176-77  | 1001-02  | 35 Plava .           | 37 Śōbhana .         | 5 Śrāvāṇa .                                      |
| 4104             | 925   | 1060               | 409                             | 177-78  | 1002-03  | 36 Śubhakṛit .       | 38 Krōdhin .         | ...                                              |
| 4105             | 926   | 1061               | 410                             | 178-79  | 1003-04  | 37 Śōbhana .         | 39 Viśvāvasu .       | ...                                              |
| 4106             | 927   | 1062               | 411                             | 179-80  | *1004-05 | 38 Krōdhin .         | 40 Parābhava .       | 1 Chaitra .                                      |
| 4107             | 928   | 1063               | 412                             | 180-81  | 1005-06  | 39 Viśvāvasu .       | 41 Plavaṅga .        | ...                                              |
| 4108             | 929   | 1064               | 413                             | 181-82  | 1006-07  | 40 Parābhava .       | 42 Kilaka .          | 10 Pausa .                                       |
| 4109             | 930   | 1065               | 414                             | 182-83  | 1007-08  | 41 Plavaṅga .        | 43 Saumya .          | ...                                              |
| 4110             | 931   | 1066               | 415                             | 183-84  | *1008-09 | 42 Kilaka .          | 44 Sādhārāṇa .       | ...                                              |
| 4111             | 932   | 1067               | 416                             | 184-85  | 1009-10  | 43 Saumya .          | 45 Virōdhakṛit .     | 7 Āśvina†                                        |
| 4112             | 933   | 1068               | 417                             | 185-86  | 1010-11  | 44 Sādhārāṇa .       | 46 Paridhāvin .      | ...                                              |
| 4113             | 934   | 1069               | 418                             | 186-87  | 1011-12  | 45 Virōdhakṛit .     | 47 Pramādin .        | ...                                              |
| 4114             | 935   | 1070               | 419                             | 187-88  | *1012-13 | 46 Paridhāvin .      | 48 Ānanda .          | 3 Jyēṣṭha .                                      |
| 4115             | 936   | 1071               | 420                             | 188-89  | 1013-14  | 47 Pramādin .        | 49 Rākṣasa .         | ...                                              |
| 4116             | 937   | 1072               | 421                             | 189-90  | 1014-15  | 48 Ānanda .          | 50 Anala .           | 12 Phālguna .                                    |
| 4117             | 938   | 1073               | 422                             | 190-91  | 1015-16  | 49 Rākṣasa .         | 51 Piṅgala .         | ...                                              |
| 4118             | 939   | 1074               | 423                             | 191-92  | *1016-17 | 50 Anala .           | 52 Kālayukta .       | ...                                              |
| 4119             | 940   | 1075               | 424                             | 192-93  | 1017-18  | 51 Piṅgala .         | 53 Siddhārthin .     | 8 Kārttika .                                     |
| 4120             | 941   | 1076               | 425                             | 193-94  | 1018-19  | 52 Kālayukta .       | 54 Raudra .          | ...                                              |

† See "Remarks," p. 215 above.

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| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                                    |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|----------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                                    | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | $a$ (here = $t$ , the index of the <i>titāh</i> ). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                                 |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                                    | 1     |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 7 14 15                       | 16 Mar. (75) . . .                                                                  | 6 Fri. . .  | 326-3804                                           | 4096  |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 13 26 24                      | 5 Mar. (64) . . .                                                                   | 3 Tues. . . | 202-1033                                           | 4097  |
| 23 Mar. (83) . . .  | 2 Mon. . .  | 19 38 33                      | 23 Mar. (83) . . .                                                                  | 2 Mon. . .  | 236-7856                                           | 4098  |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 1 50 42                       | 12 Mar. (71) . . .                                                                  | 6 Fri. . .  | 112-5085                                           | 4099  |
| 24 Mar. (83) . . .  | 5 Thur. . . | 8 2 51                        | 2 Mar. (61) . . .                                                                   | 4 Wed. . .  | 326-8633                                           | 4100  |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 14 15 0                       | 20 Mar. (79) . . .                                                                  | 2 Mon. . .  | 22-9136                                            | 4101  |
| 23 Mar. (83) . . .  | 0 Sat. . .  | 20 27 9                       | 9 Mar. (69) . . .                                                                   | 0 Sat. . .  | 237-2685                                           | 4102  |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 2 39 18                       | 26 Feb. (57) . . .                                                                  | 4 Wed. . .  | 112-9914                                           | 4103  |
| 24 Mar. (83) . . .  | 3 Tues. . . | 8 51 27                       | 17 Mar. (76) . . .                                                                  | 3 Tues. . . | 147-6737                                           | 4104  |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 15 3 36                       | 6 Mar. (65) . . .                                                                   | 0 Sat. . .  | 23-3986                                            | 4105  |
| 23 Mar. (83) . . .  | 5 Thur. . . | 21 15 45                      | 24 Feb. (55) . . .                                                                  | 5 Thur. . . | 237-7514                                           | 4106  |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 3 27 54                       | 14 Mar. (73) . . .                                                                  | 4 Wed. . .  | 272-4338                                           | 4107  |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 9 40 3                        | 8 Mar. (62) . . .                                                                   | 1 Sun. . .  | 148-1566                                           | 4108  |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 15 52 12                      | 22 Mar. (81) . . .                                                                  | 0 Sat. . .  | 182-8390                                           | 4109  |
| 23 Mar. (83) . . .  | 3 Tues. . . | 22 4 21                       | 10 Mar. (70) . . .                                                                  | 4 Wed. . .  | 58-5618                                            | 4110  |
| 24 Mar. (83) . . .  | 5 Thur. . . | 4 16 30                       | 28 Feb. (59) . . .                                                                  | 2 Mon. . .  | 272-9167                                           | 4111  |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 10 28 39                      | 19 Mar. (78) . . .                                                                  | 1 Sun. . .  | 307-5991                                           | 4112  |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 16 40 48                      | 8 Mar. (67) . . .                                                                   | 5 Thur. . . | 183-3219                                           | 4113  |
| 23 Mar. (83) . . .  | 1 Sun. . .  | 22 52 57                      | 25 Feb. (56) . . .                                                                  | 2 Mon. . .  | 59-0447                                            | 4114  |
| 24 Mar. (83) . . .  | 3 Tues. . . | 5 5 6                         | 15 Mar. (74) . . .                                                                  | 1 Sun. . .  | 93-7270                                            | 4115  |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 11 17 15                      | 5 Mar. (64) . . .                                                                   | 6 Fri. . .  | 308-0820                                           | 4116  |
| 24 Mar. (83) . . .  | 5 Thur. . . | 17 29 24                      | 23 Mar. (82) . . .                                                                  | 4 Wed. . .  | 4-1323                                             | 4117  |
| 23 Mar. (83) . . .  | 6 Fri. . .  | 23 41 33                      | 12 Mar. (72) . . .                                                                  | 2 Mon. . .  | 218-4872                                           | 4118  |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 5 53 42                       | 1 Mar. (60) . . .                                                                   | 6 Fri. . .  | 94-2100                                            | 4119  |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 12 5 51                       | 20 Mar. (79) . . .                                                                  | 5 Thur. . . | 128-8924                                           | 4120  |



TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |          |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēhādī solar year in<br>Bengal. | Kollam. | A.D.     | JUVIAN SAKVATSARA.  |                     |                                                           |
|                  |       |                    |                                 |         |          | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                              | 4       | 5        | 6                   | 7                   | 8a                                                        |
| 4121             | 942   | 1077               | 428                             | 194-95  | 1019-20  | 53 Siddhārthin .    | 55 Durmati .        | ...                                                       |
| 4122             | 943   | 1078               | 427                             | 195-96  | *1020-21 | 54 Raudra .         | 56 Dundubhi .       | 5 Śrāvana .                                               |
| 4123             | 944   | 1079               | 428                             | 196-97  | 1021-22  | 55 Durmati .        | 57 Rudhirōdgārin .  | ...                                                       |
| 4124             | 945   | 1080               | 429                             | 197-98  | 1022-23  | 56 Dundubhi .       | 58 Raktāksha .      | ...                                                       |
| 4125             | 946   | 1081               | 430                             | 198-99  | 1023-24  | 57 Rudhirōdgārin .  | 59 Krōdhana .       | 1 Chaitra .                                               |
| 4126             | 947   | 1082               | 431                             | 199-200 | *1024-25 | 58 Raktāksha .      | 60 Kshaya .         | ...                                                       |
| 4127             | 948   | 1083               | 432                             | 200-01  | 1025-26  | 59 Krōdhana .       | 1 Prabhava .        | 10 Pausa .                                                |
| 4128             | 949   | 1084               | 433                             | 201-02  | 1026-27  | 60 Kshaya .         | 2 Vibhava .         | ...                                                       |
| 4129             | 950   | 1085               | 434                             | 202-03  | 1027-28  | 1 Prabhava .        | 3 Śukla .           | ...                                                       |
| 4130             | 951   | 1086               | 435                             | 203-04  | *1028-29 | 2 Vibhava .         | 4 Pramōda .         | 6 Bhādrapada .                                            |
| 4131             | 952   | 1087               | 436                             | 204-05  | 1029-30  | 3 Śukla .           | 5 Prajāpati .       | ...                                                       |
| 4132             | 953   | 1088               | 437                             | 205-06  | 1030-31  | 4 Pramōda .         | 6 Angira .          | ...                                                       |
| 4133             | 954   | 1089               | 438                             | 206-07  | 1031-32  | 5 Prajāpati .       | 7 Śrīmukha .        | 3 Jyēsthā .                                               |
| 4134             | 955   | 1090               | 439                             | 207-08  | *1032-33 | 6 Angira .          | 8 Bhāva .           | ...                                                       |
| 4135             | 956   | 1091               | 440                             | 208-09  | 1033-34  | 7 Śrīmukha .        | 9 Yuvan .           | 11 Māgha .                                                |
| 4136             | 957   | 1092               | 441                             | 209-10  | 1034-35  | 8 Bhāva .           | 10 Dhātri .         | ...                                                       |
| 4137             | 958   | 1093               | 442                             | 210-11  | 1035-36  | 9 Yuvan .           | 11 Ívara .          | ...                                                       |
| 4138             | 959   | 1094               | 443                             | 211-12  | *1036-37 | 10 Dhātri .         | 12 Bahudhānya .     | 8 Kārttika .                                              |
| 4139             | 960   | 1095               | 444                             | 212-13  | 1037-38  | 11 Ívara .          | 13 Pramāthin .      | ...                                                       |
| 4140             | 961   | 1096               | 445                             | 213-14  | 1038-39  | 12 Bahudhānya .     | 14 Vikrama .        | ...                                                       |
| 4141             | 962   | 1097               | 446                             | 214-15  | 1039-40  | 13 Pramāthin .      | 15 Vriṣha .         | 4 Āshāḍha .                                               |
| 4142             | 963   | 1098               | 447                             | 215-16  | *1040-41 | 14 Vikrama .        | 16 Chitrabhānu .    | ...                                                       |
| 4143             | 964   | 1099               | 448                             | 216-17  | 1041-42  | 15 Vriṣha .         | 17 Subhānu .        | ...                                                       |
| 4144             | 965   | 1100               | 449                             | 217-18  | 1042-43  | 16 Chitrabhānu .    | 18 Tārāpa .         | 1 Chaitra .                                               |
| 4145             | 966   | 1101               | 450                             | 218-19  | 1043-44  | 17 Subhānu .        | 19 Pārthiva .       | ...                                                       |

XC—*contd.*

| COMMENCEMENT OF THE |           |                               |                                                                                     |           |                                                              |       |
|---------------------|-----------|-------------------------------|-------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                                              | Rali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>tithi</i> ). |       |
| 13                  | 14        | 17                            | 19                                                                                  | 20        | 23                                                           |       |
|                     |           | H. M. S.                      |                                                                                     |           |                                                              | 1     |
| 24 Mar. (83)        | 3 Tues.   | 18 18 0                       | 9 Mar. (88)                                                                         | 2 Mon.    | 4-6181                                                       | 4121  |
| 24 Mar. (84)        | 5 Thur.   | 0 30 9                        | 27 Feb. (58)                                                                        | 0 Sat.    | 218-9701                                                     | 4122  |
| 24 Mar. (83)        | 6 Fri.    | 6 42 18                       | 17 Mar. (76)                                                                        | 6 Fri.    | 253-6525                                                     | 4123  |
| 24 Mar. (83)        | 0 Sat.    | 12 54 27                      | 6 Mar. (65)                                                                         | 3 Tues.   | 129-3753                                                     | 4124  |
| 24 Mar. (83)        | 1 Sun.    | 19 6 36                       | 23 Feb. (54)                                                                        | 0 Sat.    | 5-0981                                                       | 4125  |
| 24 Mar. (84)        | 3 Tues.   | 1 18 45                       | 13 Mar. (73)                                                                        | 6 Fri.    | 39-7806                                                      | 4126  |
| 24 Mar. (83)        | 4 Wed.    | 7 30 54                       | 3 Mar. (62)                                                                         | 4 Wed.    | 254-1354                                                     | 4127  |
| 24 Mar. (83)        | 5 Thur.   | 13 43 3                       | 22 Mar. (81)                                                                        | 3 Tues.   | 288-8177                                                     | 4128  |
| 24 Mar. (83)        | 6 Fri.    | 19 55 12                      | 11 Mar. (70)                                                                        | 0 Sat.    | 164-5406                                                     | 4129  |
| 24 Mar. (84)        | 1 Sun.    | 2 7 21                        | 28 Feb. (59)                                                                        | 4 Wed.    | 40-2635                                                      | 4130  |
| 24 Mar. (83)        | 2 Mon.    | 8 19 30                       | 18 Mar. (77)                                                                        | 3 Tues.   | 74-9458                                                      | 4131  |
| 24 Mar. (83)        | 3 Tues.   | 14 31 39                      | 8 Mar. (67)                                                                         | 1 Sun.    | 289-3006                                                     | 4132  |
| 24 Mar. (83)        | 4 Wed.    | 20 43 48                      | 25 Feb. (56)                                                                        | 5 Thur.   | 165-0235                                                     | 4133  |
| 24 Mar. (84)        | 6 Fri.    | 2 55 57                       | 15 Mar. (75)                                                                        | 4 Wed.    | 199-7059                                                     | 4134  |
| 24 Mar. (83)        | 0 Sat.    | 9 8 6                         | 4 Mar. (63)                                                                         | 1 Sun.    | 75-4287                                                      | 4135  |
| 24 Mar. (83)        | 1 Sun.    | 15 20 15                      | 23 Mar. (82)                                                                        | 0 Sat.    | 110-1111                                                     | 4136  |
| 24 Mar. (83)        | 2 Mon.    | 21 32 24                      | 13 Mar. (72)                                                                        | 5 Thur.   | 324-4660                                                     | 4137  |
| 24 Mar. (84)        | 4 Wed.    | 3 44 33                       | 1 Mar. (61)                                                                         | 2 Mon.    | 200-1888                                                     | 4138  |
| 24 Mar. (83)        | 5 Thur.   | 9 56 42                       | 20 Mar. (79)                                                                        | 1 Sun.    | 234-8712                                                     | 4139  |
| 24 Mar. (83)        | 6 Fri.    | 16 8 51                       | 9 Mar. (68)                                                                         | 5 Thur.   | 110-5940                                                     | 4140  |
| 24 Mar. (83)        | 0 Sat.    | 22 21 0                       | 27 Feb. (58)                                                                        | 3 Tues.   | 324-9489                                                     | 4141  |
| 24 Mar. (84)        | 2 Mon.    | 4 33 9                        | 16 Mar. (76)                                                                        | 1 Sun.    | 20-9992                                                      | 4142  |
| 24 Mar. (83)        | 3 Tues.   | 10 45 18                      | 6 Mar. (65)                                                                         | 6 Fri.    | 235-3541                                                     | 4143  |
| 24 Mar. (83)        | 4 Wed.    | 16 57 27                      | 23 Feb. (54)                                                                        | 3 Tues.   | 111-0793                                                     | 4144  |
| 24 Mar. (83)        | 5 Thur.   | 23 9 36                       | 14 Mar. (73)                                                                        | 2 Mon.    | 145-7593                                                     | 4145  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Saka. | Chaitradī Vikrama. | Mēshādi solar year in<br>Hengal. | Kollam. | A.D.     | JOVIAN SAMVATSABA.  |                     |                                                           |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                                        |
| 4146             | 967   | 1102               | 451                              | 219-20  | *1044-45 | 18 Tārana . .       | 20 Vyaya . .        | 9 Mārgasīra . .                                           |
| 4147             | 968   | 1103               | 452                              | 220-21  | 1045-46  | 19 Pārthiva . .     | 21 Sarvajit . .     | ...                                                       |
| 4148             | 969   | 1104               | 453                              | 221-22  | 1046-47  | 20 Vyaya . .        | 22 Sarvadhārin . .  | ...                                                       |
| 4149             | 970   | 1105               | 454                              | 222-23  | 1047-48  | 21 Sarvajit . .     | 23 Virōdhin . .     | 6 Bhādrapada . .                                          |
| 4150             | 971   | 1106               | 455                              | 223-24  | *1048-49 | 22 Sarvadhārin . .  | 24 Vikṛita . .      | ...                                                       |
| 4151             | 972   | 1107               | 456                              | 224-25  | 1049-50  | 23 Virōdhin . .     | 25 Khara . .        | ...                                                       |
| 4152             | 973   | 1108               | 457                              | 225-26  | 1050-51  | 24 Vikṛita . .      | 26 Nandana . .      | 3 Jyēṣṭha . .                                             |
| 4153             | 974   | 1109               | 458                              | 226-27  | 1051-52  | 25 Khara . .        | 27 Vijaya . .       | ...                                                       |
| 4154             | 975   | 1110               | 459                              | 227-28  | *1052-53 | 26 Nandana . .      | 28 Jaya . .         | 11 Māgha . .                                              |
| 4155             | 976   | 1111               | 460                              | 228-29  | 1053-54  | 27 Vijaya . .       | 29 Manmatha . .     | ...                                                       |
| 4156             | 977   | 1112               | 461                              | 229-30  | 1054-55  | 28 Jaya . .         | 30 Durmukha . .     | ...                                                       |
| 4157             | 978   | 1113               | 462                              | 230-31  | 1055-56  | 29 Manmatha . .     | 31 Hēmalamba . .    | 8 Kārttika . .                                            |
| 4158             | 979   | 1114               | 463                              | 231-32  | *1056-57 | 30 Durmukha . .     | 32 Vilamba . .      | ...                                                       |
| 4159             | 980   | 1115               | 464                              | 232-33  | 1057-58  | 31 Hēmalamba . .    | 33 Vikārin . .      | ...                                                       |
| 4160             | 981   | 1116               | 465                              | 233-34  | 1058-59  | 32 Vilamba . .      | 34 Śārvarin . .     | 4 Āshāḍha . .                                             |
| 4161             | 982   | 1117               | 466                              | 234-35  | 1059-60  | 33 Vikārin . .      | 35 Plava . .        | ...                                                       |
| 4162             | 983   | 1118               | 467                              | 235-36  | *1060-61 | 34 Śārvarin . .     | 36 Śubhakṛit . .    | ...                                                       |
| 4163             | 984   | 1119               | 468                              | 236-37  | 1061-62  | 35 Plava . .        | 37 Śōbhana . .      | 1 Chaitra . .                                             |
| 4164             | 985   | 1120               | 469                              | 237-38  | 1062-63  | 36 Śubhakṛit . .    | 38 Krōdhin . .      | ...                                                       |
| 4165             | 986   | 1121               | 470                              | 238-39  | 1063-64  | 37 Śōbhana . .      | 39 Viśvāvasu . .    | 9 Mārgasīra . .                                           |
| 4166             | 987   | 1122               | 471                              | 239-40  | *1064-65 | 38 Krōdhin . .      | 40 Parābhava . .    | ...                                                       |
| 4167             | 988   | 1123               | 472                              | 240-41  | 1065-66  | 39 Viśvāvasu . .    | 41 Plavaṅga . .     | ...                                                       |
| 4168             | 989   | 1124               | 473                              | 241-42  | 1066-67  | 40 Parābhava . .    | 42 Kilaka . .       | 6 Bhādrapada . .                                          |
| 4169             | 990   | 1125               | 474                              | 242-43  | 1067-68  | 41 Plavaṅga . .     | 43 Saumya . .       | ...                                                       |
| 4170             | 991   | 1126               | 475                              | 243-44  | *1068-69 | 42 Kilaka . .       | 44 Sādhārana . .    | ...                                                       |

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                                             |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                                             | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | $\alpha$ (here = $t$ , the index of the $\alpha/\lambda$ ). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                                          |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                                             | 1     |
| 24 Mar. (84) . . .  | 0 Sat. . .  | 5 21 45                       | 2 Mar. (82) . . .                                                                   | 6 Fri. . .  | 21-4821                                                     | 4146  |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 11 33 54                      | 21 Mar. (80) . . .                                                                  | 5 Thur. . . | 56-1645                                                     | 4147  |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 17 46 8                       | 11 Mar. (70) . . .                                                                  | 3 Tues. . . | 270-5194                                                    | 4148  |
| 24 Mar. (83) . . .  | 3 Tues. . . | 23 58 12                      | 28 Feb. (59) . . .                                                                  | 0 Sat. . .  | 148-2422                                                    | 4149  |
| 24 Mar. (84) . . .  | 5 Thur. . . | 6 10 21                       | 18 Mar. (78) . . .                                                                  | 6 Fri. . .  | 180-9246                                                    | 4150  |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 12 22 30                      | 7 Mar. (66) . . .                                                                   | 3 Tues. . . | 56-6475                                                     | 4151  |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 18 34 39                      | 25 Feb. (56) . . .                                                                  | 1 Sun. . .  | 271-0023                                                    | 4152  |
| 25 Mar. (84) . . .  | 2 Mon. . .  | 0 46 48                       | 16 Mar. (75) . . .                                                                  | 0 Sat. . .  | 805-6846                                                    | 4153  |
| 24 Mar. (84) . . .  | 3 Tues. . . | 6 58 57                       | 4 Mar. (64) . . .                                                                   | 4 Wed. . .  | 181-4075                                                    | 4154  |
| 24 Mar. (83) . . .  | 4 Wed. . .  | 13 11 6                       | 23 Mar. (82) . . .                                                                  | 3 Tues. . . | 216-0899                                                    | 4155  |
| 24 Mar. (83) . . .  | 5 Thur. . . | 19 23 15                      | 12 Mar. (71) . . .                                                                  | 0 Sat. . .  | 91-8127                                                     | 4156  |
| 25 Mar. (84) . . .  | 0 Sat. . .  | 1 35 24                       | 2 Mar. (61) . . .                                                                   | 5 Thur. . . | 306-1875                                                    | 4157  |
| 24 Mar. (84) . . .  | 1 Sun. . .  | 7 47 33                       | 19 Mar. (79) . . .                                                                  | 3 Tues. . . | 2-2180                                                      | 4158  |
| 24 Mar. (83) . . .  | 2 Mon. . .  | 13 59 42                      | 9 Mar. (68) . . .                                                                   | 1 Sun. . .  | 216-5728                                                    | 4159  |
| 24 Mar. (83) . . .  | 3 Tues. . . | 20 11 51                      | 26 Feb. (57) . . .                                                                  | 5 Thur. . . | 92-2956                                                     | 4160  |
| 25 Mar. (84) . . .  | 5 Thur. . . | 2 24 0                        | 17 Mar. (76) . . .                                                                  | 4 Wed. . .  | 126-9780                                                    | 4161  |
| 24 Mar. (84) . . .  | 6 Fri. . .  | 8 36 9                        | 5 Mar. (65) . . .                                                                   | 1 Sun. . .  | 2-7009                                                      | 4162  |
| 24 Mar. (83) . . .  | 0 Sat. . .  | 14 48 18                      | 23 Feb. (54) . . .                                                                  | 6 Fri. . .  | 217-0556                                                    | 4163  |
| 24 Mar. (83) . . .  | 1 Sun. . .  | 21 0 27                       | 14 Mar. (78) . . .                                                                  | 5 Thur. . . | 251-7380                                                    | 4164  |
| 25 Mar. (84) . . .  | 3 Tues. . . | 8 12 36                       | 3 Mar. (62) . . .                                                                   | 2 Mon. . .  | 127-4609                                                    | 4165  |
| 24 Mar. (84) . . .  | 4 Wed. . .  | 9 24 45                       | 21 Mar. (81) . . .                                                                  | 1 Sun. . .  | 162-1433                                                    | 4166  |
| 24 Mar. (83) . . .  | 5 Thur. . . | 15 36 54                      | 10 Mar. (69) . . .                                                                  | 5 Thur. . . | 37-8661                                                     | 4167  |
| 24 Mar. (83) . . .  | 6 Fri. . .  | 21 49 3                       | 28 Feb. (59) . . .                                                                  | 3 Tues. . . | 252-2210                                                    | 4168  |
| 25 Mar. (84) . . .  | 1 Sun. . .  | 4 1 12                        | 19 Mar. (78) . . .                                                                  | 2 Mon. . .  | 236-9054                                                    | 4169  |
| 24 Mar. (84) . . .  | 2 Mon. . .  | 10 13 21                      | 7 Mar. (67) . . .                                                                   | 6 Fri. . .  | 182-6282                                                    | 4170  |

TABLE

| CONCURRENT YEAR. |       |                    |                              |         |          |                    |                    |                                                  |
|------------------|-------|--------------------|------------------------------|---------|----------|--------------------|--------------------|--------------------------------------------------|
| Kalī.            | Śaka. | Chaitrādi Vikrama. | Māhādī solar year in Bengal. | Kollam. | A.D.     | JOYIAN SAMVATSARA. |                    | Mean intercalated ( <i>adhika</i> ) lunar month. |
|                  |       |                    |                              |         |          | Southern system.   | Northern system.   |                                                  |
| 1                | 2     | 3                  | 3a                           | 4       | 5        | 6                  | 7                  | 8a                                               |
| 4171             | 992   | 1127               | 476                          | 244-45  | 1069-70  | 43 Saumya .        | 45 Virōdhakṛit .   | 2 Vaiśākha .                                     |
| 4172             | 993   | 1128               | 477                          | 245-46  | 1070-71  | 44 Sādhārāṇa .     | 46 Paridhāvin .    | ...                                              |
| 4173             | 994   | 1129               | 478                          | 246-47  | 1071-72  | 45 Virōdhakṛit .   | 47 Pramādin .      | 11 Māgha .                                       |
| 4174             | 995   | 1130               | 479                          | 247-48  | *1072-73 | 46 Paridhāvin .    | 48 Ānanda .        | ...                                              |
| 4175             | 996   | 1131               | 480                          | 248-49  | 1073-74  | 47 Pramādin .      | 49 Rākeṣasa .      | ...                                              |
| 4176             | 997   | 1132               | 481                          | 249-50  | 1074-75  | 48 Ānanda .        | 50 Anala† .        | 7 Āśvina .                                       |
| 4177             | 998   | 1133               | 482                          | 250-51  | 1075-76  | 49 Rākeṣasa .      | 52 Kālayukta .     | ...                                              |
| 4178             | 999   | 1134               | 483                          | 251-52  | *1076-77 | 50 Anala .         | 53 Siddhārthin .   | ...                                              |
| 4179             | 1000  | 1135               | 484                          | 252-53  | 1077-78  | 51 Piṅgala .       | 54 Raudra .        | 4 Āshādha .                                      |
| 4180             | 1001  | 1136               | 485                          | 253-54  | 1078-79  | 52 Kālayukta .     | 55 Durmati .       | ...                                              |
| 4181             | 1002  | 1137               | 486                          | 254-55  | 1079-80  | 53 Siddhārthin .   | 56 Dundubhi .      | 12 Phālguna .                                    |
| 4182             | 1003  | 1138               | 487                          | 255-56  | *1080-81 | 54 Raudra .        | 57 Rudhirōdgārin . | ...                                              |
| 4183             | 1004  | 1139               | 488                          | 256-57  | 1081-82  | 55 Durmati .       | 58 Raktāksha .     | ...                                              |
| 4184             | 1005  | 1140               | 489                          | 257-58  | 1082-83  | 56 Dundubhi .      | 59 Krōdhana .      | 9 Mārgaśīra .                                    |
| 4185             | 1006  | 1141               | 490                          | 258-59  | 1083-84  | 57 Rudhirōdgārin . | 60 Keshava .       | ...                                              |
| 4186             | 1007  | 1142               | 491                          | 259-60  | *1084-85 | 58 Raktāksha .     | 1 Prabhava .       | ...                                              |
| 4187             | 1008  | 1143               | 492                          | 260-61  | 1085-86  | 59 Krōdhana .      | 2 Vibhava .        | 6 Bhādrapada .                                   |
| 4188             | 1009  | 1144               | 493                          | 261-62  | 1086-87  | 60 Keshava .       | 3 Śukla .          | ...                                              |
| 4189             | 1010  | 1145               | 494                          | 262-63  | 1087-88  | 1 Prabhava .       | 4 Pramōda .        | ...                                              |
| 4190             | 1011  | 1146               | 495                          | 263-64  | *1088-89 | 2 Vibhava .        | 5 Prajāpati .      | 2 Vaiśākha .                                     |
| 4191             | 1012  | 1147               | 496                          | 264-65  | 1089-90  | 3 Śukla .          | 6 Āṅgiras .        | ...                                              |
| 4192             | 1013  | 1148               | 497                          | 265-66  | 1090-91  | 4 Pramōda .        | 7 Śrīmukha .       | 11 Māgha .                                       |
| 4193             | 1014  | 1149               | 498                          | 266-67  | 1091-92  | 5 Prajāpati .      | 8 Bhāva .          | ...                                              |
| 4194             | 1015  | 1150               | 499                          | 267-68  | *1092-93 | 6 Āṅgiras .        | 9 Yuvan .          | ...                                              |
| 4195             | 1016  | 1151               | 500                          | 268-69  | 1093-94  | 7 Śrīmukha .       | 10 Dhātṛi .        | 7 Āśvina .                                       |

† 51 Piṅgala was suppressed in the north, according to both "true" and mean systems, in *Brahma-Siddhānta* reckoning.

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                       |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                       | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-saṁkrānti. | Day and month, A.D.                                                                 | Week-day.   | a (here = t, the index of the tithi). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                    | 1     |
|                     |             | H. M. S.                      |                                                                                     |             |                                       |       |
| 24 Mar. (83) . .    | 3 Tues. . . | 16 25 30                      | 24 Feb. (55) . .                                                                    | 3 Tues. . . | 38-3490                               | 4171  |
| 24 Mar. (83) . .    | 4 Wed. . .  | 22 37 39                      | 15 Mar. (74) . .                                                                    | 2 Mon. . .  | 73-0314                               | 4172  |
| 25 Mar. (84) . .    | 6 Fri. . .  | 4 49 48                       | 6 Mar. (64) . .                                                                     | 0 Sat. . .  | 287-3863                              | 4173  |
| 24 Mar. (84) . .    | 0 Sat. . .  | 11 1 57                       | 23 Mar. (83) . .                                                                    | 6 Fri. . .  | 322-0686                              | 4174  |
| 24 Mar. (83) . .    | 1 Sun. . .  | 17 14 6                       | 12 Mar. (71) . .                                                                    | 3 Tues. . . | 197-7915                              | 4175  |
| 24 Mar. (83) . .    | 2 Mon. . .  | 23 26 15                      | 1 Mar. (60) . .                                                                     | 0 Sat. . .  | 73-5143                               | 4176  |
| 25 Mar. (84) . .    | 4 Wed. . .  | 5 38 24                       | 20 Mar. (79) . .                                                                    | 6 Fri. . .  | 105-1967                              | 4177  |
| 24 Mar. (84) . .    | 5 Thur. . . | 11 50 33                      | 9 Mar. (69) . .                                                                     | 4 Wed. . .  | 322-5515                              | 4178  |
| 24 Mar. (83) . .    | 6 Fri. . .  | 18 2 42                       | 26 Feb. (57) . .                                                                    | 1 Sun. . .  | 198-2744                              | 4179  |
| 25 Mar. (84) . .    | 1 Sun. . .  | 0 14 51                       | 17 Mar. (76) . .                                                                    | 0 Sat. . .  | 232-9568                              | 4180  |
| 25 Mar. (84) . .    | 2 Mon. . .  | 6 27 0                        | 6 Mar. (65) . .                                                                     | 4 Wed. . .  | 108-6796                              | 4181  |
| 24 Mar. (84) . .    | 3 Tues. . . | 12 39 9                       | 24 Mar. (84) . .                                                                    | 3 Tues. . . | 143-3620                              | 4182  |
| 24 Mar. (83) . .    | 4 Wed. . .  | 18 51 18                      | 13 Mar. (72) . .                                                                    | 0 Sat. . .  | 19-0848                               | 4183  |
| 25 Mar. (84) . .    | 6 Fri. . .  | 1 3 27                        | 3 Mar. (62) . .                                                                     | 5 Thur. . . | 233-4397                              | 4184  |
| 25 Mar. (84) . .    | 0 Sat. . .  | 7 15 36                       | 22 Mar. (81) . .                                                                    | 4 Wed. . .  | 268-1220                              | 4185  |
| 24 Mar. (84) . .    | 1 Sun. . .  | 13 27 45                      | 10 Mar. (70) . .                                                                    | 1 Sun. . .  | 143-8449                              | 4186  |
| 24 Mar. (83) . .    | 2 Mon. . .  | 19 39 54                      | 27 Feb. (58) . .                                                                    | 5 Thur. . . | 19-5678                               | 4187  |
| 25 Mar. (84) . .    | 4 Wed. . .  | 1 52 3                        | 18 Mar. (77) . .                                                                    | 4 Wed. . .  | 54-2501                               | 4188  |
| 25 Mar. (84) . .    | 5 Thur. . . | 8 4 12                        | 8 Mar. (67) . .                                                                     | 2 Mon. . .  | 268-6050                              | 4189  |
| 24 Mar. (84) . .    | 6 Fri. . .  | 14 16 21                      | 25 Feb. (56) . .                                                                    | 6 Fri. . .  | 144-3278                              | 4190  |
| 24 Mar. (83) . .    | 0 Sat. . .  | 20 28 30                      | 15 Mar. (74) . .                                                                    | 5 Thur. . . | 179-0102                              | 4191  |
| 25 Mar. (84) . .    | 2 Mon. . .  | 2 40 39                       | 4 Mar. (63) . .                                                                     | 2 Mon. . .  | 54-7380                               | 4192  |
| 25 Mar. (84) . .    | 3 Tues. . . | 8 52 48                       | 23 Mar. (82) . .                                                                    | 1 Sun. . .  | 89-4154                               | 4193  |
| 24 Mar. (84) . .    | 4 Wed. . .  | 15 4 57                       | 12 Mar. (72) . .                                                                    | 6 Fri. . .  | 203-7703                              | 4194  |
| 24 Mar. (83) . .    | 5 Thur. . . | 21 17 6                       | 1 Mar. (60) . .                                                                     | 3 Tues. . . | 179-4990                              | 4195  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |           |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Saka. | Chaitradī Vikrama. | Mēshādī solar year in<br>Bengal. | Kollam. | A.D.      | JOVIAN SAMVATSARA.  |                     |                                                           |
|                  |       |                    |                                  |         |           | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                               | 4       | 5         | 6                   | 7                   | 8a                                                        |
| 4196             | 1017  | 1152               | 501                              | 269-70  | 1094-95   | 8 Bhāva . .         | 11 Isvara . .       | ...                                                       |
| 4197             | 1018  | 1153               | 502                              | 270-71  | 1095-96   | 9 Yuvan . .         | 12 Bahudhānya .     | ...                                                       |
| 4198             | 1019  | 1154               | 503                              | 271-72  | *1096-97  | 10 Dhātṛi . .       | 13 Pramāthin .      | 4 Āshāḍha .                                               |
| 4199             | 1020  | 1155               | 504                              | 272-73  | 1097-98   | 11 Isvara . .       | 14 Vikrama . .      | ...                                                       |
| 4200             | 1021  | 1156               | 505                              | 273-74  | 1098-99   | 12 Bahudhānya .     | 15 Vṛisha . .       | 12 Phālguna .                                             |
| 4201             | 1022  | 1157               | 506                              | 274-75  | 1099-1100 | 13 Pramāthin .      | 16 Chitrabhānu .    | ...                                                       |
| 4202             | 1023  | 1158               | 507                              | 275-76  | *1100-01  | 14 Vikrama . .      | 17 Subhānu . .      | ...                                                       |
| 4203             | 1024  | 1159               | 508                              | 276-77  | 1101-02   | 15 Vṛisha . .       | 18 Tārana . .       | 9 Mārgasīra .                                             |
| 4204             | 1025  | 1160               | 509                              | 277-78  | 1102-03   | 16 Chitrabhānu .    | 19 Pārthiva . .     | ...                                                       |
| 4205             | 1026  | 1161               | 510                              | 278-79  | 1103-04   | 17 Subhānu . .      | 20 Vyaya . .        | ...                                                       |
| 4206             | 1027  | 1162               | 511                              | 279-80  | *1104-05  | 18 Tārana . .       | 21 Sarvajit . .     | 5 Śrāvana .                                               |
| 4207             | 1028  | 1163               | 512                              | 280-81  | 1105-06   | 19 Pārthiva . .     | 22 Sarvadhārin .    | ...                                                       |
| 4208             | 1029  | 1164               | 513                              | 281-82  | 1106-07   | 20 Vyaya . .        | 23 Virōdhin . .     | ...                                                       |
| 4209             | 1030  | 1165               | 514                              | 282-83  | 1107-08   | 21 Sarvajit . .     | 24 Vikṛita . .      | 2 Vaiśākha .                                              |
| 4210             | 1031  | 1166               | 515                              | 283-84  | *1108-09  | 22 Sarvadhārin .    | 25 Khara . .        | ...                                                       |
| 4211             | 1032  | 1167               | 516                              | 284-85  | 1109-10   | 23 Virōdhin . .     | 26 Nandana . .      | 10 Pausa .                                                |
| 4212             | 1033  | 1168               | 517                              | 285-86  | 1110-11   | 24 Vikṛita . .      | 27 Vijaya . .       | ...                                                       |
| 4213             | 1034  | 1169               | 518                              | 286-87  | 1111-12   | 25 Khara . .        | 28 Jaya . .         | ...                                                       |
| 4214             | 1035  | 1170               | 519                              | 287-88  | *1112-13  | 26 Nandana . .      | 29 Manmatha .       | 7 Āsvina .                                                |
| 4215             | 1036  | 1171               | 520                              | 288-89  | 1113-14   | 27 Vijaya . .       | 30 Darmakha .       | ...                                                       |
| 4216             | 1037  | 1172               | 521                              | 289-90  | 1114-15   | 28 Jaya . .         | 31 Hēmalamba .      | ...                                                       |
| 4217             | 1038  | 1173               | 522                              | 290-91  | 1115-16   | 29 Manmatha .       | 32 Vilamba . .      | 3 Jyēṣṭha .                                               |
| 4218             | 1039  | 1174               | 523                              | 291-92  | *1116-17  | 30 Darmakha .       | 33 Vikārin . .      | ...                                                       |
| 4219             | 1040  | 1175               | 524                              | 292-93  | 1117-18   | 31 Hēmalamba .      | 34 Śārvarin . .     | 12 Phālguna .                                             |
| 4220             | 1041  | 1176               | 525                              | 293-94  | 1118-19   | 32 Vilamba . .      | 35 Plava . .        | ...                                                       |

XC—contd.

| COMMENCEMENT OF THE    |             |                                      |                                                                                       |             |                                             |       |
|------------------------|-------------|--------------------------------------|---------------------------------------------------------------------------------------|-------------|---------------------------------------------|-------|
| MEAN SOLAR YEAR.       |             |                                      | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE<br>#VIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                             | Kali. |
| Day and month,<br>A.D. | Week-day.   | Time of<br>mean Mēsha-<br>sankrānti. | Day and month,<br>A.D.                                                                | Week-day.   | a (here = t,<br>the index<br>of the tithi). |       |
| 13                     | 14          | 17                                   | 19                                                                                    | 20          | 23                                          |       |
|                        |             | H. M. S.                             |                                                                                       |             |                                             |       |
| 25 Mar. (84) . . .     | 9 Sat. . .  | 3 29 15                              | 20 Mar. (79) . . .                                                                    | 2 Mon. . .  | 214-1755                                    | 4196  |
| 25 Mar. (84) . . .     | 1 Sun. . .  | 9 41 24                              | 9 Mar. (68) . . .                                                                     | 6 Fri. . .  | 89-8983                                     | 4157  |
| 24 Mar. (84) . . .     | 2 Mon. . .  | 15 53 33                             | 27 Feb. (58) . . .                                                                    | 4 Wed. . .  | 304-2531                                    | 4198  |
| 24 Mar. (83) . . .     | 3 Tues. . . | 22 5 42                              | 16 Mar. (75) . . .                                                                    | 2 Mon. . .  | 0-8035                                      | 4199  |
| 25 Mar. (84) . . .     | 5 Thur. . . | 4 17 51                              | 6 Mar. (65) . . .                                                                     | 0 Sat. . .  | 214-6684                                    | 4200  |
| 25 Mar. (84) . . .     | 6 Fri. . .  | 10 30 0                              | 25 Mar. (84) . . .                                                                    | 6 Fri. . .  | 249-3408                                    | 4201  |
| 24 Mar. (84) . . .     | 0 Sat. . .  | 16 42 9                              | 13 Mar. (73) . . .                                                                    | 3 Tues. . . | 125-0687                                    | 4202  |
| 24 Mar. (83) . . .     | 1 Sun. . .  | 22 54 18                             | 2 Mar. (61) . . .                                                                     | 0 Sat. . .  | 0-7865                                      | 4203  |
| 25 Mar. (84) . . .     | 3 Tues. . . | 5 6 27                               | 21 Mar. (80) . . .                                                                    | 6 Fri. . .  | 35-4689                                     | 4204  |
| 25 Mar. (84) . . .     | 4 Wed. . .  | 11 18 36                             | 11 Mar. (70) . . .                                                                    | 4 Wed. . .  | 249-8237                                    | 4205  |
| 24 Mar. (84) . . .     | 5 Thur. . . | 17 30 45                             | 28 Feb. (59) . . .                                                                    | 1 Sun. . .  | 125-5466                                    | 4206  |
| 24 Mar. (83) . . .     | 6 Fri. . .  | 23 42 54                             | 18 Mar. (77) . . .                                                                    | 0 Sat. . .  | 160-2289                                    | 4207  |
| 25 Mar. (84) . . .     | 1 Sun. . .  | 5 55 3                               | 7 Mar. (66) . . .                                                                     | 4 Wed. . .  | 35-9518                                     | 4208  |
| 25 Mar. (84) . . .     | 2 Mon. . .  | 12 7 12                              | 25 Feb. (56) . . .                                                                    | 2 Mon. . .  | 250-8066                                    | 4209  |
| 24 Mar. (84) . . .     | 3 Tues. . . | 18 19 21                             | 15 Mar. (75) . . .                                                                    | 1 Sun. . .  | 234-9889                                    | 4210  |
| 25 Mar. (84) . . .     | 5 Thur. . . | 0 31 30                              | 4 Mar. (63) . . .                                                                     | 5 Thur. . . | 160-7118                                    | 4211  |
| 25 Mar. (84) . . .     | 6 Fri. . .  | 6 43 39                              | 23 Mar. (82) . . .                                                                    | 4 Wed. . .  | 195-8942                                    | 4212  |
| 25 Mar. (84) . . .     | 0 Sat. . .  | 12 55 48                             | 12 Mar. (71) . . .                                                                    | 1 Sun. . .  | 71-1171                                     | 4213  |
| 24 Mar. (84) . . .     | 1 Sun. . .  | 19 7 57                              | 1 Mar. (61) . . .                                                                     | 6 Fri. . .  | 285-4718                                    | 4214  |
| 25 Mar. (84) . . .     | 3 Tues. . . | 1 20 6                               | 20 Mar. (79) . . .                                                                    | 5 Thur. . . | 320-1543                                    | 4215  |
| 25 Mar. (84) . . .     | 4 Wed. . .  | 7 32 15                              | 9 Mar. (68) . . .                                                                     | 2 Mon. . .  | 195-8771                                    | 4216  |
| 25 Mar. (84) . . .     | 5 Thur. . . | 13 44 24                             | 26 Feb. (57) . . .                                                                    | 6 Fri. . .  | 71-5999                                     | 4217  |
| 24 Mar. (84) . . .     | 6 Fri. . .  | 19 56 33                             | 16 Mar. (76) . . .                                                                    | 5 Thur. . . | 106-2823                                    | 4218  |
| 25 Mar. (84) . . .     | 1 Sun. . .  | 2 8 42                               | 6 Mar. (65) . . .                                                                     | 3 Tues. . . | 320-6372                                    | 4219  |
| 25 Mar. (84) . . .     | 2 Mon. . .  | 8 20 51                              | 24 Mar. (83) . . .                                                                    | 1 Sun. . .  | 16-6876                                     | 4220  |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Māghādi solar year in<br>Bengal. | Kollam. | A.D.     | JUVIAN SĀMVAṬSABA.  |                     |                                                           |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                                        |
| 4221             | 1043  | 1177               | 526                              | 294-95  | 1119-20  | 33 Vikārīn .        | 38 Śubhakṛit .      | ...                                                       |
| 4222             | 1043  | 1178               | 527                              | 295-96  | *1120-21 | 34 Śārvarīn .       | 37 Śōbhana .        | 8 Kārttika .                                              |
| 4223             | 1044  | 1179               | 528                              | 296-97  | 1121-22  | 35 Plava .          | 38 Krōdhin .        | ...                                                       |
| 4224             | 1045  | 1180               | 529                              | 297-98  | 1122-23  | 36 Śubhakṛit .      | 39 Viśvāvasu .      | ...                                                       |
| 4225             | 1045  | 1181               | 530                              | 298-99  | 1123-24  | 37 Śōbhana .        | 40 Parābhava .      | 5 Śrāvapa .                                               |
| 4226             | 1047  | 1183               | 531                              | 299-300 | *1124-25 | 38 Krōdhin .        | 41 Plavaṅga .       | ...                                                       |
| 4227             | 1048  | 1183               | 532                              | 300-01  | 1125-26  | 39 Viśvāvasu .      | 42 Kilaka .         | ...                                                       |
| 4228             | 1049  | 1184               | 533                              | 301-02  | 1126-27  | 40 Parābhava .      | 43 Saumya .         | 2 Vaiśākha .                                              |
| 4229             | 1050  | 1185               | 534                              | 302-03  | 1127-28  | 41 Plavaṅga .       | 44 Sādhāraṇa .      | ...                                                       |
| 4230             | 1051  | 1186               | 535                              | 303-04  | *1128-29 | 42 Kilaka .         | 45 Virōdhakṛit .    | 10 Pausa .                                                |
| 4231             | 1052  | 1187               | 536                              | 304-05  | 1129-30  | 43 Saumya .         | 46 Paridhāvin .     | ...                                                       |
| 4232             | 1053  | 1188               | 537                              | 305-06  | 1130-31  | 44 Sādhāraṇa .      | 47 Pramādin .       | ...                                                       |
| 4233             | 1054  | 1189               | 538                              | 306-07  | 1131-32  | 45 Virōdhakṛit .    | 48 Ānanda .         | 7 Āśvina .                                                |
| 4234             | 1055  | 1190               | 539                              | 307-08  | *1132-33 | 46 Paridhāvin .     | 49 Rākhaṇa .        | ...                                                       |
| 4235             | 1056  | 1191               | 540                              | 308-09  | 1133-34  | 47 Pramādin .       | 50 Anala .          | ...                                                       |
| 4236             | 1057  | 1192               | 541                              | 309-10  | 1134-35  | 48 Ānanda .         | 51 Piṅgala .        | 3 Jyēṣṭha .                                               |
| 4237             | 1058  | 1193               | 542                              | 310-11  | 1135-36  | 49 Rākhaṇa .        | 52 Kālayukta .      | ...                                                       |
| 4238             | 1059  | 1194               | 543                              | 311-12  | *1136-37 | 50 Anala .          | 53 Siddhārthin .    | 12 Phālguna .                                             |
| 4239             | 1060  | 1195               | 544                              | 312-13  | 1137-38  | 51 Piṅgala .        | 54 Raudra .         | ...                                                       |
| 4240             | 1061  | 1196               | 545                              | 313-14  | 1138-39  | 52 Kālayukta .      | 55 Darmatī .        | ...                                                       |
| 4241             | 1062  | 1197               | 546                              | 314-15  | 1139-40  | 53 Siddhārthin .    | 56 Dandabhi .       | 8 Kārttika .                                              |
| 4242             | 1063  | 1198               | 547                              | 315-16  | *1140-41 | 54 Raudra .         | 57 Rudhīrōdgāvin .  | ...                                                       |
| 4243             | 1064  | 1199               | 548                              | 316-17  | 1141-42  | 55 Darmatī .        | 58 Raktāksha .      | ...                                                       |
| 4244             | 1065  | 1200               | 549                              | 317-18  | 1142-43  | 56 Dandabhi .       | 59 Krōdhana .       | 5 Śrāvapa .                                               |
| 4245             | 1066  | 1201               | 550                              | 318-19  | 1143-44  | 57 Rudhīrōdgāvin .  | 60 Kahaya .         | ...                                                       |

XC—contd.

| COMMENCEMENT OF THE |              |                              |                                                                                     |              |                                       | Kali. |
|---------------------|--------------|------------------------------|-------------------------------------------------------------------------------------|--------------|---------------------------------------|-------|
| MEAN SOLAR YEAR.    |              |                              | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |              |                                       |       |
| Day and month, A.D. | Week-day.    | Time of mean Mēha-saṅkrānti. | Day and month, A.D.                                                                 | Week-day.    | a (here = t, the index of the tithi). |       |
| 13                  | 14           | 17                           | 19                                                                                  | 20           | 23                                    | 1     |
|                     |              | H. M. S.                     |                                                                                     |              |                                       |       |
| 25 Mar. (84) . . .  | 3 Tues. . .  | 14 38 0                      | 14 Mar. (78) . . .                                                                  | 6 Fri. . .   | 231-0424                              | 4221  |
| 24 Mar. (84) . . .  | 4 Wed. . .   | 20 45 9                      | 2 Mar. (82) . . .                                                                   | 3 Tues. . .  | 106-7652                              | 4222  |
| 25 Mar. (84) . . .  | 6 Fri. . .   | 2 57 18                      | 21 Mar. (80) . . .                                                                  | 2 Mon. . .   | 141-4477                              | 4223  |
| 25 Mar. (84) . . .  | 0 Sat. . .   | 9 9 27                       | 10 Mar. (89) . . .                                                                  | 6 Fri. . .   | 17-1704                               | 4224  |
| 25 Mar. (84) . . .  | 1 Sun. . .   | 15 21 36                     | 28 Feb. (89) . . .                                                                  | 4 Wed. . .   | 231-5253                              | 4225  |
| 24 Mar. (84) . . .  | 2 Mon. . .   | 21 33 45                     | 18 Mar. (78) . . .                                                                  | 3 Tues. . .  | 266-2077                              | 4226  |
| 25 Mar. (84) . . .  | 4 Wed. . .   | 3 45 54                      | 7 Mar. (86) . . .                                                                   | 0 Sat. . .   | 141-9306                              | 4227  |
| 25 Mar. (84) . . .  | 5 Thurs. . . | 9 58 3                       | 24 Feb. (85) . . .                                                                  | 4 Wed. . .   | 17-6533                               | 4228  |
| 25 Mar. (84) . . .  | 6 Fri. . .   | 16 10 12                     | 15 Mar. (74) . . .                                                                  | 3 Tues. . .  | 52-3357                               | 4229  |
| 24 Mar. (84) . . .  | 0 Sat. . .   | 22 22 21                     | 4 Mar. (64) . . .                                                                   | 1 Sun. . .   | 266-6906                              | 4230  |
| 25 Mar. (84) . . .  | 2 Mon. . .   | 4 34 30                      | 23 Mar. (82) . . .                                                                  | 0 Sat. . .   | 361-3729                              | 4231  |
| 25 Mar. (84) . . .  | 3 Tues. . .  | 10 46 39                     | 12 Mar. (71) . . .                                                                  | 4 Wed. . .   | 177-0958                              | 4232  |
| 25 Mar. (84) . . .  | 4 Wed. . .   | 16 58 48                     | 1 Mar. (60) . . .                                                                   | 1 Sun. . .   | 52-8186                               | 4233  |
| 24 Mar. (84) . . .  | 5 Thurs. . . | 23 10 57                     | 19 Mar. (79) . . .                                                                  | 0 Sat. . .   | 87-5011                               | 4234  |
| 25 Mar. (84) . . .  | 0 Sat. . .   | 5 28 6                       | 9 Mar. (68) . . .                                                                   | 5 Thurs. . . | 361-8558                              | 4235  |
| 25 Mar. (84) . . .  | 1 Sun. . .   | 11 35 15                     | 26 Feb. (57) . . .                                                                  | 2 Mon. . .   | 177-5787                              | 4236  |
| 25 Mar. (84) . . .  | 2 Mon. . .   | 17 47 24                     | 17 Mar. (76) . . .                                                                  | 1 Sun. . .   | 212-2611                              | 4237  |
| 24 Mar. (84) . . .  | 3 Tues. . .  | 23 59 38                     | 5 Mar. (65) . . .                                                                   | 5 Thurs. . . | 87-9649                               | 4238  |
| 25 Mar. (84) . . .  | 5 Thurs. . . | 6 11 42                      | 24 Mar. (83) . . .                                                                  | 4 Wed. . .   | 122-6668                              | 4239  |
| 25 Mar. (84) . . .  | 6 Fri. . .   | 12 23 51                     | 13 Mar. (72) . . .                                                                  | 1 Sun. . .   | 9998-3692 §                           | 4240  |
| 25 Mar. (84) . . .  | 0 Sat. . .   | 18 36 0                      | 3 Mar. (62) . . .                                                                   | 6 Fri. . .   | 212-7440                              | 4241  |
| 25 Mar. (85) . . .  | 2 Mon. . .   | 0 48 9                       | 21 Mar. (81) . . .                                                                  | 5 Thurs. . . | 247-4264                              | 4242  |
| 25 Mar. (84) . . .  | 3 Tues. . .  | 7 0 18                       | 10 Mar. (89) . . .                                                                  | 2 Mon. . .   | 123-0492                              | 4243  |
| 25 Mar. (84) . . .  | 4 Wed. . .   | 13 12 27                     | 27 Feb. (58) . . .                                                                  | 6 Fri. . .   | 9998-8721 §                           | 4244  |
| 25 Mar. (84) . . .  | 5 Thurs. . . | 19 24 36                     | 18 Mar. (77) . . .                                                                  | 5 Thurs. . . | 33-5545                               | 4245  |

§ Chaitra sukla 1 was suppressed.

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |          |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māhādi solar year in<br>Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                           |
|                  |       |                    |                                 |         |          | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                              | 4       | 5        | 6                   | 7                   | 8a                                                        |
| 4246             | 1067  | 1202               | 551                             | 319-20  | *1144-45 | 58 Raktāksha .      | 1 Prabhava .        | ...                                                       |
| 4247             | 1068  | 1203               | 552                             | 320-21  | 1145-46  | 59 Krōdhana .       | 2 Vibhava .         | 1 Chaitra .                                               |
| 4248             | 1069  | 1204               | 553                             | 321-22  | 1146-47  | 60 Kehaya .         | 3 Śukla .           | ...                                                       |
| 4249             | 1070  | 1205               | 554                             | 322-23  | 1147-48  | 1 Prabhava .        | 4 Pramōda .         | 10 Pausa .                                                |
| 4250             | 1071  | 1206               | 555                             | 323-24  | *1148-49 | 2 Vibhava .         | 5 Prajāpati .       | ...                                                       |
| 4251             | 1072  | 1207               | 556                             | 324-25  | 1149-50  | 3 Śukla .           | 6 Aṅgiras .         | ...                                                       |
| 4252             | 1073  | 1208               | 557                             | 325-26  | 1150-51  | 4 Pramōda .         | 7 Śrīmukha .        | 6 Bhādrapada .                                            |
| 4253             | 1074  | 1209               | 558                             | 326-27  | 1151-52  | 5 Prajāpati .       | 8 Bhāva .           | ...                                                       |
| 4254             | 1075  | 1210               | 559                             | 327-28  | *1152-53 | 6 Aṅgiras .         | 9 Yuvan .           | ...                                                       |
| 4255             | 1076  | 1211               | 560                             | 328-29  | 1153-54  | 7 Śrīmukha .        | 10 Dhātṛi .         | 3 Jyēsthā .                                               |
| 4256             | 1077  | 1212               | 561                             | 329-30  | 1154-55  | 8 Bhāva .           | 11 Śvara .          | ...                                                       |
| 4257             | 1078  | 1213               | 562                             | 330-31  | 1155-56  | 9 Yuvan .           | 12 Bahudhānya .     | 11 Māgha .                                                |
| 4258             | 1079  | 1214               | 563                             | 331-32  | *1156-57 | 10 Dhātṛi .         | 13 Pramāthin .      | ...                                                       |
| 4259             | 1080  | 1215               | 564                             | 332-33  | 1157-58  | 11 Śvara .          | 14 Vikrama .        | ...                                                       |
| 4260             | 1081  | 1216               | 565                             | 333-34  | 1158-59  | 12 Bahudhānya .     | 15 Vṛisha .         | 8 Kārttika .                                              |
| 4261             | 1082  | 1217               | 566                             | 334-35  | 1159-60  | 13 Pramāthin .      | 16 Chitrabhānu† .   | ...                                                       |
| 4262             | 1083  | 1218               | 567                             | 335-36  | *1160-61 | 14 Vikrama .        | 17 Tārana .         | ...                                                       |
| 4263             | 1084  | 1219               | 568                             | 336-37  | 1161-62  | 15 Vṛisha .         | 18 Pārthiva .       | 5 Śrāvaṇa .                                               |
| 4264             | 1085  | 1220               | 569                             | 337-38  | 1162-63  | 16 Chitrabhānu .    | 19 Vyaya .          | ...                                                       |
| 4265             | 1086  | 1221               | 570                             | 338-39  | 1163-64  | 17 Subhānu .        | 20 Sarvajit .       | ...                                                       |
| 4266             | 1087  | 1222               | 571                             | 339-40  | *1164-65 | 18 Tārana .         | 21 Sarvadhārin .    | 1 Chaitra .                                               |
| 4267             | 1088  | 1223               | 572                             | 340-41  | 1165-66  | 19 Pārthiva .       | 22 Virōdhin .       | ...                                                       |
| 4268             | 1089  | 1224               | 573                             | 341-42  | 1166-67  | 20 Vyaya .          | 23 Vikṛita .        | 10 Pausa .                                                |
| 4269             | 1090  | 1225               | 574                             | 342-43  | 1167-68  | 21 Sarvajit .       | 24 Khara .          | ...                                                       |
| 4270             | 1091  | 1226               | 575                             | 343-44  | *1168-69 | 22 Sarvadhārin .    | 25 Nandana .        | ...                                                       |

† 17 Subhānu was suppressed in the north by the *Brahma-Siddhānta*, both in true and mean reckoning.

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| COMMENCEMENT OF THE |           |                               |                                                                                     |           |                                               |       |
|---------------------|-----------|-------------------------------|-------------------------------------------------------------------------------------|-----------|-----------------------------------------------|-------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |                                               | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day. | a (here = f, the index of the <i>tilak</i> ). |       |
| 13                  | 14        | 17                            | 19                                                                                  | 20        | 23                                            |       |
|                     |           | H. M. S.                      |                                                                                     |           |                                               | 1     |
| 25 Mar. (86)        | 0 Sat.    | 1 36 45                       | 7 Mar. (67)                                                                         | 8 Tues.   | 247-9098                                      | 4246  |
| 25 Mar. (84)        | 1 Sun.    | 7 48 54                       | 24 Feb. (55)                                                                        | 0 Sat.    | 123-6321                                      | 4247  |
| 25 Mar. (84)        | 2 Mon.    | 14 1 3                        | 15 Mar. (74)                                                                        | 6 Fri.    | 168-3146                                      | 4248  |
| 25 Mar. (84)        | 3 Tues.   | 20 13 12                      | 4 Mar. (63)                                                                         | 3 Tues.   | 34-0873                                       | 4249  |
| 25 Mar. (85)        | 5 Thurs.  | 2 25 21                       | 22 Mar. (82)                                                                        | 2 Mon.    | 68-7197                                       | 4250  |
| 25 Mar. (84)        | 6 Fri.    | 8 37 30                       | 12 Mar. (71)                                                                        | 0 Sat.    | 233-0746                                      | 4251  |
| 25 Mar. (84)        | 0 Sat.    | 14 49 39                      | 1 Mar. (60)                                                                         | 4 Wed.    | 158-7974                                      | 4252  |
| 25 Mar. (84)        | 1 Sun.    | 21 1 48                       | 20 Mar. (79)                                                                        | 3 Tues.   | 193-4798                                      | 4253  |
| 25 Mar. (85)        | 3 Tues.   | 3 13 57                       | 8 Mar. (68)                                                                         | 0 Sat.    | 69-2026                                       | 4254  |
| 25 Mar. (84)        | 4 Wed.    | 9 26 6                        | 26 Feb. (57)                                                                        | 5 Thurs.  | 233-5576                                      | 4255  |
| 25 Mar. (84)        | 5 Thurs.  | 15 38 15                      | 17 Mar. (76)                                                                        | 4 Wed.    | 318-2398                                      | 4256  |
| 25 Mar. (84)        | 6 Fri.    | 21 50 24                      | 6 Mar. (65)                                                                         | 1 Sun.    | 198-9627                                      | 4257  |
| 25 Mar. (85)        | 1 Sun.    | 4 2 33                        | 24 Mar. (84)                                                                        | 0 Sat.    | 223-6451                                      | 4258  |
| 25 Mar. (84)        | 2 Mon.    | 10 14 42                      | 13 Mar. (72)                                                                        | 4 Wed.    | 104-3630                                      | 4259  |
| 25 Mar. (84)        | 3 Tues.   | 16 26 51                      | 3 Mar. (62)                                                                         | 2 Mon.    | 318-7237                                      | 4260  |
| 25 Mar. (84)        | 4 Wed.    | 22 39 0                       | 21 Mar. (60)                                                                        | 0 Sat.    | 14-7731                                       | 4261  |
| 25 Mar. (85)        | 6 Fri.    | 4 51 9                        | 10 Mar. (70)                                                                        | 5 Thurs.  | 229-1290                                      | 4262  |
| 25 Mar. (84)        | 0 Sat.    | 11 3 18                       | 27 Feb. (58)                                                                        | 2 Mon.    | 104-3508                                      | 4263  |
| 25 Mar. (84)        | 1 Sun.    | 17 15 27                      | 18 Mar. (77)                                                                        | 1 Sun.    | 129-5332                                      | 4264  |
| 25 Mar. (84)        | 2 Mon.    | 23 27 36                      | 7 Mar. (66)                                                                         | 5 Thurs.  | 15-2661                                       | 4265  |
| 25 Mar. (85)        | 4 Wed.    | 5 39 45                       | 25 Feb. (56)                                                                        | 3 Tues.   | 223-6109                                      | 4266  |
| 25 Mar. (84)        | 5 Thurs.  | 11 51 54                      | 16 Mar. (74)                                                                        | 2 Mon.    | 264-2932                                      | 4267  |
| 25 Mar. (84)        | 6 Fri.    | 18 4 3                        | 4 Mar. (63)                                                                         | 6 Fri.    | 140-6191                                      | 4268  |
| 25 Mar. (85)        | 1 Sun.    | 0 16 12                       | 23 Mar. (82)                                                                        | 5 Thurs.  | 174-6985                                      | 4269  |
| 25 Mar. (85)        | 2 Mon.    | 6 28 21                       | 11 Mar. (71)                                                                        | 2 Mon.    | 50-4212                                       | 4270  |

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |          |                     |                     | Mean<br>intercalated<br>(adhika) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|--------------------------------------------------|
| Kali.            | Saka. | Chaitradī Vikrama. | Māhātī solar year in<br>Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                  |
|                  |       |                    |                                 |         |          | Southern<br>system. | Northern<br>system. |                                                  |
| 1                | 2     | 3                  | 3a                              | 4       | 5        | 6                   | 7                   | 8a                                               |
| 4871             | 1092  | 1227               | 576                             | 344-45  | 1169-70  | 23 Virōdhin .       | 27 Vijaya .         | 6 Bhādrapada .                                   |
| 4872             | 1093  | 1228               | 577                             | 345-46  | 1170-71  | 24 Vikṛita .        | 28 Jaya .           | ...                                              |
| 4873             | 1094  | 1229               | 578                             | 346-47  | 1171-72  | 25 Khara .          | 29 Manmatha .       | ...                                              |
| 4874             | 1095  | 1230               | 579                             | 347-48  | *1172-73 | 26 Nandana .        | 30 Durmukha .       | 3 Jyēṣṭha .                                      |
| 4875             | 1096  | 1231               | 580                             | 348-49  | 1173-74  | 27 Vijaya .         | 31 Hēmalamba .      | ...                                              |
| 4876             | 1097  | 1232               | 581                             | 349-50  | 1174-75  | 28 Jaya .           | 32 Vilamba .        | 11 Māgha .                                       |
| 4877             | 1098  | 1233               | 582                             | 350-51  | 1175-76  | 29 Manmatha .       | 33 Vikārin .        | ...                                              |
| 4878             | 1099  | 1234               | 583                             | 351-52  | *1176-77 | 30 Durmukha .       | 34 Śārvarin .       | ...                                              |
| 4879             | 1100  | 1235               | 584                             | 352-53  | 1177-78  | 31 Hēmalamba .      | 35 Plava .          | 8 Kārttika .                                     |
| 4880             | 1101  | 1236               | 585                             | 353-54  | 1178-79  | 32 Vilamba .        | 36 Śubhakṛit .      | ...                                              |
| 4881             | 1102  | 1237               | 586                             | 354-55  | 1179-80  | 33 Vikārin .        | 37 Śobhana .        | ...                                              |
| 4882             | 1103  | 1238               | 587                             | 355-56  | *1180-81 | 34 Śārvarin .       | 38 Krōdhin .        | 4 Āshāḍha .                                      |
| 4883             | 1104  | 1239               | 588                             | 356-57  | 1181-82  | 35 Plava .          | 39 Viśvāvasu .      | ...                                              |
| 4884             | 1105  | 1240               | 589                             | 357-58  | 1182-83  | 36 Śubhakṛit .      | 40 Parābhava .      | ...                                              |
| 4885             | 1106  | 1241               | 590                             | 358-59  | 1183-84  | 37 Śobhana .        | 41 Plavaṅga .       | 1 Chaitra .                                      |
| 4886             | 1107  | 1242               | 591                             | 359-60  | *1184-85 | 38 Krōdhin .        | 42 Kṛitika .        | ...                                              |
| 4887             | 1108  | 1243               | 592                             | 360-61  | 1185-86  | 39 Viśvāvasu .      | 43 Saumya .         | 9 Mārgaśīra .                                    |
| 4888             | 1109  | 1244               | 593                             | 361-62  | 1186-87  | 40 Parābhava .      | 44 Sādhārāṇa .      | ...                                              |
| 4889             | 1110  | 1245               | 594                             | 362-63  | 1187-88  | 41 Plavaṅga .       | 45 Virōdhakṛit .    | ...                                              |
| 4890             | 1111  | 1246               | 595                             | 363-64  | *1188-89 | 42 Kṛitika .        | 46 Paridhāvin .     | 6 Bhādrapada .                                   |
| 4891             | 1112  | 1247               | 596                             | 364-65  | 1189-90  | 43 Saumya .         | 47 Pramādin .       | ...                                              |
| 4892             | 1113  | 1248               | 597                             | 365-66  | 1190-91  | 44 Sādhārāṇa .      | 48 Ānanda .         | ...                                              |
| 4893             | 1114  | 1249               | 598                             | 366-67  | 1191-92  | 45 Virōdhakṛit .    | 49 Rākṣasa .        | 2 Vaiśākha .                                     |
| 4894             | 1115  | 1250               | 599                             | 367-68  | *1192-93 | 46 Paridhāvin .     | 50 Anala .          | ...                                              |
| 4895             | 1116  | 1251               | 600                             | 368-69  | 1193-94  | 47 Pramādin .       | 51 Piṅgala .        | 11 Māgha .                                       |

XC—*contd.*

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                       |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNTIME OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 RODE). |             |                                       | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-saṁkrānti. | Day and month, A.D.                                                                 | Week-day.   | a (here = t, the index of the tithi). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                    | 1     |
|                     |             | H. M. S.                      |                                                                                     |             |                                       |       |
| 25 Mar. (84) . . .  | 8 Tues. . . | 12 40 30                      | 1 Mar. (80) . . .                                                                   | 0 Sat. . .  | 264-7762                              | 4271  |
| 25 Mar. (84) . . .  | 4 Wed. . .  | 18 52 39                      | 20 Mar. (79) . . .                                                                  | 6 Fri. . .  | 290-4586                              | 4272  |
| 26 Mar. (85) . . .  | 6 Fri. . .  | 1 4 43                        | 9 Mar. (68) . . .                                                                   | 3 Tues. . . | 175-1815                              | 4273  |
| 25 Mar. (85) . . .  | 0 Sat. . .  | 7 16 57                       | 26 Feb. (57) . . .                                                                  | 0 Sat. . .  | 50-9042                               | 4274  |
| 25 Mar. (84) . . .  | 1 Sun. . .  | 18 29 6                       | 16 Mar. (75) . . .                                                                  | 6 Fri. . .  | 85-5886                               | 4275  |
| 26 Mar. (84) . . .  | 2 Mon. . .  | 19 41 15                      | 6 Mar. (65) . . .                                                                   | 4 Wed. . .  | 299-9415                              | 4276  |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 1 53 24                       | 24 Mar. (83) . . .                                                                  | 2 Mon. . .  | 9993-9918 §                           | 4277  |
| 25 Mar. (85) . . .  | 5 Thur. . . | 8 5 33                        | 13 Mar. (73) . . .                                                                  | 0 Sat. . .  | 210-2467                              | 4278  |
| 25 Mar. (84) . . .  | 6 Fri. . .  | 14 17 42                      | 2 Mar. (61) . . .                                                                   | 4 Wed. . .  | 86-0605                               | 4279  |
| 25 Mar. (84) . . .  | 0 Sat. . .  | 20 29 51                      | 21 Mar. (80) . . .                                                                  | 3 Tues. . . | 120-7519                              | 4280  |
| 26 Mar. (85) . . .  | 2 Mon. . .  | 2 42 0                        | 10 Mar. (69) . . .                                                                  | 0 Sat. . .  | 9990-4747 §                           | 4281  |
| 25 Mar. (85) . . .  | 3 Tues. . . | 8 54 9                        | 26 Feb. (59) . . .                                                                  | 5 Thur. . . | 210-8296                              | 4282  |
| 25 Mar. (84) . . .  | 4 Wed. . .  | 15 6 18                       | 13 Mar. (77) . . .                                                                  | 4 Wed. . .  | 245-5120                              | 4283  |
| 25 Mar. (84) . . .  | 5 Thur. . . | 21 18 27                      | 7 Mar. (66) . . .                                                                   | 1 Sun. . .  | 121-2340                              | 4284  |
| 26 Mar. (85) . . .  | 0 Sat. . .  | 3 30 36                       | 24 Feb. (55) . . .                                                                  | 5 Thur. . . | 9996-9576 §                           | 4285  |
| 25 Mar. (85) . . .  | 1 Sun. . .  | 9 42 45                       | 14 Mar. (74) . . .                                                                  | 4 Wed. . .  | 31-4400                               | 4286  |
| 25 Mar. (84) . . .  | 2 Mon. . .  | 15 54 54                      | 4 Mar. (63) . . .                                                                   | 2 Mon. . .  | 245-9049                              | 4287  |
| 25 Mar. (84) . . .  | 3 Tues. . . | 22 7 3                        | 23 Mar. (82) . . .                                                                  | 1 Sun. . .  | 230-6772                              | 4288  |
| 26 Mar. (85) . . .  | 5 Thur. . . | 4 19 13                       | 12 Mar. (71) . . .                                                                  | 5 Thur. . . | 156-4001                              | 4289  |
| 25 Mar. (85) . . .  | 6 Fri. . .  | 10 31 21                      | 20 Feb. (60) . . .                                                                  | 2 Mon. . .  | 82-1230                               | 4290  |
| 26 Mar. (84) . . .  | 0 Sat. . .  | 16 43 30                      | 19 Mar. (78) . . .                                                                  | 1 Sun. . .  | 66-8654                               | 4291  |
| 25 Mar. (84) . . .  | 1 Sun. . .  | 22 55 39                      | 9 Mar. (68) . . .                                                                   | 6 Fri. . .  | 231-1602                              | 4292  |
| 26 Mar. (85) . . .  | 3 Tues. . . | 5 7 48                        | 26 Feb. (57) . . .                                                                  | 3 Tues. . . | 156-8830                              | 4293  |
| 25 Mar. (85) . . .  | 4 Wed. . .  | 11 19 57                      | 16 Mar. (76) . . .                                                                  | 2 Mon. . .  | 191-5354                              | 4294  |
| 25 Mar. (84) . . .  | 5 Thur. . . | 17 32 6                       | 5 Mar. (64) . . .                                                                   | 6 Fri. . .  | 67-2382                               | 4295  |

§ Chaitra śukla 1 was suppressed.

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |           |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in<br>Bengal. | Kollam. | A.D.      | JOVIAN SAMVATSARA.  |                     |                                                           |
|                  |       |                    |                                  |         |           | Southern<br>system. | Northern<br>system. |                                                           |
| 1.               | 2     | 3                  | 3a                               | 4       | 5         | 6                   | 7                   | 8a                                                        |
| 4296             | 1117  | 1252               | 601                              | 369-70  | 1194-96   | 48 Ananda .         | 52 Kālayukta .      | ...                                                       |
| 4297             | 1118  | 1253               | 602                              | 370-71  | 1195-96   | 49 Rākshasa .       | 53 Siddhārthin .    | ...                                                       |
| 4298             | 1119  | 1254               | 603                              | 371-72  | *1196-97  | 50 Anala .          | 54 Raudra .         | 8 Kārttika †                                              |
| 4299             | 1120  | 1255               | 604                              | 372-73  | 1197-98   | 51 Pingala .        | 55 Durmati .        | ...                                                       |
| 4300             | 1121  | 1256               | 605                              | 373-74  | 1198-99   | 52 Kālayukta .      | 56 Dundubhi .       | ...                                                       |
| 4301             | 1122  | 1257               | 606                              | 374-75  | 1199-1200 | 53 Siddhārthin .    | 57 Rudhirōdgārin .  | 4 Ashādha .                                               |
| 4302             | 1123  | 1258               | 607                              | 375-76  | *1200-01  | 54 Raudra .         | 58 Raktāksha .      | ...                                                       |
| 4303             | 1124  | 1259               | 608                              | 376-77  | 1201-02   | 55 Durmati .        | 59 Krōdhana .       | ...                                                       |
| 4304             | 1125  | 1260               | 609                              | 377-78  | 1202-03   | 56 Dundubhi .       | 60 Kahaya .         | 1 Chaitra .                                               |
| 4305             | 1126  | 1261               | 610                              | 378-79  | 1203-04   | 57 Rudhirōdgārin .  | 1 Prabhava .        | ...                                                       |
| 4306             | 1127  | 1262               | 611                              | 379-80  | *1204-05  | 58 Raktāksha .      | 2 Vibhava .         | 9 Mārgaśīra .                                             |
| 4307             | 1128  | 1263               | 612                              | 380-81  | 1205-06   | 59 Krōdhana .       | 3 Sukla .           | ...                                                       |
| 4308             | 1129  | 1264               | 613                              | 381-82  | 1206-07   | 60 Kahaya .         | 4 Pramōda .         | ...                                                       |
| 4309             | 1130  | 1265               | 614                              | 382-83  | 1207-08   | 1 Prabhava .        | 5 Prajāpati .       | 6 Bhādrapada .                                            |
| 4310             | 1131  | 1266               | 615                              | 383-84  | *1208-09  | 2 Vibhava .         | 6 Āngiras .         | ...                                                       |
| 4311             | 1132  | 1267               | 616                              | 384-85  | 1209-10   | 3 Śukla .           | 7 Śrīmukha .        | ...                                                       |
| 4312             | 1133  | 1268               | 617                              | 385-86  | 1210-11   | 4 Pramōda .         | 8 Bhāva .           | 2 Vaiśākha .                                              |
| 4313             | 1134  | 1269               | 618                              | 386-87  | 1211-12   | 5 Prajāpati .       | 9 Yuvan .           | ...                                                       |
| 4314             | 1135  | 1270               | 619                              | 387-88  | *1212-13  | 6 Āngiras .         | 10 Dhātṛi .         | 11 Māgha .                                                |
| 4315             | 1136  | 1271               | 620                              | 388-89  | 1213-14   | 7 Śrīmukha .        | 11 Īśvara .         | ...                                                       |
| 4316             | 1137  | 1272               | 621                              | 389-90  | 1214-15   | 8 Bhāva .           | 12 Bahudhānya .     | ...                                                       |
| 4317             | 1138  | 1273               | 622                              | 390-91  | 1215-16   | 9 Yuvan .           | 13 Praunāthin .     | 7 Āśvina .                                                |
| 4318             | 1139  | 1274               | 623                              | 391-92  | *1216-17  | 10 Dhātṛi .         | 14 Vikrama .        | ...                                                       |
| 4319             | 1140  | 1275               | 624                              | 392-93  | 1217-18   | 11 Īśvara .         | 15 Vṛisha .         | ...                                                       |
| 4320             | 1141  | 1276               | 625                              | 393-94  | 1218-19   | 12 Bahudhānya .     | 16 Chitrabhānu .    | 4 Ashādha .                                               |

† See "Remarks," p. 216 above.

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                             | Kali. |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                             |       |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-sankranti. | Day and month, A.D.                                                                 | Week-day.   | $a$ (here = $t$ , the index of the $t$ th). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                          | 1     |
|                     |             | H. M. S.                      |                                                                                     |             |                                             |       |
| 25 Mar. (84) . . .  | 6 Fri. . .  | 23 44 15                      | 24 Mar. (83) . . .                                                                  | 5 Thur. . . | 101-9706                                    | 4296  |
| 26 Mar. (85) . . .  | 1 Sun. . .  | 5 58 24                       | 14 Mar. (78) . . .                                                                  | 3 Tues. . . | 316-3255                                    | 4297  |
| 25 Mar. (85) . . .  | 2 Mon. . .  | 12 8 33                       | 2 Mar. (82) . . .                                                                   | 0 Sat. . .  | 192-0432                                    | 4298  |
| 25 Mar. (84) . . .  | 3 Tues. . . | 18 20 42                      | 21 Mar. (80) . . .                                                                  | 6 Fri. . .  | 226-7307                                    | 4299  |
| 26 Mar. (85) . . .  | 5 Thur. . . | 0 32 51                       | 10 Mar. (69) . . .                                                                  | 3 Tues. . . | 102-4535                                    | 4300  |
| 26 Mar. (85) . . .  | 6 Fri. . .  | 6 45 0                        | 28 Feb. (59) . . .                                                                  | 1 Sun. . .  | 816-8083                                    | 4301  |
| 25 Mar. (85) . . .  | 0 Sat. . .  | 12 57 9                       | 17 Mar. (77) . . .                                                                  | 6 Fri. . .  | 12-8587                                     | 4302  |
| 25 Mar. (84) . . .  | 1 Sun. . .  | 19 9 18                       | 7 Mar. (66) . . .                                                                   | 4 Wed. . .  | 227-2136                                    | 4303  |
| 26 Mar. (85) . . .  | 3 Tues. . . | 1 21 27                       | 24 Feb. (55) . . .                                                                  | 1 Sun. . .  | 102-9363                                    | 4304  |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 7 33 36                       | 15 Mar. (74) . . .                                                                  | 0 Sat. . .  | 137-6188                                    | 4305  |
| 25 Mar. (85) . . .  | 5 Thur. . . | 13 45 45                      | 3 Mar. (63) . . .                                                                   | 4 Wed. . .  | 13-3416                                     | 4306  |
| 25 Mar. (84) . . .  | 6 Fri. . .  | 19 57 54                      | 22 Mar. (81) . . .                                                                  | 3 Tues. . . | 48-0239                                     | 4307  |
| 26 Mar. (85) . . .  | 1 Sun. . .  | 2 10 3                        | 12 Mar. (71) . . .                                                                  | 1 Sun. . .  | 262-3788                                    | 4308  |
| 26 Mar. (85) . . .  | 2 Mon. . .  | 8 22 12                       | 1 Mar. (60) . . .                                                                   | 5 Thur. . . | 138-1017                                    | 4309  |
| 25 Mar. (85) . . .  | 3 Tues. . . | 14 34 21                      | 19 Mar. (79) . . .                                                                  | 4 Wed. . .  | 172-7840                                    | 4310  |
| 25 Mar. (84) . . .  | 4 Wed. . .  | 20 46 30                      | 8 Mar. (67) . . .                                                                   | 1 Sun. . .  | 48-5069                                     | 4311  |
| 26 Mar. (85) . . .  | 6 Fri. . .  | 2 58 39                       | 26 Feb. (57) . . .                                                                  | 6 Fri. . .  | 262-3817                                    | 4312  |
| 26 Mar. (85) . . .  | 0 Sat. . .  | 9 10 48                       | 17 Mar. (76) . . .                                                                  | 5 Thur. . . | 297-5441                                    | 4313  |
| 25 Mar. (85) . . .  | 1 Sun. . .  | 15 22 57                      | 5 Mar. (65) . . .                                                                   | 2 Mon. . .  | 173-2669                                    | 4314  |
| 25 Mar. (84) . . .  | 2 Mon. . .  | 21 35 6                       | 24 Mar. (83) . . .                                                                  | 1 Sun. . .  | 207-9493                                    | 4315  |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 3 47 15                       | 13 Mar. (72) . . .                                                                  | 5 Thur. . . | 83-6722                                     | 4316  |
| 26 Mar. (85) . . .  | 5 Thur. . . | 9 59 24                       | 3 Mar. (62) . . .                                                                   | 3 Tues. . . | 298-0269                                    | 4317  |
| 25 Mar. (85) . . .  | 6 Fri. . .  | 16 11 33                      | 21 Mar. (81) . . .                                                                  | 2 Mon. . .  | 332-7094                                    | 4318  |
| 25 Mar. (84) . . .  | 0 Sat. . .  | 22 23 42                      | 10 Mar. (69) . . .                                                                  | 6 Fri. . .  | 203-4322                                    | 4319  |
| 26 Mar. (85) . . .  | 2 Mon. . .  | 4 35 51                       | 27 Feb. (58) . . .                                                                  | 3 Tues. . . | 84-1551                                     | 4320  |



TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>intercalated<br>( <i>adāṭika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|------------------------------------------------------------|
| Kali.            | Śaka. | Chaitradī Vikramā. | Mēshādī solar year in<br>Bengal. | Kollam. | A.D.     | JOVIAN SĀMYATSARA.  |                     |                                                            |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                            |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                                         |
| 4321             | 1142  | 1277               | 628                              | 394-95  | 1219-20  | 13 Premāthin .      | 17 Subhānu .        | ...                                                        |
| 4322             | 1143  | 1278               | 627                              | 395-96  | *1220-21 | 14 Vikrama .        | 18 Tāraṇa .         | 12 Phālguna .                                              |
| 4323             | 1144  | 1279               | 628                              | 396-97  | 1221-22  | 15 Vṛisha .         | 19 Pāṭhiva .        | ...                                                        |
| 4324             | 1145  | 1280               | 629                              | 397-98  | 1222-23  | 16 Chitrabhānu .    | 20 Vyaya .          | ...                                                        |
| 4325             | 1146  | 1281               | 630                              | 398-99  | 1223-24  | 17 Subhānu .        | 21 Sarvajit .       | 9 Mārgaśīra .                                              |
| 4326             | 1147  | 1282               | 631                              | 399-400 | *1224-25 | 18 Tāraṇa .         | 22 Sarvadhārin .    | ...                                                        |
| 4327             | 1148  | 1283               | 632                              | 400-01  | 1225-26  | 19 Pārthiva .       | 23 Virōdhin .       | ...                                                        |
| 4328             | 1149  | 1284               | 633                              | 401-02  | 1226-27  | 20 Vyaya .          | 24 Vikṛita .        | 5 Śrāvapa .                                                |
| 4329             | 1150  | 1285               | 634                              | 402-03  | 1227-28  | 21 Sarvajit .       | 25 Khara .          | ...                                                        |
| 4330             | 1151  | 1286               | 635                              | 403-04  | *1228-29 | 22 Sarvadhārin .    | 26 Nandana .        | ...                                                        |
| 4331             | 1152  | 1287               | 636                              | 404-05  | 1229-30  | 23 Virōdhin .       | 27 Vijaya .         | 2 Vaiśākha .                                               |
| 4332             | 1153  | 1288               | 637                              | 405-06  | 1230-31  | 24 Vikṛita .        | 28 Jaya .           | ...                                                        |
| 4333             | 1154  | 1289               | 638                              | 406-07  | 1231-32  | 25 Khara .          | 29 Manmatha .       | 10 Pausa .                                                 |
| 4334             | 1155  | 1290               | 639                              | 407-08  | *1232-33 | 26 Nandana .        | 30 Durmukha .       | ...                                                        |
| 4335             | 1156  | 1291               | 640                              | 408-09  | 1233-34  | 27 Vijaya .         | 31 Hēmalamba .      | ...                                                        |
| 4336             | 1157  | 1292               | 641                              | 409-10  | 1234-35  | 28 Jaya .           | 32 Vilamba .        | 7 Āśvina .                                                 |
| 4337             | 1158  | 1293               | 642                              | 410-11  | 1235-36  | 29 Manmatha .       | 33 Vikārin .        | ...                                                        |
| 4338             | 1159  | 1294               | 643                              | 411-12  | *1236-37 | 30 Durmukha .       | 34 Śārvarin .       | ...                                                        |
| 4339             | 1160  | 1295               | 644                              | 412-13  | 1237-38  | 31 Hēmalamba .      | 35 Plava .          | 4 Āshādha .                                                |
| 4340             | 1161  | 1296               | 645                              | 413-14  | 1238-39  | 32 Vilamba .        | 36 Śubhakṛit .      | ...                                                        |
| 4341             | 1162  | 1297               | 646                              | 414-15  | 1239-40  | 33 Vikārin .        | 37 Śōbhana .        | 12 Phālguna .                                              |
| 4342             | 1163  | 1298               | 647                              | 415-16  | *1240-41 | 34 Śārvarin .       | 38 Krōdhin .        | ...                                                        |
| 4343             | 1164  | 1299               | 648                              | 416-17  | 1241-42  | 35 Plava .          | 39 Viśāvasu .       | ...                                                        |
| 4344             | 1165  | 1300               | 649                              | 417-18  | 1242-43  | 36 Śubhakṛit .      | 40 Parābhava .      | 9 Mārgaśīra .                                              |
| 4345             | 1166  | 1301               | 650                              | 418-19  | 1243-44  | 37 Śōbhana .        | 41 Plavaṅga .       | ...                                                        |

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                      |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|--------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                      | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | a (here = f, the index of the titā). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                   |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                      |       |
| 26 Mar. (85) . . .  | 3 Tues. . . | 10 48 0                       | 18 Mar. (77) . . .                                                                  | 2 Mon. . .  | 118-8374                             | 4321  |
| 25 Mar. (85) . . .  | 4 Wed. . .  | 17 0 9                        | 7 Mar. (67) . . .                                                                   | 0 Sat. . .  | 333-1923                             | 4322  |
| 26 Mar. (84) . . .  | 5 Thur. . . | 23 12 18                      | 25 Mar. (84) . . .                                                                  | 5 Thur. . . | 29-2427                              | 4323  |
| 26 Mar. (85) . . .  | 0 Sat. . .  | 5 24 27                       | 15 Mar. (74) . . .                                                                  | 3 Tues. . . | 243-5975                             | 4324  |
| 26 Mar. (85) . . .  | 1 Sun. . .  | 11 36 36                      | 4 Mar. (63) . . .                                                                   | 0 Sat. . .  | 119-3203                             | 4325  |
| 25 Mar. (85) . . .  | 2 Mon. . .  | 17 48 45                      | 22 Mar. (82) . . .                                                                  | 6 Fri. . .  | 154-0027                             | 4326  |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 0 0 54                        | 11 Mar. (70) . . .                                                                  | 3 Tues. . . | 29-7256                              | 4327  |
| 26 Mar. (85) . . .  | 5 Thur. . . | 6 13 9                        | 1 Mar. (60) . . .                                                                   | 1 Sun. . .  | 244-0804                             | 4328  |
| 26 Mar. (85) . . .  | 6 Fri. . .  | 12 25 12                      | 20 Mar. (79) . . .                                                                  | 0 Sat. . .  | 776-7623                             | 4329  |
| 25 Mar. (85) . . .  | 0 Sat. . .  | 18 37 21                      | 8 Mar. (68) . . .                                                                   | 4 Wed. . .  | 154-4857                             | 4330  |
| 26 Mar. (85) . . .  | 2 Mon. . .  | 0 49 30                       | 25 Feb. (56) . . .                                                                  | 1 Sun. . .  | 30-2084                              | 4331  |
| 26 Mar. (85) . . .  | 3 Tues. . . | 7 1 39                        | 16 Mar. (75) . . .                                                                  | 0 Sat. . .  | 64-6906                              | 4332  |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 13 13 43                      | 6 Mar. (65) . . .                                                                   | 5 Thur. . . | 279-2457                             | 4333  |
| 25 Mar. (85) . . .  | 5 Thur. . . | 19 25 57                      | 24 Mar. (84) . . .                                                                  | 4 Wed. . .  | 313-9231                             | 4334  |
| 26 Mar. (85) . . .  | 0 Sat. . .  | 1 38 6                        | 13 Mar. (72) . . .                                                                  | 1 Sun. . .  | 189-6509                             | 4335  |
| 26 Mar. (85) . . .  | 1 Sun. . .  | 7 50 15                       | 2 Mar. (61) . . .                                                                   | 5 Thur. . . | 65-3733                              | 4336  |
| 26 Mar. (85) . . .  | 2 Mon. . .  | 14 2 24                       | 21 Mar. (80) . . .                                                                  | 4 Wed. . .  | 100-0562                             | 4337  |
| 25 Mar. (85) . . .  | 3 Tues. . . | 20 14 33                      | 10 Mar. (70) . . .                                                                  | 2 Mon. . .  | 314-4110                             | 4338  |
| 26 Mar. (85) . . .  | 5 Thur. . . | 2 26 42                       | 27 Feb. (53) . . .                                                                  | 6 Fri. . .  | 190-1836                             | 4339  |
| 26 Mar. (85) . . .  | 6 Fri. . .  | 8 38 51                       | 18 Mar. (77) . . .                                                                  | 5 Thur. . . | 224-8162                             | 4340  |
| 26 Mar. (85) . . .  | 0 Sat. . .  | 14 51 0                       | 7 Mar. (66) . . .                                                                   | 2 Mon. . .  | 100-5391                             | 4341  |
| 25 Mar. (85) . . .  | 1 Sun. . .  | 21 3 9                        | 25 Mar. (85) . . .                                                                  | 1 Sun. . .  | 135-2214                             | 4342  |
| 26 Mar. (85) . . .  | 3 Tues. . . | 3 15 18                       | 14 Mar. (73) . . .                                                                  | 5 Thur. . . | 10-9443                              | 4343  |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 9 27 27                       | 4 Mar. (63) . . .                                                                   | 3 Tues. . . | 225-2991                             | 4344  |
| 26 Mar. (85) . . .  | 5 Thur. . . | 15 39 36                      | 23 Mar. (82) . . .                                                                  | 2 Mon. . .  | 259-9615                             | 4345  |

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |          |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māhādī solar year in<br>Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                           |
|                  |       |                    |                                 |         |          | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                              | 4       | 5        | 6                   | 7                   | 8a                                                        |
| 4346             | 1167  | 1302               | 651                             | 419-20  | *1244-45 | 38 Krōdhin .        | 42 Kilaka† .        | ...                                                       |
| 4347             | 1168  | 1303               | 652                             | 420-21  | 1245-46  | 39 Viśvāvasu .      | 44 Sādhāraṇa .      | 5 Śrāvaṇa .                                               |
| 4348             | 1169  | 1304               | 653                             | 421-22  | 1246-47  | 40 Parābhava .      | 45 Virōdhakṛit .    | ...                                                       |
| 4349             | 1170  | 1305               | 654                             | 422-23  | 1247-48  | 41 Plavaṅga .       | 46 Paridhāvin .     | ...                                                       |
| 4350             | 1171  | 1306               | 655                             | 423-24  | *1248-49 | 42 Kīlaka .         | 47 Pramādin .       | 2 Vaiśākha .                                              |
| 4351             | 1172  | 1307               | 656                             | 424-25  | 1249-50  | 43 Saumya .         | 48 Ānanda .         | ...                                                       |
| 4352             | 1173  | 1308               | 657                             | 425-26  | 1250-51  | 44 Sādhāraṇa .      | 49 Raktākṣa .       | 10 Pausa .                                                |
| 4353             | 1174  | 1309               | 658                             | 426-27  | 1251-52  | 45 Virōdhakṛit .    | 50 Ānala .          | ...                                                       |
| 4354             | 1175  | 1310               | 659                             | 427-28  | *1252-53 | 46 Paridhāvin .     | 51 Piṅgala .        | ...                                                       |
| 4355             | 1176  | 1311               | 660                             | 428-29  | 1253-54  | 47 Pramādin .       | 52 Kālayukta .      | 7 Āsvina .                                                |
| 4356             | 1177  | 1312               | 661                             | 429-30  | 1254-55  | 48 Ānanda .         | 53 Siddhārthin .    | ...                                                       |
| 4357             | 1178  | 1313               | 662                             | 430-31  | 1255-56  | 49 Raktākṣa .       | 54 Raudra .         | ...                                                       |
| 4358             | 1179  | 1314               | 663                             | 431-32  | *1256-57 | 50 Ānala .          | 55 Darmati .        | 3 Jyēṣṭha .                                               |
| 4359             | 1180  | 1315               | 664                             | 432-33  | 1257-58  | 51 Piṅgala .        | 56 Dundubhi .       | ...                                                       |
| 4360             | 1181  | 1316               | 665                             | 433-34  | 1258-59  | 52 Kālayukta .      | 57 Rudhirōdgārin .  | 12 Phālguna .                                             |
| 4361             | 1182  | 1317               | 666                             | 434-35  | 1259-60  | 53 Siddhārthin .    | 58 Raktākṣa .       | ...                                                       |
| 4362             | 1183  | 1318               | 667                             | 435-36  | *1260-61 | 54 Raudra .         | 59 Krōdhana .       | ...                                                       |
| 4363             | 1184  | 1319               | 668                             | 436-37  | 1261-62  | 55 Darmati .        | 60 Kṣaya .          | 8 Kārttika .                                              |
| 4364             | 1185  | 1320               | 669                             | 437-38  | 1262-63  | 56 Dundubhi .       | 1 Prabhava .        | ...                                                       |
| 4365             | 1186  | 1321               | 670                             | 438-39  | 1263-64  | 57 Rudhirōdgārin .  | 2 Vibhava .         | ...                                                       |
| 4366             | 1187  | 1322               | 671                             | 439-40  | *1264-65 | 58 Raktākṣa .       | 3 Śukla .           | 5 Śrāvaṇa .                                               |
| 4367             | 1188  | 1323               | 672                             | 440-41  | 1265-66  | 59 Krōdhana .       | 4 Pramōda .         | ...                                                       |
| 4368             | 1189  | 1324               | 673                             | 441-42  | 1266-67  | 60 Kṣaya .          | 5 Prajāpati .       | ...                                                       |
| 4369             | 1190  | 1325               | 674                             | 442-43  | 1267-68  | 1 Prabhava .        | 6 Āṅgiras .         | 1 Chaitra .                                               |
| 4370             | 1191  | 1326               | 675                             | 443-44  | *1268-69 | 2 Vibhava .         | 7 Śrīmukha .        | ...                                                       |

† 43 Saumya was suppressed in the north by the mean system. By the "true" system K.Y. 4346 (expired), A.D. 1245-46, was called "Saumya," 44 Sādhāraṇa being suppressed. The next year was 45 Virōdhakṛit by both systems of reckoning.

XC--contd.

| COMMENCEMENT OF THE |           |                               |                                                                                     |           |                                               |       |
|---------------------|-----------|-------------------------------|-------------------------------------------------------------------------------------|-----------|-----------------------------------------------|-------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |           |                                               | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sankrānti. | Day and month, A.D.                                                                 | Week-day. | a (here = t, the index of the <i>tithi</i> ). |       |
| 13                  | 14        | 17                            | 19                                                                                  | 20        | 23                                            | 1     |
|                     |           | H. M. S.                      |                                                                                     |           |                                               |       |
| 25 Mar. (85) . .    | 6 Fri. .  | 21 51 45                      | 11 Mar. (71) . .                                                                    | 6 Fri. .  | 135-7043                                      | 4346  |
| 26 Mar. (85) . .    | 1 Sun. .  | 4 3 54                        | 28 Feb. (59) . .                                                                    | 3 Tues. . | 11-4272                                       | 4347  |
| 28 Mar. (85) . .    | 2 Mon. .  | 10 16 3                       | 19 Mar. (78) . .                                                                    | 2 Mon. .  | 45-1096                                       | 4348  |
| 28 Mar. (85) . .    | 3 Tues. . | 16 28 12                      | 9 Mar. (68) . .                                                                     | 0 Sat. .  | 250-4644                                      | 4349  |
| 25 Mar. (85) . .    | 4 Wed. .  | 22 40 21                      | 26 Feb. (57) . .                                                                    | 4 Wed. .  | 136-1872                                      | 4350  |
| 26 Mar. (85) . .    | 6 Fri. .  | 4 52 30                       | 16 Mar. (75) . .                                                                    | 3 Tues. . | 170-5696                                      | 4351  |
| 26 Mar. (85) . .    | 0 Sat. .  | 11 4 39                       | 5 Mar. (64) . .                                                                     | 0 Sat. .  | 46-5925                                       | 4352  |
| 26 Mar. (85) . .    | 1 Sun. .  | 17 16 48                      | 24 Mar. (83) . .                                                                    | 6 Fri. .  | 81-2748                                       | 4353  |
| 25 Mar. (85) . .    | 2 Mon. .  | 23 28 57                      | 13 Mar. (73) . .                                                                    | 4 Wed. .  | 295-3297                                      | 4354  |
| 26 Mar. (85) . .    | 4 Wed. .  | 5 41 6                        | 2 Mar. (61) . .                                                                     | 1 Sun. .  | 171-3526                                      | 4355  |
| 26 Mar. (85) . .    | 6 Thur. . | 11 53 15                      | 21 Mar. (80) . .                                                                    | 0 Sat. .  | 206-0349                                      | 4356  |
| 26 Mar. (85) . .    | 6 Fri. .  | 18 6 24                       | 10 Mar. (89) . .                                                                    | 4 Wed. .  | 81-7577                                       | 4357  |
| 26 Mar. (86) . .    | 1 Sun. .  | 0 17 38                       | 28 Feb. (59) . .                                                                    | 2 Mon. .  | 296-1128                                      | 4358  |
| 26 Mar. (85) . .    | 2 Mon. .  | 6 29 42                       | 18 Mar. (77) . .                                                                    | 1 Sun. .  | 330-7950                                      | 4359  |
| 26 Mar. (85) . .    | 3 Tues. . | 12 41 51                      | 7 Mar. (66) . .                                                                     | 5 Thur. . | 206-5178                                      | 4360  |
| 26 Mar. (85) . .    | 4 Wed. .  | 18 54 0                       | 26 Mar. (85) . .                                                                    | 4 Wed. .  | 241-2002                                      | 4361  |
| 26 Mar. (86) . .    | 6 Fri. .  | 1 6 9                         | 14 Mar. (74) . .                                                                    | 1 Sun. .  | 116-9231                                      | 4362  |
| 26 Mar. (85) . .    | 0 Sat. .  | 7 18 18                       | 4 Mar. (63) . .                                                                     | 6 Fri. .  | 331-2778                                      | 4363  |
| 26 Mar. (85) . .    | 1 Sun. .  | 13 30 27                      | 22 Mar. (81) . .                                                                    | 4 Wed. .  | 27-3283                                       | 4364  |
| 26 Mar. (85) . .    | 2 Mon. .  | 19 42 36                      | 12 Mar. (71) . .                                                                    | 2 Mon. .  | 241-6831                                      | 4365  |
| 26 Mar. (86) . .    | 4 Wed. .  | 1 54 45                       | 29 Feb. (60) . .                                                                    | 6 Fri. .  | 117-4060                                      | 4366  |
| 26 Mar. (85) . .    | 5 Thur. . | 8 6 54                        | 19 Mar. (78) . .                                                                    | 5 Thur. . | 152-0883                                      | 4367  |
| 26 Mar. (85) . .    | 6 Fri. .  | 14 19 3                       | 8 Mar. (67) . .                                                                     | 2 Mon. .  | 27-8112                                       | 4368  |
| 26 Mar. (86) . .    | 0 Sat. .  | 20 31 12                      | 26 Feb. (57) . .                                                                    | 0 Sat. .  | 242-1660                                      | 4369  |
| 26 Mar. (86) . .    | 2 Mon. .  | 2 43 21                       | 16 Mar. (76) . .                                                                    | 6 Fri. .  | 276-8483                                      | 4370  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mābhadi solar year in<br>Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                           |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                                        |
| 4371             | 1192  | 1327               | 676                              | 444-45  | 1269-70  | 8 Śukla . .         | 8 Bhāva . .         | 10 Pauṣa . .                                              |
| 4372             | 1193  | 1328               | 677                              | 445-48  | 1270-71  | 4 Pramōda . .       | 9 Yuvan . .         | ...                                                       |
| 4373             | 1194  | 1329               | 678                              | 446-47  | 1271-72  | 6 Prajāpati . .     | 10 Dhātṛi . .       | ...                                                       |
| 4374             | 1195  | 1330               | 679                              | 447-48  | *1272-73 | 6 Angiras . .       | 11 Īśvara . .       | 7 Āśvina . .                                              |
| 4375             | 1196  | 1331               | 680                              | 448-49  | 1273-74  | 7 Śrīmukha . .      | 12 Bahudhānya . .   | ...                                                       |
| 4376             | 1197  | 1332               | 681                              | 449-50  | 1274-75  | 8 Bhāva . .         | 13 Pramāthin . .    | ...                                                       |
| 4377             | 1198  | 1333               | 682                              | 450-51  | 1275-76  | 9 Yuvan . .         | 14 Vikrama . .      | 3 Jyēṣṭha . .                                             |
| 4378             | 1199  | 1334               | 683                              | 451-52  | *1276-77 | 10 Dhātṛi . .       | 15 Vṛiṣa . .        | ...                                                       |
| 4379             | 1200  | 1335               | 684                              | 452-53  | 1277-78  | 11 Īśvara . .       | 16 Chitrabhānu . .  | 12 Phālguna . .                                           |
| 4380             | 1201  | 1336               | 685                              | 453-54  | 1278-79  | 12 Bahudhānya . .   | 17 Subhānu . .      | ...                                                       |
| 4381             | 1202  | 1337               | 686                              | 454-55  | 1279-80  | 13 Pramāthin . .    | 18 Tārana . .       | ...                                                       |
| 4382             | 1203  | 1338               | 687                              | 455-56  | *1280-81 | 14 Vikrama . .      | 19 Pārthiva . .     | 8 Kārttika . .                                            |
| 4383             | 1204  | 1339               | 688                              | 456-57  | 1281-82  | 15 Vṛiṣa . .        | 20 Vyaya . .        | ...                                                       |
| 4384             | 1205  | 1340               | 689                              | 457-58  | 1282-83  | 16 Chitrabhānu . .  | 21 Sarvajit . .     | ...                                                       |
| 4385             | 1206  | 1341               | 690                              | 458-59  | 1283-84  | 17 Subhānu . .      | 22 Sarvadhārin . .  | 5 Śrāvana . .                                             |
| 4386             | 1207  | 1342               | 691                              | 459-60  | *1284-85 | 18 Tārana . .       | 23 Virōdhin . .     | ...                                                       |
| 4387             | 1208  | 1343               | 692                              | 460-61  | 1285-86  | 19 Pārthiva . .     | 24 Vikṛita . .      | ...                                                       |
| 4388             | 1209  | 1344               | 693                              | 461-62  | 1286-87  | 20 Vyaya . .        | 25 Khara . .        | 1 Chaitra . .                                             |
| 4389             | 1210  | 1345               | 694                              | 462-63  | 1287-88  | 21 Sarvajit . .     | 26 Nandana . .      | ...                                                       |
| 4390             | 1211  | 1346               | 695                              | 463-64  | *1288-89 | 22 Sarvadhārin . .  | 27 Vijaya . .       | 10 Pauṣa . .                                              |
| 4391             | 1212  | 1347               | 696                              | 464-65  | 1289-90  | 23 Virōdhin . .     | 28 Jaya . .         | ...                                                       |
| 4392             | 1213  | 1348               | 697                              | 465-66  | 1290-91  | 24 Vikṛita . .      | 29 Maṃmatha . .     | ...                                                       |
| 4393             | 1214  | 1349               | 698                              | 466-67  | 1291-92  | 25 Khara . .        | 30 Duramukha . .    | 6 Bhādrapada . .                                          |
| 4394             | 1215  | 1350               | 699                              | 467-68  | *1292-93 | 26 Nandana . .      | 31 Hēmalamba . .    | ...                                                       |
| 4395             | 1216  | 1351               | 700                              | 468-69  | 1293-94  | 27 Vijaya . .       | 32 Vilamba . .      | ...                                                       |

XC—*contd.*

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                       |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                       | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-sankrānti. | Day and month, A.D.                                                                 | Week-day.   | a (here = t, the index of the tithi). |       |
| 18                  | 14          | 17                            | 19                                                                                  | 20          | 23                                    | 1     |
|                     |             | H. M. S.                      |                                                                                     |             |                                       |       |
| 26 Mar. (85) . . .  | 3 Tues. . . | 8 55 30                       | 5 Mar. (84) . . .                                                                   | 3 Tues. . . | 152-5712                              | 4271  |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 15 7 39                       | 24 Mar. (83) . . .                                                                  | 2 Mon. . .  | 187-2586                              | 4272  |
| 26 Mar. (85) . . .  | 5 Thur. . . | 21 19 49                      | 18 Mar. (73) . . .                                                                  | 6 Fri. . .  | 62-9765                               | 4273  |
| 26 Mar. (86) . . .  | 0 Sat. . .  | 8 31 57                       | 2 Mar. (82) . . .                                                                   | 4 Wed. . .  | 277-3813                              | 4274  |
| 26 Mar. (85) . . .  | 1 Sun. . .  | 9 44 6                        | 21 Mar. (80) . . .                                                                  | 3 Tues. . . | 312-0137                              | 4275  |
| 26 Mar. (85) . . .  | 2 Mon. . .  | 15 56 15                      | 10 Mar. (69) . . .                                                                  | 0 Sat. . .  | 187-7865                              | 4276  |
| 26 Mar. (85) . . .  | 3 Tues. . . | 22 8 24                       | 27 Feb. (58) . . .                                                                  | 4 Wed. . .  | 63-4593                               | 4277  |
| 26 Mar. (86) . . .  | 5 Thur. . . | 4 20 33                       | 17 Mar. (77) . . .                                                                  | 3 Tues. . . | 98-1417                               | 4278  |
| 26 Mar. (85) . . .  | 6 Fri. . .  | 10 32 42                      | 7 Mar. (66) . . .                                                                   | 1 Sun. . .  | 312-4966                              | 4279  |
| 26 Mar. (85) . . .  | 0 Sat. . .  | 16 44 51                      | 25 Mar. (84) . . .                                                                  | 6 Fri. . .  | 8-5470                                | 4280  |
| 26 Mar. (85) . . .  | 1 Sun. . .  | 22 57 0                       | 15 Mar. (74) . . .                                                                  | 4 Wed. . .  | 232-9018                              | 4281  |
| 26 Mar. (86) . . .  | 3 Tues. . . | 5 9 9                         | 3 Mar. (83) . . .                                                                   | 1 Sun. . .  | 98-6246                               | 4282  |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 11 21 18                      | 22 Mar. (81) . . .                                                                  | 0 Sat. . .  | 133-3071                              | 4283  |
| 26 Mar. (85) . . .  | 5 Thur. . . | 17 33 27                      | 11 Mar. (70) . . .                                                                  | 4 Wed. . .  | 9-0269                                | 4284  |
| 26 Mar. (85) . . .  | 6 Fri. . .  | 23 45 36                      | 1 Mar. (60) . . .                                                                   | 2 Mon. . .  | 223-8847                              | 4285  |
| 26 Mar. (86) . . .  | 1 Sun. . .  | 5 57 45                       | 19 Mar. (79) . . .                                                                  | 1 Sun. . .  | 258-0671                              | 4286  |
| 26 Mar. (85) . . .  | 2 Mon. . .  | 12 9 54                       | 8 Mar. (67) . . .                                                                   | 5 Thur. . . | 133-7960                              | 4287  |
| 26 Mar. (85) . . .  | 3 Tues. . . | 18 22 3                       | 26 Feb. (56) . . .                                                                  | 2 Mon. . .  | 9-5127                                | 4288  |
| 27 Mar. (86) . . .  | 5 Thur. . . | 0 34 12                       | 18 Mar. (75) . . .                                                                  | 1 Sun. . .  | 44-1962                               | 4289  |
| 26 Mar. (86) . . .  | 6 Fri. . .  | 6 46 21                       | 5 Mar. (65) . . .                                                                   | 6 Fri. . .  | 258-5500                              | 4290  |
| 26 Mar. (85) . . .  | 0 Sat. . .  | 12 58 30                      | 24 Mar. (83) . . .                                                                  | 5 Thur. . . | 293-2324                              | 4291  |
| 26 Mar. (85) . . .  | 1 Sun. . .  | 19 10 39                      | 13 Mar. (72) . . .                                                                  | 2 Mon. . .  | 168-9552                              | 4292  |
| 27 Mar. (86) . . .  | 3 Tues. . . | 1 22 48                       | 2 Mar. (61) . . .                                                                   | 6 Fri. . .  | 44-6761                               | 4293  |
| 26 Mar. (86) . . .  | 4 Wed. . .  | 7 34 57                       | 20 Mar. (80) . . .                                                                  | 5 Thur. . . | 79-2305                               | 4294  |
| 26 Mar. (85) . . .  | 5 Thur. . . | 13 47 6                       | 10 Mar. (69) . . .                                                                  | 3 Tues. . . | 293-7152                              | 4295  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |           |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in<br>Bengal. | Kollam. | A.D.      | JOVIAN SAMVATSARA.  |                     |                                                           |
|                  |       |                    |                                  |         |           | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                               | 4       | 5         | 6                   | 7                   | 8a                                                        |
| 4396             | 1217  | 1352               | 701                              | 469-70  | 1294-95   | 28 Jaya .           | 38 Vikārin .        | 3 Jyēsthā .                                               |
| 4397             | 1218  | 1353               | 702                              | 470-71  | 1295-96   | 29 Maṇmatha .       | 34 Śārvarin .       | ...                                                       |
| 4398             | 1219  | 1354               | 703                              | 471-72  | *1296-97  | 30 Durmukha .       | 35 Plava .          | 11 Māgha .                                                |
| 4399             | 1220  | 1355               | 704                              | 472-73  | 1297-98   | 31 Hēmalamba .      | 36 Śubbakṛit .      | ...                                                       |
| 4400             | 1221  | 1356               | 705                              | 473-74  | 1298-99   | 32 Vilamba .        | 37 Śōbhana .        | ...                                                       |
| 4401             | 1222  | 1357               | 706                              | 474-75  | 1299-1300 | 33 Vikārin .        | 38 Krōdhin .        | 8 Kārttika .                                              |
| 4402             | 1223  | 1358               | 707                              | 475-76  | *1300-01  | 34 Śārvarin .       | 39 Viśvāvasu .      | ...                                                       |
| 4403             | 1224  | 1359               | 708                              | 476-77  | 1301-02   | 35 Plava .          | 40 Parābhava .      | ...                                                       |
| 4404             | 1225  | 1360               | 709                              | 477-78  | 1302-03   | 36 Śubbakṛit .      | 41 Plavaṅga .       | 4 Āshādhā .                                               |
| 4405             | 1226  | 1361               | 710                              | 478-79  | 1303-04   | 37 Śōbhana .        | 42 Kilaka .         | ...                                                       |
| 4406             | 1227  | 1362               | 711                              | 479-80  | *1304-05  | 38 Krōdhin .        | 43 Saumya .         | ...                                                       |
| 4407             | 1228  | 1363               | 712                              | 480-81  | 1305-06   | 39 Viśvāvasu .      | 44 Sādhārāṇa .      | 1 Chaitra .                                               |
| 4408             | 1229  | 1364               | 713                              | 481-82  | 1306-07   | 40 Parābhava .      | 45 Virōdhakṛit .    | ...                                                       |
| 4409             | 1230  | 1365               | 714                              | 482-83  | 1307-08   | 41 Plavaṅga .       | 46 Paridhāvin .     | 10 Pausa † .                                              |
| 4410             | 1231  | 1366               | 715                              | 483-84  | *1308-09  | 42 Kilaka .         | 47 Pramādin .       | ...                                                       |
| 4411             | 1232  | 1367               | 716                              | 484-85  | 1309-10   | 43 Saumya .         | 48 Ānanda .         | ...                                                       |
| 4412             | 1233  | 1368               | 717                              | 485-86  | 1310-11   | 44 Sādhārāṇa .      | 49 Rākeśasa .       | 6 Bhādrapada .                                            |
| 4413             | 1234  | 1369               | 718                              | 486-87  | 1311-12   | 45 Virōdhakṛit .    | 50 Anala .          | ...                                                       |
| 4414             | 1235  | 1370               | 719                              | 487-88  | *1312-13  | 46 Paridhāvin .     | 51 Piṅgala .        | ...                                                       |
| 4415             | 1236  | 1371               | 720                              | 488-89  | 1313-14   | 47 Pramādin .       | 52 Kālayukta .      | 3 Jyēsthā .                                               |
| 4416             | 1237  | 1372               | 721                              | 489-90  | 1314-15   | 48 Ānanda .         | 53 Siddhārthin .    | ...                                                       |
| 4417             | 1238  | 1373               | 722                              | 490-91  | 1315-16   | 49 Rākeśasa .       | 54 Raudra .         | 11 Māgha .                                                |
| 4418             | 1239  | 1374               | 723                              | 491-92  | *1316-17  | 50 Anala .          | 55 Durmati .        | ...                                                       |
| 4419             | 1240  | 1375               | 724                              | 492-93  | 1317-18   | 51 Piṅgala .        | 56 Dundubhi .       | ...                                                       |
| 4420             | 1241  | 1376               | 725                              | 493-94  | 1318-19   | 52 Kālayukta .      | 57 Rudhīrōdgārīn .  | 8 Kārttika .                                              |

† See "Remarks," p. 215, preceding this Table.

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                                         |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                                         | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | $\alpha$ (here = $t$ , the index of the <i>tithi</i> ). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                                      |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                                         |       |
| 26 Mar. (85) . . .  | 6 Fri. . .  | 19 59 15                      | 27 Feb. (58) . . .                                                                  | 0 Sat. . .  | 169-4381                                                | 4396  |
| 27 Mar. (86) . . .  | 1 Sun. . .  | 2 11 24                       | 18 Mar. (77) . . .                                                                  | 6 Fri. . .  | 204-1206                                                | 4397  |
| 26 Mar. (86) . . .  | 2 Mon. . .  | 8 23 33                       | 6 Mar. (86) . . .                                                                   | 3 Tues. . . | 79-8433                                                 | 4398  |
| 26 Mar. (85) . . .  | 3 Tues. . . | 14 35 42                      | 25 Mar. (84) . . .                                                                  | 2 Mon. . .  | 114-5257                                                | 4399  |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 20 47 51                      | 15 Mar. (74) . . .                                                                  | 0 Sat. . .  | 328-8606                                                | 4400  |
| 27 Mar. (86) . . .  | 6 Fri. . .  | 3 0 0                         | 4 Mar. (63) . . .                                                                   | 4 Wed. . .  | 204-6034                                                | 4401  |
| 26 Mar. (86) . . .  | 0 Sat. . .  | 9 12 9                        | 22 Mar. (82) . . .                                                                  | 3 Tues. . . | 239-2859                                                | 4402  |
| 26 Mar. (85) . . .  | 1 Sun. . .  | 15 24 18                      | 11 Mar. (70) . . .                                                                  | 0 Sat. . .  | 115-0087                                                | 4403  |
| 26 Mar. (85) . . .  | 2 Mon. . .  | 21 36 27                      | 1 Mar. (60) . . .                                                                   | 5 Thur. . . | 329-3635                                                | 4404  |
| 27 Mar. (86) . . .  | 4 Wed. . .  | 3 48 36                       | 19 Mar. (78) . . .                                                                  | 3 Tues. . . | 25-4139                                                 | 4405  |
| 26 Mar. (86) . . .  | 5 Thur. . . | 10 0 45                       | 8 Mar. (68) . . .                                                                   | 1 Sun. . .  | 239-7688                                                | 4406  |
| 26 Mar. (85) . . .  | 6 Fri. . .  | 16 12 54                      | 25 Feb. (56) . . .                                                                  | 5 Thur. . . | 115-4915                                                | 4407  |
| 26 Mar. (85) . . .  | 0 Sat. . .  | 22 25 3                       | 16 Mar. (75) . . .                                                                  | 4 Wed. . .  | 150-1739                                                | 4408  |
| 27 Mar. (86) . . .  | 2 Mon. . .  | 4 37 12                       | 5 Mar. (64) . . .                                                                   | 1 Sun. . .  | 25-8968                                                 | 4409  |
| 26 Mar. (86) . . .  | 3 Tues. . . | 10 49 21                      | 23 Mar. (83) . . .                                                                  | 0 Sat. . .  | 60-5791                                                 | 4410  |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 17 1 30                       | 13 Mar. (72) . . .                                                                  | 5 Thur. . . | 274-9340                                                | 4411  |
| 26 Mar. (85) . . .  | 5 Thur. . . | 23 13 39                      | 2 Mar. (61) . . .                                                                   | 2 Mon. . .  | 150-6569                                                | 4412  |
| 27 Mar. (86) . . .  | 0 Sat. . .  | 5 25 48                       | 21 Mar. (80) . . .                                                                  | 1 Sun. . .  | 185-3393                                                | 4413  |
| 26 Mar. (86) . . .  | 1 Sun. . .  | 11 37 57                      | 9 Mar. (69) . . .                                                                   | 5 Thur. . . | 61-0621                                                 | 4414  |
| 26 Mar. (85) . . .  | 2 Mon. . .  | 17 50 6                       | 27 Feb. (58) . . .                                                                  | 3 Tues. . . | 275-4169                                                | 4415  |
| 27 Mar. (86) . . .  | 4 Wed. . .  | 0 2 15                        | 18 Mar. (77) . . .                                                                  | 2 Mon. . .  | 310-0998                                                | 4416  |
| 27 Mar. (86) . . .  | 5 Thur. . . | 6 14 24                       | 7 Mar. (66) . . .                                                                   | 6 Fri. . .  | 185-6221                                                | 4417  |
| 26 Mar. (86) . . .  | 6 Fri. . .  | 12 26 33                      | 25 Mar. (85) . . .                                                                  | 5 Thur. . . | 220-5045                                                | 4418  |
| 26 Mar. (85) . . .  | 0 Sat. . .  | 18 38 42                      | 14 Mar. (73) . . .                                                                  | 2 Mon. . .  | 96-2274                                                 | 4419  |
| 27 Mar. (86) . . .  | 2 Mon. . .  | 0 50 51                       | 4 Mar. (63) . . .                                                                   | 0 Sat. . .  | 310-5822                                                | 4420  |



TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |          |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Saka. | Chaitrādi Vikrama. | Māhādi solar year in<br>Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                           |
|                  |       |                    |                                 |         |          | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3*                              | 4       | 5        | 6                   | 7                   | 8a                                                        |
| 4421             | 1242  | 1877               | 726                             | 494-95  | 1819-20  | 58 Siddhārthin      | 58 Raktāksha        | ...                                                       |
| 4422             | 1243  | 1878               | 727                             | 495-96  | *1820-21 | 54 Randra           | 59 Krōdhana         | ...                                                       |
| 4423             | 1244  | 1879               | 728                             | 496-97  | 1821-22  | 55 Durmati          | 60 Kahaya           | 4 Āshāḍha                                                 |
| 4424             | 1245  | 1880               | 729                             | 497-98  | 1822-23  | 56 Dundabhi         | 1 Prabhava          | ...                                                       |
| 4425             | 1246  | 1881               | 730                             | 498-99  | 1823-24  | 57 Eudhirōdgārin    | 2 Vibhava           | ...                                                       |
| 4426             | 1247  | 1882               | 731                             | 499-500 | *1824-25 | 58 Raktāksha        | 3 Śukla             | 1 Chaitra                                                 |
| 4427             | 1248  | 1883               | 732                             | 500-01  | 1825-26  | 59 Krōdhana         | 4 Pramōda           | ...                                                       |
| 4428             | 1249  | 1884               | 733                             | 501-02  | 1826-27  | 60 Kahaya           | 5 Prajāpati         | 9 Mārgaśīra                                               |
| 4429             | 1250  | 1885               | 734                             | 502-03  | 1827-28  | 1 Prabhava          | 6 Āngiras           | ...                                                       |
| 4430             | 1251  | 1886               | 735                             | 503-04  | *1828-29 | 2 Vibhava           | 7 Śrīmukha          | ...                                                       |
| 4431             | 1252  | 1887               | 736                             | 504-05  | 1829-30  | 3 Śukla             | 8 Bhāva†            | 6 Bhādrapada                                              |
| 4432             | 1253  | 1888               | 737                             | 505-06  | 1830-31  | 4 Pramōda           | 10 Dhātṛi           | ...                                                       |
| 4433             | 1254  | 1889               | 738                             | 506-07  | 1831-32  | 5 Prajāpati         | 11 Īvara            | ...                                                       |
| 4434             | 1255  | 1890               | 739                             | 507-08  | *1832-33 | 6 Āngiras           | 12 Bahudhānya       | 2 Vaiśākha                                                |
| 4435             | 1256  | 1891               | 740                             | 508-09  | 1833-34  | 7 Srimukha          | 13 Pramāthin        | ...                                                       |
| 4436             | 1257  | 1892               | 741                             | 509-10  | 1834-35  | 8 Bhāva             | 14 Vikrama          | 11 Māgha                                                  |
| 4437             | 1258  | 1893               | 742                             | 510-11  | 1835-36  | 9 Yuvan             | 15 Vṛiṣha           | ...                                                       |
| 4438             | 1259  | 1894               | 743                             | 511-12  | *1836-37 | 10 Dhātṛi           | 16 Chitrabhānu      | ...                                                       |
| 4439             | 1260  | 1895               | 744                             | 512-13  | 1837-38  | 11 Īvara            | 17 Subhānu          | 7 Āśvina                                                  |
| 4440             | 1261  | 1896               | 745                             | 513-14  | 1838-39  | 12 Bahudhānya       | 18 Tārana           | ...                                                       |
| 4441             | 1262  | 1897               | 746                             | 514-15  | 1839-40  | 13 Pramāthin        | 19 Pārthiva         | ...                                                       |
| 4442             | 1263  | 1898               | 747                             | 515-16  | *1840-41 | 14 Vikrama          | 20 Vyaya            | 4 Āshāḍha                                                 |
| 4443             | 1264  | 1899               | 748                             | 516-17  | 1841-42  | 15 Vṛiṣha           | 21 Sarvajit         | ...                                                       |
| 4444             | 1265  | 1400               | 749                             | 517-18  | 1842-43  | 16 Chitrabhānu      | 22 Sarvadhārin      | 12 Phālguna                                               |
| 4445             | 1266  | 1401               | 750                             | 518-19  | 1843-44  | 17 Subhānu          | 23 Virōdhin         | ...                                                       |

† 2 Yuvan was suppressed in the north by the mean system. By the "true" system K.Y. 4431 (expired), A.D. 1830-31, was called "Yuvan," and 10 Dhātṛi was suppressed. The next year was 11 Īvara by both systems.

XC—contd.

| COMMENCEMENT OF THE |             |                               |                                                                                     |             |                                       |       |
|---------------------|-------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |             |                                       | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Mēsha-samkrānti. | Day and month, A.U.                                                                 | Week-day.   | a (here = t, the index of the tithi). |       |
| 13                  | 14          | 17                            | 19                                                                                  | 20          | 23                                    |       |
|                     |             | H. M. S.                      |                                                                                     |             |                                       |       |
| 27 Mar. (86) . . .  | 3 Tues. . . | 7 9 0                         | 22 Mar. (81) . . .                                                                  | 5 Thur. . . | 6-6326                                | 4421  |
| 26 Mar. (86) . . .  | 4 Wed. . .  | 13 15 9                       | 11 Mar. (71) . . .                                                                  | 3 Tues. . . | 220-9674                              | 4422  |
| 26 Mar. (85) . . .  | 5 Thur. . . | 19 27 18                      | 28 Feb. (59) . . .                                                                  | 0 Sat. . .  | 96-7103                               | 4423  |
| 27 Mar. (86) . . .  | 0 Sat. . .  | 1 39 27                       | 19 Mar. (78) . . .                                                                  | 6 Fri. . .  | 131-3926                              | 4424  |
| 27 Mar. (86) . . .  | 1 Sun. . .  | 7 51 36                       | 8 Mar. (67) . . .                                                                   | 3 Tues. . . | 7-1155                                | 4425  |
| 26 Mar. (86) . . .  | 2 Mon. . .  | 14 3 45                       | 26 Feb. (57) . . .                                                                  | 1 Sun. . .  | 221-4703                              | 4426  |
| 26 Mar. (85) . . .  | 3 Tues. . . | 20 15 54                      | 16 Mar. (75) . . .                                                                  | 0 Sat. . .  | 256-1527                              | 4427  |
| 27 Mar. (86) . . .  | 5 Thur. . . | 2 28 9                        | 5 Mar. (64) . . .                                                                   | 4 Wed. . .  | 131-8755                              | 4428  |
| 27 Mar. (86) . . .  | 6 Fri. . .  | 8 40 12                       | 24 Mar. (83) . . .                                                                  | 3 Tues. . . | 166-5579                              | 4429  |
| 26 Mar. (86) . . .  | 0 Sat. . .  | 14 52 21                      | 12 Mar. (72) . . .                                                                  | 0 Sat. . .  | 42-2808                               | 4430  |
| 26 Mar. (85) . . .  | 1 Sun. . .  | 21 4 30                       | 2 Mar. (61) . . .                                                                   | 5 Thur. . . | 256-6356                              | 4431  |
| 27 Mar. (86) . . .  | 3 Tues. . . | 8 16 39                       | 21 Mar. (80) . . .                                                                  | 4 Wed. . .  | 291-4180                              | 4432  |
| 27 Mar. (86) . . .  | 4 Wed. . .  | 9 28 48                       | 10 Mar. (69) . . .                                                                  | 1 Sun. . .  | 167-0409                              | 4433  |
| 26 Mar. (86) . . .  | 5 Thur. . . | 15 40 57                      | 27 Feb. (58) . . .                                                                  | 5 Thur. . . | 42-7637                               | 4434  |
| 26 Mar. (85) . . .  | 6 Fri. . .  | 21 53 6                       | 17 Mar. (76) . . .                                                                  | 4 Wed. . .  | 77-4480                               | 4435  |
| 27 Mar. (86) . . .  | 1 Sun. . .  | 4 5 15                        | 7 Mar. (86) . . .                                                                   | 2 Mon. . .  | 291-8009                              | 4436  |
| 27 Mar. (86) . . .  | 2 Mon. . .  | 10 17 24                      | 25 Mar. (85) . . .                                                                  | 1 Sun. . .  | 326-4833                              | 4437  |
| 26 Mar. (86) . . .  | 3 Tues. . . | 16 29 33                      | 14 Mar. (74) . . .                                                                  | 5 Thur. . . | 202-2062                              | 4438  |
| 26 Mar. (85) . . .  | 4 Wed. . .  | 22 41 42                      | 3 Mar. (62) . . .                                                                   | 2 Mon. . .  | 77-9289                               | 4439  |
| 27 Mar. (86) . . .  | 6 Fri. . .  | 4 53 51                       | 22 Mar. (81) . . .                                                                  | 1 Sun. . .  | 112-6114                              | 4440  |
| 27 Mar. (86) . . .  | 0 Sat. . .  | 11 6 0                        | 12 Mar. (71) . . .                                                                  | 6 Fri. . .  | 326-9662                              | 4441  |
| 26 Mar. (86) . . .  | 1 Sun. . .  | 17 18 9                       | 29 Feb. (60) . . .                                                                  | 3 Tues. . . | 202-6890                              | 4442  |
| 26 Mar. (85) . . .  | 2 Mon. . .  | 23 30 18                      | 19 Mar. (78) . . .                                                                  | 2 Mon. . .  | 237-3714                              | 4443  |
| 27 Mar. (86) . . .  | 4 Wed. . .  | 5 42 27                       | 8 Mar. (67) . . .                                                                   | 6 Fri. . .  | 113-0943                              | 4444  |
| 27 Mar. (86) . . .  | 5 Thur. . . | 11 54 36                      | 27 Mar. (86) . . .                                                                  | 5 Thur. . . | 147-7767                              | 4445  |

TABLE

| CONCURRENT YEAR. |       |                  |                                 |         |          |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|------------------|---------------------------------|---------|----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vīrma. | Mōhādī solar year in<br>Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                           |
|                  |       |                  |                                 |         |          | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                | 3a                              | 4       | 5        | 6                   | 7                   | 8a                                                        |
| 4446             | 1267  | 1402             | 751                             | 519-20  | *1344-45 | 18 Tārana .         | 24 Vikṛita .        | ...                                                       |
| 4447             | 1268  | 1403             | 752                             | 520-21  | 1345-46  | 19 Pārthiva .       | 25 Khara .          | 9 Mārgaśīra .                                             |
| 4448             | 1269  | 1404             | 753                             | 521-22  | 1346-47  | 20 Vyaya .          | 26 Nandana .        | ...                                                       |
| 4449             | 1270  | 1405             | 754                             | 522-23  | 1347-48  | 21 Sarvajit .       | 27 Vijaya .         | ...                                                       |
| 4450             | 1271  | 1406             | 755                             | 523-24  | *1348-49 | 22 Sarvadhārin .    | 28 Jaya .           | 6 Bhādrapada .                                            |
| 4451             | 1272  | 1407             | 756                             | 524-25  | 1349-50  | 23 Virōdhin .       | 29 Manmatha .       | ...                                                       |
| 4452             | 1273  | 1408             | 757                             | 525-26  | 1350-51  | 24 Vikṛita .        | 30 Durmukha .       | ...                                                       |
| 4453             | 1274  | 1409             | 758                             | 526-27  | 1351-52  | 25 Khara .          | 31 Hēmalamba .      | 2 Vaiśākha .                                              |
| 4454             | 1275  | 1410             | 759                             | 527-28  | *1352-53 | 26 Nandana .        | 32 Vilamba .        | ...                                                       |
| 4455             | 1276  | 1411             | 760                             | 528-29  | 1353-54  | 27 Vijaya .         | 33 Vikārin .        | 11 Māgha .                                                |
| 4456             | 1277  | 1412             | 761                             | 529-30  | 1354-55  | 28 Jaya .           | 34 Śārvarin .       | ...                                                       |
| 4457             | 1278  | 1413             | 762                             | 530-31  | 1355-56  | 29 Manmatha .       | 35 Plava .          | ...                                                       |
| 4458             | 1279  | 1414             | 763                             | 531-32  | *1356-57 | 30 Durmukha .       | 36 Śubbakṛit .      | 7 Āśvina .                                                |
| 4459             | 1280  | 1415             | 764                             | 532-33  | 1357-58  | 31 Hēmalamba .      | 37 Śōbhana .        | ...                                                       |
| 4460             | 1281  | 1416             | 765                             | 533-34  | 1358-59  | 32 Vilamba .        | 38 Krōdhin .        | ...                                                       |
| 4461             | 1282  | 1417             | 766                             | 534-35  | 1359-60  | 33 Vikārin .        | 39 Viśvāvasu .      | 4 Āshāḍha .                                               |
| 4462             | 1283  | 1418             | 767                             | 535-36  | *1360-61 | 34 Śārvarin .       | 40 Parābhava .      | ...                                                       |
| 4463             | 1284  | 1419             | 768                             | 536-37  | 1361-62  | 35 Plava .          | 41 Plavaṅga .       | 12 Phālguna .                                             |
| 4464             | 1285  | 1420             | 769                             | 537-38  | 1362-63  | 36 Śubbakṛit .      | 42 Kilaka .         | ...                                                       |
| 4465             | 1286  | 1421             | 770                             | 538-39  | 1363-64  | 37 Śōbhana .        | 43 Saunya .         | ...                                                       |
| 4466             | 1287  | 1422             | 771                             | 539-40  | *1364-65 | 38 Krōdhin .        | 44 Sādhāraṇa .      | 9 Mārgaśīra .                                             |
| 4467             | 1288  | 1423             | 772                             | 540-41  | 1365-66  | 39 Viśvāvasu .      | 45 Virōdhakṛit .    | ...                                                       |
| 4468             | 1289  | 1424             | 773                             | 541-42  | 1366-67  | 40 Parābhava .      | 46 Paridhāvin .     | ...                                                       |
| 4469             | 1290  | 1425             | 774                             | 542-43  | 1367-68  | 41 Plavaṅga .       | 47 Pramādin .       | 5 Śrāvaṇa .                                               |
| 4470             | 1291  | 1426             | 775                             | 543-44  | *1368-69 | 42 Kilaka .         | 48 Ānanda .         | ...                                                       |

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| COMMENCEMENT OF THE |             |                              |                                                                                     |             |                                                   |       |
|---------------------|-------------|------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |             |                              | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                                   | Kali. |
| Day and month, A.D. | Week-day.   | Time of mean Māha-samkrānti. | Day and month, A.D.                                                                 | Week-day.   | $\alpha$ (here = $t$ , the index of the $tifā$ ). |       |
| 13                  | 14          | 17                           | 19                                                                                  | 20          | 23                                                |       |
|                     |             | H. M. S.                     |                                                                                     |             |                                                   |       |
| 26 Mar. (86) . . .  | 6 Fri. . .  | 18 6 45                      | 15 Mar. (75) . . .                                                                  | 2 Mon. . .  | 23-4995                                           | 4446  |
| 27 Mar. (86) . . .  | 1 Sun. . .  | 0 18 54                      | 5 Mar. (64) . . .                                                                   | 0 Sat. . .  | 237-8543                                          | 4447  |
| 27 Mar. (86) . . .  | 2 Mon. . .  | 6 31 3                       | 24 Mar. (83) . . .                                                                  | 6 Fri. . .  | 272-5367                                          | 4448  |
| 27 Mar. (86) . . .  | 3 Tues. . . | 12 43 12                     | 18 Mar. (72) . . .                                                                  | 3 Tues. . . | 148-2595                                          | 4449  |
| 26 Mar. (86) . . .  | 4 Wed. . .  | 18 55 21                     | 1 Mar. (61) . . .                                                                   | 0 Sat. . .  | 23-9824                                           | 4450  |
| 27 Mar. (86) . . .  | 6 Fri. . .  | 1 7 30                       | 20 Mar. (79) . . .                                                                  | 6 Fri. . .  | 58-6648                                           | 4451  |
| 27 Mar. (86) . . .  | 0 Sat. . .  | 7 19 39                      | 10 Mar. (69) . . .                                                                  | 4 Wed. . .  | 273-0197                                          | 4452  |
| 27 Mar. (86) . . .  | 1 Sun. . .  | 13 31 48                     | 27 Feb. (58) . . .                                                                  | 1 Sun. . .  | 148-7424                                          | 4453  |
| 26 Mar. (86) . . .  | 2 Mon. . .  | 19 43 57                     | 17 Mar. (77) . . .                                                                  | 0 Sat. . .  | 183-4248                                          | 4454  |
| 27 Mar. (86) . . .  | 4 Wed. . .  | 1 56 6                       | 6 Mar. (85) . . .                                                                   | 4 Wed. . .  | 59-1477                                           | 4455  |
| 27 Mar. (86) . . .  | 5 Thur. . . | 8 8 15                       | 25 Mar. (84) . . .                                                                  | 3 Tues. . . | 93-8300                                           | 4456  |
| 27 Mar. (86) . . .  | 6 Fri. . .  | 14 20 24                     | 15 Mar. (74) . . .                                                                  | 1 Sun. . .  | 308-1849                                          | 4457  |
| 26 Mar. (86) . . .  | 0 Sat. . .  | 20 32 33                     | 3 Mar. (63) . . .                                                                   | 5 Thur. . . | 188-9077                                          | 4458  |
| 27 Mar. (86) . . .  | 2 Mon. . .  | 2 44 42                      | 22 Mar. (81) . . .                                                                  | 4 Wed. . .  | 218-5902                                          | 4459  |
| 27 Mar. (86) . . .  | 3 Tues. . . | 8 56 51                      | 11 Mar. (70) . . .                                                                  | 1 Sun. . .  | 94-3129                                           | 4460  |
| 27 Mar. (86) . . .  | 4 Wed. . .  | 15 9 0                       | 1 Mar. (60) . . .                                                                   | 6 Fri. . .  | 808-6678                                          | 4461  |
| 26 Mar. (86) . . .  | 5 Thur. . . | 21 21 9                      | 18 Mar. (78) . . .                                                                  | 4 Wed. . .  | 4-7182                                            | 4462  |
| 27 Mar. (86) . . .  | 0 Sat. . .  | 3 33 18                      | 8 Mar. (67) . . .                                                                   | 2 Mon. . .  | 219-0730                                          | 4463  |
| 27 Mar. (86) . . .  | 1 Sun. . .  | 9 45 27                      | 27 Mar. (86) . . .                                                                  | 1 Sun. . .  | 253-7554                                          | 4464  |
| 27 Mar. (86) . . .  | 2 Mon. . .  | 15 57 36                     | 16 Mar. (75) . . .                                                                  | 5 Thur. . . | 129-4783                                          | 4465  |
| 26 Mar. (86) . . .  | 3 Tues. . . | 22 9 45                      | 4 Mar. (64) . . .                                                                   | 2 Mon. . .  | 5-2011                                            | 4466  |
| 27 Mar. (86) . . .  | 5 Thur. . . | 4 21 54                      | 23 Mar. (82) . . .                                                                  | 1 Sun. . .  | 39-8835                                           | 4467  |
| 27 Mar. (86) . . .  | 6 Fri. . .  | 10 34 3                      | 13 Mar. (72) . . .                                                                  | 6 Fri. . .  | 254-2383                                          | 4468  |
| 27 Mar. (86) . . .  | 0 Sat. . .  | 16 46 12                     | 2 Mar. (61) . . .                                                                   | 3 Tues. . . | 129-9612                                          | 4469  |
| 26 Mar. (86) . . .  | 1 Sun. . .  | 22 58 21                     | 20 Mar. (80) . . .                                                                  | 2 Mon. . .  | 164-6435                                          | 4470  |

TABLE

| CONCURRENT YEAR. |       |                    |                                  |         |          |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in<br>Bengal. | Kollam. | A.D.     | JOVIAN SAMVATSARA.  |                     |                                                           |
|                  |       |                    |                                  |         |          | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                               | 4       | 5        | 6                   | 7                   | 8a                                                        |
| 4471             | 1292  | 1427               | 776                              | 544-45  | 1869-70  | 43 Saumya .         | 49 Rākshasa .       | ...                                                       |
| 4472             | 1293  | 1428               | 777                              | 545-46  | 1870-71  | 44 Sādhārāṇa        | 50 Anala .          | 2 Vaiśākha                                                |
| 4473             | 1294  | 1429               | 778                              | 546-47  | 1871-72  | 45 Virōdhakṛit .    | 51 Piṅgala .        | ...                                                       |
| 4474             | 1295  | 1430               | 779                              | 547-48  | *1872-73 | 46 Paridhāvin .     | 52 Kālayukta .      | 10 Pausa                                                  |
| 4475             | 1296  | 1431               | 780                              | 548-49  | 1873-74  | 47 Pramādin .       | 53 Siddhārthin .    | ...                                                       |
| 4476             | 1297  | 1432               | 781                              | 549-50  | 1874-75  | 48 Ānanda .         | 54 Randra .         | ...                                                       |
| 4477             | 1298  | 1433               | 782                              | 550-51  | 1875-76  | 49 Rākshasa .       | 55 Durmati .        | 7 Āśvina                                                  |
| 4478             | 1299  | 1434               | 783                              | 551-52  | *1876-77 | 50 Anala .          | 56 Dundubhi .       | ...                                                       |
| 4479             | 1300  | 1435               | 784                              | 552-53  | 1877-78  | 51 Piṅgala .        | 57 Rudhirōdgārin .  | ...                                                       |
| 4480             | 1301  | 1436               | 785                              | 553-54  | 1878-79  | 52 Kālayukta .      | 58 Raktāksha .      | 3 Jyēṣṭha                                                 |
| 4481             | 1302  | 1437               | 786                              | 554-55  | 1879-80  | 53 Siddhārthin .    | 59 Krōdhana .       | ...                                                       |
| 4482             | 1303  | 1438               | 787                              | 555-56  | *1880-81 | 54 Randra .         | 60 Keshava .        | 12 Phālguna                                               |
| 4483             | 1304  | 1439               | 788                              | 556-57  | 1881-82  | 55 Durmati .        | 1 Prabhava .        | ...                                                       |
| 4484             | 1305  | 1440               | 789                              | 557-58  | 1882-83  | 56 Dundubhi .       | 2 Vibhava .         | ...                                                       |
| 4485             | 1306  | 1441               | 790                              | 558-59  | 1883-84  | 57 Rudhirōdgārin .  | 3 Śukla .           | 9 Mārgaśīra                                               |
| 4486             | 1307  | 1442               | 791                              | 559-60  | *1884-85 | 58 Raktāksha .      | 4 Pramōda .         | ...                                                       |
| 4487             | 1308  | 1443               | 792                              | 560-61  | 1885-86  | 59 Krōdhana .       | 5 Prajāpati .       | ...                                                       |
| 4488             | 1309  | 1444               | 793                              | 561-62  | 1886-87  | 60 Keshava .        | 6 Āngirasa .        | 5 Śrāvaṇa                                                 |
| 4489             | 1310  | 1445               | 794                              | 562-63  | 1887-88  | 1 Prabhava .        | 7 Śrīmukha .        | ...                                                       |
| 4490             | 1311  | 1446               | 795                              | 563-64  | *1888-89 | 2 Vibhava .         | 8 Bhāva .           | ...                                                       |
| 4491             | 1312  | 1447               | 796                              | 564-65  | 1889-90  | 3 Śukla .           | 9 Yuvan .           | 2 Vaiśākha                                                |
| 4492             | 1313  | 1448               | 797                              | 565-66  | 1890-91  | 4 Pramōda .         | 10 Dhātṛi .         | ...                                                       |
| 4493             | 1314  | 1449               | 798                              | 566-67  | 1891-92  | 5 Prajāpati .       | 11 Īśvara .         | 10 Pausa                                                  |
| 4494             | 1315  | 1450               | 799                              | 567-68  | *1892-93 | 6 Āngirasa .        | 12 Bahudhānya .     | ...                                                       |
| 4495             | 1316  | 1451               | 800                              | 568-69  | 1893-94  | 7 Śrīmukha .        | 13 Pramāthin .      | ...                                                       |

XC—contd.

| COMMENCEMENT OF THE |           |                               |                                                                                     |           |                                                           |       |
|---------------------|-----------|-------------------------------|-------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------|-------|
| MEAN SOLAR YEAR.    |           |                               | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). |           |                                                           | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēśha-samkrānti. | Day and month, A.D.                                                                 | Week-day. | $\alpha$ (here = $t$ , the index of the $\tilde{t}(A)$ ). |       |
| 13                  | 14        | 17                            | 19                                                                                  | 20        | 23                                                        |       |
|                     |           | H. M. S.                      |                                                                                     |           |                                                           |       |
| 27 Mar. (86)        | 3 Tues.   | 5 10 30                       | 9 Mar. (68)                                                                         | 6 Fri.    | 40-3664                                                   | 4471  |
| 27 Mar. (86)        | 4 Wed.    | 11 22 39                      | 27 Feb. (58)                                                                        | 4 Wed.    | 254-7212                                                  | 4472  |
| 27 Mar. (86)        | 5 Thur.   | 17 34 48                      | 18 Mar. (77)                                                                        | 3 Tues.   | 289-4086                                                  | 4473  |
| 28 Mar. (86)        | 6 Fri.    | 23 46 57                      | 6 Mar. (86)                                                                         | 0 Sat.    | 165-1264                                                  | 4474  |
| 27 Mar. (86)        | 1 Sun.    | 5 59 6                        | 25 Mar. (84)                                                                        | 6 Fri.    | 199-8088                                                  | 4475  |
| 27 Mar. (86)        | 2 Mon.    | 12 11 15                      | 14 Mar. (73)                                                                        | 3 Tues.   | 75-5317                                                   | 4476  |
| 27 Mar. (86)        | 3 Tues.   | 18 23 24                      | 4 Mar. (63)                                                                         | 1 Sun.    | 289-8864                                                  | 4477  |
| 27 Mar. (87)        | 5 Thur.   | 0 35 33                       | 22 Mar. (82)                                                                        | 0 Sat.    | 324-5689                                                  | 4478  |
| 27 Mar. (86)        | 6 Fri.    | 6 47 42                       | 11 Mar. (70)                                                                        | 4 Wed.    | 200-2917                                                  | 4479  |
| 27 Mar. (86)        | 0 Sat.    | 12 59 51                      | 28 Feb. (59)                                                                        | 1 Sun.    | 76-0146                                                   | 4480  |
| 27 Mar. (86)        | 1 Sun.    | 19 12 0                       | 19 Mar. (78)                                                                        | 0 Sat.    | 110-6969                                                  | 4481  |
| 27 Mar. (87)        | 3 Tues.   | 1 24 9                        | 8 Mar. (68)                                                                         | 5 Thur.   | 325-0518                                                  | 4482  |
| 27 Mar. (86)        | 4 Wed.    | 7 36 18                       | 26 Mar. (85)                                                                        | 3 Tues.   | 21-1022                                                   | 4483  |
| 27 Mar. (86)        | 5 Thur.   | 13 48 27                      | 16 Mar. (75)                                                                        | 1 Sun.    | 235-4571                                                  | 4484  |
| 27 Mar. (86)        | 6 Fri.    | 20 0 36                       | 5 Mar. (64)                                                                         | 5 Thur.   | 111-1798                                                  | 4485  |
| 27 Mar. (87)        | 1 Sun.    | 2 12 45                       | 23 Mar. (83)                                                                        | 4 Wed.    | 145-8623                                                  | 4486  |
| 27 Mar. (86)        | 2 Mon.    | 8 24 54                       | 12 Mar. (71)                                                                        | 1 Sun.    | 21-5851                                                   | 4487  |
| 27 Mar. (86)        | 3 Tues.   | 14 37 3                       | 2 Mar. (61)                                                                         | 6 Fri.    | 235-9399                                                  | 4488  |
| 27 Mar. (86)        | 4 Wed.    | 20 49 12                      | 21 Mar. (80)                                                                        | 5 Thur.   | 270-6223                                                  | 4489  |
| 27 Mar. (87)        | 6 Fri.    | 3 1 21                        | 9 Mar. (69)                                                                         | 2 Mon.    | 146-8452                                                  | 4490  |
| 27 Mar. (86)        | 0 Sat.    | 9 18 30                       | 26 Feb. (57)                                                                        | 6 Fri.    | 22-0680                                                   | 4491  |
| 27 Mar. (86)        | 1 Sun.    | 15 25 39                      | 17 Mar. (76)                                                                        | 5 Thur.   | 56-7503                                                   | 4492  |
| 27 Mar. (86)        | 2 Mon.    | 21 37 48                      | 7 Mar. (66)                                                                         | 3 Tues.   | 271-1052                                                  | 4493  |
| 27 Mar. (87)        | 4 Wed.    | 3 49 57                       | 25 Mar. (85)                                                                        | 2 Mon.    | 305-7876                                                  | 4494  |
| 27 Mar. (86)        | 5 Thur.   | 10 2 6                        | 14 Mar. (73)                                                                        | 6 Fri.    | 181-5104                                                  | 4495  |

TABLE

| CONCURRENT YEAR. |       |                    |                                 |         |           |                     |                     | Mean<br>intercalated<br>( <i>adhika</i> ) lunar<br>month. |
|------------------|-------|--------------------|---------------------------------|---------|-----------|---------------------|---------------------|-----------------------------------------------------------|
| Kali.            | Śaka. | Chaitrādi Vikrama. | Mēhādī solar year in<br>Bengal. | Kollam. | A.D.      | JOVIAN SAMVATSARA.  |                     |                                                           |
|                  |       |                    |                                 |         |           | Southern<br>system. | Northern<br>system. |                                                           |
| 1                | 2     | 3                  | 3a                              | 4       | 5         | 6                   | 7                   | 8a                                                        |
| 4486             | 1317  | 1452               | 801                             | 569-70  | 1394-95   | 8 Bhāva . .         | 14 Vikrama . .      | 7 Āśvina . .                                              |
| 4497             | 1318  | 1453               | 802                             | 570-71  | 1395-96   | 9 Yavan . .         | 15 Vriha . .        | ...                                                       |
| 4498             | 1319  | 1454               | 803                             | 571-72  | *1396-97  | 10 Dhātṛi . .       | 16 Chitrabhānu . .  | ...                                                       |
| 4499             | 1320  | 1455               | 804                             | 572-73  | 1397-98   | 11 Isvara . .       | 17 Subhānu . .      | 3 Jyēṣṭha . .                                             |
| 4500             | 1321  | 1456               | 805                             | 573-74  | 1398-99   | 12 Bahudhānya . .   | 18 Tārana . .       | ...                                                       |
| 4501             | 1322  | 1457               | 806                             | 574-75  | 1399-1400 | 13 Premāthin . .    | 19 Pārthiva . .     | 12 Phālguna . .                                           |
| 4502             | 1323  | 1458               | 807                             | 575-76  | *1400-01  | 14 Vikrama . .      | 20 Vyaya . .        | ...                                                       |

XC—conold.

| COMMENCEMENT OF THE    |             |                                      |                                                                                     |             |                                             |       |
|------------------------|-------------|--------------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------------|-------|
| MEAN SOLAR YEAR.       |             |                                      | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). |             |                                             | Kali. |
| Day and month,<br>A.D. | Week-day    | Time of<br>mean Mēsha-<br>sankrānti. | Day and month,<br>A.D.                                                              | Week-day.   | a (here = t,<br>the index<br>of the tithi). |       |
| 13                     | 14          | 17                                   | 19                                                                                  | 20          | 23                                          |       |
| 27 Mar. (86) . . .     | 6 Fri. . .  | H. M. S.<br>16 14 15                 | 3 Mar. (62) . . .                                                                   | 3 Tues. . . | 57·2333                                     | 4496  |
| 27 Mar. (86) . . .     | 0 Sat. . .  | 22 26 24                             | 22 Mar. (81) . . .                                                                  | 2 Mon. . .  | 91·9157                                     | 4497  |
| 27 Mar. (87) . . .     | 2 Mon. . .  | 4 38 38                              | 11 Mar. (71) . . .                                                                  | 0 Sat. . .  | 308·2704                                    | 4498  |
| 27 Mar. (86) . . .     | 3 Tues. . . | 10 50 42                             | 28 Feb. (59) . . .                                                                  | 4 Wed. . .  | 181·9993                                    | 4499  |
| 27 Mar. (86) . . .     | 4 Wed. . .  | 17 2 51                              | 19 Mar. (78) . . .                                                                  | 3 Tues. . . | 216·6757                                    | 4500  |
| 27 Mar. (86) . . .     | 5 Thur. . . | 23 15 0                              | 8 Mar. (67) . . .                                                                   | 0 Sat. . .  | 92·3986                                     | 4501  |
| 27 Mar. (87) . . .     | 0 Sat. . .  | 5 27 9                               | 26 Mar. (86) . . .                                                                  | 6 Fri. . .  | 127·0810                                    | 4502  |



TABLE XCI.

DURATION AND COLLECTIVE DURATION OF MEAN SOLAR MONTHS ACCORDING TO THE BRAHMA-SIDDHĀNTA, WITH INCREASE OF  $a$  AT EACH SAMKRĀNTI.

| Mean luni-solar month, ending after the second of the two solar samkrāntis connected with it. | At the mean solar samkrānti.                | Collective duration in time, and collective increase of $a$ from mean Mēsha-samkrānti to the several samkrāntis. |           |          |           |
|-----------------------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|----------|-----------|
|                                                                                               |                                             | Day.                                                                                                             | Week-day. | H. M. S. | $a$       |
| 1.                                                                                            | 2.                                          | 3.                                                                                                               |           |          | 4.        |
| 1 Chaitra                                                                                     | { Mīna-samk. ( <i>of previous year</i> ).   |                                                                                                                  |           |          |           |
| 2 Vaiśākha                                                                                    | { Mēsha-samk.                               | 0                                                                                                                | 0         | 0 0 0    | 0         |
| 3 Jyēshtha                                                                                    | { Vriśhabha-samk.                           | 30                                                                                                               | (2)       | 10 31 04 | 307-3492  |
| 4 Āshāḍha                                                                                     | { Mithuna-samk.                             | 60                                                                                                               | (4)       | 21 2 14  | 614-6968  |
| 5 Srāvaṇa                                                                                     | { Karka-samk.                               | 91                                                                                                               | (0)       | 7 33 24  | 922-0475  |
| 6 Bhādrapada                                                                                  | { Simha-samk.                               | 121                                                                                                              | (2)       | 18 4 3   | 1229-3966 |
| 7 Āśvina                                                                                      | { Kanyā-samk.                               | 152                                                                                                              | (5)       | 4 35 34  | 1536-7458 |
| 8 Kārttika                                                                                    | { Tulā-samk.                                | 182                                                                                                              | (0)       | 15 6 44  | 1844-0949 |
| 9 Mārgaśīra                                                                                   | { Vriśchika-samk.                           | 213                                                                                                              | (3)       | 1 37 54  | 2151-4441 |
| 10 Pausa                                                                                      | { Dhanu-samk.                               | 243                                                                                                              | (6)       | 12 8 6   | 2458-7933 |
| 11 Māgha                                                                                      | { Makara-samk.                              | 273                                                                                                              | (0)       | 22 39 64 | 2766-1424 |
| 12 Phālguna                                                                                   | { Kumbha-samk.                              | 304                                                                                                              | (3)       | 9 10 74  | 3073-4916 |
| 1 Chaitra ( <i>of following year</i> ).                                                       | { Mīna-samk.                                | 334                                                                                                              | (5)       | 19 41 84 | 3380-8407 |
|                                                                                               | { Mēsha-samk. ( <i>of following year</i> ). | 365                                                                                                              | (1)       | 6 12 9   | 3688-1899 |

The duration of each mean solar month is  $30^{\circ} 10' 31'' 04''$ ; and in this time the mean moon's increase of distance from mean sun (our  $a$ ), in measurement by 10,000ths of circle, is 307-349156595.

A samkrānti occurs at the moment when the mean sun enters a zodiacal sign.

TABLE XCII.

CENTURY-TABLE.

VALUE OF  $a$  ( $= t$ ) AT BEGINNING OF CENTURIES K.Y., i.e. AT MEAN SUNRISE ON DAY OF OCCURRENCE OF MEAN MĒSHA-SAMKRĀNTI (MEAN SUN AT  $0^\circ$ ) IN FIRST YEAR OF CENTURY. [CENTURIES 38, 44, WERE DEFECTIVE; THE REST COMMON.]

| Beginning of K.Y. century. | Beginning in A.D. | Week-day. | $a$ ( $= t$ ). |
|----------------------------|-------------------|-----------|----------------|
| 37                         | 599               | (0)       | 6228-4770      |
| 38                         | 699               | (0)       | 5100-3761      |
| 39                         | 799               | (6)       | 3632-6433      |
| 40                         | 899               | (6)       | 2505-5425      |
| 41                         | 999               | (6)       | 1377-4416      |
| 42                         | 1099              | (8)       | 249-3408       |
| 43                         | 1199              | (6)       | 9121-2399      |
| 44                         | 1299              | (6)       | 7993-1391      |
| 45                         | 1399              | (5)       | 6528-4033      |

For odd years of centuries use the *Siddhanta-Sirōmani* Table LVII-B (above, Vol. XV).

TABLE XCIII.

MEAN SUNRISE VALUES OF  $a$  (DISTANCE OF MEAN MOON FROM MEAN SUN) IN 10,000THS OF CIRCLE FOR A MONTH PREVIOUS TO THE DAY ON WHICH MEAN MĒSHA-SAMKRĀNTI OCCURRED.

| Interval of days from mean Mēsha-samkrānti day. | Week-day. | $a$ (mean sunrise value). | Interval of days from mean Mēsha-samkrānti day. | Week-day. | $a$ (mean sunrise value). |
|-------------------------------------------------|-----------|---------------------------|-------------------------------------------------|-----------|---------------------------|
| 1                                               | 2         | 3                         | 1                                               | 2         | 3                         |
| 31                                              | (4)       | 9502-4085                 | 15                                              | (6)       | 4920-5202                 |
| 30                                              | (5)       | 9841-0404                 | 14                                              | (0)       | 5269-1522                 |
| 29                                              | (6)       | 179-6724                  | 13                                              | (1)       | 5597-7842                 |
| 28                                              | (0)       | 518-3044                  | 12                                              | (2)       | 5936-4162                 |
| 27                                              | (1)       | 856-9364                  | 11                                              | (3)       | 6275-0432                 |
| 26                                              | (2)       | 1195-5684                 | 10                                              | (4)       | 6612-6801                 |
| 25                                              | (3)       | 1534-2004                 | 9                                               | (5)       | 6952-3121                 |
| 24                                              | (4)       | 1872-8324                 | 8                                               | (6)       | 7290-9441                 |
| 23                                              | (5)       | 2211-4643                 | 7                                               | (0)       | 7629-5761                 |
| 22                                              | (6)       | 2550-0963                 | 6                                               | (1)       | 7968-2081                 |
| 21                                              | (0)       | 2888-7283                 | 5                                               | (2)       | 8306-8401                 |
| 20                                              | (1)       | 3227-3603                 | 4                                               | (3)       | 8645-4721                 |
| 19                                              | (2)       | 3565-9923                 | 3                                               | (4)       | 8984-1040                 |
| 18                                              | (3)       | 3904-6243                 | 2                                               | (5)       | 9322-7360                 |
| 17                                              | (4)       | 4243-2563                 | 1                                               | (6)       | 9661-3680                 |
| 16                                              | (5)       | 4581-8882                 | 0                                               | (0)       | 0-0                       |

The use of this Table is explained in Example 2 of this article, and in Example 1 of article on the *First Ārya-Siddhanta*, mean system (above, Vol. XVI).

## TABLE XCIV.

TIME-EQUIVALENTS OF THE TITHI ( $a$  OR  $t$ ), NAKSHATRA ( $n$ ), AND YŌGA ( $y$ ) UNITS.

In very close cases it is sometimes necessary to calculate the exact moment of the beginning and ending of *tithis*, *nakshatras* and *yogas*, with greater accuracy than can be obtained by the use of Table X, *Indian Calendar*, or Table LXX (above, Vol. XVI, p. 216), where the time-equivalent of the unit, respectively, is given only in hours and minutes. My general working Tables for several of the Hindu astronomical *Siddhāntas* already published yield results, stated in measurement by 10,000ths of the circle, with an accuracy extending to four places of decimals, and the following Table enables the result to be translated into time down to a fraction of a second. It may be used for all astronomical authorities.

*The tithi-index unit.*

The *tithi*-unit is  $\frac{1}{10,000}$ th of a mean lunation. The mean lunation, according to the *Ārya- and Sūrya-Siddhāntas*, occupies  $29^d 12^h 44^m 2^s.79$ . The unit, or 10,000th part of this, is  $4^m 25.24046$ , or  $4^m 15^s.144279$ .

*The nakshatra-index unit.*

The moon's *nakshatra*, or her position in the heavens, mean or true, is found by adding the *tithi*-index,  $a$  or  $t$ , to the index of the sun's longitude,  $s$ , mean or true. Both these values are found in the ordinary course of calculation for a date.

The mean *nakshatra*-value  $n = 10,000$  is reached in  $27^d 7^h 43^m 12^s.3$ . In this period the sun's mean motion amounts, in 10,000ths of circle measurement, to 748.0087 (Table XLIV above (Vol. XIV)) and the moon's mean distance from mean sun increases (Table LIV A, B (Vol. XV)) to 9251.9913. Total 10,000.

$27^d 7^h 43^m 12^s.3 = 39343^m.205$ , and this divided by 10,000 fixes the time-equivalent of the *nakshatra*-unit as  $3^m 9343.205$ , or  $3^m 56^s.05923$ .

*The yōga-index unit.*

Similarly the *yōga-chakra* is estimated by the *Sūrya-Siddhānta* (*Indian Calendar*, p. 62, § 113) as occupying 36605.116 minutes of time, or  $25^d 10^h 5^m 6^s.96$ .<sup>1</sup> The *yōga*-unit therefore is  $3^m 6605.116$ , or  $3^m 39^s.6307$ .

<sup>1</sup> The *yōga* formula is  $y = s$  (sun's long.) +  $n$  (moon's *nakshatra*), and, since  $n = s + a$ ,  $y = 2s + a$ . In the period noted it will be found by calculation, using Table XLIV (above, Vol. XIV), that the mean sun  $s$  arrives, in 10,000ths of circle measurement, at long. 696.9511; and by using Table LXIV (Vol. XVI) that in the same period the mean moon has increased her distance from mean sun ( $a$ ) by 8608.0964. Twice  $s = 1391.9022$ , and this + 8608.0964 (the value of  $a$ ) = 9999.9986, practically 10,000 exactly. Table LXIV was prepared according to the *First Ārya-Siddhānta*. Using *Siddhānta-Sirōmāni* and *Brāhma-Siddhānta* estimates (Table LIV) the total amounts to 10,000.0016, I have as yet no similar Table according to *Sūrya-Siddhānta* requirements; but from what has been said it may be assumed that its estimate of the time occupied by one *yōga-chakra* (= 10,000) is correct.

TABLE XCIV-A.

TIME-EQUIVALENTS.

TITHI-INDEX UNITS.

(" Arg." =  $a$  or  $t$ .)

| Arg. | H. M. S.   | Arg. | H. M. S.   | Arg. | H. M. S.   | Arg. | H. M. S.    |
|------|------------|------|------------|------|------------|------|-------------|
| 1    | 0 4 15.14  | 30   | 2 7 3.33   | 59   | 4 10 53.51 | 88   | 6 14 12.70  |
| 2    | 0 8 30.29  | 31   | 2 11 49.47 | 60   | 4 16 8.7   | 89   | 6 18 27.84  |
| 3    | 0 12 45.43 | 32   | 2 16 4.62  | 61   | 4 19 23.80 | 90   | 6 22 42.99  |
| 4    | 0 17 0.58  | 33   | 2 20 19.76 | 62   | 4 23 38.95 | 91   | 6 26 58.13  |
| 5    | 0 21 15.72 | 34   | 2 24 34.91 | 63   | 4 27 54.09 | 92   | 6 31 13.27  |
| 6    | 0 25 30.87 | 35   | 2 28 50.06 | 64   | 4 32 9.23  | 93   | 6 35 28.42  |
| 7    | 0 29 46.01 | 36   | 2 33 5.19  | 65   | 4 36 24.38 | 94   | 6 39 43.56  |
| 8    | 0 34 1.15  | 37   | 2 37 20.34 | 66   | 4 40 39.52 | 95   | 6 43 58.71  |
| 9    | 0 38 16.30 | 38   | 2 41 35.48 | 67   | 4 44 54.67 | 96   | 6 48 13.85  |
| 10   | 0 42 31.44 | 39   | 2 45 50.63 | 68   | 4 49 9.81  | 97   | 6 52 29.00  |
| 11   | 0 46 46.59 | 40   | 2 50 5.77  | 69   | 4 53 24.96 | 98   | 6 56 44.14  |
| 12   | 0 51 1.73  | 41   | 2 54 20.92 | 70   | 4 57 40.10 | 99   | 7 0 59.28   |
| 13   | 0 55 16.88 | 42   | 2 58 36.06 | 71   | 5 1 55.24  | 100  | 7 5 14.43   |
| 14   | 0 59 32.02 | 43   | 3 2 51.20  | 72   | 5 6 10.39  | 200  | 14 10 28.86 |
| 15   | 1 3 47.16  | 44   | 3 7 6.35   | 73   | 5 10 25.53 | 300  | 21 15 43.28 |
| 16   | 1 8 2.31   | 45   | 3 11 21.49 | 74   | 5 14 40.68 | 400  | 28 20 57.71 |
| 17   | 1 12 17.45 | 46   | 3 15 36.64 | 75   | 5 18 55.82 | 500  | 35 26 12.14 |
| 18   | 1 16 32.60 | 47   | 3 19 51.78 | 76   | 5 23 10.97 | 600  | 42 31 26.57 |
| 19   | 1 20 47.74 | 48   | 3 24 6.93  | 77   | 5 27 26.11 | 700  | 49 36 41.00 |
| 20   | 1 25 2.29  | 49   | 3 28 22.07 | 78   | 5 31 41.25 | 800  | 56 41 55.43 |
| 21   | 1 29 18.03 | 50   | 3 32 37.21 | 79   | 5 35 56.40 | 900  | 63 47 9.85  |
| 22   | 1 33 33.17 | 51   | 3 36 52.36 | 80   | 5 40 11.54 | 1000 | 70 52 24.28 |
| 23   | 1 37 48.32 | 52   | 3 41 7.50  | 81   | 5 44 26.69 |      |             |
| 24   | 1 42 3.46  | 53   | 3 45 22.65 | 82   | 5 48 41.83 |      |             |
| 25   | 1 46 18.61 | 54   | 3 49 37.79 | 83   | 5 52 56.98 |      |             |
| 26   | 1 50 33.75 | 55   | 3 53 52.94 | 84   | 5 57 12.20 |      |             |
| 27   | 1 54 48.90 | 56   | 3 58 8.08  | 85   | 6 1 27.26  |      |             |
| 28   | 1 59 4.04  | 57   | 4 2 23.23  | 86   | 6 6 42.41  |      |             |
| 29   | 2 3 19.18  | 58   | 4 6 38.37  | 87   | 6 9 57.55  |      |             |

TABLE XCIV-B.

TIME-EQUIVALENTS.

DECIMALS OF TITHI-INDEX UNITS.

| First 2<br>decimals. | M. | S.    | First 2<br>decimals. | M. | S.    | First 2<br>decimals. | M. | S.    | 3rd and<br>4th<br>decimals. | S.   | 3rd and<br>4th<br>decimals. | S.   | 3rd and<br>4th<br>decimals. | S.   |
|----------------------|----|-------|----------------------|----|-------|----------------------|----|-------|-----------------------------|------|-----------------------------|------|-----------------------------|------|
| 01                   | 0  | 2-55  | 34                   | 1  | 26-75 | 67                   | 2  | 50-95 | 0001                        | 0-03 | 0034                        | 0-87 | 0087                        | 1-71 |
| 02                   | 0  | 5-10  | 35                   | 1  | 29-80 | 68                   | 2  | 53-50 | 0002                        | 0-05 | 0035                        | 0-89 | 0088                        | 1-73 |
| 03                   | 0  | 7-65  | 36                   | 1  | 31-85 | 69                   | 2  | 56-05 | 0003                        | 0-08 | 0036                        | 0-92 | 0069                        | 1-76 |
| 04                   | 0  | 10-21 | 37                   | 1  | 34-40 | 70                   | 2  | 58-60 | 0004                        | 0-10 | 0037                        | 0-94 | 0070                        | 1-79 |
| 05                   | 0  | 12-76 | 38                   | 1  | 36-95 | 71                   | 3  | 1-15  | 0005                        | 0-13 | 0038                        | 0-97 | 0071                        | 1-81 |
| 06                   | 0  | 15-31 | 39                   | 1  | 39-51 | 72                   | 3  | 3-70  | 0006                        | 0-15 | 0039                        | 1-00 | 0072                        | 1-84 |
| 07                   | 0  | 17-86 | 40                   | 1  | 42-06 | 73                   | 3  | 6-26  | 0007                        | 0-18 | 0040                        | 1-02 | 0073                        | 1-86 |
| 08                   | 0  | 20-41 | 41                   | 1  | 44-61 | 74                   | 3  | 8-81  | 0008                        | 0-20 | 0041                        | 1-05 | 0074                        | 1-89 |
| 09                   | 0  | 22-96 | 42                   | 1  | 47-16 | 75                   | 3  | 11-36 | 0009                        | 0-23 | 0042                        | 1-07 | 0075                        | 1-91 |
| 10                   | 0  | 25-51 | 43                   | 1  | 49-71 | 76                   | 3  | 13-91 | 0010                        | 0-26 | 0043                        | 1-10 | 0076                        | 1-94 |
| 11                   | 0  | 28-07 | 44                   | 1  | 52-26 | 77                   | 3  | 16-46 | 0011                        | 0-28 | 0044                        | 1-12 | 0077                        | 1-96 |
| 12                   | 0  | 30-62 | 45                   | 1  | 54-81 | 78                   | 3  | 19-01 | 0012                        | 0-31 | 0045                        | 1-15 | 0078                        | 1-99 |
| 13                   | 0  | 33-17 | 46                   | 1  | 57-37 | 79                   | 3  | 21-56 | 0013                        | 0-33 | 0046                        | 1-17 | 0079                        | 2-02 |
| 14                   | 0  | 35-72 | 47                   | 1  | 59-92 | 80                   | 3  | 24-12 | 0014                        | 0-36 | 0047                        | 1-20 | 0080                        | 2-04 |
| 15                   | 0  | 38-27 | 48                   | 2  | 2-47  | 81                   | 3  | 26-67 | 0015                        | 0-38 | 0048                        | 1-22 | 0081                        | 2-07 |
| 16                   | 0  | 40-82 | 49                   | 2  | 5-02  | 82                   | 3  | 29-22 | 0016                        | 0-41 | 0049                        | 1-25 | 0082                        | 2-09 |
| 17                   | 0  | 43-37 | 50                   | 2  | 7-57  | 83                   | 3  | 31-78 | 0017                        | 0-43 | 0050                        | 1-28 | 0083                        | 2-12 |
| 18                   | 0  | 45-93 | 51                   | 2  | 10-12 | 84                   | 3  | 34-32 | 0018                        | 0-46 | 0051                        | 1-30 | 0084                        | 2-14 |
| 19                   | 0  | 48-48 | 52                   | 2  | 12-68 | 85                   | 3  | 36-87 | 0019                        | 0-48 | 0052                        | 1-33 | 0085                        | 2-17 |
| 20                   | 0  | 51-03 | 53                   | 2  | 15-23 | 86                   | 3  | 39-42 | 0020                        | 0-51 | 0053                        | 1-35 | 0086                        | 2-19 |
| 21                   | 0  | 53-58 | 54                   | 2  | 17-78 | 87                   | 3  | 41-98 | 0021                        | 0-54 | 0054                        | 1-38 | 0087                        | 2-22 |
| 22                   | 0  | 56-13 | 55                   | 2  | 20-33 | 88                   | 3  | 44-53 | 0022                        | 0-56 | 0055                        | 1-40 | 0088                        | 2-25 |
| 23                   | 0  | 58-68 | 56                   | 2  | 22-88 | 89                   | 3  | 47-08 | 0023                        | 0-59 | 0056                        | 1-43 | 0089                        | 2-27 |
| 24                   | 0  | 61-23 | 57                   | 2  | 25-43 | 90                   | 3  | 49-63 | 0024                        | 0-61 | 0057                        | 1-45 | 0090                        | 2-30 |
| 25                   | 1  | 8-79  | 58                   | 2  | 27-98 | 91                   | 3  | 52-18 | 0025                        | 0-64 | 0058                        | 1-48 | 0091                        | 2-32 |
| 26                   | 1  | 6-34  | 59                   | 2  | 30-54 | 92                   | 3  | 54-73 | 0026                        | 0-66 | 0059                        | 1-51 | 0092                        | 2-35 |
| 27                   | 1  | 8-89  | 60                   | 2  | 33-09 | 93                   | 3  | 57-28 | 0027                        | 0-69 | 0060                        | 1-53 | 0093                        | 2-37 |
| 28                   | 1  | 11-44 | 61                   | 2  | 35-64 | 94                   | 3  | 59-84 | 0028                        | 0-71 | 0061                        | 1-56 | 0094                        | 2-40 |
| 29                   | 1  | 13-99 | 62                   | 2  | 38-19 | 95                   | 4  | 2-39  | 0029                        | 0-74 | 0062                        | 1-58 | 0095                        | 2-42 |
| 30                   | 1  | 16-54 | 63                   | 2  | 40-74 | 96                   | 4  | 4-94  | 0030                        | 0-77 | 0063                        | 1-61 | 0096                        | 2-45 |
| 31                   | 1  | 19-09 | 64                   | 2  | 43-29 | 97                   | 4  | 7-49  | 0031                        | 0-79 | 0064                        | 1-63 | 0097                        | 2-47 |
| 32                   | 1  | 21-65 | 65                   | 2  | 45-84 | 98                   | 4  | 10-04 | 0032                        | 0-82 | 0065                        | 1-66 | 0098                        | 2-50 |
| 33                   | 1  | 24-20 | 66                   | 2  | 48-40 | 99                   | 4  | 12-59 | 0033                        | 0-84 | 0066                        | 1-68 | 0099                        | 2-52 |

TABLE XCIV-C.

TIME-EQUIVALENTS.

NAKSHATRA-INDEX UNITS.

| Arg. | H. M. S.   | Arg. | H. M. S.   | Arg. | H. M. S.   | Arg. | H. M. S.    |
|------|------------|------|------------|------|------------|------|-------------|
| 1    | 0 3 56-06  | 31   | 2 1 57-84  | 61   | 3 59 59-61 | 91   | 5 58 1-39   |
| 2    | 0 7 52-12  | 32   | 2 5 53-90  | 62   | 4 3 55-67  | 92   | 6 1 57-45   |
| 3    | 0 11 48-18 | 33   | 2 9 49-95  | 63   | 4 7 51-73  | 93   | 6 5 53-51   |
| 4    | 0 15 44-24 | 34   | 2 13 46-01 | 64   | 4 11 47-79 | 94   | 6 9 49-57   |
| 5    | 0 19 40-30 | 35   | 2 17 42-07 | 65   | 4 15 43-85 | 95   | 6 13 45-63  |
| 6    | 0 23 36-36 | 36   | 2 21 38-13 | 66   | 4 19 39-91 | 96   | 6 17 41-69  |
| 7    | 0 27 32-41 | 37   | 2 25 34-19 | 67   | 4 23 35-97 | 97   | 6 21 37-75  |
| 8    | 0 31 28-47 | 38   | 2 29 30-25 | 68   | 4 27 32-03 | 98   | 6 25 33-80  |
| 9    | 0 35 24-53 | 39   | 2 33 26-31 | 69   | 4 31 28-09 | 99   | 6 29 29-86  |
| 10   | 0 39 20-59 | 40   | 2 37 22-37 | 70   | 4 35 24-15 | 100  | 6 33 25-92  |
| 11   | 0 43 16-65 | 41   | 2 41 18-43 | 71   | 4 39 20-21 | 200  | 13 6 51-85  |
| 12   | 0 47 12-71 | 42   | 2 45 14-49 | 72   | 4 43 16-26 | 300  | 19 40 17-78 |
| 13   | 0 51 8-77  | 43   | 2 49 10-55 | 73   | 4 47 12-32 |      |             |
| 14   | 0 55 4-83  | 44   | 2 53 6-61  | 74   | 4 51 8-38  |      |             |
| 15   | 0 59 0-89  | 45   | 2 57 2-67  | 75   | 4 55 4-44  |      |             |
| 16   | 1 3 56-95  | 46   | 3 0 58-72  | 76   | 4 59 0-50  |      |             |
| 17   | 1 6 53-01  | 47   | 3 4 54-78  | 77   | 5 2 56-56  |      |             |
| 18   | 1 10 49-07 | 48   | 3 8 50-84  | 78   | 5 6 52-62  |      |             |
| 19   | 1 14 45-13 | 49   | 3 12 46-90 | 79   | 5 10 48-68 |      |             |
| 20   | 1 18 41-18 | 50   | 3 16 42-96 | 80   | 5 14 44-74 |      |             |
| 21   | 1 22 37-24 | 51   | 3 20 39-02 | 81   | 5 18 40-80 |      |             |
| 22   | 1 26 33-30 | 52   | 3 24 35-08 | 82   | 5 22 36-86 |      |             |
| 23   | 1 30 29-36 | 53   | 3 28 31-14 | 83   | 5 26 32-92 |      |             |
| 24   | 1 34 25-42 | 54   | 3 32 27-20 | 84   | 5 30 28-98 |      |             |
| 25   | 1 38 21-48 | 55   | 3 36 23-26 | 85   | 5 34 25-03 |      |             |
| 26   | 1 42 17-54 | 56   | 3 40 19-32 | 86   | 5 38 21-09 |      |             |
| 27   | 1 46 13-60 | 57   | 3 44 15-38 | 87   | 5 42 17-15 |      |             |
| 28   | 1 50 9-66  | 58   | 3 48 11-44 | 88   | 5 46 13-21 |      |             |
| 29   | 1 54 5-72  | 59   | 3 52 7-49  | 89   | 5 50 9-27  |      |             |
| 30   | 1 58 1-78  | 60   | 3 56 3-55  | 90   | 5 54 5-33  |      |             |

TABLE XCIV-D.

TIME-EQUIVALENTS,

DECIMALS OF NAKSHATRA-INDEX UNITS.

| First 2<br>decimals. | M. S.   | First 2<br>decimals. | M. S.   | First 2<br>decimals. | M. S.   | 3rd and<br>4th<br>decimals. | S.   | 3rd and<br>4th<br>decimals. | S.   | 3rd and<br>4th<br>decimals. | S.   |
|----------------------|---------|----------------------|---------|----------------------|---------|-----------------------------|------|-----------------------------|------|-----------------------------|------|
| ·01                  | 0 2·36  | ·34                  | 1 20·26 | ·67                  | 2 38·16 | ·0001                       | 0·02 | ·0034                       | 0·80 | ·0067                       | 1·58 |
| ·02                  | 0 4·72  | ·35                  | 1 22·62 | ·68                  | 2 40·52 | ·0002                       | 0·05 | ·0035                       | 0·83 | ·0068                       | 1·61 |
| ·03                  | 0 7·08  | ·36                  | 1 24·98 | ·69                  | 2 42·88 | ·0003                       | 0·07 | ·0036                       | 0·85 | ·0069                       | 1·63 |
| ·04                  | 0 9·44  | ·37                  | 1 27·34 | ·70                  | 2 45·24 | ·0004                       | 0·09 | ·0037                       | 0·87 | ·0070                       | 1·65 |
| ·05                  | 0 11·80 | ·38                  | 1 29·70 | ·71                  | 2 47·60 | ·0005                       | 0·12 | ·0038                       | 0·90 | ·0071                       | 1·68 |
| ·06                  | 0 14·16 | ·39                  | 1 32·06 | ·72                  | 2 49·96 | ·0006                       | 0·14 | ·0039                       | 0·92 | ·0072                       | 1·70 |
| ·07                  | 0 16·52 | ·40                  | 1 34·42 | ·73                  | 2 52·32 | ·0007                       | 0·17 | ·0040                       | 0·94 | ·0073                       | 1·72 |
| ·08                  | 0 18·88 | ·41                  | 1 36·78 | ·74                  | 2 54·68 | ·0008                       | 0·19 | ·0041                       | 0·97 | ·0074                       | 1·75 |
| ·09                  | 0 21·25 | ·42                  | 1 39·14 | ·75                  | 2 57·04 | ·0009                       | 0·21 | ·0042                       | 0·99 | ·0075                       | 1·77 |
| ·10                  | 0 23·61 | ·43                  | 1 41·51 | ·76                  | 2 59·40 | ·0010                       | 0·24 | ·0043                       | 1·02 | ·0076                       | 1·79 |
| ·11                  | 0 25·97 | ·44                  | 1 43·87 | ·77                  | 3 1·77  | ·0011                       | 0·26 | ·0044                       | 1·04 | ·0077                       | 1·82 |
| ·12                  | 0 28·33 | ·45                  | 1 46·23 | ·78                  | 3 4·13  | ·0012                       | 0·28 | ·0045                       | 1·06 | ·0078                       | 1·84 |
| ·13                  | 0 30·69 | ·46                  | 1 48·59 | ·79                  | 3 6·49  | ·0013                       | 0·31 | ·0046                       | 1·09 | ·0079                       | 1·86 |
| ·14                  | 0 33·05 | ·47                  | 1 50·95 | ·80                  | 3 8·85  | ·0014                       | 0·33 | ·0047                       | 1·11 | ·0080                       | 1·89 |
| ·15                  | 0 35·41 | ·48                  | 1 53·31 | ·81                  | 3 11·21 | ·0015                       | 0·35 | ·0048                       | 1·13 | ·0081                       | 1·91 |
| ·16                  | 0 37·77 | ·49                  | 1 55·67 | ·82                  | 3 13·57 | ·0016                       | 0·38 | ·0049                       | 1·16 | ·0082                       | 1·94 |
| ·17                  | 0 40·13 | ·50                  | 1 58·03 | ·83                  | 3 15·93 | ·0017                       | 0·40 | ·0050                       | 1·18 | ·0083                       | 1·96 |
| ·18                  | 0 42·49 | ·51                  | 2 0·39  | ·84                  | 3 18·29 | ·0018                       | 0·42 | ·0051                       | 1·20 | ·0084                       | 1·98 |
| ·19                  | 0 44·85 | ·52                  | 2 2·75  | ·85                  | 3 20·65 | ·0019                       | 0·45 | ·0052                       | 1·23 | ·0085                       | 2·01 |
| ·20                  | 0 47·21 | ·53                  | 2 5·11  | ·86                  | 3 23·01 | ·0020                       | 0·47 | ·0053                       | 1·25 | ·0086                       | 2·03 |
| ·21                  | 0 49·57 | ·54                  | 2 7·47  | ·87                  | 3 25·37 | ·0021                       | 0·50 | ·0054                       | 1·27 | ·0087                       | 2·05 |
| ·22                  | 0 51·93 | ·55                  | 2 9·83  | ·88                  | 3 27·73 | ·0022                       | 0·52 | ·0055                       | 1·30 | ·0088                       | 2·08 |
| ·23                  | 0 54·29 | ·56                  | 2 12·19 | ·89                  | 3 30·09 | ·0023                       | 0·54 | ·0056                       | 1·32 | ·0089                       | 2·10 |
| ·24                  | 0 56·65 | ·57                  | 2 14·55 | ·90                  | 3 32·45 | ·0024                       | 0·57 | ·0057                       | 1·35 | ·0090                       | 2·12 |
| ·25                  | 0 59·01 | ·58                  | 2 16·91 | ·91                  | 3 34·81 | ·0025                       | 0·59 | ·0058                       | 1·37 | ·0091                       | 2·15 |
| ·26                  | 1 1·38  | ·59                  | 2 19·28 | ·92                  | 3 37·17 | ·0026                       | 0·61 | ·0059                       | 1·39 | ·0092                       | 2·17 |
| ·27                  | 1 3·74  | ·60                  | 2 21·64 | ·93                  | 3 39·54 | ·0027                       | 0·64 | ·0060                       | 1·42 | ·0093                       | 2·20 |
| ·28                  | 1 6·10  | ·61                  | 2 24·00 | ·94                  | 3 41·90 | ·0028                       | 0·66 | ·0061                       | 1·44 | ·0094                       | 2·22 |
| ·29                  | 1 8·46  | ·62                  | 2 26·36 | ·95                  | 3 44·26 | ·0029                       | 0·68 | ·0062                       | 1·46 | ·0095                       | 2·24 |
| ·30                  | 1 10·82 | ·63                  | 2 28·72 | ·96                  | 3 46·62 | ·0030                       | 0·71 | ·0063                       | 1·49 | ·0096                       | 2·27 |
| ·31                  | 1 13·18 | ·64                  | 2 31·08 | ·97                  | 3 48·98 | ·0031                       | 0·73 | ·0064                       | 1·51 | ·0097                       | 2·29 |
| ·32                  | 1 15·54 | ·65                  | 2 33·44 | ·98                  | 3 51·34 | ·0032                       | 0·76 | ·0065                       | 1·53 | ·0098                       | 2·31 |
| ·33                  | 1 17·90 | ·66                  | 2 35·80 | ·99                  | 3 53·70 | ·0033                       | 0·78 | ·0066                       | 1·56 | ·0099                       | 2·34 |

TABLE XCIV-E.

TIME-EQUIVALENTS.

YOGA-INDEX UNITS.

| Arg. | H. M. S.   | Arg. | H. M. S.   | Arg. | H. M. S.   | Arg. | H. M. S.   |
|------|------------|------|------------|------|------------|------|------------|
| 1    | 0 8 30.68  | 31   | 1 58 28.55 | 61   | 3 43 17.47 | 91   | 5 39 6.39  |
| 2    | 0 7 19.28  | 32   | 1 57 8.18  | 62   | 3 46 57.10 | 92   | 5 36 46.02 |
| 3    | 0 10 58.89 | 33   | 2 0 47.81  | 63   | 3 50 36.73 | 93   | 5 40 25.65 |
| 4    | 0 11 38.52 | 34   | 2 4 27.44  | 64   | 3 54 16.36 | 94   | 5 44 5.29  |
| 5    | 0 18 18.15 | 35   | 2 8 7.07   | 65   | 3 57 56.00 | 95   | 5 47 44.92 |
| 6    | 0 21 57.78 | 36   | 2 11 46.71 | 66   | 4 1 35.63  | 96   | 5 51 24.55 |
| 7    | 0 25 37.41 | 37   | 2 15 26.34 | 67   | 4 5 15.26  | 97   | 5 55 4.18  |
| 8    | 0 29 17.05 | 38   | 2 19 5.97  | 68   | 4 8 54.89  | 98   | 5 58 43.81 |
| 9    | 0 32 56.68 | 39   | 2 22 45.60 | 69   | 4 12 34.52 | 99   | 6 2 23.44  |
| 10   | 0 36 36.31 | 40   | 2 26 25.23 | 70   | 4 16 14.15 | 100  | 6 6 3.07   |
| 11   | 0 40 15.04 | 41   | 2 30 4.86  | 71   | 4 19 53.78 | 200  | 12 12 6.14 |
| 12   | 0 43 55.57 | 42   | 2 33 44.49 | 72   | 4 23 33.41 | 300  | 18 18 9.21 |
| 13   | 0 47 35.20 | 43   | 2 37 24.12 | 73   | 4 27 13.04 |      |            |
| 14   | 0 51 14.83 | 44   | 2 41 3.75  | 74   | 4 30 52.67 |      |            |
| 15   | 0 54 54.46 | 45   | 2 44 43.38 | 75   | 4 34 32.30 |      |            |
| 16   | 0 58 34.09 | 46   | 2 48 23.01 | 76   | 4 38 11.93 |      |            |
| 17   | 1 2 13.72  | 47   | 2 52 2.64  | 77   | 4 41 51.56 |      |            |
| 18   | 1 5 53.35  | 48   | 2 55 42.27 | 78   | 4 45 31.19 |      |            |
| 19   | 1 9 32.98  | 49   | 2 59 21.90 | 79   | 4 49 10.83 |      |            |
| 20   | 1 13 12.61 | 50   | 3 3 1.53   | 80   | 4 52 50.46 |      |            |
| 21   | 1 16 52.24 | 51   | 3 6 41.17  | 81   | 4 56 30.09 |      |            |
| 22   | 1 20 31.88 | 52   | 3 10 20.80 | 82   | 5 0 9.72   |      |            |
| 23   | 1 24 11.51 | 53   | 3 14 0.43  | 83   | 5 3 49.35  |      |            |
| 24   | 1 27 51.14 | 54   | 3 17 40.06 | 84   | 5 7 28.98  |      |            |
| 25   | 1 31 30.77 | 55   | 3 21 19.69 | 85   | 5 11 8.61  |      |            |
| 26   | 1 35 10.40 | 56   | 3 24 59.32 | 86   | 5 14 48.24 |      |            |
| 27   | 1 38 50.03 | 57   | 3 28 38.95 | 87   | 5 18 27.87 |      |            |
| 28   | 1 42 29.66 | 58   | 3 32 18.58 | 88   | 5 22 7.50  |      |            |
| 29   | 1 46 9.29  | 59   | 3 35 58.21 | 89   | 5 25 47.13 |      |            |
| 30   | 1 49 48.92 | 60   | 3 39 37.84 | 90   | 5 29 26.76 |      |            |



TABLE XCIV-F.

TIME-EQUIVALENTS.

DECIMALS OF YOGA-INDEX UNITS.

| First 2<br>decimals. | M. | S.    | First 2<br>decimals. | M. | S.    | First 2<br>decimals. | M. | S.    | 3rd and<br>4th<br>decimals. | S.   | 3rd and<br>4th<br>decimals. | S.   | 3rd and<br>4th<br>decimals. | S.   |
|----------------------|----|-------|----------------------|----|-------|----------------------|----|-------|-----------------------------|------|-----------------------------|------|-----------------------------|------|
| ·01                  | 0  | 2·20  | ·34                  | 1  | 14·87 | ·67                  | 2  | 27·15 | ·0001                       | 0·02 | ·0034                       | 0·75 | ·0067                       | 1·47 |
| ·02                  | 0  | 4·39  | ·35                  | 1  | 16·87 | ·68                  | 2  | 29·35 | ·0002                       | 0·04 | ·0035                       | 0·77 | ·0068                       | 1·49 |
| ·03                  | 0  | 6·59  | ·36                  | 1  | 19·07 | ·69                  | 2  | 31·55 | ·0003                       | 0·07 | ·0036                       | 0·79 | ·0069                       | 1·52 |
| ·04                  | 0  | 8·79  | ·37                  | 1  | 21·26 | ·70                  | 2  | 33·74 | ·0004                       | 0·09 | ·0037                       | 0·81 | ·0070                       | 1·54 |
| ·05                  | 0  | 10·98 | ·38                  | 1  | 23·46 | ·71                  | 2  | 35·94 | ·0005                       | 0·11 | ·0038                       | 0·83 | ·0071                       | 1·56 |
| ·06                  | 0  | 13·18 | ·39                  | 1  | 25·66 | ·72                  | 2  | 38·13 | ·0006                       | 0·13 | ·0039                       | 0·86 | ·0072                       | 1·58 |
| ·07                  | 0  | 15·37 | ·40                  | 1  | 27·85 | ·73                  | 2  | 40·33 | ·0007                       | 0·15 | ·0040                       | 0·88 | ·0073                       | 1·60 |
| ·08                  | 0  | 17·57 | ·41                  | 1  | 30·05 | ·74                  | 2  | 42·53 | ·0008                       | 0·18 | ·0041                       | 0·90 | ·0074                       | 1·63 |
| ·09                  | 0  | 19·77 | ·42                  | 1  | 32·24 | ·75                  | 2  | 44·72 | ·0009                       | 0·20 | ·0042                       | 0·92 | ·0075                       | 1·65 |
| ·10                  | 0  | 21·96 | ·43                  | 1  | 34·44 | ·76                  | 2  | 46·92 | ·0010                       | 0·22 | ·0043                       | 0·94 | ·0076                       | 1·67 |
| ·11                  | 0  | 24·18 | ·44                  | 1  | 36·64 | ·77                  | 2  | 49·12 | ·0011                       | 0·24 | ·0044                       | 0·97 | ·0077                       | 1·69 |
| ·12                  | 0  | 26·36 | ·45                  | 1  | 38·83 | ·78                  | 2  | 51·31 | ·0012                       | 0·26 | ·0045                       | 0·99 | ·0078                       | 1·71 |
| ·13                  | 0  | 28·55 | ·46                  | 1  | 41·03 | ·79                  | 2  | 53·51 | ·0013                       | 0·29 | ·0046                       | 1·01 | ·0079                       | 1·74 |
| ·14                  | 0  | 30·75 | ·47                  | 1  | 43·23 | ·80                  | 2  | 55·70 | ·0014                       | 0·31 | ·0047                       | 1·03 | ·0080                       | 1·76 |
| ·15                  | 0  | 32·94 | ·48                  | 1  | 45·42 | ·81                  | 2  | 57·90 | ·0015                       | 0·33 | ·0048                       | 1·05 | ·0081                       | 1·78 |
| ·16                  | 0  | 35·14 | ·49                  | 1  | 47·62 | ·82                  | 3  | 0·10  | ·0016                       | 0·35 | ·0049                       | 1·08 | ·0082                       | 1·80 |
| ·17                  | 0  | 37·34 | ·50                  | 1  | 49·83 | ·83                  | 3  | 2·29  | ·0017                       | 0·37 | ·0050                       | 1·10 | ·0083                       | 1·82 |
| ·18                  | 0  | 39·53 | ·51                  | 1  | 52·01 | ·84                  | 3  | 4·49  | ·0018                       | 0·40 | ·0051                       | 1·12 | ·0084                       | 1·84 |
| ·19                  | 0  | 41·73 | ·52                  | 1  | 54·21 | ·85                  | 3  | 6·69  | ·0019                       | 0·42 | ·0052                       | 1·14 | ·0085                       | 1·87 |
| ·20                  | 0  | 43·93 | ·53                  | 1  | 56·40 | ·86                  | 3  | 8·88  | ·0020                       | 0·44 | ·0053                       | 1·16 | ·0086                       | 1·89 |
| ·21                  | 0  | 46·12 | ·54                  | 1  | 58·60 | ·87                  | 3  | 11·08 | ·0021                       | 0·46 | ·0054                       | 1·19 | ·0087                       | 1·91 |
| ·22                  | 0  | 48·32 | ·55                  | 2  | 0·80  | ·88                  | 3  | 13·28 | ·0022                       | 0·48 | ·0055                       | 1·21 | ·0088                       | 1·93 |
| ·23                  | 0  | 50·52 | ·56                  | 2  | 2·99  | ·89                  | 3  | 15·47 | ·0023                       | 0·51 | ·0056                       | 1·23 | ·0089                       | 1·95 |
| ·24                  | 0  | 52·71 | ·57                  | 2  | 5·19  | ·90                  | 3  | 17·67 | ·0024                       | 0·53 | ·0057                       | 1·25 | ·0090                       | 1·98 |
| ·25                  | 0  | 54·91 | ·58                  | 2  | 7·39  | ·91                  | 3  | 19·86 | ·0025                       | 0·55 | ·0058                       | 1·27 | ·0091                       | 2·00 |
| ·26                  | 0  | 57·10 | ·59                  | 2  | 9·58  | ·92                  | 3  | 22·06 | ·0026                       | 0·57 | ·0059                       | 1·30 | ·0092                       | 2·02 |
| ·27                  | 0  | 59·30 | ·60                  | 2  | 11·78 | ·93                  | 3  | 24·26 | ·0027                       | 0·59 | ·0060                       | 1·32 | ·0093                       | 2·04 |
| ·28                  | 1  | 1·50  | ·61                  | 2  | 13·97 | ·94                  | 3  | 26·45 | ·0028                       | 0·61 | ·0061                       | 1·34 | ·0094                       | 2·06 |
| ·29                  | 1  | 3·69  | ·62                  | 2  | 16·17 | ·95                  | 3  | 28·65 | ·0029                       | 0·64 | ·0062                       | 1·36 | ·0095                       | 2·09 |
| ·30                  | 1  | 5·89  | ·63                  | 2  | 18·37 | ·96                  | 3  | 30·85 | ·0030                       | 0·66 | ·0063                       | 1·38 | ·0096                       | 2·11 |
| ·31                  | 1  | 8·09  | ·64                  | 2  | 20·56 | ·97                  | 3  | 33·04 | ·0031                       | 0·68 | ·0064                       | 1·41 | ·0097                       | 2·13 |
| ·32                  | 1  | 10·28 | ·65                  | 2  | 22·76 | ·98                  | 3  | 35·24 | ·0032                       | 0·70 | ·0065                       | 1·43 | ·0098                       | 2·15 |
| ·33                  | 1  | 12·48 | ·66                  | 2  | 24·96 | ·99                  | 3  | 37·43 | ·0033                       | 0·72 | ·0066                       | 1·45 | ·0099                       | 2·17 |

## No. 16.—VELVIKUDI GRANT OF NEDUNJADAIYAN: THE THIRD YEAR OF REIGN.

By H. KRISHNA SASTRI, B.A., OOTACAMUND.

Sixteen years ago, when Mr. Venkayya in his Epigraphical Report for 1908 (pp. 50 ff) discussed with great ability the contents of the fourth of the early Pāṇḍya copper-plates discovered till then, he remarked: "The originals of these plates have not been traced. The following account of them is based on a preliminary study of two excellent impressions belonging probably to Sir Walter Elliot's collections kindly placed at my disposal by Dr. Fleet in 1893." These duplicate impressions of the grant now in the editor's possession, are marked by Dr. Fleet "I-n-11" and must have been originally intended for publication in the *Indian Antiquary*. Mr. Venkayya, however, could not at once prepare an article on them, as the early Pāṇḍya chronology was then obscure. About the end of 1915, Dr. L. D. Barnett of the British Museum, London, sent me impressions of a copper-plate inscription preserved in that institution and wished to know if it had been published and what its contents were. Curiously enough, it happened that these were the very same impressions of which Mr. Venkayya was unable to trace the originals. I wrote back to Dr. Barnett informing that the plates contained on them an important Pāṇḍya grant which had been already noticed in the Epigraphical Report for 1908 and asked for certain details about them. He says briefly: "There is no seal on the grant; the plates are held by a thin copper-ring, which has been cut." The detailed measurement of the plates and their number, consequently, remain to be what has been described by Mr. Venkayya, viz., these are ten copper-plates, of which the first seven are numbered on the left margin on their inner sides and the impressions measure  $10\frac{1}{2}$ " by  $3\frac{1}{8}$ ", the first and the last plates being written only on their inner sides.

The writing on the plates is both in the Grantha and Vaṭṭeḷuttu characters, the first being used in Sanskrit passages (ll. 1 to 30 and ll. 142 to 150) and in all Sanskrit words that occur in the Tamil portion of the inscription. The Grantha characters and orthography do not call for any special remarks except that in almost all conjunct consonants, where they are written one below the other, the upper or the first member of the compound letter is marked by the *virāma*, following evidently the Tamil method of writing. The same influence is also observed in the pronunciation and spelling of Sanskrit words, e.g., *pārakan* and *purōkan* (l. 99), *kritāpatānan* (l. 100) and *kaṇḍakanishturan* (l. 100 f.). In one particular case, the purely Tamil word *antapar* (l. 61) is written partly in Grantha and partly in Tamil. The use of *tsha* for *ksha* (l. 114), *nma* for *tma*, *dma* for *lma* and *ri* for *ri* or *ru*, in compound letters, also shows the same influence. Consonants coming after *r* are always doubled except in °ṛṣṭ° in line 14 and °ṛṣṭ° in line 17. The *upadhānīya* and *jihvāmūliya* symbols are used throughout in their proper places. The *anuvāra* used in *-varggaṁ-yudhi* (l. 14) and in *saṁyati* (l. 28) is worth noticing. It denotes the *anunāsika* forms of *yu* and *ya* and is shaped in the form of a crescent with a dot in it placed over the heads of these letters. In his commentary on Pāṇini VIII-4-59 Bhaṭṭoji-Dikshita remarks that the *anuvāra* in such cases changes itself optionally into the nasal form of *ya*.

The Vaṭṭeḷuttu character so called, is an oblique form of Tamil (excepting certain letters) with a few angularities which on careful scrutiny could be easily accounted for. The only four letters in the alphabet whose form cannot be explained with reference to Tamil are the vowel letters *i* (𑌕) (see *irakki*° in line 40), *ai* (𑌕𑌃) (see *aimpadiṇvar* in line 135) and the more frequently occurring *ṇa* (𑌕𑌃𑌃) and *po* (𑌕𑌃𑌃). In the matter of the Vaṭṭeḷuttu palaeography of this inscription it might be noted (1) that the *puḷḷi* is correctly inserted throughout the inscription except in a few cases, e.g., *vōṭṭi*° (l. 31), *ettirattum*° (l. 47 f.), *arṇam* (*ibid.*), *-avarṇu* (l. 46) and *vēṭṭi*° (l. 37); (2) that it is unnecessarily inserted over the vocalic *e* and *o* and even

over the initial vowel letter *o*, as in *mennum*, *chchor*, (l. 34), *korakai*, *korraṇ*, *konḍa* (l. 35), *dēy* (l. 38), *goḷi* (l. 43), *neṇṇuṇi* (l. 45), *rrennan* (l. 46), *kkolai*, *chcheḷiyaṇ* (l. 50), *olḡāda* (l. 108 f.), *oḷōda* (l. 109), *poḷil* (l. 65), *pporu* (l. 63), *poruṭṭāga* (l. 71); and (3) that it is omitted in a few cases. The shaping of the long *ā*-sign in *rū* (l. 119), *nū* (l. 107) and *lū* (l. 76) and the use of the Tamil *aḷabeḍai* (Skt. *pluta*) in *kkolīya* in line 97 for the purpose of completing the metrical quantity are worthy of notice. This *aḷabeḍai* according to the Tamil grammarians is to be used in (i) selling articles, (ii) calling people at a distance and (iii) in filling up the metrical quantity in a verse. Pāṇini omits (i) and (iii). While in Sanskrit only vowels have *pluta*, in Tamil the consonants (nasals and sibilants) are also thus lengthened.

The orthographical peculiarities such as the insertion of *y* after consonants with the *e*-sign (ll. 94, 97f.); the substitution of the vowel *i* for *yī* (ll. 66, 115, 118, 140); the non-observance of euphonic rules in adding the suffixes *um* (l. 93), *uḷ* (l. 59), *in* (l. 93) and *oḍu* (l. 46 f.); the want of distinction between the long and the short *i* (except in the single instance *nirōḍ=attī* in line 117) and between the long and the short *o*, are noteworthy. *Puli-ūr* (l. 58), *mai-y-iruppai* (l. 121 f.), *chey-iḍai* (l. 122), *maṇi-imai* (l. 81), *kkali-araiṭaṇ* (l. 90), *kurai-uru* and *nirai-uru* (l. 102) are also cases of the omission of *sandhi*. *Paramēivarāṇār-Vēlvikuḍi* (l. 110) for *°nāl Vēlvikuḍi* and *veḷṭṭipattū* for *veḷṭṭipattū* (ll. 41, 49, 52, 88) are evidently wrong forms; *sekkuṇi* (l. 120) for *seykkuṇi* and *aimpadiṇvar* (l. 135) for *aimpadiṇmar* may be regarded as colloquial usages: similar also may be the use of *kuḍu* (l. 125) for *koḍu*. The form *iydu* (l. 152) for *idu* through the intermediate form *iḥdu* probably gives us the clue for the correct pronunciation of the Tamil *āydam*-sign which is now pronounced as the *jihvāmūliya* and the *upadhmanīya* forms of the *visarga*. The metre used in the Tamil portion of the inscription is the *Agaval* while in the Sanskrit portion the metres employed are: *Vamśastha* (vv. 1, 12), *Anushtubh* (vv. 2, 17, 20 and 23), *Vasantatilakā* (vv. 3, 9 and 19), *Śārdūlavikrīḍita* (vv. 4, 5, 6 and 10), *Mālabhārīṇī*<sup>1</sup> (vv. 7, 8, 15 and 16), *Upēndravajrā* (vv. 11, 14), *Drutavilambita* (v. 13) and *Āryā* (v. 18).

Paleographically, the Grantha characters of the Vēlvikuḍi grant differ from those of the Madras Museum plates of Jaṭilavarman,<sup>2</sup> although for reasons stated in the sequel, both of these have to be attributed to the period of the same king Neḍuṇjaḍaiyaṇ. The difference is distinctly observed in the formation of the *serif* which in the first case is a plain horizontal line, whereas in the second, it makes a loop with the letter. The bottoms of letters like *ma* and *ba* and the top of the vowel *i* are bent at the base line in the Vēlvikuḍi grant, whereas in the Madras Museum plates they either form one uniform curve, or are straight; the *upadhmanīya* and the *jihvāmūliya* signs are not used at all in the Madras Museum plates. The punctuation marks at the end of verses in the Vēlvikuḍi grant are the *piḷḷaiyār ūḷi* (२) whereas in the Madras Museum plates they are denoted by the so-called *ōm* symbol (३)<sup>3</sup>; *anuvāras* are more frequent in the Madras Museum plates than nasal conjuncts. The Vēlvikuḍi grant, in numbering the plates, uses the Grantha letter-symbols, whereas the Madras Museum plates use the usual Tamil numerals. In the Vaṭṭeḷuttu alphabet employed, however, the two grants do not seem to differ much, except in the case of the letter *ya* which in the Vēlvikuḍi grant as in the Āṇaimalai inscription,<sup>4</sup> is unisepate, while in the Madras Museum plates it is bipartite. This single difference in the characters of the Tamil portion which is the earlier, and perhaps constitutes the grant proper in both, need not show that the two grants must belong to different periods. The

<sup>1</sup> The scheme of this verse as given in the *Chāṇḍōmañjari* is:—

निबन्धे सप्तम्या यदा युक्तं चेत् सप्तम्या येन तु मातृभारिणीयम् ॥

<sup>2</sup> *Ind. Ant.*, Vol. XXII, with Plate, pp. 57 ff.

<sup>3</sup> The latest interpretation of this symbol is *siddhāḥ*, 'success.'

<sup>4</sup> Above, Vol. VIII, p. 317 ff.

insertion of the Grantha portion in the Velvikudi grant might have been somewhat earlier than that in the Madras Museum plates.

The Sanskrit portion of the record commences with an invocation to Śiva (verse 1) and goes on to refer in general terms to the Pāṇḍya kings and their race, of which the family priest was the sage Agastya<sup>1</sup> (vv. 2 and 3). At the end of the previous *Kalpa*, it is stated, there was a powerful king named Pāṇḍya who was ruling at the entrance into the sea (i.e., on the coast of a gulf) and that the very same king at the beginning of the current *Kalpa* was born as Budha, the son of the Moon (v. 4). His son was Purūravas; and in his family, whose crest was a pair of fish, which shared with Indra, the lord of gods, half of his throne and his necklace and was a party in the purāṇic churning of the milk ocean, was born king Maṇavarman, a patron of the learned (vv. 6 and 8). His son was Raṇadhira (v. 9) and his son Maṇavarman II Rājasimha (vv. 10 and 11) at whose presence the king P. Ilavamulla ran away from the battle-field (v. 12). This king Rājasimha married a Maṇava princess and by her begot king Jaṭila (v. 14), who was also called Parāntaka (v. 17). Thus ends the short Sanskrit eulogy (*prasaṅgi*) which was composed by the *Sarvakraṭuyājīn* Varōdaya-Bhaṭṭa (l. 30).

We may now pass on to what the bigger and the more important part of the record, the Tamil *prasaṅgi*, has to say, with the remark that the Sanskrit portion, by its brief notice and the very meagre historical material which it supplies in the form of a general introduction, could not have been contemporaneous with the Tamil portion. It was evidently added only later to give a dignified appearance to the grant proper which is in Tamil. This Tamil portion begins with the mention of a past event, namely, that the *kṣīri*-Brahmans<sup>2</sup> of Pāṇḍūr-Kūrṇam seeing that one of their own community, named Narkorṇan, the headman of Korṇai, who had contemplated the performance of a Vedic sacrifice, with the help of the ruling Pāṇḍya king (*ādhirāja*) Palyāgamudukuṇḍumi Peruvaḷudi, placed his petition before the king and themselves standing in front of the sacrificial hall, blessed that spot to be thenceforth (?) called Velvikudi.<sup>3</sup> The king granted the village to Narkorṇan and it was thus that the village came to be enjoyed by the latter for a long time. After this, a powerful Kali king, named Kaḷabhran, conquering many *ādhirājas*, brought under subjection the whole Pāṇḍya country including, of course the village Velvikudi which was then resumed. Some time elapsed and after this sprang forth a powerful Pāṇḍya, named Kaḷuṅgōn, who reconquered the whole land from his enemies. His son was Avanichūḷamani Maṇavarman. His son was Śeḷiyaṇ Vāṇavaṇ Śōḍan and his son, Arikēṣari Asamasaman Maṇavarman, who won a battle at Rūḷi against his enemies; defeated a certain Vilvēli at Nelvēli; destroyed the Paravas and the people of Kuru-naḍu; won a victory at Seṇṇilam, conquered the Kōraḷa several times at the strongly fortified town of Puliyūr; made many gifts and protected the Brāhmanas and the invalids. His son was Śaḍaiyaṇ, the lord of the Kōṅga country (Kōṅgarkōmaṇ), who was possessed of the titles Tappa-Vāṇavaṇ, Śembiyaṇ, Śōḷaṇ and Mādura-Karunṭakan,<sup>4</sup> won a battle at Marudūr,

<sup>1</sup> Agastya is also supposed to have been the founder of the Tamil language and the author of the Tamil grammar *Agattiyam* mentioned in Tamil literature. He is referred to as the family priest of the Pāṇḍyas also in Kāṭhāra's *Raghuvamśa*, VI. 61, and in the commentary on *Iraiyāṇḍr Agapporuḷ*.

<sup>2</sup> *Kṣīri-śaḍasāḷar* may also mean 'learned Brāhmanas'. But *kṣīri* seems to be used here in a technical sense. In inscriptions we find the word applied to a class of administrative officers whose business was to carry the applications of petitioners to the 'hearing' of the king. See also *Ep. Ind.*, Vol. III, p. 69, foot-note 7.

<sup>3</sup> I.e., the village of the sacrifice. In the Tamil portion in l. 108 f. it is stated that the village had the name Velvikudi given to it by king Mudukuṇḍumi.

<sup>4</sup> The significance of this title is not apparent. Could it be that like Śembiyaṇ and Śōḷaṇ, he could have acquired it by conquering the Western Chālukyas who were known as Karnāṭakas? But we know that these were too far away from the reach of the Pāṇḍyas. Another possible explanation is that the Pāṇḍyas might have intermarried with the Chālukyas and the issue of such an intermarriage might well be called 'the Sweet Karnāṭaka'. Again, the identification of the Kaḷabhran with Karnāṭa by Mr. Venkayya (see below p. 295) seems to gain in significance in considering the propriety of the title Mādura-Karunṭakan held by king Śaḍaiyaṇ.

defeated *Āyavēl* in battles at *Śeṅgoḍi* and *Pudāṅkōḍu*, destroyed the *Mahār-thas* at the big town (*Mahānagara*) of *Māṅgalepuram* and stamped the symbols of the bow, the tiger and the fish on the big mountain, viz., the Himalayas. This shows his supreme authority over the *Chēra*, *Chōla* and *Pāṇḍya* countries, whose symbols were the bow, the tiger and the fish, respectively. His son was *Tēr-Māraṇ* who routed his enemies at *Neḍuvayal*, *Kurumaḍai*, *Maṅgi-Kuṛiohchi*, *Tirumaṅgai*, *Pūvalūr* and *Koḍumbālūr*, defeated the *Pallava*<sup>1</sup> king and captured his elephants and horses in the battle of *Kuḷumbūr*, crushed his enemies at *Periyālūr* crossed the *Kāviri* (i.e., the river *Kāvērī*), subdued (the country of) *Māla-Kōṅgam*, reached *Pāṇḍi-kōḍumiḍi*, worshipped *Paśupati* (i.e., *Śiva*), contracted marriage relations with *Gaṅgarāja*<sup>2</sup> and renewed the fortifications of *Kūḍal*, *Vaṅḡi* and *Kōḷi*. His son was *Parāntaka Neḍuñḍaiyaṇ*, who drove the *Kāḍava* (i.e., the *Pallava*) into the forest, after defeating him in the battle of *Peṇṇāgaḍam* on the southern bank of the river *Kāviri* and won a battle at *Nāṭṭukkurumbu* driving away the *Āyavēl* and the *Kurumbas* to the forest. This king possessed a long list of *birudas* such as *Śrivarṇa*, *Śiṇa-chChōḷaṇ*, *Puṇa-pPūliyaṇ*, etc., enumerated in ll. 98 ff.

In the third year of the reign of this last mentioned king, a man having arrived at *Kūḍal* with a loud complaint, the king himself enquired into the matter with kind words and hearing from him how his village *Vēlvikudi* in *Pāgaṇūr-kāṇṇam*, originally granted under that name by his ancestor, the great king (*Paramēśvaran*) *Palyāgamudakuḍumi Peruvaḷudi*, was resumed by the *Kalabhra* and had since then remained so even after the resumption of Government by the *Pāṇḍyas*, he ordered the applicant to produce the necessary evidence before the *nāḍu* to prove that the village was his from early times and thus to get it back. The complainant proved his claim accordingly and the king renewed the grant to the applicant *Kāmakkāṇi Narchiṅgaṇ*, the headman of *Koṅkai*. The *ānatti* of the grant was *Madavikalaṇ Māraṅgāri alias Mūvēndamaṅgala-Ppēraraiyaṇ*, the crest-jewel of the *Vaidyakas* and a native of *Karavandapura*, and a favourite of the king of kings (i.e., the *Pāṇḍya* king *Neḍuñḍaiyaṇ*). It is stated of this *Māraṅgāri* that he fought bravely in the fight that ensued between the kings of the Eastern country (*Pūrva-rājar*) and *Vallabha* on the occasion when the daughter of *Gaṅgarāja* (the *Gaṅga* king) was procured for *Kōṅgar-kōṇ*.

Ll. 134 to 141 repeat that the owner of this *brahmadēya* (viz., *Vēlvikudi*) was *Kāmakkāṇi Suvarṇa-Śiṅgaṇ*, the headman of *Koṅkai*, by which perhaps the *Narchiṅgaṇ*, just mentioned, must be referred to. The composer of the *Tamiḷ prastāvi* was the *Sēnāpati Enādi alias Śāttāṇ Śāttāṇ*. This brings us to the end of the *Tamiḷ* portion. The next *Sanskrit* verse speaking of the *ājñapti* of the grant says that he was *Māṅgalarāja Madhurātara*, a *Vaidyaka* and a master of the *Śāstras*, a poet and an orator. Then follow four imprecatory verses which are expressly stated to be quoted from the *Vaiṣṇava-Dharma*. A *Tamiḷ* prose passage coming after this says that the king himself ordered the engraving of this copper-plate grant and that the engraver was a certain *Yuddhakēsari Perumbanaikkāraṇ*.

In noticing these plates in his *Annual Report on Epigraphy* for 1908, pp. 50 ff., Mr. Venkayya has already made it clear how *Kalpa-kṣayāt* in v. 4 has to be understood with reference to the traditional account of the deluge<sup>3</sup> or tidal wave in the *Pāṇḍya* country and to the survival of a king of the old *Pāṇḍya* line "of the race of the Moon and in all respects corresponding," under the name *Budha*. Similarly also, the mythical boast of the *Pāṇḍya* kings to have engraved their crest on the top of the Himalayas and to have shared one-half of *Indra's* throne and worn the garland of the king of the gods, has been shown to occur frequently in the later *Pāṇḍya* inscriptions. *Palyāgamudakuḍumi-Peruvaḷudi* is a historically famous *Pāṇḍya* king in whose honour

<sup>1</sup> The name of this *Pallava* king, which begins with *Śe*, is hopelessly damaged on the impression.

<sup>2</sup> Evidently the same mentioned in connection with the next king, his son *Neḍuñḍaiyaṇ*.

<sup>3</sup> Old *Madura* is supposed to have been washed away by the sea: see commentary on *Agapporuḷ*, p. 4.

five poems are known to have been sung by three famous Śaṅgam<sup>1</sup> poets and included in the Tamil anthology called *Puraṇṇūru*. In one of these he is stated to have captured the extensive forts of his enemies and to have destroyed and ploughed their streets with a team of white-mouthed asses. This way of dealing with the conquered countries seems to be a very old one. Dr. S. Konow points out that there is a reference to it in the Hathigumpha inscription of Khāravela.<sup>2</sup> It is mentioned also in some inscriptions of the later Pāṇḍya king Mājavarmaṇ Sundara-Pāṇḍya.I. The Kalabhra occupation of the Madura country and the consequent interregnum are also noted by Mr. Venkayya with the remark that the Kalabhra may be the Karnāṭa. After the interregnum came Kaṇṇagōṇ with whom the first academy (Śaṅgam) of Tamil poets is supposed to have come to an end. The list of the kings that followed Kaṇṇagōṇ to the donor Neḍuñjadaiyan is given in a genealogical table on p. 54 of the *Annual Report on Epigraphy* for 1908, together with further information supplied about them by two other sets of Pāṇḍya copper-plates<sup>3</sup> secured from Śiṅṇamaṇṇr. Mr. Venkayya thinks that Neḍuñjadaiyan of the Vēlvikuḍi grant must be different from Neḍuñjadaiyan of the Madras Museum plates published by him in the *Indian Antiquary*, not only on the strength of certain palaeographical differences already noted above but also on account of the different engravers who in the one case was Yuddhakēsari Pāṇḍiya-Pperumbaikaikāraṇ and in the other, Pāṇḍi-Pperumbaikaikāraṇ alias Arikēsari. He further identifies Neḍuñjadaiyan of the Vēlvikuḍi plates with Mārañjadaiyan of the Āṇaimalai cave inscription; for, between these two there is not only palaeographical similarity, but also it happens that the *ajñapti* of the former is the prime minister mentioned in the latter, both being called Māraṅgāri Mūvēndamaṅgalappēraraiyan, members of the Vaidya (or Vaidyaka) family and natives of Karavandapura with the attributes *Maduratara* and *Kuvi*. Consequently, the two kings Neḍuñjadaiyan and Mārañjadaiyan, who both bore the same surname Parāntaka, must be identical and the date of the Vēlvikuḍi grant must be about A.D. 769-70 which is the date of the Āṇaimalai inscription.

About the military achievements of Neḍuñjadaiyan we learn from this inscription that he defeated the Kāḍava king at Pennāgaḍam on the southern bank of the Kāvēri river and drove the Āyavēḷ and the Kuṇmbas in a battle fought at Nāṭṭukkuṇmbu. Again, a statement made about the *ajñapti* of the grant in lines 126-129, adds that Māraṅgāri rendered valuable service to his master Neḍuñjadaiyan by defeating a certain Vallabha at Venbai, on the occasion when the eastern kings secured the hand of the Gaṅga princess in marriage for Koṅgarkōṇ. Here Koṅgarkōṇ in order to suit the context, must be taken to be a surname of the Pāṇḍya king Neḍuñjadaiyan himself. This is not improbable, inasmuch as his grandfather Śāḍaiyan is also called in the inscription (Text, l. 70), Koṅgarkōmāṇ, and his father Tēr-māṇ is stated to have contracted relationship with the Gaṅga king (Text, l. 84). This latter event perhaps refers to the occasion when Māraṅgāri achieved the success mentioned above.

In spite of what Mr. Venkayya thinks about the identity of the kings mentioned in the Vēlvikuḍi plates and the Madras Museum plates there are strong reasons to believe that both refer to the same king. For, the ruling king Parāntaka Neḍuñjadaiyan and his *birudas* Paṇḍi-tavatsala, Virapurōga and Vikramapārāga occur in both. Further, the surname Śrīvaramaṅgala given to the granted village Vēlaṅṇuḍi in the Madras Museum plates makes it clear that the king must have also had the *biruda* 'Śrīvara' which we find actually given to him in the Vēlvikuḍi plates.<sup>4</sup> The special mention of Mārṭi Eyaṇaṇ in l. 136 of the Vēlvikuḍi plates as

<sup>1</sup> According to tradition there were three Śaṅgams or old academies of Tamil Poets. The date of the last of these has been widely discussed. The latest pronouncement on the subject is that it must have come into existence some time after the 6th Century A. D.

<sup>2</sup> *Acta Orientalia*, Vol. I, Part I, p. 23f.

<sup>3</sup> These plates are under publication by me in the *Epigraphia Indica*.

<sup>4</sup> Mr. K. V. Subrahmanya Ayyar also supposes it to be so; vide his *Sketches of Ancient Dehkan*, pp. 103 ff.

one of the fifty Brāhmaṇa sub-doneses marks him out as an important personage. From the Ānaimalai inscriptions, we know that Eyinaṇ was an epithet or surname held by Māraṇ Eyinaṇ, the younger brother of Māraṅgāri himself. Perhaps Māraṇ Eyinaṇ and Mūrti Eyinaṇ were both younger brothers of Māraṅgāri. The *ajñapti* of the Madras Museum plates was Dhirataran Mūrti Eyinaṇ, who was one of the *mahā-sāmantas* of the king. There is little doubt that Mūrti Eyinaṇ of our plates and Dhirataran Mūrti Eyinaṇ of the Madras Museum plates are identical and that thus also the king Neḍuñjaḍaiyaṇ mentioned in both these sets of plates is one and the same. If this identification is accepted the two allied plates together supply the full list of the military exploits of Neḍuñjaḍaiyaṇ. By the third year of his reign (the date of the present grant) Neḍuñjaḍaiyaṇ must have subdued the Āyavēl and the Kuṇṇambar and defeated the Pallavas south of the Kāviri; but before his 17th year (the date of the Madras Museum plates) he had carried his conquests right into the heart of the Koṅgu country and taken possession of it by defeating its king Adiyaṇ and his allies the Pallavas and the Kēraḷas. The conquest of the Koṅgu country and the desire to possess it seem to have been very strong with the Pāṇḍya kings. For, Śaḍaiyaṇ, the grandfather of Neḍuñjaḍaiyaṇ, held the title 'Lord of the Koṅgas' and his father Tēr-Māraṇ actually crossed the Kāviri, subjugated Maḷa-Koṅgam and had invaded that country even as far as Pāṇḍi-kKoḍumuḍi. Neḍuñjaḍaiyaṇ seems only to have followed in the footsteps of his ancestors in subduing the Koṅga-bhūmi, as far as the land of the Gaṅgas. The information that a Gaṅga princess was married into the Pāṇḍya family is not mentioned in any of the Gaṅga records of this period which falls into the reign of Śivamāra I (755 to 765 A.D.). The Vallabha or the Western Chalukya king who was defeated on this marriage occasion was probably Kirtivarman II who succeeded to the Chalukya throne in A.D. 746 or 747 and whose army is stated in his records to have defeated the army of the Kēraḷas, the Chōlas and the Pāṇḍyas.

From what is stated of the countries of Koṅgu and Kēraḷa in these inscriptions of Neḍuñjaḍaiyaṇ, it is not difficult to see that the former was bounded on the east and perhaps also on the north by the land of the Gaṅgas—the Gaṅgavāḍi 96,000 of the Western Gaṅgas of Talakāḍ and that on the south it extended far beyond Koḍumuḍi, as even to cover the northern portion of the later Rājāsārya-Vaḷanāḍu of the Chōlas which included in it the present Musiri and the Trichinopoly talukas. Coimbatore was in the western division of the Koṅgu-maṇḍalam. The king of the Northern (*vaḍa*) Koṅgu was Adiyaṇ<sup>1</sup>—the Adigaimāṇ or Adiyamāṇ of later inscriptions whose capital was at Dharmapuri, the ancient Tagaḍūr, in the Salem district. The Kēraḷa country was situated on the west coast beyond the Sahyādri mountains and may have included also the southernmost portions of the present Coimbatore district. In the 8th century, therefore, it looks as if the Koṅgu king allied himself with the Pallavas in the north and the Kēraḷas in the south and tried to oppose the invasion of the Pāṇḍya Neḍuñjaḍaiyaṇ. The Vallabha was defeated by the Pāṇḍya general and a Gaṅga princess was married into the Pāṇḍya family perhaps as a political measure. It is stated that Pūrvarājar put to flight Vallabha. Māraṅgāri also fought on the same occasion. Perhaps the Pūrvarājar were the chiefs of Gaṅgavāḍi subordinate to the Western Gaṅga king who contracted marriage relations with the Pāṇḍyas.

Mr. Venkayya observes again in his Epigraphical Report that the title Arikēsari occurring in text-line 62, was borne by a certain Neḍu-Māraṇ who is mentioned in the commentary of Nakkirar on *Iraiyānār-Agapporūḷ*. This latter work, as tradition says, was made available for the public by Nilakaṇḍaṇār of Muṣiri eight generations, *i.e.*, about two hundred years, after the actual date of Nakkirar. Mr. Venkayya seems to have gone wrong in identifying Neḍu-Māraṇ of literature with Tēr-Māraṇ of the Vēlvikuḍi plates where, however, the characteristic title Arikēsari is not given to him. The other titles, too, are not applied to him and the

<sup>1</sup> See remarks on his Nāmakkal inscription in the Madras Epigraphical Report for 1908, p. 75 f.

battles fought by him as described in the commentary under reference, are not found in the eulogy of Tēr-Māraṇ given in the Vēlvikuḍi plates. On the other hand, Māṇavarman, the great grandfather of the donor Neḍuñjaḍaiyan, is not only called Arikēsari but is also stated to have fought victorious battles at Pāḷi, Śēnṇilam and Nelvēli which same are mentioned of him in the commentary on the *Agapporuḷ*.<sup>1</sup> This mention, therefore, of the very same battles both in the plates and in the commentary, sufficiently warrants our identifying Neḍumāraṇ of the commentary with Māṇavarman, the great-grandfather of Neḍuñjaḍaiyan and not with Tēr-Māraṇ. Nakkirar has sung also of Neḍuñjeliyan in *Puraṇāpūru*, and it is not impossible that this Neḍuñjeliyan is identical with Śeliyan, the father of Arikēsari Māṇavarman.

Of the six ancestors of Neḍuñjaḍaiyan mentioned in the Tamil portion of the inscription and the three immediate ancestors mentioned in the Sanskrit portion, we learn nothing more than that the first king Kaḍuṅgōṇ who came to rule after the Kalabhra interregnum was a Pāṇḍy-ādhirāja,<sup>2</sup> that the next Māṇavarman bore the title Avanichāḷāmaṇi and that the third Śēndaṇ, also called Śeliyan and Vāṇavaṇ, was probably identical, as stated above, with Neḍuñjeliyan of the *Puraṇāpūru* fame. The fourth king, whose military achievements are given in detail, was Śrī-Māṇavarman Arikēsari Asamasaman, who in addition to the victorious battles mentioned already, destroyed the Paravas and the people of Kuṇu-nāḍu. The fifth Śaḍaiyan, also called Raṇadhira, was the lord of the Koṅgas, fought battles against the Āyavēl at Marudūr, and with the Mahārathas at Maṅgalapura; and the sixth, Tēr-Māraṇ or Rājasimha, defeated Pallavamalla, perhaps at Kuḷumbūr, and fought battles at Neḍuvayal, Kurumaḍai, Maṇṇikurichchi, Tirumaṅgai, Pāvalūr, Koḍumbālūr and Periyālūr and subjugated the country of Maḷa-Koṅgam as far as Pāṇḍi-kKoḍumiḍi. He contracted relationship with Gaṅgarāja, marrying the daughter of the Gaṅga prince to his son Neḍuñjaḍaiyan, himself having married the daughter of the king of the Maḷavas.<sup>3</sup> The fact that he defeated Pallavamalla shows that Tēr-Māraṇ must have been a contemporary of that king and lived about A.D. 710-760.<sup>4</sup>

As regards the territorial terms and village names that occur in the inscription, Pāgaṇūr-kūrṇam is identical with the division of that name in which the village Śōḷavandāṇ near Madura was included.<sup>5</sup> Maḷava is identical with Maḷa-nāḍu.<sup>6</sup> Kuṇu-nāḍu, and the granted village Vēlvikuḍi, and the villages Nagarūr, Koṇṇanpuṭtūr and Pāyal mentioned in the description of the boundaries of the latter cannot be identified. Koṇkai is the well-known seaport of that name in the Tinnevely District. Of the villages Nelvēli, Śēnṇilam, Puliyūr (in Kēraḷa), Marudūr, Maṅgalapura, Neḍuvayal, Kurumaḍai, Maṇṇikurichchi, Tirumaṅgai, Pāvalūr, Śēnguḍi, Puḍāṅgōḍu, Koḍumbālūr, Kuḷumbūr, Periyālūr, Pāṇḍikkōḍumiḍi, Kūḍal Vāñji, Kōḷi, Pennāgaḍam, Nāṭṭukkuṇumbu, Karavandapuram and Venbai,—Nelvēli is Tinnevely;

<sup>1</sup> *Ibid.*, pp. 129 ff.

<sup>2</sup> Describing the several grades of rulers, the *Kāmikāgama* states that an *adhirāja*—*ādhirāja* is the form which the inscription uses throughout the Tamil portion—holds the second rank among kings:—

चतुस्समुद्रपर्यन्तं पृथिवीं यः प्रपालयेत् ।

चक्रवर्ती सम्राट्पातः सम्राट्पथं प्रपालयेत् ॥

अधिराजस्तमाख्यातः

(*Hindu Iconography*, Vol. I, Part I, p. 29 n.)

<sup>3</sup> Maḷava is identical with the old Maḷa-nāḍu or Rājāsraya-Vaḷanāḍu (see *S. I. I.*, Vol. II, Introduction, p. 24, and *Historical Sketches of Ancient Dekkan*, p. 129).

<sup>4</sup> Udayachandra, the general of Nandivarman Pallavamalla, also claims in the Udayēndiram grant to have defeated the Pāṇḍya at Maṇṇaikkūḍi (*S. I. I.*, Vol. II, p. 368, Text, l. 60 f.). Perhaps we may have to identify Maṇṇaikkūḍi with Maṇṇikurichchi which is mentioned in the Tamil portion (Text, l. 73 f.) as one of the places where Tēr-Māraṇ was victorious.

<sup>5</sup> No. 127 of the Madras Epigraphical Collection for 1910.

<sup>6</sup> See above note 3.



Marudūr is perhaps Tiruppuḍaimarudūr near Ambāsamudram; Maṅgalapuram of the Mahārathas might be Mangalore; Koḍumbāḷūr is in the Pudukkōṭṭai State; Pāṇḍikkōḍumidi is the village Koḍumuḍi near Karūr a station on the South-Indian Railway; Kūḍal is Madura; Vañji is Karūr<sup>1</sup>; Kōḷi is Woraiyūr near Trichinopoly; Pennāgaḍam is in the Tanjore District; and Karavandapuram is the modern Kalakkāḍ in the Tinnevely District.

TEXT.<sup>2</sup>

## First Plate.

Svasti<sup>3</sup> [1\*]

- 1 Śriyañ-chiram vaś=śiśūr-āmsu-śekharaś-Śiva[h\*] śrit-ārtī-pratibandha-kāraṇam [1\*]  
tanōtu sauvarṇṇa-kapa-
- 2 rdda-sundarañ-kudarppa-Kandarppa-mada-pramarḍanaḥ 2 [1\*] Viśvambharā-  
bhara-āranta-śeṣha-viśrama-kāraṇam [1\*] ā-
- 3 kalp-āntam=bhuvi sthēyād-anvayaḥ=Pāṇḍya-bhūbhṛitām 2 [2\*] Astambhayat-  
kṣhiti-dharam=pravijṛimbhamāṇam=ambha-
- 4 s=samastam=apibaj-jaladhēś-cha yas=saḥ [1\*] Kumbh-ōdbhavō bhavati yasya  
munih=purōdhās=sa śri-nidhi-
- 5 r=ijayati Pāṇḍya-narēndra-vaṁśaḥ 2 [3\*] Asthād=apratima-prabhāva-mabitaḥ=  
Pāṇḍy-ābhūdhānō nidhē-
- 6 r=vvārādhvārī<sup>4</sup> mahipatis=tribhuvanō linē=pi kalpa-kṣhayāt [1\*] Dhātrā śriṣṭa-  
vatā punas=sa
- 7 jagatām rakṣhāttham=abhyarthitas=tējasvi tanayatvam=ētya śaśinō nāmnā Budh-  
ākhyō=bhavat 2 [4\*]

## Second Plate ; first side.

- 8 Putras=tasya Purūravā bhuja-bala-pradhvasta-daityaḥ=prabhus=tad-vaṁśō Sikhartin-  
dra-mastaka-śi-
- 9 lā-vinyasta-mataya-dvayō [1\*] Śakr-ārddh-āsana-hāra-bhāji śaraṇō viśvasya viś-  
vambharā-gēha-
- 10 svāmini śāsvatō yudhi jit-āśēś-āmar-āri-prabhan 2 [5\*] Dūtibhōta-divokasī<sup>5</sup>  
kṣhitidhara-kṣhu-
- 11 bdh-ābhisamkṣobhita-kṣhīr-ōdanvati Kumbha-sambhava-kara-prāpt-ābhishēka-kriyō  
[1\*] iṣṭ-ārtth-ārppaṇa-
- 12 tarppit-ārtthi-janat-āpūṇṇa-kṣhamā-maṇḍalō janm-āvāpa jaga<sup>6</sup>-tray-ārchchita-guṇa[h\*]  
śri-Māravarmma nri-

<sup>1</sup> Pandit Raghava Aiyangar of Ramnad has proved from copious references to literature that the earliest Vañji is Karūr. But an inscription at Dhārāpuram mentions the town Koṅgu-Vañji, suggesting thus, another Vañji which was perhaps the earlier and the capital of Chēra.

<sup>2</sup> From two excellent impressions supplied by Dr. Fleet to Mr. Venkayya in 1893 and another supplied by Dr. L. D. Barnett to me in 1915.

<sup>3</sup> These two syllables are written on the left margin of the plate.

<sup>4</sup> Read \*rvārādhvārī.

<sup>5</sup> Read -divokasi.

<sup>6</sup> Read jagat<sup>6</sup>.

2  
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6

2  
4  
6

II a

8  
10  
12  
14

8  
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12  
14

ii b.

16  
18  
20

16  
18  
20

III a.

22  
24  
26  
28

22  
24  
26  
28

iii b.

30  
32  
34  
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|    |                                                                                           |                                                                                           |
|----|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 38 | <p>         38<br/>         40<br/>         42<br/>         44<br/>         46       </p> | <p>         38<br/>         40<br/>         42<br/>         44<br/>         46       </p> |
|----|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|

48  
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54  
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56

Handwritten text in a script, likely Tamil, arranged in approximately 10 horizontal lines. The text is written in a dark ink on a light-colored background. The script is dense and appears to be a form of classical or historical writing. The lines are numbered 48 through 56 on the left margin.

|    |                                                                                            |    |
|----|--------------------------------------------------------------------------------------------|----|
| 58 | <p>  </p> | 58 |
| 60 |                                                                                            | 60 |
| 62 |                                                                                            | 62 |
| 64 |                                                                                            | 64 |
| 66 |                                                                                            | 66 |

[illegible]

78  
 80  
 82  
 84  
 86

- 13 Paḥ 2 [6\*] Dharanī-valayam samastam=etan-nija-dōrdḍaṇḍa-mah-ōrag<sup>1</sup> va  
bibhṛit<sup>1</sup> [1\*] aharat-sa bhu<sup>2</sup>  
14 jaṅgam-ādhibhartuś=chira-kāl-ōdvahana-klaman-dharāyāḥ 2 [7\*] Adhiruhya  
tulām=a-mitra-varggam=yudhi ji-

*Second Plate; second side.*

- 15 tv=Āmṛita-garbbhatō janitvā [1\*] sudhiyām=adhipas=suvarṇṇa-rāśim vidhivat-sa  
pratipādayām-babhūva [2] [8\*] Tasya=ā-  
16 <sup>3</sup>nmajas=taruṇa-bhāskara-tulya-tōjā rājā babhūva Rāṇadhīra iti pratitah [1\*]  
yō lilay-aiva bhuvana-  
17 sya babhūre bhāram hāram yath=āsyā guravas=suranāyakasya 2 [9\*] Putras=  
tasya Purandara-pratikṛtir=bhū-  
18 sundarī-vallabhō namr-āsēsha-narēndra-vēṣṭana-maṇi-vrāt-āvṛit-āṁghri-dvayaḥ [1\*]  
āsīt-satya-sakhaḥ=pa-  
19 rākrama-dhanaḥ=<sup>4</sup>patmāsānāyāḥ=patir=vvidy-āchāra-vibhūṣhaṇa[h\*] śruta-[dha]ra[h\*]  
śri-Māravarmma=ābhidhaḥ 2 [10\*] Sa Rāja-  
20 siṁhas=sarasiruh-ākshō bhayam bhuvī prāṇa-bhūtām=apāsya [1\*] raraksha  
dakshaḥ kshapit-āri-paksha-  
21 <sup>5</sup>k=kaṣamāṭalam kṣmā=patir=akṣat-ājñāḥ 2 [11\*] Narō nu Rakṣhō nu Harō  
nu Pūrushaḥ=parō nu Śakrō nu

*Third Plate; first side.*

- 22 sarōsham=āgataḥ [1\*] iti [sma] matvā yudhi yam=bhay-ā[rddi]taḥ=[pa]lāyatō  
[Pallava]malla-bhūpa-  
23 tiḥ 2 [12\*] Kanaka-garbbha-kṛita-prasavaḥ=punās=samadhīruhya tulām=atulām=  
api [1\*] akira[t=ā]-  
24 rttham=apākṛita-kalmashō dvija-daridra-sur-āyatanō=shu yaḥ 2 [13\*] Mahā<sup>6</sup>-  
kulīnām=Mālav-ēndra-[ka]-  
25 nyām sa Māravarmma<sup>7</sup> sadraśīm<sup>8</sup>=uvāha [1\*] ajāyat=āsyām Hara-sūnu-kalpō  
jagad-dhitārtthañ=Jaṭi-  
26 l-ābhidhānaḥ 2 [14\*] Aśishat=sa dharām=ahīna-sārah=kṣhitipañ=kṣhālita<sup>9</sup>-  
kalmash-ānushaṅgam [1\*] nata-rā-  
27 jaka-mauli-ranna<sup>8</sup>=raśmi-prakar-ābhyarchchita-pāda-patma<sup>9</sup> pīṭhaḥ 2 [15\*] Khalayē  
sa guṇān=adāt=Kṛitasya  
28 sva-bhujābhyām sura-pādapa-svabhāvam [1\*] abhayam śaraṇāgata-prajābhyas=su  
divam samṛyati śa-

<sup>1</sup> Read *bibhṛat*.

<sup>2</sup> Read *pakṣaḥ kaṣamā*.  
Read *kṣhitipañ kṣhā*.

<sup>3</sup> Read *°tmaja*.

<sup>4</sup> Read *Mahā*.  
<sup>5</sup> Read *ratna*.

<sup>6</sup> Read *padmā*.

<sup>7</sup> Read *sadṛśim*.  
<sup>8</sup> Read *padma*.

*Third Plate ; second side.*

- 29 tru-pārtthivēbhyah ॐ [16\*] Rājatām ॐ mahtpāla-kirtt-ārppita-śāsanah [1\*]  
 Rājasimha-suto rā-  
 30 jā chiram=urvyām=Parāntakah ||||— [17\*] I-prasasti Sarvvakratu-yāji āgiya  
 Varōdaya-Bhaṭṭapār-che-  
 31 yyappattada ||||— Kol-yānai-palay=ōtti-kkūḍā-maggar-kulān=tavi-  
 32 rtta Palyāga-Mudukuḍumi=pPeruvajudi ennum Pāṇḍyādhirājanā-  
 33 nāga-mā-malar-chchōlai-naḷir-śinaimiśai-vaṇḍ-alambum Pāganūr-  
 34 kkūrṛam<sup>1</sup>=ennum paḷapa-kkiḍakkai-nīr-nāṭṭu-chchoṭṭakannālar-śo-  
 35 lappattā śrutimārggam-piḷaiyāda Kōṭṭai-kilā-Narkorṛaṇ koṇ-  
 36 ḍa vēlvi murrūvikka kēlvi-andaṇḍēlar munbu kēṭka eṇr-eḍut-

*Fourth Plate ; first side.*

- 37 t=uraittu vēlviśālai-munbu niṇṇu Vēlvikuḍi eṇr=a-ppadiyāi-chchē-  
 38 rōḍu tiru-valara-chcheydār [||\*] Vēndaṇ=appoludēy nīrōḍ-aṭṭi-kkoḍuttamai-  
 39 yā=piḍu-bhukti <sup>2</sup>tuttapiṇ[||\*]=Alav-ariya ādhirājarai agala nikki agal-iḍattai-  
 40 kKaḷabhrāṇ=ennum=Kali-araiśaṇ kaikkōḍ=adapai iṭakkiyapiṇ[||\*] Paḍu-kaḍaṇ-mulai  
 41 tta parudi-pōla Pāṇḍyādhirājan vēlirpaṭṭu viḍu-kadir-avir-ōḷi vilaga viṇṇi-  
 42 rundu vēlai-sūḷnda-viyal-iḍattu-kkōvūn=kuṇumbum pāvudaṇ murukki-chche-  
 43 nkol=ōchchi vēṇ-kuḍai-niḷar-raṅ-ōḷi-nirainda Taraṇi-maṅgaiyāi=ppiṇar-  
 44 pāl=urimai tiravidi=nikki-ttannpāl=urimai nannaṇam=amaitta māṇam-pē-  
 45 rtta-tāṇai-vēndaṇṇ=ōḍuṅgā-maggar-ōḷi-nagar=aḷitta Maḍuṅgōṇ=ennum=kadi-  
 46 r-vēr-Rēnnan [||\*] Maṇṇ-avaṇku magar-āgi mahitalam poḍu-nikki Malar-maṅgai[y\*]-o-

*Fourth Plate ; second side.*

- 47 ḍu magar=ayannda aram-il-aḍar-vēr-rāṇai-Ādhirājan Avāṇiōḷḷāmapi etti-  
 48 rattum=igal-aḷikku=matta-yāṇai Māravarmman [||\*] Maṇṇ-avaṇku maruv-iṇiya  
 oru-magar-ā-  
 49 gi Maṇ-magaḷai maṇu-kkaḍindu vikramattin vēlirpaṭṭu vilāṅgal-vēl-po-  
 50 pi-vēndaṇ-vēndaṇ śilai-ttāḍa-kkai-kkolai-kkalirru-chChaliyan Vāpavaṇ  
 51 śēṅkōṭ-Chēndaṇ [||\*] Maṇṇ-avaṇku=ppaḷipp-iṇri vaḷi-ttōṇri Udayagiri-madhyama-  
 52 tt=uru-ēṇḍar-pōla=ttēṇr-eṇru diśai naḍuṅga maṇṇ-avaṇ vēlirpaṭṭu-chchē-  
 53 ḷi-yānai śelav=undi=pPāḷivāy=amar-kaḍandu Vilvēli-kkaḍar-rāṇaiyāi  
 54 Nēlvēli-chchern veṇṇum viṇvi-vand-aḍaiyāda Paravarai=ppāl-paḍut-  
 55 tum=arukāl-iṇam puḍai tēḷaikkūn=Kurunāṭṭavar-kulān=keḍuttu-  
 56 ā-kai-anaḷatta-kaliṇ=undi=chChennilattu-chchern veṇṇum pār-aḷavun-

<sup>1</sup> The *paṇḍi* is marked over *me*.<sup>2</sup> Read *tuṇṇa*.



Velvikudi Grant of Nedunjadaiyan : the 3rd year.

vi b.

88  
88  
90  
90  
92  
92  
94  
94  
96  
96

vii a.

98  
98  
100  
100  
102  
102

vii b.

104  
104  
106  
106  
108  
108  
110  
110  
112  
112

viii a.

114  
114  
116  
116  
118  
118  
120  
120  
122  
122

viii b.

124  
124  
126  
126  
128  
128  
130  
130

ix a

132  
134  
136  
138  
140

Handwritten text in Tamil script on a palm leaf, fragment ix a. The text is arranged in approximately 10 horizontal lines across the length of the leaf.

132  
134  
136  
138  
140

ix b.

142  
144  
146  
148

Handwritten text in Tamil script on a palm leaf, fragment ix b. The text is arranged in approximately 10 horizontal lines across the length of the leaf.

142  
144  
146  
148

x.

150  
152  
154

Handwritten text in Tamil script on a palm leaf, fragment x. The text is arranged in approximately 10 horizontal lines across the length of the leaf.

150  
152  
154

*Fifth Plate ; first side.*

- 57 [ta]ni-ohcheakōr-Kēra]apai-ppala-mu[raiyum-urimai]-ohchunram[ōd-avar-yē]pai-  
 58 [y\*]um purisai-mmadir-Pul[y\*]ūr-ppaga-nā]igai ira[v]āmai iga[l-ā]-  
 59 li[y\*]u] veṇṇu koṇḍum vēl-ā]li[y\*]um viyaṇ-paraṃbum=ēlāmai śeṇ-  
 60 r=erind=a]ittam Hiranyagarbhamun=Tulābhāramun=daraṇimīśai-ppala śey[du]  
 61 antaṇarkkum aśaktarkkum vand-aṇaiga eṇr-itt=a]itta makarikai-aṇi-maṇi-  
 62 neḍu-muḍi-Arikēśari Aśamasaman āri-Māravarmman [||\*] Maṇṇ-avaṇku maṇṇ-  
 āgi-kkoṇṇa-vē-  
 63 l valaṇ-ēndi=pporud=ūruṇ-kaḍar-rāṇaiyai Mārudūruṇ māṇb-a]itt-Āyavē-  
 64 lai agappaḍa ey-eṇṇāmai erind=a]ittu=chCheṇḍoḍi[y\*]um Puḍaṇ[kō]t-  
 65 tuṇ=cheru veṇṇ-avar-śiṇaṇ=tavirttu=kkoṇḍ-alaruṇ-naṇuṇ-po]ilvāy=kku-  
 66 [y\*]i[lo]ḍu ma[y\*]il-agavu=Māṇḍalanuram=eṇṇuṇ mahē-nagaruṇ Mahāratharai e-

*Fifth Plate ; second side.*

- 67 rind=a]itt-aṇai-kaḍal-valāgam poḍu-mo]i agarri=chchilai[y\*]um puli[y\*]am  
 68 kayaluṇ=cheṇṇu nilaiy-amai-neḍu-varai-iḍava[y\*]ir=kiḍāy maṇṇ-iṇid-āṇḍa  
 69 taṇṇ-a]i-ohcheakōr-Bēṇṇa-Vāṇavaṇ Śembiyaṇ Śō]aṇ maṇṇar-maṇṇa[u\*] maḍu-  
 70 ra-Karunāḍagaṇ koṇ-ṇaviṇṇa neḍuṇ-ehṇḍar-vēr-Kōṇḍar-kōmaṇ kō=chChadaiyāṇ  
 [||\*]  
 71 Maṇṇ-avaṇku putraṇāy Maṇ-magaḷadu poruṭṭāga matta-yāpai śelav-undi māpa-  
 72 vēl valaṇ-ēndi=kkaḍu-viśaiyā]l=edirndavarai Neḍuvayalvāy nigar=a]i-  
 73 ttu=kkaṇuv-aḍainda maṇattavarai-kKurumaḍaivāy-kkūrpp=a]ittu Ma-  
 74 ṇṇikurichohi[y\*]un=Tirumaṇḍai[y\*]u=munṇiṇṇavar muraṇ=a]ittu mēvalō-  
 75 r-kaḍar-rāṇai[y\*]ōd=ēṇṇ-edirēy vandavarai=pPūvalūr-ppuṇaṇ-gaṇḍuṇ=

- 76 koḍum-purisai-nneḍuṇ-kiḍaṇḍiṇ-Koḍumba]ūr-kkūḍar-kaḍum-pari-

*Sixth Plate ; first side.*

- 77 [y\*]uṇ-karuṇ-kaliguṇ=kadir-vēliṇ=kaikkōṇḍuṇ-Chēva . . . [kū]ḍāda Pallavaṇai-k  
 78 Kuḷumbūruṇ=ṭēś-a]iya eṇṇ-iṇanda mā]l-kalirum-ivu[li]ga]lum pala kavaruṇ-  
 79 dum taraiyalarāy-ttarittavarai=pPeriyalūr-pplḍ-a]ittuṇ pā]viri[y\*]u-  
 80 m-po]liṇ-chōlai-kKēviriya]i=kkaḍandiṭṭ-a]aṇ-ama]inda vār-śilai[y\*]iṇ Maja-Ko-  
 81 ṇḍam=aḍippaḍuttu miṇḍ=oliya-maṇi-imaikkum=a]il-ama]inda neḍum-pu-  
 82 riśai=pPāṇḍikkōḍumiḍi śeṇṇ-eydi=pPaśupatiyaḍu paṇma-pāḍam paṇind=ē-  
 83 tti-kkanaka-rā]i[y\*]uṇ-kadir-maṇi[y\*]uṇ mana-maṇṇa]a]l=kkuḍuttittuṇ-kōṇḍa-  
 84 r-van-naṇuṇ-kaṇṇi-kKaṇḍa]a]l-rā]aṇḍa sambandhaṇ=cheyḍum eṇṇiṇandana Ga-  
 85 sahasramuṇ Hiranyagarbhamun=Tulābhāramuṇ maṇṇiṇmīśai-ppala śeyḍu ma-  
 86 ṇai-nāviṇḍor kuṇai-tirttuṇ-Kūḍai Vā]ji Kō]i eṇṇu-māḍa-mā-madi-

*Sixth Plate ; second side.*

- 87 l puḍukki[y\*]um=aṇai-kaḍal-valāgaṇ=kuṇaiyāḍ-āṇḍa maṇṇar-maṇṇa[u\*]-Bēṇṇavar-  
 maṇṇa-

<sup>1</sup> Read magi]a.

<sup>2</sup> Read kKaṇḍa.



- 88 n māṇa-veṇ-kuḍaimāṇ=Ṛēr-Māraṇ [||\*] Maṇṇ-avaṇku magāṇ-āgi Māl-uruvip veliṇpa-  
 89 tṭu=kkoṇṇa-mūṇṇ-uḍaṇ-iyamba=kkūḷir-veṇ-kuḍai maṇ kāppa Pū-magaḷum Pu-  
 90 la-magaḷum Nā-magaḷum-nalaṇ-ōtta=kKali-araiṣaṇ vali taḷara=ppoliviṇoḍu vi-  
 91 rirundu karuṇ-kaḍal-uḍutta peruṇṇaṇ-ñāḷattu nāṅ-perum-paḍai[y\*]um pā-  
 92 ppaḍa=pparappi=kkarudādu vand=edir-malainda Kāḍavaṇai=kkāḍ-aḍaiya=ppū-vi-  
 93 ri[y\*]um-puṇaṇ-kaḷani-kKāviri[y\*]iṇ-ṇeṇkaraimēṇ-ṇaṇṇ-āgam-malar-chchōlai-  
 94 pPennāgaḍatt=amar veṇṇun=tt-vāy-a[y\*]il=ēndi=ttīḷait=edirōy van-  
 95 d=iṇutta Āyavēlai[y\*]uṇ=Kuṇumbarai[y\*]um=aḍal-amaruḷ=aḷitt=ōṭṭi=kkāṭṭu-  
 96 [k]kuṇumbu ēeṇṇ-aḍaiya Nāṭṭukkuṇumbiṇ=cheru v[e]ṇṇum=arai-kaḍal-vaḷā-

*Seventh Plate ; first side.*

- 97 gam=oru-moḷi=kkolṇiya śilai-mali-taḍa-kkai Teṇṇa-Vāṇavaṇ avaṇō-  
 98 y Śrīvaran Śrī-manōharan Śiṇachchōḷaṇ Puṇappūḷiyaṇ vitakanmashan<sup>1</sup>  
 99 vinayaviśrutan<sup>2</sup> vikramapārakan vīrapurōkan marudbalan mānyaśāsanān Manūpaman  
 100 mardditavīran giristhiran gitikinnaran kṛipālayan kṛitāpatānan Kalippagai  
 kaṇḍa-  
 101 kanishṭuran<sup>3</sup> kāryadatkhiṇan<sup>4</sup> kāmukha<sup>5</sup>-Pārtthan Parāntakan Paṇḍitavatsalan  
 paripūrṇan pā-  
 102 pabhīru kurai-uṇ-kaḍaṇ-paḍai-ttāṇai-ṇuṇagriḷayan gūḍhaniṇṇayan<sup>6</sup> nirai-uṇ-mala-  
 103 r-maṇi-niṇ-muḍi-Nēriya[r\*]kōṇ=Nēduṇḷaḍaiya[n\*] [||\*] Maṇṇ-avaṇṇaṇ rājya-  
 vatsalam<sup>7</sup> mūṇṇā-

*Seventh Plate ; second side.*

- 104 vadu śelāṇirpa āṅg=oru-nāṇ=māḍa-mā-maḍiṇ-Kūḍaṇ-pādu niṇṇavar ā-  
 105 krōdhikka=kkōṇṇavaṇōy maṇṇ-avarai=ttēṇṇa nangu kūvi eṇṇōy nuṇ-kurāi  
 106 eṇṇa muṇṇāga=ppaṇitt-arūḷa mē-nā=ṇiṇ-kuravarāṇ=pāṇ-murāi[y\*]iṇ va-  
 107 ḷuvāmai māṇa-tōy-malar-chchōlai=pPāṇaṇūr-kkūṇṇattu=ppaḍuvadu  
 108 āḷva-tāṇai-aḍal-vēndōy Vēḷvikūḍi eṇṇum piyar-uḍaiyadu o-  
 109 lgāda vēṇ-rāṇai[y\*]oḍ=oda-vēli uḍaṇ kātta Palyāga-Mudukudumi-  
 110 pPeruvaḷudi eṇṇum Paramēśvāraṇ<sup>8</sup> Vēḷvikūḍi eṇṇappaṭṭadu  
 111 kēḷviyir-rarappaṭṭadaṇai=ttuḷakkam-illā kaḍaṇ-rāṇaiy-āya Kalabhra-  
 112 rāḷ=iṇakkappaṭṭadu eṇṇa niṇṇavaṇ vijūḷaṇṇaṇ=cheyya naṇṇu naṇṇ-eṇṇu  
 113 muṇṇaḷittu nāṭṭā=ṇiṇ paḷamaiyādal kāṭṭi ni [koḷgav=eṇ]ṇa nāṭṭ[ā]ṇ-rāṇ

*Eighth Plate ; first side.*

- 114 paḷamaiyādal kāṭṭiṇṇaṇ=āṅg=appaḷudōy kāṭṭa mē-nāḷ=e[ā]-kura-  
 115 varāṇ-pāṇmurāi[y\*]iṇ-rarappaṭṭadaḷ emmāḷun-tarappaṭṭad=eṇṇa śo-  
 116 mmāṇḍ=avaṇ=eḍutt-arūḷi viṇ-kai-ttāḍa-kkai-vīḷal-vēndaṇ Koṇṇai-kīḷ-  
 117 n Kāmakkāṇi Nāṇḷiṇṇaṇku=ttēr-ōḍuṇ-kaḍaṇ-rāṇaiyāṇ=niṇōḍ-aṭṭik[ko]-  
 118 ḍuttamai[y\*]iṇ maṇṇ-idarṇku=pperu-nāṅg-ellai terṇṇa viritt-uraip-  
 119 piṇ-puṇaṇ-arū-poliṇ=maruṇṇ-uḍutta Nāṇḷūr-ellaikkum mēkkum maṇṇ-idarṇku-

<sup>1</sup> Read \*kashashan.<sup>2</sup> Read \*nishkuran.<sup>3</sup> Read pādāvirṇayan.<sup>4</sup> The original has the impossible combination \*vīṇṇutan.<sup>5</sup> Read \*kāryadatkhiṇan.<sup>6</sup> Read \*kāmuka.<sup>7</sup> Read \*vatsalam.<sup>8</sup> Read pāl.

- 120 tt[e]n ellai Kulandaiyañ-Kālvandai-śe[y\*]kkuñ=Kalandai-kkulattil=ślukk[u]  
 121 vadakkum marri-idarku mēl-ellai agram-illā=kKorraputtō(r)r-Oḍumaiy-i-  
 122 ruppai-chchey-idai mōrralai=pperuppirku=kkilakkum marri-idarku vadapā-

*Eighth Plate; second side.*

- 123 l-el[lai kāya]luṭ=kamalam malarum Pāyaluṭ vadapālai=pperuppirku=t-  
 124 terkum ivv-iyait[ta\*] perñ-nāng-ellaiyir-paṭṭa pūmi kārānmai miyāṭchi  
 125 ull-aḍaṅga mēl-eñ-guravarār=kudukkappaṭṭa pariśēy emmāluñ=[ko]ḍuk-  
 126 kappattadu [[\*] Marri-idark-āṇatti kurram-iṇṇi=kkūruñkālai=kkōṅgar-van-na-  
 127 ruñ-kaṇṇi-<sup>1</sup>kGūṅgarājanadu kanyā-ratnañ Kōṅgar-kōṇṇu=kkunandu koḍuppa ārp-  
 128 p-aṇā-adar-rāṇai-pPūrvvarājar pugaṇṇ-eḷundu vil-viravuñ=kaḍar-rāṇai-[Va]llabhanai  
 129 Veṇbaivāy āl-amaruñ=olind-ōḍa vāḷ-amaruñ=uḍaṇ-vavviya ēṇa-ppor<sup>2</sup>  
 130 igal-amaruñ-iḍi-urum-ēṇa valaṇ-ēnda [malai]tta-tāṇai-Madavikalāṇ<sup>3</sup> mappar-kō-  
 131 ṇ-aruliṇ=peṇṇuñ=kol-valaikkum-vēr-rāṇai-ppal-valai-kkōṇ kunara-

*Ninth Plate; first side.*

- 132 ppaṭṭu=ppōr-vandavar-madan=tavirkkuñ=Karavandapurattavar-ku[la-t]tōṇṇal māy=ēñ-  
 133 duñ = kaḍar - rāṇai - Mūvēndamaṅgalappērarai[ya]ṇ = āgiya Vaidyaka-śikhāmaṇ<sup>4</sup>  
 Māraṅgā-  
 134 ri [[\*] I-ppiramadēyam-uḍaiya Kōrkai-kilāṇ Kāmakkāṇi Śuvarañ-Jiṅgaṇ i-  
 135 daṇuḷ mūṇṇil-onṇun=ṭaṇakku vaiṭṭ=iraṇḍu-kūrum aimpadiṇṇar Brāhma-  
 136 ṇarkku nīrōḍ-aṭṭi=kkoḍuttāṇ [I\*] Idaṇuḷ Mūrtti Eyiṇaṇ śavai[y\*]ōḍ=o  
 137 ttadu nāng-arai-ppaḍāgāram-uḍaiyaṇa [I\*] Idaṇṇ-ṭaṇakku vaiṭṭa oru-kūṇṇilu-  
 138 n=tambimārku nāṅgun=tañ=chirappanār-makkalukku ārum sa-  
 139 bhai[y\*]ōḍ=otta paḍāgārañ=kōḍuttāṇ [I\*] I-ppraśasti pāḍiṇa Sēṇāpa.  
 140 ti Eṇādi ā[y\*]iṇa Śattañ-Chāttarku mōṇṇu kūṇṇārum-āy=t-  
 141 taṅgaḷōḍ=otta nāngu paḍāgārañ=kōḍuttār [I\*]

*Ninth Plate; second side.*

- 142 Āst<sup>5</sup>=Maṅgalarājō Madhuratarah śāstravit=kavir=vvāgmī[I\*] Ajñaptir=asya  
 Vaidyaḥ Karavandapur-a-  
 143 dhivēstavyaḥ 2. [18\*] <sup>6</sup>Ratshān=narah parakṛitau vidadhīta vidvān=pādā hi  
 Dharmma yaśasaḥ para-  
 144 masya labdhā[h\*] [I\*] Dhātr=aiva <sup>7</sup>śraśṭam=akhilam <sup>8</sup>bhuvanan=tath=api  
 ratshāntri<sup>9</sup> puṇyatatayaḥ <sup>10</sup>prathivīn=narēndrā[h] || [19\*] ||<sup>4</sup>  
 145 Na hi bhūmi-pradānād=vai dānam=anyad=viśiṣhyatē [I\*] na ch=api bhūmi-haraṇāt  
 pāpa-  
 146 m=anyad=vidhiyatē 2. [20\*] Dātā dās=ānugrahṇāti<sup>11</sup> yō harēd=dāśa hanti  
 cha [I\*] atit-ānāgatā-

<sup>1</sup> Read *kKaṅga*.

<sup>2</sup> These two syllables are written over an erasure.

<sup>3</sup> For the ornamental form of the punctuation, see Plate.

<sup>4</sup> On the use of *tska* for *ksha*, see above, p. 1.

<sup>5</sup> Read *bhūmanam*.

<sup>10</sup> Read *prī*.

<sup>6</sup> Read *vikāśa*.

<sup>7</sup> Read *śraśṭam*.

<sup>8</sup> Read *śraśṭam*.

<sup>9</sup> Read *nti*.

<sup>11</sup> Read *grī*.

1.7 nī-ha kulāni kula-nandana २ [21\*] Sva-dattām para-dattām vā yō harēta  
vasundharā-

148 m [i\*] na tasya [na]rakāt<sup>1</sup>-ghorād-vidyāt<sup>2</sup> nishkṛitih kvachit २ [22\*]  
Bahubhir-vvasudhā

*Tenth Plate.*

149 dattā bhujyātē h[i] <sup>2</sup>tarādhipaiḥ [i\*] yasya yasya yadā bhūm[i]s=tasya  
tasya ta-

150 dā phalam [23\*] ||<sup>3</sup> chatvārah imē Vaishṇavē Dharmē ślokaḥ ||<sup>3</sup>

151 Marri=i[da\*]ṇai-kkattār malar-aḍi eṇ muḍi mēla eṇṇu korraṇaṇēy paṇi-

152 tt-aruli-tterrepa-ttāmra-śāsanañ=cheyvittāp ||||— Iyḍ=eludi-

153 ṇa Śuttakēśari=pPerumpapaikarapukku perumakkaḷ aruḷāḡ-peṇṇa-

154 du oru illa-vaḷāyom iraṇḍu mā-chehey[y\*]um oru paṇchey[y\*]u-

155 m peṇṇāṇ ivai Yuddhakēśari=pPerumbapaikā[ra\*]p-eḷuttu [||]

TRANSLATION.

(Verse 1). Hail ! May Śiva, whose head ornament is the cool-rayed (moon), who is the (primeval) cause for the cessation of the sufferings of the devoted, who is beautiful with matted hair of golden hue, and who crushes the mischievous pride of Kandarpa (Cupid), grant you perpetual happiness.

(V. 2). May the line of Pāṇḍya kings, the cause of rest to (the serpent) Śēsha who is fatigued by bearing the burden of the Earth (on his head), prosper on this earth to the end of the kalpa.

(V. 3). Victorious is the race of Pāṇḍya kings, the mine of prosperity, whose family priest is the sage (Agastya) born of the pitcher, who stopped the rapidly growing mountain from (further) growth, and drank all the water of the ocean.

(V. 4). There was (ruling) at the entrance into the sea a king famed for his matchless prowess, named Pāṇḍya, who, even after the three worlds had disappeared at the end of the kalpa, was requested again to rule the worlds by the Creator who created (these) anew, and was born as the splendid son of the moon and named Budha.

(Vv. 5 and 6). His son was Purūravas, who crushed the kings of giants by the strength of (his) arm ; in his family which had engraved the pair of fish (its crest) on the topmost rock of the lord of mountains (i.e., Mēru) ; whose (kings) shared with Śakra (i.e., Indra) half of his throne and his necklace ; which was the asylum of the universe ; which was the husband of the earth ; which was everlasting ; which in battles defeated completely the powerful enemies of the gods ; whose messengers were the gods ; who stirred and churned the milk ocean by the mountain (Mandara) ; the crowning ceremony (of whose kings) was performed by the hand of the pitcher-born (sage Agastya) ; and which had filled the circle of the earth with supplicants whose hearts were gladdened by the granting of their desires, was born the glorious king Māravarman, whose virtues were praised by the three worlds.

(V 7). Bearing on his big serpent-like shoulder the whole circle of this earth, he removed the fatigue of the lord of serpents (i.e., Śēsha), (which had been caused) by the carrying of the earth for a long time.

<sup>1</sup> Read rakāt-

<sup>2</sup> Read dhā°.

<sup>3</sup> For the ornamental form of the punctuation, see Plate.

(V. 8). He, the patron of the learned, conquered enemy crowds in battles and ascended the scales; came out of the nectar womb (*of the cow*); and according to rule, gave away heaps of gold<sup>1</sup>.

(V. 9). His son was the king called Banadhira, whose prowess was equal to that of the youthful sun and who bore the burden of the earth as sportively as his ancestors wore the necklace of (Indra), the chief of the gods.

(V. 10). His son was the glorious king named Maravarman, a counterpart of Purandara (Indra); the dear lord of the beautiful lady, earth, whose pair of feet was surrounded by the collection of gems in the crowns of all kings bowing in obeisance; whose friend was truth; whose wealth was prowess; the lord of the goddess of prosperity (Padmāśāṇā); who was an ornament of learning and good conduct and a depository of sacred knowledge.

(V. 11). That lotus-eyed Rājasimha, the king of the whole earth, driving away the fear of created beings on earth, ably protected the earth unopposed (*after*) destroying the allied enemies.

(V. 12). "Is he Nara (*i.e.*, Arjuna); is he a giant; is he Hara (*i.e.*, Śiva); is he the Primeval Man (Viṣṇu); is he Śakra (Indra) come with anger?" thus thinking of him, in the battle-field, the frightened king Pallavamalla runs away (*from him*).

(V. 13). Who being made to be born of the womb of the golden (*cow*) and having again ascended the matchless scales, was freed of (*his*) sins and showered freely (*his*) wealth on Brahmans, beggars and temples.

(V. 14). This (*king*) Māravarman suitably married the daughter of the Maḷava king of high birth; and from her was born, for the good of the world, (*the king*) named Jaṭila almost equal to Skanda the son of Śiva.

(V. 15). That king of great strength ruled the earth clearing it of (*all*) associations of corruption; the footstool of his lotus feet was worshipped by the great lustre proceeding from the gems on the crowns of prostrating kings.

(V. 16). I imagine that he lent (*his*) virtues to the Kṛta (golden age); (he lent) to the celestial tree its nature, from his hands; to the subjects who sought refuge (*in him*), his promise of protection; and to the enemy kings on the battle-field, heaven.<sup>2</sup>

(V. 17). May he be long glorious on earth, king Parāntaka, the son of Rājasimha, whose commands are borne on the crowns by rulers of earth.

(L. 80). This *prastāvi* was composed by Varādayabhaṭṭa who was a performer of all sacrifices (*Sarvakratuyājīn*).

(L. 81). Narkorrap, the headman of Korkai, who never transgressed the path of the Śruti as interpreted by the highly learned (*men*) of the division called Paganūr-kūṭṭam,—a well-watered land of extensive paddy fields, where the beetles buzzed on cool buds in groves blooming with the Nāga and the mango (*trees*),—being desirous of completing a (Vedic) sacrifice begun (*by him*), through (*the favour of*) the Adhirāja of the Pāṇdyas called Palyāgamudukuṇṇumi-Peruvaijuṭi, who dispersed the crowd of the enemy kings by leading numbers of ferocious elephants (*against them*), the kṣatriya-Brahmanas, in presence (*of the king*) saying

<sup>1</sup> These are the gifts which kings are expected to make on their coronation or on obtaining conspicuous victory in battles. They were also expiatory in character. See below, v. 13.

<sup>2</sup> The nature of the celestial tree is to give whatever is wanted and the hands of the king were giving away gifts on a very liberal scale. To give enemy kings heaven means to kill them on the battle-field and by so doing to send them to heaven.

"Please hear (O king)" explained the petition (of Narkorran), stood in front of the sacrificial hall and blessed that spot to grow in prosperity under the name Vēlvikuḍi.<sup>1</sup>

(L. 38). The king at once gave it with libations of water and it was since long (so) enjoyed.

(L. 39). Then a **Kali**<sup>2</sup> king named **Kaḷabhran** took possession of the extensive earth driving away numberless great kings (*ādhirāja*) and resumed the (village mentioned) above.

(L. 40). After that, like the sun rising from the expansive ocean, the **Pāṇḍyadhiraḥja**, named **Kaḍuṅḡon**, the lord of the South of sharp javelin who wore (the cloak of) dignity and was the leader of an army, sprang forth, occupied (the throne), spreading round him the brilliant splendour of (his) expanding rays (*prowess*), destroyed the kings of the extensive earth surrounded by the sea together with (their) strongholds and (their) fame, wielded the sceptre (*of justice*) and removed by his strength the evil destiny of the goddess of Earth whose splendour deserved to be under the shade of (his) white umbrella, by terminating by his strength<sup>3</sup> the possession of her under others and establishing her in his own possession in the approved manner and destroyed the shining cities of kings who would not submit to him.

(L. 46). Then came his son **Avanichūlāmaṇi Maṣavarman**, who removed the common ownership of the earth (by making it his own), who was wedded to the goddess (born) of the flower (i.e., *Lakṣmī*), the leader of a faultless army of fighting spearsmen, and the infuriated elephant who destroyed by all (possible) means the power (of enemy kings).

(L. 48). Then came his son, a lovely one and incomparable, the just ruler, **Seṭṭiyaṇ Vāpavaṇ**, **Śēṇḍaṇ**, the lord of the hill-chiefs who throw weapons (dexterously), who removed the spot<sup>4</sup> from the goddess of the earth, who became well known by his prowess and who possessed long hands (holding) the bow, and furious elephants.

(L. 51). Then to him (was) born, a son,<sup>5</sup> **Arikēsari, Asamasamaṇ śri-Maṣavarman**, whose high jewelled crown was adorned with ornamental hangings; who, like the brilliant Sun from the middle of the eastern mountain, came out spreading his rays, causing the quarters to tremble; won the battle at **Pāḷi** by driving into the field of battle caparisoned elephants; conquered the ocean-like army of **Vilvēli**<sup>6</sup> in the battle of **Nelvēli**; destroyed the **Paravaṣ** who did not seek refuge by approaching him; annihilated the race of the people of **Kuru-naḍu** where crowds of beetles abounded on all sides; won a victory at the battle of **Śēnnilam** by driving into battle (a herd of) elephants of strong trunks; conquered many a time during the day, in the terrible battle-field of **Puliyūr** of strongly fortified walls, the **Kēraḷa** (king) whose matchless sway (extended) over the whole earth together with (his) near relations and their elephants and captured them alive<sup>7</sup>; marched against, attacked and destroyed unopposed the sea of weapons, and the high mountains (of that country); performed many times on earth (the gifts called) *hiranya-garbha* and *tulābhāra*, and gave (the same) with pleasure to Brāhmanas and the infirm inviting them to come and assemble.

<sup>1</sup> In blessing it, they actually suggested that the king might grant the village to the Brahman Narkorran under the name Vēlvikuḍi.

<sup>2</sup> Mr. K. V. Lakshmana Rao, M.A., has suggested in an article entitled 'The Koppuram Plates of Pulakēśin II, contributed to the *Annals of the Bhandarkar Institute*, Vol. IV, Part I, pp. 43 to 54, that *Kali-kula* occurring therein text-1. 8 is possibly a reference to the *Kaḷabhras*. He seems to be right; for the phrase *Kaḷabhran*=*ṣṣṣṣṣṣ*=*Kali-naraiṇ* in L. 40 of the Vēlvikuḍi Plates properly translated means 'a Kali king named Kaḷabhra.'

<sup>3</sup> *Tiravidin* is interpreted by Pandit R. Raghava Aiyengar of Ramnad to mean 'by his strength.'

<sup>4</sup> As usual this 'spot' of the earth is her being in possession of kings other than himself.

<sup>5</sup> Dr. Winslow gives under *vaṭi*, the phrase *vaṭittonṇal* in the sense of 'a son.'

<sup>6</sup> Dr. Krishnaswami Aiyangar holds the view that *Vilvēli* means 'a hedge of bows,' but here it must refer to a name.

<sup>7</sup> The word *-iraṣāmai* is explained by Pandit Raghava Aiyengar of Ramnad to mean 'in a moment.'

(L. 62). Then (came) his son King Śaḍaiyaṇ, the lord of Koṅgas, whose javelins were long, brilliant and destructive, who was (also called) Teṇṇaṇ Vāṇavaṇ, Śembiyaṇ, Śōḷaṇ,<sup>1</sup> king of kings, the beautiful Karunāṭakaṇ, who with the victorious javelin in his right (hand), fought and destroyed the glory of the ocean-like army that came forth at Marudūr and capturing Āyavēḷ, attacked and destroyed him completely<sup>2</sup>, gained victories in battles at Seṅgoḍi and Puḍaṅkōḍu<sup>3</sup> and brought his (*i.e.*, Āyavēḷ's) anger to an end; at the great city called Maṅgala-pura, where the peacock danced with the cuckoo near tanks perfumed with opening flowers, attacked and destroyed the Mahārathas; removed the word "common property"<sup>4</sup> (with reference to) the country (bordering) on the roaring sea; administered justice tempered with mercy and ruled the earth with love, having reached the slopes of the high and permanent mountain (Mēru) and cut on the broad face of it the bow, the tiger and the fish.

(L. 71). Then (came) his son Tēr-Māraṇ (*i.e.*, Māraṇ of the horse-chariot) the king of kings, a member of the Pāṇḍya (Teṇṇavar) family, the proud possessor of the white parasol, who in order to acquire the goddess of the earth, carried in his right hand the awe-inspiring javelin and driving (forth) *must* elephants (into the battlefield), defeated straightway at Neḍuvayaḷ his opponents, who had rushed in great haste (*against him*); suppressed the rage of those whose minds were filled with anger (*against him*), at Kurumaḍai; destroyed the power of (the enemies) who confronted him at Maṇṇikuricchohi and Tirumaṅgai; saw the backs of the in-subordinate (*chiefs*) who advanced towards him with an ocean-like army, at Pūvalūr; captured the fiery steeds, the black elephants and the sharp missiles of enemies at Koḍumbālūr which had high ramparts and deep trenches (round it); deprived the splendour of the Pallava (*king*) . . . . . at Kuḷumbūr and took numberless huge elephants and horses; humbled at Periyālūr the greatness of those who had come to cut him asunder not bearing (to see his greatness); crossed the Kāviri (*with its*) groves (of trees) and tanks of budding flowers; subjugated Maḷa-Koṅgam with (the help of his) beautiful long bow; proceeded and reached Paṇḍikkoḍumiḍi of high fortifications, beautiful with the lustre emanating from brilliant gems; prostrated at and worshipped the lotus feet of Paśupati (Śiva); gave away with great pleasure heaps of gold and lustrous gems; contracted relationship with Gaṅgarāja, who wore garlands of sweet-scented flowers; and performing on earth countless (gifts of) *Gōṣaḥara*, *hiraṇyagarbha* and *tulābhāra*, relieved the distress of (the Brāhmaṇas) who studied the Vēdas; renewed the palaces and the high ramparts (of the capital towns)<sup>5</sup> named Kūḍal (*i.e.*, Madura), Vaṇji (Karūr) and Kōḷi (Uraiyūr) and ruled the whole earth (bounded) by the roaring ocean.

(L. 88). Then (came) his son Neḍuñjādaiyaṇ, the king of the Nēriyar (*i.e.*, the Chōḷas), who (wore) a high crown covered with flowers and gems, who kept (*his*) council secret, who was respected for his virtues (and possessed) an army of battalions (*as extensive*) as the rising noisy ocean, who was afraid of (committing) sins, who had no wants, who was the lover of the learned (Paṇḍitavatsala), death to his enemies (Parāntaka), a Pārtha (*i.e.*, Arjuna) in (wielding) the bow, clever in his designs, cruel to the wicked, the enemy of the Kali (*age*) (Kalippagai), the performer of noble deeds, the abode of mercy, a Kinnara in music, firm as mountain, the smasher of heroes, he who equalled Manu, whose commands were obeyed, who was strong as

<sup>1</sup> The king having conquered the Chēra and the Chōḷa, apparently appropriated their crests also, *viz.*, the bow and the tiger and their titles Vāṇavaṇ, Śembiyaṇ and Śōḷaṇ.

<sup>2</sup> The word *āyēṇṇāmai* is translated tentatively.

<sup>3</sup> *Seṅ-goḍi* and *puḍaṅ-kōḍu* may have to be interpreted in the sense of 'brilliant flag' and 'brand new drum.' (?), which perhaps were the boast of the Āyavēḷ.

<sup>4</sup> *I.e.* made it all his own.

<sup>5</sup> We must understand after *ennum*, some word like *nagarangaḷin*. But it is also possible that *māda-māmaḍi* is a recognised term (*rūḍha-nāma*) for a capital town with palaces and fortifications; cf. the term as it occurs in I, 104.

wind, the foremost of the valiant, master of heroism, renowned for good behaviour, free from (all) blame, Punappāliyan, Śipachchōḷan, Śrīvara, the paramour of Śrī (i.e., Lakshmi), the Teṇṇan (i.e., Pāṇḍya) and Vāṇavan (i.e., Chēra)<sup>1</sup> whose long hand holds the bow and whose one word (of command) was accepted by the earth (bounded by) the noisy sea, who appeared in the form of Viṣṇu with victory thrice-told<sup>2</sup>, protecting the earth under his cool white umbrella, well praised by the goddess of the flower (i.e., Lakshmi), the goddess of the earth and the goddess of the tongue (i.e., Sarasvatī); who began his rule so brilliantly that the strength of the lord of Kali was weakened; who, in the battle of Pennāgaḍam (surrounded by) an expanse of water and flowery groves and (situated) on the southern bank of the Kāvēri of blooming flowers and well-watered paddy fields, defeated the Kāḍavan (king), who inconsiderately came and attacked (him) with his four-fold big army spread on all sides of the extensive earth girt by the black ocean, and drove (him) into the forest; and who crushing and driving in a fierce battle the Āya-Vēḷ and the Kurumbas that came and attacked (him) in great numbers, advanced with fiery spears and gained a victory over them in a battle at Naṭṭukkurumbu (i.e., Kurumbu-nāḍu) (so that they) sought shelter in forests for (their) fortifications.

(L. 103). While the third year of the reign of this (king) was current, one (particular) day a bystander of Kūḍal (i.e., Madura) (the city of) mansions and high ramparts, having cried out (by way of complaint)<sup>3</sup>, the king himself at once called him mildly and was pleased to ask him first "what is your complaint." The bystander submitted thus "Oh! Mighty king of powerful army! Formerly without swerving from the pure (path) prescribed by law, (the village) called Vēḷvikuḍi included in Pāṇapūr-kūṇṇam, whose flowery groves touched the sky, was designated Vēḷvikuḍi and was granted through the kēḷvi (Brahmans) by your ancestor, the great lord known as Palyāgamudukuḍumi-Peruvaḷudi, who protected (the earth) girt by the ocean with an army of spearsmen who never miss (their aim). It has (since) been resumed by the ignoble (yet) ocean-like army of the Kaḷabhras." The king gently smiled and said: "Very well, very well, prove your antiquity (of the gift) by (a reference to) the district (assembly) and receive (it back)." He (the supplicant) proved then and there, the antiquity of his (claim) by (a reference to) the district (assembly). Thereupon the powerful king, of long arms holding the bow, being overjoyed was pleased to declare "what was granted formerly by my ancestors according to rule, is also granted by Us," and so saying he, of (many) chariots and ocean-like army, gave (it) with libations of water to Kāmakkāṇi Nārōḷṇan, the headman of Korṭai.

(L. 118). The four big boundaries of this (village) given in full detail are:—(The eastern boundary is) to the west of the boundary of Nāgarūr surrounded on (all) sides by faultless flower-gardens. The southern boundary of this (is) to the north of the field (called) Kōḷvandai-tōy of Kuḷandēvan and of the banyan tree in the Kaḷandai-pond. The western boundary of this (is) to the east of the mound (peruppu) on the western side of the field (called) Oḍumaiyiruppai-tōy of the faultless Korraputtūr. And the northern boundary of this (is) to the south of the mound on the northern side of (the village of) Pāyal where lotuses grow in canals.

(L. 124). The land included within the four big boundaries thus described is also given away by us, inclusive of kārāṇmai and miyāḷchi, in the same manner as it had been given formerly by our ancestors.

(L. 126). The āṇattī of this (grant) correctly described is Mādavikalan, Mārāṅgarī, the crest-jewel of the Vaidyaka family entitled Mūvēndamaṅgalappēraṇiyan who was favoured by the king of kings, whose army fought powerfully like a thunderbolt, in battles where

<sup>1</sup> See foot-note 1 on p. 307, above.

<sup>2</sup> *Qar pṇṇapir pṇṇapir* could not be satisfactorily interpreted.

<sup>3</sup> I have taken *ābrōḍāḷka* to stand for *ābrōḍāḷka* from root *brōd* with the prefix *ā*; see *Naiṣṭhābhāṣya* h. I, v. 81, where *ā-brōḍāḷka* is explained 'cried out in order to expose a mistake committed.'

machines shaped like wild hoga (*ēnappor*) killed (*the enemies*) in (*close*) fight with (*drawn*) swords when the kings of the east (*Pūrvarājar*) possessing clamorous battalions of fighting men rose up, and put to flight with (*great*) loss in an infantry attack at Venbai, the Vallabha of a vast army of archers, on the occasion when the excellent daughter of Gaṅgarāja who wore a garland of highly scented flowers (*dribbling*) honey was secured and offered to Kōṅgarkōṇ (*i.e.*, the Pāṇḍya king)<sup>1</sup>, who was a prince of the race of Karavandapurattavar, who possessed a powerful and big army that crushed the pride of those who came to fight being (*thither*) brought together by (*i.e.*, under the leadership of) kings wearing many bracelets and possessing an army of spearsmen who wielded deadly weapons.

(L. 134). Kāmakkāṇi Śuvarāṇ Śiṅgaṇ, the headman of Korṅkai, who owns this *brahmadya* reserving for himself one-third of this (*village*), gave the (*remaining*) two parts to fifty Brāhmaṇas with libations of water. In this are included the four and a half *paḍāgāras* (*of land*) of Mūrti Eyiṇṇ approved by the (*village*) assembly. And in the part reserved for himself in this (*village*) he gave with the approval of the (*village*) assembly four *paḍāgāras* to his younger brothers and six *paḍāgāras* to his younger paternal uncle's children. And the owners of the three parts with their united approval gave four *paḍāgāras* (*of land*) to the general (*Senapati*) Śnadi alias Śāttaṇ Śāttaṇ, who composed<sup>2</sup> this eulogy (*prastuti*).

(V. 18). The *ājñapti* of this (document) was Maṅgalarāja, the very sweet (*madhuratara*) poet (*kavi*) and orator, well versed in the sciences, a Vaidya and a resident of Karavandapura.

(V. 19). Oh! Dharma! A (*learned*) man must render protection to the deeds of others. Indeed (*these are*) the feet acquired by (*i.e.*, on which stands) great fame. The world was all created by Dhātṛi (Brahman). Still kings desirous of merit protect the earth.

(V. 20). No gift is greater than the gift of land; nor is there a greater sin enjoined (*on man*) than (*that of*) resuming land (*already given*).

(V. 21). Oh! Gladdener of your race! He that makes a gift on this earth blesses (*his*) ten generations past and future; and he that takes away (*that which has been given*) destroys ten generations past and future.

(V. 22). To him that robs land given by himself or by others, there is no expiation anywhere except in the dreadful hell.

(V. 23). Lands have been given away by many. Different kings are ruling (*them*). The fruit (*of protection*) belongs to him whose land it happens to be (*at the time*). These four are verses in the Vaidhṛaya-Dharma.

(L. 151). "The flower-like feet of those who protect this (*charity*) shall be on my crown." The king himself was thus pleased to say and caused a copper-plate grant to be executed at once.

(L. 152). Śuttakēśari-pPerumbāṇaikkaraṇ who engraved this (*document*), and to whom were allotted through the favour of the great men (*of the village*) one house site, two mā of (*wet*) field and one<sup>3</sup> dry field received (*the above*). This is the signature of Yuddhakēśari-Perumbāṇaikka[ra]ṇ.

<sup>1</sup> See above, p. 307. If we took Kōṅgarkōṇ as referring to the king of the Kōṅgas, the reason for Māraṇḍari taking part with the Kōṅga king will have to be explained. So far as we know, the Kōṅga king was an enemy of the Pāṇḍya and was on several occasions defeated by him.

<sup>2</sup> The word *pāḍias* clearly indicates that the composition was in verse.

<sup>3</sup> Perhaps one mā.



## No. 17—THE NALANDA COPPER-PLATE OF DEVAPALADEVA.

By HIRANANDA SHASTRI, M.A., M.O.L., OOTACAMUND.

This copper-plate was unearthed by me at Nālandā during the course of my archæological explorations of the well-known Buddhist site there in 1921. As I have already stated in my annual progress report for the year 1920-1921, where<sup>1</sup> I have given a tentative account of the document, the plate was found in the antechamber of the so-called monastery B which has yielded many interesting antiques testifying to its past glory. The debris round it and its encrustation showed that the plate must have suffered from the conflagration that destroyed the building in whose remains it lay buried for so many centuries. Fortunately, it has escaped destruction, and excepting a slight injury here and there, the whole of the record together with its seal is practically intact. It has been very carefully treated by the Archæological Chemist and has now become fairly readable.

The plate bears forty-two lines on the obverse and twenty-four on the reverse, each measuring about 1' 4" long, excepting the last line on the second side which is only 4" in length. The inscription is written in early Devanāgarī script and its language is Sanskrit. The formal part of the grant which it registers is in prose and the rest is in verse, excepting the words *om svasti* and *tathā cha dharmānuśāsanalōkāḥ*, written at the commencement of the first and the second side respectively. The seal, which the accompanying fac-simile illustrates, is soldered to the plate and bears the legend *Śrī-Dēvapālādēvasya* meaning "of the illustrious Dēvapālādēva", written below the emblem of the *dharmachakra* placed between two gazelles as in the seals of other Pāla kings. The wheel or *dharmachakra* symbolizes Gautama Buddha's unfolding the Law and the diffusion of knowledge to the world that was groping in darkness and the deer refer to the Mṛigadāva forest which is now represented by Sārnāth near Benares where the 'Great Sage' turned 'the wheel' for the first time while delivering the great sermon to the five monks or '*Pañchavaggiyas*'. That the Pālas adopted this symbol is but natural for we know that they were staunch Buddhists and patronised learning.

The introductory portion of the inscription, consisting of the first twenty-five lines, is identical with the similar portion of the Mungir (Monghyr) copper-plate grant of the same king that has been edited by the late Professor Kielhorn.<sup>2</sup> It enables us to remove the few doubts the said scholar had in his reading of the record. As is shown by the dates given in the two documents, the Nālandā grant is posterior to the other by some six years though both were issued from the same place, viz., *Śrī-Mudgagiri-samivāsi-śrīmaj-jayaskandhāvāra* or the victorious camp at Mudgagiri, the modern Monghyr in Bihār.

The inscription was written and engraved with considerable care; still a few inaccuracies are to be noticed in it. These have been pointed out in the footnotes added to the text below. As regards orthography, it resembles very much the other grant from Monghyr and there is, perhaps, little to be added to the remarks which Kielhorn made about it while editing the latter document. As to his statement<sup>3</sup> that "the only passages about which I am at all doubtful, and in which the rediscovery of the plate may prove me to have gone wrong are the words *suvinayinām* in line 5; *rājakūṭiya-samasta* in line 40 and *karahiranya* in line 45",—on the authority of this epigraph, I may say that his reading *suvinayinām* should be treated as wrong though the translation is right. This plate gives *sati kṛtinām* which must have been

<sup>1</sup> *A. R. Central Circle*, 1920-1921, pp. 87 ff.

<sup>2</sup> *Ind. Ant.*, Vol. XXI, pp. 253-258.

<sup>3</sup> *Ibid.*, p. 253.

the reading in the other document also, the sense being that as this king furnishes a living example people have to believe in the historical reality of the rulers like Prithu, Sagara, etc. The remaining two words, as is shown by this plate where they occur in line 35 and line 42, respectively, were correctly read by him.

The charter was issued by the devout worshipper of Sugata or Buddha, the *Paramēśvara-Paramabhaṭṭāraka* and *Mahārājādhirāja*, the illustrious *Dēvapālādēva*, the son and successor of *Dharmapāla*, who is regarded to have been the most powerful of the *Pāla* kings of Bengal. As I have just stated, its introductory portion is identical with that of the other grant and gives the genealogy of the donor which has already been discussed by scholars. The formal part of the grant, which the inscription registers, is worth considering. The wording is the same as we find in the other document. The officials mentioned are also similar, including the "*Pramātri*" and the "*Śarabhaṅga*", excepting the "*Prāntapāla*" who is left out, though the order in which they are named is different. Amongst the names of the countries mentioned in line 35 of the Mungir (Monghyr) plate, this inscription puts *Ōḍra* in place of *Gauḍa* and omits *Lāṭa* altogether. Herein we are told that *Dēvapālādēva* at the request of the illustrious *Bālaputradēva* the ruler of *Suvarṇadvīpa*, made through an ambassador, granted five villages, four of which lay in the *Rājagriha* (*Rājgir*) and one in the *Gayā viśaya* (district) of the *Śrī-Nagarabhukti* (*Patna Division*) for the increase of merit and fame of his parents and himself for the sake of income toward the blessed Lord Buddha, for various comforts of the revered *bhikṣus* of the four quarters and for writing the *dharma-ratnas* or Buddhist texts (i.e. for the three jewels) and for the upkeep of the monastery built at *Nālandā* at the instance of the said king of *Suvarṇadvīpa*. The endowment, being entirely Buddhist, forms a distinctive feature of the grant and amply justifies the epithet of *parama-Saugata* applied to the donor. The four villages granted in the *Rājagriha viśaya* were *Nandivanaka*, *Maṇivāṭaka*, *Naṭikā* and *Hastigrāma* and the one in the *Gayā viśaya* was called *Palāmaka*. As is usually the case in such grants, this part of the document ends with the date of the endowment which is the 21st day of *Kārtika* of the (regnal) year 39 and is written after the orders of the royal donor demanding regular payment of all the revenues due for the purposes noted above.

The second side of the plate first gives the well-known imprecatory and benedictory verses and, thereafter, introduces *Balavarman* who acted as the *dūtaka* in this 'meritorious undertaking' and whom it describes as the 'overlord of *Vyāghrataṭi-maṇḍala*, ever ready to fight his foes independently.' Evidently he was the official of the King of Magadha entrusted with all arrangements to be made in connection with the grant. Then the inscription supplies, though unfortunately too meagre, an account of *Bālaputradēva*, the king of *Suvarṇadvīpa* at whose instance the endowment was made giving, also, some information regarding his ancestry. It is mainly in this connection that this document is specially interesting and possesses considerable international value. We learn that the dynasty to which *Bālaputra* belonged was that of the *Śailēndras*, who were Buddhists and held the island of Java under their sway about the eighth century of the Christian era or the *Śaka* year 700. The latter fact about the *Śailēndras* is already known from the *Kalāsan* inscription which has been published by Dr. (now Sir) R. G. Bhandarkar<sup>1</sup> and Dr. J. L. A. Brandes<sup>2</sup>. But this *Nālandā* copper-plate introduces to history for the first time *Śrī-Bālaputradēva*, the *Śailēndra* King of *Suvarṇadvīpa* together with some of his relations, as well as the *dūtaka* (of the grant), namely, *Balavarman*.

The illustrious *Mahārāja Bālaputradēva*, our inscription tells us, was the overlord of *Suvarṇadvīpa*. His mother was *Tārā*, the daughter of a King *Dharmasētu* of the lunar race and

<sup>1</sup> *Journal of the Bombay Branch of the Royal Asiatic Society*, Vol. XVII, Part II, for 1887, Art. I.

<sup>2</sup> *The Tijdschrift voor de Oudh.-Linden-Volkenkunde van Nederlandsch Indië*, XXXI (1886), p. 240 sq.

the queen consort of the mighty king who was the son of the renowned ruler of "Yavabhūmi." The latter, we are told, was the ornament of the Śailendra dynasty and 'his name was conformable to the illustrious crusher or tormentor of his brave enemies'. Though the epigraph gives high praises for all these rulers, yet it contains no other information regarding their identity. The name of the father of Bālaputradēva is not given at all but the name of the grandfather is said to have been something like 'Śrī-vīra-vairi-mathana', meaning 'the illustrious destroyer of heroic foes'. This would lead us to surmise that the name must have been one like Paramarddi-dēva, Śatruñjaya, Arimarddana, Arindama, etc., but what it really was I am not in a position to find out. The Yavabhūmi and the Suvarṇadvīpa are evidently identical with the Yavadvīpa and the Suvarṇadvīpa islands spoken of in Sanskrit works like the *Rāmāyaṇa*<sup>1</sup> or the *Kathāsaritsāgara*<sup>2</sup> and are unquestionably the modern Java and Sumatra. While speaking of Bālaputradēva as the king of Suvarṇadvīpa and his grandfather as the ruler of Yavabhūmi, the author of our inscription, apparently, took both the islands as one considering them practically united. As M. Duroiselle kindly tells me, the consensus of opinion, arrived at by scholars like Barth and Kern, is that Suvarṇadvīpa and Yavadvīpa are the same, that is Java-Sumatra. The document goes to confirm the view that Yavadvīpa is Java proper and that Suvarṇadvīpa is properly Sumatra. This Suvarṇadvīpa, however, is different from the Suvarṇabhūmi, which, as M. Duroiselle has kindly informed me, in its most extended sense refers to Indo-China, but, particularly, to the country extending beyond the eastern and northern coasts of the Bay of Bengal or Rāmaññadēśa (i.e., lower Burma).

Now the question which would present itself for solution is, who were the Śailendras mentioned in the plate? There are only two Javanese inscriptions in Nāgarī, known to me, which were issued by a king of the Śailendra dynasty. One of them, to which I have alluded above, commemorates the foundation of a temple of Tārā, the well-known Goddess of the Mahāyāna pantheon, the setting up of her image, and the building of a monastery in the year 700 of the Śaka era during the prosperous reign of a king of this dynasty<sup>3</sup> whose name to our regret is not forthcoming. The other<sup>4</sup> inscription is not yet published and the following information regarding it I owe to the courtesy of Dr. Bosch, Director of Archaeology in Netherlands-India. It comes from Klurak, a site between the Prambanam and Sewu-temples in Central Java and belongs to the Śaka year 704, the object being to commemorate the erection of an image of Mañjuśrī, another noted divinity of the Mahāyāna pantheon. In one of the lines of this inscription Dr. Bosch reads: *rājā dhrīṭā dhrīṭimatā dharaṇḍraṇḍmūnā* and finds the king's name to be Indra, though one could take it to be Dharaṇḍra (earthly Indra) as well. Yet another inscription I know of, which is connected with this evasive race of the Śailendras, comes not from Java but from India and, like our Nālandā inscription, records the erection of a monastery and an endowment for it. It is engraved on twenty-one copper-plates now preserved in the Leyden Museum in Holland and belongs to the reign of the Chōla King Rājarāja-Rājakesari-varmman (985-1013 A. D.). This highly interesting document tells us that the illustrious king Māravijayōttuṅgavarman of the Śailendra dynasty and the lord of Śrīvijaya<sup>5</sup> caused to

<sup>1</sup> Canto IV, Chap. XL, St. 30, and the *Tilaka* commentary on these verses. Here we find that Java in remote antiquity formed a large principality which comprised not less than seven minor states.

<sup>2</sup> *Thruṅga*, 57; *Sts.* 98, 134, 173, etc.

<sup>3</sup> रावर्षे मन्वन्तानि राज्ञः श्रीवर्मन्तानि तिलकाक्ष, Dr. Bhandarkar read in the sixth line of this inscription *Śailendravarmmatanujaya* and thought that *Śailendravarmman* was the proper name of the father of the donor whose name he took to be Paṇḍitkaraya. The correct reading, however, as the late Dr. J. L. A. Brandes has shown, must be *Śailendravarmmatilakasa*.

<sup>4</sup> Except these two inscriptions there exists a number of fragments of inscribed slabs, which according to Dr. Bosch, might be attributed to the Śailendra race but they are all too weather-worn to be deciphered.

<sup>5</sup> Dr. Hultzsch takes *Śrī-Vijaya* of Tamil inscriptions as the equivalent of Śrī-Vishaya (above, Vol. IX, p. 231).

be built a lofty and very beautiful monastery at Nāgapattana, the present port of Negapatam<sup>1</sup> and that it was endowed by the Chōla king Rājārāja, thus furnishing an exact parallel to the Nālandā monastery of our plate.<sup>2</sup> This Śrīvijaya is the same as the San-fo-tsai of the Chinese Annals and, according to M. George Coedès, must be identified with the kingdom of Śrīvijaya or Palembang, which is a residency of Sumatra.<sup>3</sup> The Leyden grant says that Māravijayōttuṅgavarman was the overlord (*adhipati*) of Śrīvijaya who, while extending the kingdom of Kaṭṭha, caused that monastery to be built in the name of his father. Thus on the authority of this invaluable record it becomes clear that, about the end of the 10th century A. D., Sumatra was governed by the Śailendra dynasty to which king Māravijayōttuṅgavarman or his father Cātūṣmāṇivarman belonged. That both Sumatra and Java were under the sway of the Śailendras about the ninth century we glean from the Nālandā copper-plate inscription. That they were governed by the same dynasty in the seventh century of the Christian era we learn from the two inscriptions to which I have referred above. In one of the inscriptions<sup>4</sup> engraved on the south wall of the well-known temple at Tanjore we find that Rājendra-Chōla caught a king of Kaṭṭam, named Saṅgrāma-vijayōttuṅgavarman, and took his vehicles as well as accumulated treasure. This king of Kaṭṭam in the light of the Leyden grant was, probably, the successor of Māravijayōttuṅgavarman, the Śailendra king of Śrīvijaya spoken of in it. If the Tanjore inscription is to be trusted—I do not think there is any reason why it should not be—we can say that Rājendra-Chōla, while capturing the king, succeeded in conquering the kingdom of Śrīvijaya or Palembang. The Leyden plates tell us that he confirmed the grant made by his father Rājārāja for the monastery built by the Śailendra king Māravijayōttuṅgavarman or the predecessor of the very ruler whom he caught and dispossessed of heaps of treasures. This would lead us to surmise that Saṅgrāma-vijayōttuṅgavarman proved refractory and the Chōla King had to take the extreme step to bring him round. Here it may be remarked that in the documents, known at present, these Śailendras or the rulers of Śrīvijaya are nowhere mentioned as the feudatories of the Chōlas or other Indian kings. Building convents or *vihāras* in one's territory does not necessarily indicate tutelage<sup>5</sup> though it does show friendship or mutual regard. That the Śailendras founded monasteries in India at Nālandā or elsewhere certainly signifies their being fervent Buddhists. These *vihāras*, like the one founded at Bodhi-Gayā by Mēghavarṇa of Ceylon during the Gupta epoch, gave shelter to their own people as well as others. Dēvapalādēva was a staunch Buddhist. He endowed the monastery, which Bṛhapatradēva, the Javanese King, founded at Nālandā, at the latter's express request, communicated to him through a *datika* or ambassador. But this fact alone cannot imply that the ruler of Java was a vassal of the King of Magadha. Though the capture of the King of Kaṭṭam by Rājendra-Chōla in later days indicates submission no doubt, yet I think, to show that the Śailendras were really the feudatories of the Chōlas, proof is still wanting. Under the existing circumstances what we can safely assume is that the relations of these Kings were rather based on trade and traffic and were of a peaceful nature.

<sup>1</sup> It was probably this structure, which, as the late Mr. Smith has said in his *Early History of India*, 3rd ed., p. 468, survived in a ruinous condition until 1887, when the remains of it were pulled down by the Jesuit fathers and utilised for the construction of Christian buildings.

<sup>2</sup> The splendid convent built by King Mēghavarṇa of Ceylon at Bodhi-Gayā near the holy *Buddhārāma* about the year A. D. 300 with the permission of Samudragupta, the Great, affords another instance of this kind. For a brief account of it see Smith's *Ancient History of India*, 3rd ed., p. 267.

<sup>3</sup> *Encyclopædia Britannica*, XI ed., Vol. XXVI, p. 73. For mention of Śrīvijaya in an old Malaya inscription probably of the 7th Century A. D., lately found in Palembang, see Ch. S. Van Ronkē's notice in the *Acta Orientalia*, Vol. II, Part I, p. 21.

<sup>4</sup> *South-Indian Inscriptions*, Vol. II, pp. 165 ff.

<sup>5</sup> The late Mr. Venkayya (*A. S. R.*, 1911-12, p. 175), apparently, assumed that the Śailendras were feudatory to the Chōla Kings.

That close relationship must have existed between Coromandel and the Far East during the earlier centuries of the Christian era is pretty certain. The part played by Tāmlūpti or Tāmlūk as an important port in those days for the sea-borne trade between India and the Archipelago will similarly associate Bengal with the Far East. These Śailēndras were staunch Buddhists to whom all the magnificent Buddhist buildings which we find in Central Java, like the one which probably contained the Tārā image mentioned in the Chaṇḍi-Kalāśan inscriptions spoken of above, owe their origin. Now, the question is whether they were emigrants from India or were indigenous people of Java-Sumatra, who embraced Buddhism in preference to Hinduism. The Yūpa inscriptions of King Mūlavarmman from Kosteï or East Borneo or other early epigraphical records, which have been brought to light from Champa, Cambodia or Indo-China by eminent French or Dutch savants, would show that India has had a considerable share in the colonization of the Far East. The Yūpa inscriptions, as Dr. Vogel has already pointed out in his very learned brochure,<sup>1</sup> inform us that the erection of the sacrificial posts on which they are engraved was due to the twice-born priests or Brahmans, who had carried their ancient civilization and religion to Borneo, as well as, to Java and Sumatra and that on these priests King Mūlavarmman conferred rich grants of gold and land; a fact showing that as early as about 400 A. D. high caste Brahmans or *Vīpras* migrated to the Far East and settled there. Fa-Hian found Brahmans settled in Ye-poti (Java or perhaps Sumatra). Sumatran civilization and culture seem to be of Hindu origin. Sumatra was probably the first of all the Archipelago to receive emigrants from India.<sup>2</sup> The names like Coliya, Pandiya, Mēliya, by which some of the tribes that have settled in West Sumatra are known, and the fact that emigrants from India are designated by the term *Kēling* or *Kling*, which is clearly derived from *Kalinga*, would show that Southern India, including the Telugu country, had ample share in the colonization of the island or the Far East, as Dr. Vogel has already stated in his paper.<sup>3</sup> The matrimonial alliance mentioned in our Nālandā charter, which the father of Bālaputrādēva had with a mighty king of the Lunar race, would, perhaps, lead us to trace the origin of the Śailēndras of Java-Sumatra to India. If a conjecture can be hazarded, these Śailēndras were emigrants from Kalinga or say Southern India. I am not aware if the term Śailēndra was ever applied to any of the dynasties which ruled in the south<sup>4</sup> or any other part of India. It will be going too far to connect it with the Śailavarmśa<sup>5</sup> or the Śailodbhavaśa<sup>6</sup> or other dynasties like the Śilāhāra having somewhat similar appellations. It may be pointed out, however, that the name of Malaiyannān, which is an exact Tamil rendering of the Sanskrit word *Śailēndra*, meaning 'the lord of mountain or mountains', is to be met with in some of the inscriptions discovered in the South Arcot and Salem districts of the Madras Presidency where it is applied to some chieftains, who flourished about the 10th century A. D. Tamil literature, however, knows of the Malaimāns, who might be attributed to the 7th and 8th centuries A. D. These chieftains were called Milāḍudaiyār or the rulers of Milāḍu, a contracted form of Malaiya-nāḍu or hill-country, and they claimed

<sup>1</sup> *The Yūpa inscriptions of King Mūlavarmman from Kosteï (East Borneo)*, p. 202.

<sup>2</sup> *Encyclopædia Britannica*, Vol. XXVI, p. 74. It may be incidentally pointed out that the statement made here in the *Encyclopædia* to the effect that Sumatra was called the first Java was caused by a wrong reading, as I learn from Prof. Krom through Dr. J. Ph. Vogel, and requires correction.

<sup>3</sup> *The Yūpa inscriptions, etc.*, pp. 195-6.

<sup>4</sup> The late Mr. Venkayya (*J. S. B.*, 1911-12, p. 176) was inclined to connect them with some part of Orissa apparently on account of the similarity of names like Śailavarmśa and Śailēndravarmśa, pp. 42 ff. For Śailavarmśa, see *Ep. Ind.*, Vol. IX, p. 283 and *J. B. A. S.*, Vol. LXXIII (1903, p. 2182 f.).

<sup>5</sup> *Ep. Ind.*, Vol. VI, p. 42.

<sup>6</sup> *Ibid.*, Vol. XI, p. 283.

connection with the Chēdi family<sup>1</sup>. It is also noteworthy that sometimes their names end in *varmman*<sup>2</sup>. From the records noticed above we find that the names of the Śailēndras of Java-Sumatra or Śrīvijaya ended in *varmman*<sup>3</sup>. The name of the Śailēndra ruler given in the Nālandā plate on the other hand ends in *dēva*. This looks rather strange. The name Bālaputra itself, signifying 'young son' is curious. This ending of *dēva*, however, occurs only in the prose and formal portion but not in the other or metrical portion, which describes and eulogises these Śailēndras. This would go to suggest that the suffix was left out because the metre did not require it, or possibly because it did not form an integral part of the name and would have been replaced by *varmman*, a general suffix or surname of the ruling caste or the Kshatriyas. The name, however, is pure Sanskrit as is the name of Tārā the mother of Bālaputradēva, or Dharmasētu, her father, and would point to emigration from India. Had the names of the two ancestors of Bālaputradēva, that is to say, his father and grandfather, been given, we could be definite in the matter, for, if these names were un-Indian, as in the case of Kundīnga, his son Asvavarman and grandson Mūlavarman of Borneo, we could conclude that the Sanskrit names must have been taken after conversion to Hinduism, or rather Buddhism. But in none of the names of the Śailēndras do we find any foreign sound at all, suggesting that they were the natives of the islands originally and came into the fold of Buddhism afterwards.

The names of the Pāla kings and other personages mentioned in the introductory portion of this grant have been dealt with by Kielhorn or other scholars in connection with the contents of the Mungir copper-plate inscription. So I need not notice them here. But, besides them and the Śailēndras, our record speaks of two more persons and they require special mention. One of them is Dharmasētu whom the inscription describes as a scion of the Lunar race and the father of Bālaputradēva's mother, namely, Tārā. To our regret it does not supply any other particular regarding him and it is hardly possible to identify him or to say

<sup>1</sup> Mr. K. V. Sabrahmanya Ayyar, to whom I am indebted for this information, has kindly given me the following note on the Malaiyamāra :—

"Ancient Tamil works mention the names of a number of Malaiyamān chiefs, who might be attributed to the 7th and 8th centuries A. D. Some of these are :—(1) *Malaiyamān Tiruvadikkāri*, (2) *Malaiyamān Śōḷiya-Enādi Tirukannan*, (3) *Malāḍar-Kōmāṇ Meypporal-Nāyanār* and *Narasīnga-Munaiyarsaiyar* of Tirumunaiyappādi. Their capital was Tirukoilur, the head-quarters of a *taluk* in the South Arcot district and a railway-station in the Kāṭpādi-Viḷuppuram section of the South Indian Railway. It is said to have been situated within the Chēdi country.

The Malaiyamān chiefs appear to have been rendering help to one or the other of the principal powers of the South, viz., the Chōla, Chōḷa, Pāṇḍya and the Pallava. *Narasīngamunaiyarsaiyar* was a contemporary of the Śaiva saint Sundara-Mūrti-Nāyanār of the 8th century A. D. : he is counted as one of the canonised 63 Śaiva devotees of the Tamil country. In the account given of No. 3, in the Tamil hagiology, *Periyapurāṇam* figures a Tattan, whose name may be regarded as a variant of Datta. Besides, one of the poems of the Tamil anthology, *Pattuppāṭṭu* was composed in honour of a certain "Ārya King Piragadattan (Bhṛigu-Datta)". It may be noted that the Malaiyamān chiefs belonged to the Bhṛigu race as is evidenced by their inscriptions. Epigraphical reference to *Narasīngamunaiyarsaiyar* is found in the Tanjore inscriptions of the Chōla King Rājārāja I (A. D. 985-1013). In an early stone record of Rājākṣarivarmān found at Tiruvāḡēvaram near Kumbakonam, of about the 9th century A. D. mention is made of *Milāḍuḍaiyar-palli*.

It is interesting to note that the later members of the Malaiyamān family, who figure in numerous stone inscriptions, call themselves invariably Chēdiyarāyas (Chēdirājas) and they are mostly subordinates of the Chōḷas of the 10th to the 13th centuries A. D. The appellation *Chēdiyarāyan*, assumed by almost all the chiefs, if it is not a mere accident, as it could not be, must indicate that they were the rulers of the Chēdi country. This fact taken with the names like Datta would make one infer a colonisation at some remote past of a branch of the line of Chēdi Kings, in the South Arcot district, where we find them."

<sup>2</sup> E. Hultzsch, *Ep. Ind.*, Vol. VII, pp. 185 and 145.

<sup>3</sup> Dr. Vogel in the aforesaid publication (page 194) remarks :—"Considering that among the dynasties of India proper there is a great variety of such royal surnames, as *āditya*, *gupta*, *chandra*, *dēvapāla*, *rāja*, *varāhana*, *śaḷka*, and *sēna*, the almost universal employment of names in *varmman* in the Fir Eng is certainly very remarkable." The instance of our Bālaputradēva will furnish an exception.

whether he was an Indian king or some ruler in the Far East. The name whether it is read as Dharma or Varma-sētu appears to be new. The other interesting name occurring in the document is that of Balavarman the ruler of Vyāghrataṭi-maṇḍala, who acted as *dataka* on behalf of the Magadhan king. As to why he was selected or what special connection he had with the ruler of such a remote island as Sumatra or Java, and whether he had been there or known personally to that king our inscription makes no mention. Apparently, there was no direct political relationship between the two; for, we know from the Khalimpur<sup>1</sup> plate of Dharmapālādēva that the Vyāghrataṭi-maṇḍala lay within the *bhukti* of Puṇḍravardhana, which was under the sway of the Pāla king Dharmapāla and, evidently, of Dēvapālādēva after him. Puṇḍravardhana is the same as Paṇḍravardhana—Puṇḍra and Paṇḍra being synonymous—which is the modern Rajshahi district of Bengal<sup>2</sup>. The use of the word *adhipati* would indicate that in this instance at least the term *maṇḍala* connotes a larger area than *viśaya*; which in the majority of cases seems to include a *maṇḍala*<sup>3</sup>. During the reign of Dēvapālādēva, Vyāghrataṭi was governed by a distinct ruler called Balavarman. The way in which he is praised in this epigraph, as the right arm of the Emperor, would show that he had a high rank even though he was one of the feudatories of Dēvapālādēva. As, however, our plate gives no genealogy or particulars about him his personality is very vague. A few homonymous<sup>4</sup> rulers are known to have flourished about that time but they appear to be quite different personages and even their dates will not agree with that of this plate. It looks curious that though the charter mentions the *dataka* of the King of Magadha yet it leaves the ambassador or ambassadors of the Javanese King unnamed altogether.

The vague manner in which the inscription describes the rulers of the Far East or Sumatra-Java and their relative king of the lunar race would show that its author did not know much of them. He knew of Bālaputrādēva and his mother Tārā. The latter he compared to the goddess of that name. It is not improbable that the grant registered in the epigraph was made chiefly at her instance.

Our plate mentions several places calling for remarks. Out of these, I have already noticed three, namely, *Suvarṇapāṭi*, *Yavabhūmi*, and *Vyāghrataṭi*. Of the remaining ones *Nālandā* is the most important. The way, in which this record speaks of it, would show that it continued to be as important a centre of Buddhist lore as it was during the time of Hiuen Tsang's visit. The spelling of the name given in this document is *Nālandā* which is the correct way of writing it. The same spelling is given in a votive inscription on the image of

<sup>1</sup> *Ep. Ind.*, Vol. IV, pp. 248 ff. *J. B. E. A. S.*, LXIII (1894), pp. 89 ff.

<sup>2</sup> Smith *Early History of India*, p. 373. As has already been stated by Cunningham (*A. S. E.*, Vol. XV, pp. 112 ff.) *Kāntāra* is another name of Puṇḍra or Paṇḍra, i.e., sugarcane, and the *Mahākāntāra* of the Allahabad inscription of Samudragupta, the Great, was probably an older name of this province which, about the middle of the fourth century of the Christian era, was governed by a King Vyāghra. Thus it does not appear to be improbable that the district of *Vyāghrataṭi* or the tiger's precipice—unless of course *vyāghra* is taken in the sense of castor oil in which case the word *Vyāghrataṭi* would be the slope marked or overgrown with castor plants,—was named after this tiger king.

<sup>3</sup> This would rather show that no mistake was made in the text of the Khalimpur grant and that Kielhorn's statement in the *Ep. Ind.*, Vol. IV, p. 358, footnote 3 that it was, will be obviated.

<sup>4</sup> For instance we know of a Balavarman, the lord of Prāgyōtishā (Gauhati or Assam) from the Nowgong copper-plate (Br. A. P. Hoernle, *J. B. A. S.* LXVI, pp. 265 ff.) and another of Kārūsha or rather Brīhadgriha (Kielhorn; *Ind. Ant.* Vol. XX, pp. 133 ff.). On palaeographic grounds the former of the two has been assigned to the last quarter of the 10th century or say nearly one century later than the date of Dēvapālādēva. The other is too little known to admit of identification. The third ruler of the name, who will synchronise with our document, was the father of Avastivarman II, who was the feudatory of Mahēndrapāla of Kanauj (cir. 690 A. D.). To think of identifying him with the Balavarman of the *Nālandā* plate will be altogether unreasonable, for he was the ruler of Kathiawar, or Saurāṣṭra and a feudatory of the formidable rival of the monarch of Bengal.

*Saṅkarshana* which was dug out of the same site<sup>1</sup> and the newly discovered statue of Tārā. It again occurs not only in some Jaina writings but such an old work as the *Viṅṇāṇikāya*<sup>2</sup>. However, it seems to be noteworthy that none of these works called Nālandā a university but only a prosperous town though Hsien Tsang describes it as if it were a University. The way in which it is described in our plate would show that it was really a centre of Buddhist learning.

As to the remaining place-names mentioned in this document, I think, Śrinagara or Śrinagara-bhukti must be identified with modern Patna, which as a district, includes Rājagṛha (Rājgir) and, as a division or commissionership, comprises the district of Gayā, even now. It is true that in the Khalimpur grant of Dharmapālādēva, which has been referred to above, the name given for the city is Pāṭaliputra and not Śrinagara or Nagara, still, I think, there were two designations, the one, viz., Pāṭaliputra, which meant the whole town and the other, viz., Śrinagara, the main part of it, like the Bankipore of to-day. Nagara means the chief town generally, but in this case it meant the town, the prefix *Śri* implying prosperity or wealth of the town. In other words Pāṭaliputra was the *pattana*<sup>3</sup> and the seat of Government, especially in earlier days during the supremacy of the Mauryas or the Imperial Guptas,<sup>4</sup> lay there, and Śrinagara was its principal portion where the office of the *bhukti* or division was situated. One was concerned with the whole government but the other only with eight hundred<sup>5</sup> villages coming in its jurisdiction or *bhukti*. Thus Śrinagara must have been a part of the whole which was termed Pāṭaliputra.<sup>6</sup> That, apparently, is the reason why the latter and not the former appellation of the town is to be met with in literature.

That Rājagṛha and Gayā are respectively the Rājgir and Gayā of to-day requires no demonstration. The latter is a district still, though the former has now dwindled into a ruined town of the Bihār subdivision of Patna.

Regarding the villages which formed the object of the grant or endowment registered in the charter, we are told that Nandivanāka and Maṇivātaka were situated in the Ajapura-naya subdivision, Naṭikā in the Pilipinkā, and Hastigrāma in the Achalā-naya or subdivision of the Rājagṛha vishaya or district, and that Pālāmaka was situated in the Kumudasthira vithi, a subdivision of the Gayā district. If similarity of sound can be depended on, I would propose the following identifications to which proximity of Nālandā will lend a great support. The Ajapura 'naya' or subdivision of the inscription may possibly be represented by the Ajapur<sup>7</sup> village in the Ajaī Hisee Chahāram Mauzā in the Bihār Thānā and the two villages Nandivanāka and Maṇivātaka, granted in it, would be the Nediune or Naunyan and Manianwan villages of these days, which are included in the Bihār Thānā. Pilipinkā I am inclined to identify with the Pilkhī or Pilkee Mauza and the Naṭikā village with the Nsi Pokher of to-day, both lying in the Silāo Thānā. Though I am unable to offer any identification for the ancient Achalā yet, I fancy, the village Hasti or Hastigrāma of the grant might be the Hethoa Bighā village of the Bihār Thānā if not the Hathi Tolā of the Maner Police subdivision. The old village directory<sup>8</sup> of the Gayā district available to me does not, apparently, give any name

<sup>1</sup> See my *Annual Report of the Central Circle*, (Patna), for 1921, p. 5 and *J. B. B. O. R. S.*, Vol. X, pp. 80 ff.

<sup>2</sup> Vol. I, pp. 1 & 211-12.

<sup>3</sup> Cf. 'प्रधानभूत नगरम्'; Bharata quoted in the *Śābdakalpādruma* under Nagara.

<sup>4</sup> Cf. पल्लवं यत्नं राजधानी स्थिता and नगरनटनतत्त्वज्ञानस्य तद्व्यवहारज्ञानम्; Yaśōdhara in his *Jayamaṅgalā* on the *Kāmasūtra* of Vātsyāyana (N. S. Edition), p. 44.

<sup>5</sup> Even in the Khalimpur grant the *śrinagarasakandhātāra*, or 'royal camp or headquarters' lay at Pāṭaliputra. For the meaning of this expression cf. V. Smith; *Early History of India*, p. 398 and footnote 2.

<sup>6</sup> Similarly, I would identify the *nagara-bhukti* of the legend on the seal, which, Dr. Spooner discovered during his explorations of the site (see his *A. P. R. (E. C.)* for 1916-17, p. 43) with the *Śrinagara-bhukti* of this document.

<sup>7</sup> *Village Directory of the Presidency of Bengal*, Vol. XXVI (Patna District).

<sup>8</sup> *Village Directory of the Presidency of Bengal*, Vol. XXVII (Gayā District).



resembling the Kumudasūtra (or sūtra) or the Pālāmaka of our record and I refrain from offering a conjecture regarding their identity.

In connection with these place-names, it is interesting to note, that our document supplies one or two territorial terms, which appear to be new. The term *maṇḍala*, as I have remarked above, is here used, as in the grant of Amma II,<sup>1</sup> in the sense of *dēśa*, of which *vishaya* was a subdivision. The word '*vithi*', which generally signifies a market, road-way or the like, appears to have been used, in this charter, in the sense of a division smaller than *vishaya*. Similarly the term '*naya*' seems to imply a like division. The use of these terms would show that *bhukti* was divided into *maṇḍalas* which were subdivided into *vishayas*, the latter being again portioned into *vithis* or *nayas*.<sup>2</sup> It is noteworthy that our document employs the term *naya* in the case of Rājagriha *vishaya* and *vithi* in the case of Gayā *vishaya*. The former occurs regularly after (1) Ajapura, (2) Pilipinkā and (3) Achalā, which lay in the district or *vishaya* of Rājagriha, while the latter term is to be found in connection with the district or *vishaya* of Gayā only. This would indicate that in the two *vishayas*, which were so contiguous to each other, there were, probably, different subdivisions made, apparently, for revenue purposes, Rājagriha being subdivided into *nayas* and Gayā into *vithis*. Thus, we can say that the villages Nandivanāka and Manivātaka lay in the subdivision or *naya* of Ajapura, Naṭikā in the *naya* of Achalā, all these falling within the Rājagriha *vishaya*. The village of Pālāmaka, on the other hand, which belonged to the district or *vishaya* of Gayā, lay in the subdivision of Kumudasūtra, i.e., Kumudasūtra-*vithi*.<sup>3</sup>

#### TEXT.

Obverse.

Metres used : *Sārdūlavikrīḍitam* in vv. 1, 7, 8, 13, 14, 30, 31, 32, 33; *Praharshinī* in vv. 2, 26; *Vamśastha* in v. 3; *Upajāti* in v. 4; *Indravajrā* in v. 5; *Aupachchhandasikam* in v. 6; *Ārya* in vv. 9, 11, 22, 23; *Harinī* in v. 10; *Kathōddhatā* in vv. 12, 15; *Anuṣṭubh* in vv. 16, 17, 18, 19, 29; *Vasantatilakā* in vv. 20, 24, 25, 27, 28; *Pushpitāgrā* in v. 21; *Sragdharā* in v. 34.

1 'ओ' स्वस्ति । सिद्धार्थस्य परार्थसुखितमतेस्त्वन्मार्गम[भ्य]-

2

स्वत-

स्तिद्धिस्तिद्धिमनुत्तरां भगवतस्त्वस्य प्रजासु क्रिया-

3

त्[!\*]

यस्त्रैधातुकसत्वसिद्धिपदवीरत्युग्रवीर्योदया-

स्तित्वा

4

निर्वृतिमासत्ताद सुगतस्त्वर्थभूमोश्चरः- [!\*१॥] सौभाग्यस्य

5

दत्तुं श्रियस्त्वपत्न्या

गोपालः पतिरभवद्वसुधरायाः [!\*]

<sup>1</sup> *Ind. Ant.*, Vol. VII, p. 16; cf. Fleet, C.I.I., Vol. III, p. 32, footnote 7.

<sup>2</sup> It may be noted here that the term *vithi* is also used in the sense of a division in the Ghughrahati plates of Somachārādēva which have been edited by Mr. R. D. Banerji, in the August 1910 number of the *Journal of the Asiatic Society of Bengal*. Mr. Bhattasali, who is re-editing the grant for this journal, seems to take the word in its usual sense, but, in the light of this Nālandā document, his rendering cannot hold good.

<sup>3</sup> The reading can also be *sūtra*.

<sup>4</sup> Expressed by a symbol.

<sup>5</sup> Niebörn has 'स्ति'.

6

इ-

ष्टान्ते सति कतिनां सुराणि यस्मिन् अचेयाः प्रसुसगरादयोप्यभूवन् ॥१२\*॥  
विजित्य येना असधेर्वसुधरास्विमोचिता

7

मोचपरिग्रहा इति ।

सवाप्यसुहाप्यविलोचनापुनर्वर्गेषु व(ब)भूदद्वयस्यैतज्जनाः ॥१३\*॥ चक्षत्स-  
नन्तेषु व(ब)लेषु यस्य विश्वभरा-

8

या निश्चितं रजोभिः ॥<sup>1</sup>

पादप्रचारजममन्तरिष्विवज्जमानां सुचिरम्ब(म्ब)भूव ॥१४\*॥ शास्त्रार्थभाषा  
चक्षतोमुशास्य वषर्षाप्रतिष्ठापय-

9

ता स्वधर्मे ॥<sup>2</sup>

औधर्मपालेन सुतेन सोभूत्सर्गस्त्रितानामवृषः पितृषाम् ॥१५\*॥ अपत्ते-  
रिव जङ्गमेर्यदीयैर्विचक्षत्रिर्द्विरदैः कदर्यमाणा ।

10

निरुपप्लवमम्ब(म्ब)रं प्रपेदे शरणं रेणुनिमिज भूतधात्रो ॥१६\*॥ कीदारे  
विधिनोपयुक्तपयसा गंगासमेते<sup>3</sup>भु(म्बु)धौ ।<sup>4</sup> गोकर्णादिषु चाप्यनुष्ठि-

11

तवतान्तीर्षेषु धर्म्याः क्रियाः ॥<sup>5</sup>

भृत्यानां सुखमेव यस्य सकलानुदृत्य दुष्टानिमाग्लोकाग्राधयतो ॥१७\*॥ तुषङ्गजनिता  
सिद्धिः परचा-

12

प्यभूत् ॥१८\*॥

तैस्तैर्दिविजयावसानसमये संप्रेषितानां परैः सत्कारैरपनीय खेदमखिलं सां  
खां गतानां भुवम् ॥१९\*॥ ज्ञात्वं भावयतां

13

यदीयमुचितं प्रीत्या वृषाणामभूत्

सोत्कण्ठं हृदयं दिवश्चुतवतां जातिस्मराणामिव ॥२०\*॥ औपरव(व)क्ष्य  
दुहितुः क्षितिपतिना रा-

14

इकूट<sup>6</sup>तिष्ठकस्य ।

रण्यादेभ्यः पाणिर्जगृहे गृहमेधिना तेन ॥२१\*॥ द्रुततगुरियं कक्षोः  
साक्षात्क्षितिनुं शरीरिणी ।<sup>7</sup> किमवनिपतेः कीर्त्तिम्-

<sup>1</sup> Two strokes in place of one.

<sup>2</sup> Symbol for न् at the end of a *pāda* is peculiar.

<sup>3</sup> Kielhorn has समेता<sup>0</sup>.

<sup>4</sup> This *daṇḍa* could be left out.

<sup>5</sup> Kielhorn has तैर् तैर् which cannot be correct.

<sup>6</sup> The way of writing the letter ट् is peculiar.

This *daṇḍa* could be left out.

- 15 त्रिधया गृहदेवता[\*]  
इति विदधती शुभ्याचा[रा\*] वितर्कवती: प्रजा: प्रकृतिगुरुभिर्या शुभान्त-  
हुणैरकरोदध: ॥[१०]\* आध्या प्र(प)तिव्रतासौ सु-
- 16 क्तारं समुद्रशक्तिरिव ।  
श्रीदेवपालदेवम्पसन्नवक्तं सुतमसूत ॥[११]\* निर्भीलो मगसि वाचि  
संयतः ।<sup>1</sup> कायकर्मीनि(णि)च यः स्थितः शुचौ[\*]
- 17 शान्यमाप निरुपपन्नवम्पितुर्वी(र्वी)धिसत्त्व इव सौगतं पदम् ॥[१२]\*  
भ्राम्यन्निर्विजयक्रमेण ।<sup>2</sup> करिभिस्तामेव विन्ध्याटवीमुहामप्लवमानवा(वा)ष्पपय-  
[सौ] दृष्टाः पुनर्व(र्व)<sup>3</sup> न्ववः[\*]
- 18 कस्वी(स्वी)जेषु च यस्य वाजियु[\*]भिर्ध्वस्तान्धराजौजसो ह्येषामिष्यतहारि-  
हेषितरवाः कान्ताश्चिरप्रीणिताः<sup>4</sup> ॥[१३]\* यः पूर्व व(व)लि-
- 19 ना कृतः कृतयुगे येनागमद्गर्गव-  
स्नेतायां प्रहृतः प्रियप्रणयिना कर्णेन यो ह्यपरे । विच्छिन्नः कलिना  
प्रकटिषि गते कालेन कोकान्त-
- 20 रम्  
येन त्यागपथस्त एव हि पुनर्विस्मृतमुन्मीलितः ॥[१४]\* आ गङ्गागम-  
महिताक्षपन्नग्रन्थामासेतु(तोः)<sup>5</sup> प्रथितदशास्वकेतुकीर्त्तैः[\*] उर्व्विमा वरुण-
- 21 निकेतनाच्च सिन्धो-  
रा लक्ष्मीकुलभवनाच्च यी वु(वु)भोज ॥[१५]\*  
स खलु भागीरथोपयप्रवर्त्तमाननानाविधनीवाटकसंयादितसेतुव(व)न्निहित[श्री]-
- 22 लश्रिखरश्रेणिविभ्रमात्<sup>6</sup> निरतिशयवनघनाघनघटा(टा)श्चामायमानवासरलक्ष्मी-  
रभारम्भ(म्भ)संततजलदसमयसन्देहात्<sup>7</sup> उदीचीनानेक-
- 23 नरपतिप्राभृतीकृताप्रमेयहयवाहिनी-  
खरखुरोरक्षातधूसीधूसरितदिगन्तराशात् परमेश्वरसेवासमायाताशेषजं व(व्)द्दी-
- 24 पभूपाल-  
पादातभरणमदधनेः श्रीमुद्गरिरिसमावासिन्धोमञ्जयस्कन्धावारात् परमसौगत-  
परमेश्वरपरमभटा(टा)रकम-

<sup>1</sup> This *danda* could well be omitted.

<sup>2</sup> This *danda* is unnecessary.

<sup>3</sup> Kielhorn gave वाक्ववा;

<sup>4</sup> Kielhorn has चिरं वीणिताः

<sup>5</sup> Kielhorn read सेतो; and remarked that the lithograph he used gave *setu* (or *śhetu*). This inscription removes the possibility of *śhetu*. The reading must be सेतो:

<sup>6</sup> Read "वाहिर".

<sup>7</sup> Read "हृदादुदीची".

- 25 हाराजाधिराजश्रीधर्मपालदेवपादानुध्यातः  
परमसौगतः परमेश्वरः परमभटा(ट्टा)रको महाराजाधिराजः श्रीमान्देवपा-  
26 लदेवः  
कुशलो । श्रीनगरभुक्तो राजशृङ्गविषयान्तःपाति भजपुरनयप्रतिव(ब)ह-  
स्त्रसम्ब(म्ब)दाविष्कृतलोपेत । नन्दिवनाक । मणि-  
27 वाटक । पिलिपिष्कानयप्रतिव(ब) नटिका । भ-  
चलानयप्रतिव(ब)हृ ह[स्ति]ग्राम । गयाविषयान्तःपातिकुमुदसू<sup>१</sup> चवीयो-  
प्रतिव(ब)हृ पालाम-  
28 कग्रामेषु । समुपगताम्(न्) सर्वानिव राज-  
राणक । राजपुत्र । राजामात्य । महाकार्त्ताकृतिक । महादण्डनायक ।  
महाप्रतीहार । महा-  
29 सामन्त ।  
महादौःसाधसाधनिक । महाकुमारा[मा\*]त्व [i\*] प्रमाह । शरभङ्ग[i\*]  
राजस्थानो । योपरिक<sup>२</sup> । विषयपति [i\*] दाशापराधिक । चौरोहर-  
30 निक । दाण्डि-  
क [i\*] दाण्डपात्रिक [i\*] शौस्तिक [i\*] [गौ]स्मिक । सेवपाल [i\*] कोटपाल ।  
खण्डरञ्ज [i\*] तदायुक्तक । विनियुक्तक । हरत्वश्रीद्वनौव(ब)लव्यापु-  
31 तक[i\*]  
किशोरवहवागोमहिष्यधिकृत । दूतप्रे[व]णिक । गमागमिक । अभित्व-  
रमाणक । तरिक । तरपतिक । श्रीद्र(ड्)-मालव-खड्ग-कुलिक । कर्ण-  
32 ट [ह]ण ।  
चाटभ[ट\*]सेवकादीनन्यांश्चाकीर्त्तितान् स्वपादपञ्चोपजीविनः प्रतिवासि-  
नश्च ब्रान्ध(ब्राह्म)णोत्तरान् महत्तमकुटुम्बि(म्ब)पुरोगमेदान्-  
33 क । चण्डाल-  
पर्यन्तान् समाज्ञापयति विदितमस्तु भवताम् यथोपरिलिखितस्त्रसम्ब(म्ब)-  
दाविष्कृतलोपेत नन्दिवनाकग्राम । मणिवाट-  
34 कग्राम ।  
नटिकाग्राम । हस्तिग्राम । पालामकग्रामाः स्वसीमावृण्युतिगोचरपर्यन्ताः  
सतलाः सोद्देशाः साममधूकाः सजलस्थ-  
35 लाः  
सोपरिकराः सदशापराधाः सचौरोहरणाः परिहृतसर्व(पीडाः) अचाटभटप्रवेशा  
अकिंचित्प्रया[ह]राजकुलीय-

<sup>१</sup> The symbol which has been read as न may be नु

<sup>२</sup> The *danda* between श्री and यो was meant to be put after य to separate the word from the following *aparik*.

- 36 समस्तप्रत्यायसमेता भूमिच्छि-  
द्रव्यायेनाचन्द्रार्कक्षितिसमकालम् पूर्वदत्तभुक्तभुज्यमानदेववृ(त्र)ह्मदेयवर्जिताः  
मया
- 37 मातापित्रोरात्मन[श्च] पुण्ययशोभिद्वजये ॥  
सुव[र्ण]होपाधिपम[हा]राजश्रीवा(वा)लपुत्रदेवेन दूतकमुखेन वयम्विज्ञा-  
पिताः यथा मया
- 38 श्रीनालन्दायाम्बिहारः कारितरूच  
भगवतो वु(वु)हभट्टारकस्य प्रज्ञापारमितादिसकलधर्मेनेत्रीस्थानस्यायार्थं तां(त्रि)-  
39 कवो(वो) घिसत्वगणस्याष्टमहापुरुषपुद्गलस्य  
चातुर्दिशार्थभिसुसङ्गस्य व(व)लिचरुसचचोवरपिण्डपातशयनासनग्लानप्रत्ययभे-  
40 षण्यायार्थं धर्म-  
रक्षस्य शिष्यनायार्थं विहारस्य च खण्डस्फुटितसमाधानार्थं शासनीकृत्य  
प्रतिपादित[1\*]: यतो भवद्भिः सर्वैरेव
- 41 भूमेर्दानपाल[न\*]गौरवाद्यपहरणे  
च महानरकपातादिभयाद्दानमिदमभ्यनुमोक्ष पालनीयं प्रतिवासिभिरप्याज्ञाय-  
42 वणविधेयै-  
भूत्वा यथाकारणं समुचितभागभोगकरिहरिण्यादिप्रत्यायोपनयः कार्य इति ॥  
सम्बत् ३८ क(का)र्तिक दिने २१

*Reverse.*

- 43 तथाच धर्मानुश<sup>1</sup> स्नानोकाः  
व(व)हुभिर्वसुधा दत्ता राजभिः
- 44 सगरादिभिः[1\*]  
यस्य यस्य यदा भूमिस्तस्य तस्य तदा फलम् ॥[१६॥]
- 45 स्रदत्ताम्परदत्ताम्वा [यो] ह[रि]त वसुन्धरा ।  
स विष्टायां कृमिभूत्वा पितृभिः
- 46 सह पच्यते ॥[१७\*॥]  
बहिर्मुखसह[सा]षि स्वर्गे मोदति भूमिदः । आयेता चानुमस्ता च  
तान्येव
- 47 नरके वसेत् ॥[१८\*॥]  
अन्यदत्तां विजातिभ्यो यत्नादश्च बुधिष्ठिर । महो महोदतां श्रेष्ठ दा-

<sup>1</sup> Kielhorn gave धर्मानुशान and suggested धर्मानुशासनः. Perhaps शसिनः is the reading intended.

- 48 नास्तेयो नु पालनम् ॥[१८\*॥]  
अस्मत्कुलक्रममुदारमुदा[६]रस्त्रिरन्येष दानमिदमभ्यनुमोदनीयं । लक्ष्मणास्त-  
डित्सलिलवुडु(बुडु)द[चं]-
- 49 दानं फलं परयशःपरिपालनं च ॥[२०\*॥] इति कमलदलानु(म्बु)वि(वि)-  
न्दुलोलां त्रियमनुचिन्त्य मनुष्यजीवितं च [\*] सकलमि-  
चलाया
- 50 दमुदाहृतं च वु(बु)[ध्या]  
न हि पुरुषैः परकीर्तयो विलोप्याः ॥[२१\*॥] दक्षिणभुज इव राज्ञः  
परव(ब)लदलने सहायनिरपेक्षः ॥[\*]  
दूत्यं श्रीव(ब)लवर्मा विदधे धर्माधिकारे<sup>१</sup>ऽस्मिन् ॥[२२\*॥]  
अस्मिन् धर्मा<sup>२</sup>रम्भे दूत्यं श्रीदेवपालदेवस्य । विदधे श्रीव(ब)लवर्मा  
व्याघ्रतटीमण्डलाधिपतिः ॥[२३\*॥]
- 51 आसीदशेषनरपालविलोलमौलि-  
मालामण्डितिविवो(बो)धितपादपद्मः । शैलेन्द्रवंशतिलको यवभूमिपालः  
श्रीवीरवैरिमथना-
- 52 नुगताभिधानः ॥[२४\*॥]  
चर्म्यस्थलेषु कुमुदेषु मृणालिनीषु शङ्खेन्दुकुन्दतुङ्गिनेषु पदन्दधाना । निःशेष-  
दिक्षुखनिरन्तरलब्ध(स्व)गीतिः
- 53 मूर्त्तैव यस्य भुवनानि जगाम कीर्त्तिः ॥[२५\*॥]  
भूमङ्गे भवति नृपा<sup>३</sup>स्य यस्य कोपान्नि[भि]वाः सह हृदयैर्हिषां  
त्रियोपि । वक्राणामि-
- 54 इ हि परोपघातदक्षा  
जायन्ते जगति भूष<sup>४</sup>तिप्रकाराः ॥[२६\*॥] तस्याभवत्तयपराक्रमशीलशाली  
राजेन्द्रमौलिशतदुर्लभकिताङ्गः-
- 55 युग्मः ।  
सुतुर्युधिष्ठिरपराशरभीमसेनकर्णार्जुनार्जितयशाः समराधवीरः<sup>५</sup> ॥[२७\*॥]  
उद्धूतम<sup>६</sup>म्ब(स्व)रतलाघ(द्यु)धि सञ्चरन्त्या यस्मैनयावनिरजःप-
- 56 टलं पदोत्थम् ।  
कर्णानिलेन करिणां शनकस्त्रितीर्णगण्डस्थलीमदजलैः शमया<sup>७</sup>म्ब(स्व)-  
भूष ॥[२८\*॥] अकृष्णपक्षमेवेदमभूद्भवनमण्डलं ।

<sup>१</sup> The use of *avagraha* may be marked.

<sup>२</sup> This *danḍa* is unnecessary.

<sup>३</sup> Read भूषः. Symbol for *śa* is used for that of *ś*.

<sup>४</sup> Or <sup>०</sup>वीरः.

<sup>५</sup> It is better to read साक<sup>०</sup>

- 58 कुलन्दैत्याधिपस्येव यद्यशोभिरनारतम् ॥[२८\*]  
 पौलोमोव सुराधिपस्य विदिता सकल्पयोनेरिव [प्रोतिः]<sup>1</sup> शैलसुतेव मन्मथरि-  
 59 पोक्ष्मीर्मुरारिरिव ।  
 राज्ञः सोमकुलान्वयस्य महतः श्रीधर्मसेतोः<sup>2</sup> सुता तस्याभूदवनौभुजोऽग्रमहिषी  
 तारेव ताराङ्गया ॥[३०\*]॥ माया-  
 60 यामिव कामदेवविजयी शुद्धोदनस्यात्मजः  
 स्कन्दो नन्दितदेवहृदयः यश्चोदमायामिव । तस्यान्तस्य नरेन्द्रहृदवि-  
 नमत्पादारवि-  
 61 न्दासनः  
 सर्वोर्वोपतिगर्व्वर्णचणः श्रीवा(वा)लपुत्रोऽभवत् ॥[३१\*]॥ नालन्दागुण-  
 हृदलुब्ध(म्)मनसा भक्त्या च श्रीहोदनेर्वु(र्बु)द्धा शैलसरित्तरंगतरलां  
 62 लक्ष्मीमिमां शोभनाम् ।  
 यस्तेनोन्नतसौधधामधवलः सङ्घार्थमिषत्रिया नानासङ्गुणभिस्तुसङ्गवसतिस्तस्या-  
 म्बिहारः कृतः ॥[३२\*]॥ भक्त्या  
 63 तत्र समस्तमनुवनितावैधव्यदीक्षागुणं  
 कृत्वा शासनमाहितादरतया यमार्थं कूतैरसौ । अमान् पञ्च विपश्चितोपरि-  
 यथोद्देशा-  
 64 निमानात्मनः  
 पित्रो[र्]र्षीकहितोदयाय च ददौ श्रीदेवपालं नृपं ॥[३३\*]॥ यावत्त्रिभ्योः  
 प्रव(व)न्धः पृथुलहरजटाक्षीमिताङ्गा च गङ्गा गुर्वी<sup>3</sup>  
 65 धत्ते फणीन्द्रः प्रतिदिनमचलो हेलया यावदुर्वी ।  
 यावत्तस्तीदयाद्री रवितुरगसुरोदृष्टचूडामणौ स्वस्वावत्सलोर्त्तिरेषा प्रभव-  
 66 तु जगताम्सरिक्रया रोपयंती ॥[३४\*]॥

## TRANSLATION.

Lines 1-25 are translated in the Mungir grant edited by Kielhorn in *Indian Antiquary*, Vol. XXI, pp. 257-258.

Ll. 26-33. In the *Śrinagara-bhukti*, at the villages falling within the district (*vishaya*) of Rājagriha, namely, Nandivanāka and Manirāṣṭaka, which come within the territorial subdivision (*naya*) of Ajapura, together with the undivided lands connected therewith; Naṭikā which comes within the subdivision (*naya*) of Pilipinkā and Hastigrāma which comes within the

<sup>1</sup> Both these letters are doubtful. *Saṅkalpayāni*, i.e. Kāmadēva has four wives, as stated in the *Viṣṇudharm-  
 smṛtariya*, III, 73, 21, namely, Rati, Priti, Sakti and Madasakti. Either of the two names *Priti* and *Sakti* will fit  
 in, but the former seems preferable.

<sup>2</sup> May be read as वर्धसेती also.

<sup>3</sup> The use of the *acagraha* may be marked.

<sup>4</sup> Ditto.

subdivision (*naya*) of Achalā and the village of Pālāmaka which comes under the subdivision (*viśhi*) of Kumudastūtra (or Kumudastūna), that falls within the limits of the district (*viśaya*) of Gaṇḍī—Dēvapālādēva, being in good health, issues commands to all the persons who have assembled here,—the Rājarānaka<sup>1</sup>, the Rājaputraka, the Rājāmātya, the Mahākāritakṛitika, the Mahādanḍanāyaka, the Mahāpratihāra, the Mahāsāmanta, the Mahādauhsādhāsādhaniaka, the Mahākumārāmātya, the Pramāṭṭi, the Śarabhaṅga, the Rājasthānīya, the Uparika, the Viśayapati, the Dāsāparādḥika, the Chaurōddharanika, the Dāṇḍika, the Dāṇḍapāśika, the Saultika, the Gaultika, the Kshētrapāla, the Kōṭapāla, the Khaṇḍaraksha, the Taddayuktika, the Vinīyuktika, the Hastyaśvāshtranaubalavyāpṛitaka, the Kīṣōra-vaḍavā-gō-mahishydhikṛita, the Dātāpraishanika, the Gamāgamika, the Abhitvaramānaka, the Tarika, the Tarapatika, the Ōḍras (men from Orissa), the Mālavas, the Khasas, the Kulikas, the Karṇāṭas, the Hūnas, the Chāṭas (or village officers), the Bhaṭas, the servants and others, dependent on his lotus-feet, who are not named here, and the residents, the Brahmanōttaras, the village-elders, householders, the *purōgas*, the *Mēdas*, the *Andhrakas* down to the *Chāṇḍālas*—

Ll. 33-37. Be it known to you that the above-mentioned villages, namely, the village of Nandivanāka, the village of Maṇivāṭaka, the village of Naṭikā, the village of Hasti (or Hastigrāma) and the village of Pālāmaka, together with the undivided lands attached to them, unbroken up to their boundaries, grass and pasture-lands,<sup>2</sup> with their grounds, places, mango and *madhuka* (*Bassia Latifolia*) trees, with their water and dry lands, *uparikaras*, *daśāparādhas*, *chaurōddharanās*, free from all troubles, exempt from the entry of the *chāṭas* (village officers), and *bhaṭas*, with all taxes due to the king's family or court, with nothing of these to be recovered, according to the maxim of *bhūmichchhīdra*, to last as long as the moon and the sun and the earth shall endure, excluding the gifts to gods, and the Brahmins, which were granted before and were enjoyed or are being enjoyed—

Ll. 37-42 are granted by us for the increase of the spiritual merit and glory of my parents and of myself—We being requested by the illustrious Mahārāja Bālaputrādēva, the King of Suvarṇpadvīpa through a messenger "I have caused to be built a monastery at Nalanda" granted by this edict toward the income for the blessed Lord Buddha, the abode of all the leading virtues like the *pra jñāpāramitā*, for the offerings, oblations, shelter, garments, alms beds, the requisites of the sick like medicines, etc., of the assembly of the venerable *bhikkhus* of the four quarters (*comprising*) the Bodhisattvas well versed in the *tantras*, and the eight great holy personages (i. e. the *ariya-puggalas*), for writing the *dharma-ratnas* or Buddhist texts and for the upkeep and repair of the monastery (when) damaged; therefore, this grant should be approved and preserved by all of you<sup>4</sup> out of regard for the merit of protecting gifts of land and because in the confiscation of the same there is a fear of falling into the great hell and the like. The residents also should be obedient to the order on hearing it and

<sup>1</sup> Many of these designations hardly admit of translation. They all occur in several grants and have already been noticed by scholars. So they are left untranslated here.

<sup>2</sup> *सुवर्णपद्वीप* is usually so translated and *पुष्प* is practically left untranslated.

<sup>3</sup> Dr. Thomas is of opinion that the term Bodhisattva is used here to indicate the monks and would read *śāstraka* in place of *tāstraka*. He further thinks that *Buddhābhāṣārāṭṭhaka* depends on *śāstrānaya*. The term *dharmaśāstr* occurs in the *Saddharmapundarika*, I, 10, 79; II, 102; XI, 5, 7. Burnouf translates it: "la règle de la loi," i. e. the rule of the Law." For *askha* ... *pudgalas* see Childers, Pāl Dictionary under *ariyapuggala* and *puggala*.

<sup>4</sup> Dr. Krōm of Leiden also thinks that the message sent by Bālaputra to Dēvapāla is only contained in the words: "Śrī-Nālandāyāśā viśāraṇ Kāritā"; for, if we assume that the message includes the whole passage as far as it (l. 42) it is not clear who are meant by the words *bhāradbhāṣārāṭṭhaka* (l. 40). These words cannot be applied to King Dēvapāla. Evidently they refer to that king's officials mentioned previously. These remarks appear to be justified but then we would require it after *kāritas*.



should bring to the donees at the proper time the due revenues such as *bhāgabhōgakara*, gold, etc." *Samvat (year) 39, Kārttika, day 21.*

Ll. 43-50. In pursuance thereof are the (following) verses (nos. 16-21) announcing duties (regarding grants)<sup>1</sup>.

V. 22. The illustrious *Balavarman* who was the right hand of the king, as it were, and who never depended on (others') help for crushing hostile forces, acted as messenger in this religious function.

V. 23. In this religious undertaking *Balavarman*, the illustrious ruler of the *Vyāghratatī-maṇḍala*, acted as a messenger of the illustrious (Emperor) *Dēvapāladēva*.

V. 24. There was a King of *Yavabhūmi* (or Java), who was the ornament of the *Śailēndra* dynasty, whose lotus-feet bloomed by the lustre of the jewels in the row of trembling diadems on the heads of all the princes, and whose name was conformable to the illustrious tormentor of brave foes (*vīra-vairi-mathana*).

V. 25. His fame, incarnate, as it were, by setting its foot on the regions of (white) palaces, in white water-lilies, in lotus plants, conches, moon, jasmine and snow and, being incessantly sung in all the quarters, pervaded the whole universe.

V. 26. At the time when that king frowned in anger, the fortunes of the enemies also broke down simultaneously with their hearts. Indeed the crooked ones in the world have got ways of moving which are very ingenious in striking others<sup>2</sup>.

V. 27. He had a son, who possessed prudence, prowess, and good conduct, whose two feet fondled too much with hundreds of diadems of mighty kings (bowing down). He was the foremost warrior in battle-fields and his fame was equal to that earned by *Yudhisthira*, *Parāśara*, *Bhīmasēna*, *Karṇa* and *Arjuna*.

V. 28. The multitude of the dust of the earth, raised by the feet of his army, moving in the field of battle, was first blown up to the sky by the wind, produced by the (moving) ears of the elephants, and, then slowly settled down on the earth (*again*) by the ichor, poured forth from the cheeks of the elephants.

V. 29. By the continuous existence of whose fame the world was altogether without the dark fortnight, just like the family of the lord of the *daityas* (demons) was without the partisanship of *Kṛishṇa*<sup>3</sup>.

V. 30. As *Paulōmi* was known to be (the wife of) the lord of the *Suras*, (*i.e.* *Indra*) *Ratī*<sup>4</sup> the wife of the mind-born (Cupid), the daughter of the mountain (*Pārvatī*), of the enemy of Cupid (*i.e.* *Śiva*) and *Lakshmi* of the enemy of *Mura* (*i.e.* *Vishṇu*) so *Tārā* was the queen consort of that king, and was the daughter of the great ruler *Dharmasētu*<sup>5</sup> of the lunar race and resembled *Tārā* (the Buddhist goddess of this name) herself.

V. 31. As the son of *Śuddhōdana*, (*i.e.* the Buddha) the conqueror of *Kāmadēva*, was born of *Māyā* and *Skanda*, who delighted the heart of the host of gods, was born of *Umā* by *Śiva*, so was born of her by that king, the illustrious *Bālaputra*, who was expert in crushing the pride

<sup>1</sup> Here come six imprecatory and benedictory stanzas, too well-known to be translated. The stanza सज्जनितान् मायिनः पापिषेयान् which is given in the Mangir grant is here left out.

<sup>2</sup> The eyebrows become crooked in frowning and the poet by way of *arthāntara-nyāsa* draws a general inference from it.

<sup>3</sup> Pan on the words *Kṛishṇa* and *pakṣha*. Fame is white or bright of. कालिन्त्यं व्योमि पापे यजसि च वदता वदसि वासुकीर्त्तयः *Sāhityadarpana*, VII-28.

<sup>4</sup> The exact word which certainly has only two letters is not distinct. It may be either *Prīti* or *Śakti* as noted above, f.n., p. 324. That *Ratī* is meant is absolutely clear from the context.

<sup>5</sup> This name can be read as *Varmasētu* also.

of all the rulers of the world, and before whose foot-stool (the seat where his lotus-feet rested) the groups of princes bowed.

V. 32. With the mind attracted by the manifold excellences of Nālandā and through devotion to the son of Śuddhōdana (the Buddha) and having realised that riches was fickle like the waves of a mountain stream, he whose fame was like that of Saṅghārthamitra<sup>1</sup>, built there (at Nālandā) a monastery which was the abode of the assembly of monks of various good qualities and was white with the series of stuccoed and lofty dwellings.

V. 33. Having requested, King Dēvapālādēva, who was the preceptor for initiating into widowhood the wives of all the enemies, through envoys, very respectfully and out of devotion and issuing a charter, (he) granted these five villages, whose purpose has been noticed above for the welfare of himself, his parents and the world.

V. 34. As long as there is the continuance of the ocean, or the Ganges has her limbs (the currents of water) agitated by the extensive plaited hair of Hara (Śiva), as long as the immovable king of snakes (Śēsha) lightly bears the heavy and extensive earth every day and as long as the (Udaya) Eastern and (Asta) Western mountains have their crest jewels scratched by the hoofs of the horses of the Sun so long may this meritorious act, setting up virtues over the world, endure.

#### No. 18.—MATTEPAD PLATES OF DAMODARAVARMAN.

By PROFESSOR E. HULTZSCH, PH.D.; HALLE (SAALE).

This inscription is engraved on five very thin copper-plates, which were found in the village of Matṭepaḍ in the Ongole Tāluk of the Guṇṭūr District and forwarded to Rao Bahadur H. Krishna Sastri by the Tahsildar of Nellore. The plates measure 6½ inches in breadth and 1½ inches in height. There are eight inscribed faces, the outer faces of the first and last plates having been left blank. Each inscribed face bears only two lines of writing. The margins of the plates are not raised into rims, but the writing is in fair preservation. The five copper-plates are strung on a ring of the same metal, passing through a hole of about ¼" in diameter on the left side of the writing. The two ends of the ring, which is about 2½" in diameter, are fixed in the base of an oval seal, which is much worn; it seems to bear, in relief, the figure of a seated bull, facing the proper right. The weight of the plates, with ring and seal, is 30½ tolas.

The alphabet is of an early Southern type. The *Jihvāmūṭiya* occurs in line 7, and the *Upadhānūṭiya* in line 16; final forms of *t* and *m* in lines 1, 7, and 15, 16 (twice), respectively. As in the case of the plates of Ghāruḍēvi (above, Vol. VIII, No. 12) and of Vijaya-Dēvavarman (Vol. IX, No. 7), the eight inscribed faces are numbered consecutively, like the pages of a modern book, with the numerical symbols 2, [3], 4, 5, 6, 7, 8 on the left margin; the first plate seems to bear, just as that of Dēvavarman,<sup>2</sup> the sacred syllable *om* in the place of the figure 1. The symbol 2 occurs also in the date (l. 14), and the symbol 1 repeatedly in lines 8-13.

The language of the plates is Sanskrit mixed with Prākṛit. Lines 1-14 are in prose, and the two last lines in verse. In the Sanskrit portion consonants following *r* are doubled, with the exception of *t* in *kartum*- and of *h* in *arhantī* (l. 6). The Sandhi is neglected after *°pura*t (l. 1), *°tasya* and *-sagḍṛasya* (l. 2), *-grāmāyakaḥ* (l. 4), *-grāmaḥ* (l. 5), and *bhāmāḥ* (l. 15).

<sup>1</sup> This might possibly mean that his wealth befriended the cause of the Saṅgha.

<sup>2</sup> See above, Vol. IX, p. 57.

In lines 8-13 the proper names of the donees and most of the names of their *gōtras*<sup>1</sup> are given in *Prākṛit*, and in line 14 the *Prākṛit* form *-sambachchharam* occurs. The only other declensional forms are the nominative singular *amso* (for which we would have expected *amso*) and the genitive singular *-ajjassa* (= *-āryasya* in Sanskrit) in lines 8-13. The vowel *au* has become *o* in *Koṇḍinna* (= *Kaundinya*, ll. 8-11). Sanskrit *p* and *b* have been changed to *v* in *Kassava* (= *Kātyapa*, l. 11 f.) and *Savarajja* (= *Śabarārya*, l. 10). Consonant groups are assimilated; but *sri* is represented by *siri* in *Sirijja* (l. 9). This name, as well as *Nandijja*<sup>2</sup> (= *Nandīyārya*, ll. 8, 13), *Aggijja* (= *Agnyārya*, ll. 9, 11), *Agasti* (= *Agastya*, l. 13), and *Veṇujja* (for which we would have expected *Veṇhujja*<sup>3</sup> = *Vishvārya*, l. 12), are instances of *Saṃprasāraṇa* (*i* = *ya*, and *u* = *va*).

The inscription records that, in the 2nd year of his reign (l. 14), the Mahārāja, *Dāmōdaravarman* (l. 3) granted the village of *Kaṅgūra* to a number of Brāhmaṇas. He was a worshipper of 'the truly and perfectly Enlightened one' (*Samyak-sambuddha*, l. 1), i.e. of the Buddha. At the same time he boasts of having performed certain Brāhmaṇical rites, viz. *Gō-sahasra* and *Hiranyagarbha* (l. 2 f.). These are the names of the second and fifth of the sixteen so-called 'great gifts' (*mahādāna*) of the Purāṇas.<sup>4</sup> A similar feat is ascribed to king *Attivarman* in another copper-plate grant from the Guṇṭūr District, where I translate the epithet *apramēya-Hiranyagarbha-prasavēna*<sup>5</sup> by 'who is a producer of (i.e. who has performed) innumerable *Hiranyagarbhas*.' That this *Attivarman* (whose name seems to be a *Prākṛitic* or Dravidian form of *Hastivarman*) belonged to the same dynasty as *Dāmōdaravarman*, is evident from the fact that his family is stated to be 'descended from the lineage of the great sage *Ānanda*' (ibid., text l. 1), while *Dāmōdaravarman* claims to have belonged to the *gōtra* of *Ānanda* (below, text l. 2). Moreover, *Dāmōdaravarman* resided at a city called *Kandarapura* (below, text l. 1), which must have received its name from that prince *Kandara*, who is mentioned as an ancestor of *Attivarman*.<sup>6</sup> The characters of the copper-plate grant of this king are decidedly more developed than those of the subjoined grant, which, besides, is partially in *Prākṛit*, while the former is all in Sanskrit. Consequently, *Dāmōdaravarman* must have been one of the predecessors of *Attivarman*.

When editing the Gōraṇṭla plates of *Attivarman*, my late lamented friend Fleet believed this king to have been a Pallava,<sup>7</sup> chiefly because he interpreted the epithet *apramēya-Hiranyagarbha-prasavēna* by 'who is of the posterity of the inscrutable (god) *Hiranyagarbha*.' As I have shown above, this rendering is inadmissible in the light of the corresponding epithet used in the fresh plates, and Fleet himself had since withdrawn his original opinion in his *Dynasties of the Kanarese Districts*, second edition, p. 334. Henceforth *Kandara*, *Dāmōdaravarman*, and *Attivarman* (*Hastivarman*) may be designated as 'kings of the family of *Ānanda*.'

The two localities mentioned in the subjoined inscription—*Kandarapura* (l. 1) and *Kaṅgūra* (l. 4 f.)—I am unable to identify. But the first of the two villages referred to in the grant of *Attivarman*—*Tāṇṭikōṇṭa*<sup>8</sup>—is probably identical with *Tāḍikōṇḍa*, 10 miles north of Guṇṭūr<sup>9</sup> and south of the Krishnā river, and the second village—*Āntukūrā*<sup>10</sup>—with *Gani-Āntukūru*, west

<sup>1</sup> In line 18 the names of the *gōtras* are in Sanskrit.

<sup>2</sup> Cf. *Nandijja* and *Goṇandijja*, above, Vol. I, p. 6, text l. 21, and Vol. VI, p. 87, text l. 9.

<sup>3</sup> Cf. *Rudavasshaja*, above, Vol. VI, p. 317, text l. 18.

<sup>4</sup> See Hōmādrī's *Dānakāṇḍa*, chapter 5, and cf. also *Ep. Ind.*, Vol. I, p. 388, verse 18 and note 58.

<sup>5</sup> *Ind. Ant.*, Vol. IX, p. 103, text l. 3.

<sup>6</sup> Loc. cit., text l. 2. These coincidences were first pointed out in the Madras Epigraphical Report for 1920, p. 95.

<sup>7</sup> See *Ind. Ant.*, Vol. IX, p. 102.

<sup>8</sup> See Mr. B. Sewell's *Lists*, Vol. I, p. 76.

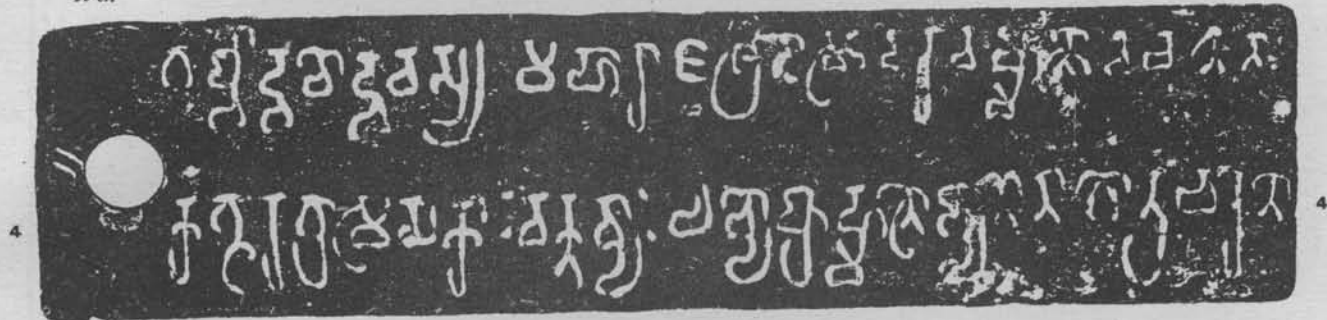
<sup>9</sup> *Ind. Ant.*, Vol. IX, p. 103, text l. 7. Fleet read *Tāṇṭikōṇṭa*.

<sup>10</sup> *Ind. Ant.*, Vol. IX, p. 103, text l. 8.

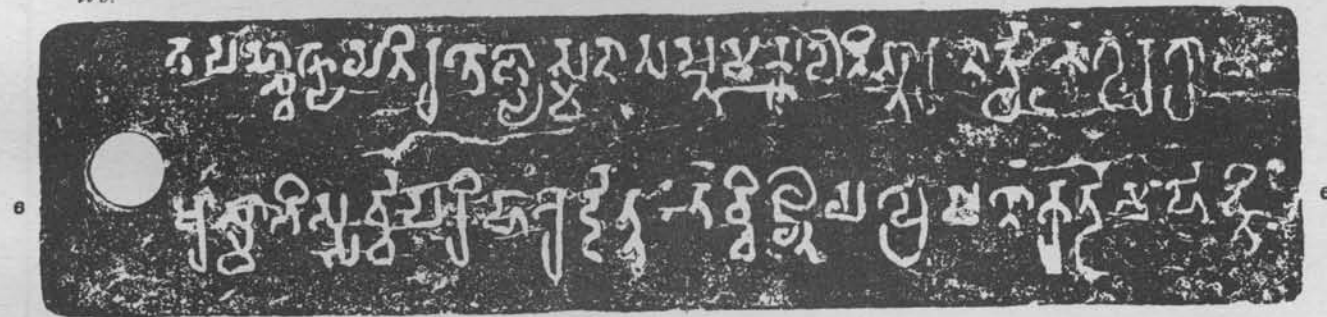
i.



ii a.



ii b.



iii a.



iii b.

ॐ नमो भगवते वासुदेवाय ॥ ॐ नमो भगवते वासुदेवाय ॥ ॐ नमो भगवते वासुदेवाय ॥  
 ॐ नमो भगवते वासुदेवाय ॥ ॐ नमो भगवते वासुदेवाय ॥ ॐ नमो भगवते वासुदेवाय ॥

*iv a.*

१०  
 ११  
 १२

iv b.

14

14

*v.*

16  16

of Bezvāḍa.<sup>1</sup> Gōraṇṭla, where the plates of Attivarman were obtained,<sup>2</sup> is 4 miles north of Guṇṭūr.<sup>3</sup> Finally, Venkayya's Report for 1900, pp. 5, 35, notes a much defaced Sanskrit inscription mentioning the daughter of king Kandara of the Ānanda gōtra, at Chēzarla, west of Guṇṭūr.

TEXT.<sup>4</sup>

*First Plate; Second Side.*

- 1 विजयकन्दरपुरात् [भ]गवतः सम्यक्संयुक्तस्य पादानुध्या-
- 2 तस्य आ[न]न्दसगोत्रस्य अ[वस्य]गोसह[स्राने]कहिरण्य-

*Second Plate; First Side.*

- 3 गर्भोद्भवोद्भवस्य महाराजश्रीदामोदरवर्धनो वचनेन
- 4 कंगूरग्रामिका(ः) वक्तव्याः [1\*] एभ्यो ब्राह्मणे[भ्यो] नानागोत्रचरण-

*Second Plate; Second Side.*

- 5 तपस्त्राध्यायनिरतेभ्योऽसप्तमकुलनिस्तारण[1\*]र्थ कंगूरग्रामः
- 6 अस्माभिस्सर्वपरिहारैर्दत्तः [1] तंविश्राय<sup>5</sup> प्रे[ष]णं कर्तुमर्हन्ति [1]

*Third Plate; First Side.*

- 7 एषां ब्राह्मणानां गोत्रनामविभागादंशविभागक्षियते [1\*] पूर्वन्तावत्
- 8 कोण्डिन्नवृद्धस्य चंशो १ कोण्डिन्ननन्दस्य चंशो १ कोण्डिन्नसुन्दस्य चंशो

*Third Plate; Second Side.*

- 9 कोण्डिन्नभवस्य चंशो १ कोण्डिन्नभग्निस्य चंशो १ कोण्डिन्नसिरि-  
जस्य चंशो
- 10 पुनः कोण्डिन्नभवस्य चंशो १ कोण्डिन्नसुन्दस्य चंशो १ कोण्डिन्न-  
सुवर्णस्य च[ंशो]

*Fourth Plate; First Side.*

- 11 कोण्डिन्नभग्निस्य चंशो १ कोण्डिन्नवीरस्य चंशो १ कसवदामस्य  
[चंशो]
- 12 कसवकुमारस्य चंशो १ कसववैकुण्ठस्य चंशो १ कस[वदे]वस्य  
चंशो

<sup>1</sup> See above, Vol. VIII, p. 10.

<sup>2</sup> *Ind. Ant.*, Vol. IX, p. 102.

<sup>3</sup> Mr. Sewall's *Lists*, Vol. I, p. 74.

<sup>4</sup> From ink-impressions supplied by Rao Bahadur H. Krishna Sastri.

<sup>5</sup> Read विश्राय.



## Fourth Plate ; Second Side.

13 काश्रपनन्दिजस्य चण्डो १ वत्सदोषजस्य चण्डो चागस्तिभजस्य  
चण्डो १<sup>१</sup> [1\*]

14 विजयसंवत्सरं २ कार्तिकशुक्लपक्षस्य त्रयोदश्यां पट्टिका दत्ता [1\*]

## Fifth Plate ; First Side.

15 बहुभिर्वसुधा दत्ता बहुभिर्बालुपालिता [1\*] यस्य यस्य यदा भूमिः<sup>२</sup>  
तस्य तस्य तदा फलम् ॥

16 स्वदत्तां परदत्तां वा यो हरेत्तु वसुध्वराम् [1] गवां गतसहस्रस्य  
हन्तुः पिबति दुष्कृतम् ॥

## TRANSLATION.

(Line 1.) From Kandarapura, (the city) of victory, the villagers of Kaṅgūra have to be addressed (as follows) by the word of the glorious Mahārāja Dāmōdaravarman, who meditates on the feet of the blessed Samyak-sambuddha; who belongs to the *gōtra* of Ānanda; (and) who is the origin of the production (i.e. who has caused the performance) of many *Hiranya-garbhas*<sup>4</sup> and of (gifts of) thousands of pregnant cows.

(L. 4.) 'For the sake of Our salvation as far as the seventh generation, the village of Kṛṅgūra has been given by Us, with all exemptions, to the following Brāhmanas of various *gōtras* and *charakas*, and practising austerities and recital of their sacred texts. Knowing this (the villagers) should render service (to them).'

(L. 7.) The allotment of shares is (now) made to these Brāhmanas, with specification of (their) *gōtras* and names. First then, to the Koṇḍinna Ruddajja (Rudrārya) 1 share; to the Koṇḍinna Nandijja (Nandyārya) 1 share; to the Koṇḍinna Khandajja (Skandārya) (1) share; to the Koṇḍinna Bhavajja (Bhavārya) 1 share; to the Koṇḍinna Aggijja (Agnārya) 1 share; to the Koṇḍinna Sirijja (Śrīārya) (1) share; again to the Koṇḍinna Bhavajja 1 share; to the Koṇḍinna Khandajja 1 share; to the Koṇḍinna Savarajja (Śabarārya) (1) share; to the Koṇḍinna Aggijja 1 share; to the Koṇḍinna Virajja (Virārya) 1 share; to the Kassava Dāmajja (Dāmārya) (1) share; to the Kassava Kumārajja (Kumārārya) 1 share; to the Kassava Veṇujja (Viṣṇvārya) 1 share; to the Kassava Devajja (Dōvārya) (1) share; to the Kāśyapa Nandijja 1 share; to the Vatsa Doṇajja (Drōṇārya) 1 share; to the Āgastī Bhaddajja (Bhadrārya) 1 share.

(L. 14.) (In) the year of victory 2, on the thirteenth (tithi) of the bright fortnight of Kārttika, (this) set of plates<sup>5</sup> has been given (to the donees).

[Line 15 f. contain two of the customary ślokas.]

## No. 19.—URLAM PLATES OF HASTIVARMAN; THE YEAR 80.

By PROFESSOR E. HULTZSCH, PR.D.; HALLE (SAALE).

This is a set of three copper-plates, measuring 7½ inches in breadth and 2½ inches in height. The outer face of the first plate has been left blank, while the second and third plates

<sup>१</sup> चण्डो १ is entered below the line.

<sup>२</sup> Read भूमिः.

<sup>३</sup> Read पट्टिका.

<sup>४</sup> See the introductory remarks.

<sup>५</sup> *paṭṭikā* is used in the same sense in other copper-plate grants. See above, Vol. I, p. 7, text l. 51; Vol. VI, p. 14 text l. 18; p. 88, text l. 28; p. 218, text l. 40; Vol. VIII, p. 240, text l. 40.

bear writing on both sides. The margins of the plates are not raised into rims, but the writing is in good preservation. The plates are strung on a copper ring, which is passed through a hole about  $\frac{1}{2}$ " in diameter near the left margin of the writing. The ring is about 3" in diameter and now carries no seal; but there are clear traces of a seal having once been soldered on it. The weight of the plates, with the ring, is 42 tolas.

The plates were received by Rao Bahadur H. Krishna Sastri from Mr. K. Nagesvara Rao, Editor of the 'Andhra Patrika,' who stated that they are the private property of the Raja of **Urlām**, Chicacole taluk, Ganjam District. Mr. T. Rajagopalā Rao has already published the text of the inscription on them in his journal 'South-Indian Research' for July 1919.

The **alphabet** is of an early Southern type and closely resembles that of the Achyutapuram plates of the Gāṅga Mahārāja Indravarman I of Kalinga,<sup>1</sup> which were drafted by the same officer as the Urlām plates. A final form of *m* occurs at the end of the inscription, while it is replaced by *Anusvāra* in *phalaṃ* (l. 20) and *°pālanaṃ* (l. 21). The two numerical symbols 8 and 80 are used in the date (l. 23), where 80 is expressed by the numerical symbol 80 and a superfluous cipher added to it.

The **language** is Sanskrit, prose and five verses (ll. 19-22, 23-26). As to **orthography**—*v* is used for *b* in *°vīdhā* (l. 14). The syllable *ri* is replaced by the vowel *ri* in the second syllable of *kṛitṛimā* (l. 17). *Anusvāra* is represented by guttural *ṃ* in *Rājasinhasya* (l. 24) and *-saṅghatēḥ* (for *-samhatēḥ*, l. 25). Consonants are doubled after *r*, with the exception of *śh* (in *varsha-*, l. 2); and *dh* is doubled before *y* in *-ānuddhyātāḥ* (l. 7). The *sandhi* is neglected after *-yaśāḥ* (l. 5), *-smābhiḥ* (l. 9), *°vriddhayē* (l. 11), *-śimāntikā* and *valmikaḥ* (l. 16), and wrongly made in *-vāpyā* (l. 15) and *tatṣ* (l. 18).

The inscription records the grant of a piece of land at the village of **Hoṇḍevaka** in **Arśhuka-vartanī** (l. 8) as an *agrahāra* to **Jayaśarman**, a resident of **Urāmalla** (l. 12). This land had been purchased from the residents of the *agrahāra* (of **Hoṇḍevaka**) by the grantor—the **Mahārāja Hastivarman** (l. 8) of **Kalinga** (l. 4), who belonged to the **Gāṅga** family (l. 5 f.) and resided at **Kalinganagara** (l. 1). This king receives exactly the same panegyric epithets as are applied to **Indravarman I** at the beginning of his two published grants.<sup>2</sup> The date of **Hastivarman's** grant was the **year 80** (in words and figures) of the **reign** (l. 23), while **Indravarman's** grants are dated in the years 87 and 91 of the reign. For this reason, and because all the three grants were drafted by the same officer, **Hastivarman** must have been the predecessor of **Indravarman I**, and the 'years of the reign' cannot possibly have been those of two individual reigns, but must be referred to the **Gāṅga** or **Gāṅgēya** era, whose earliest known date is now that of **Hastivarman's** record. The day of the grant was 'the eighth (tithi) of the dark (fortnight) of **Kārttika**' (all in words, l. 13) or 'the day 8 of **Kārttika**' (l. 23).

The officer who wrote the grant of **Hastivarman** and the two grants of **Indravarman I**, was **Vinayachandra**, son of **Bhānuchandra**. In the verse which contains his name,<sup>3</sup> he calls his sovereign **Rājasinha**, which, accordingly, must have been a *biruda* both of **Hastivarman** and of his successor **Indravarman I**. According to verse 5, **Hastivarman** had the additional surname **Ranabhita**. The same curious expression, which at first sight does not look very complimentary, but may have to be understood in a moral sense, occurs in two copper-plate grants as the name of a member of the dynasty of **Śailodbhava**; see verse 6 of the **Bugūda** plates, above, Vol. III, p. 43, and of the **Pārikud** plates, Vol. XI, p. 284.

The subjoined grant does not mention the name of its engraver; but I use this opportunity for again drawing attention to an error which dies hard, and crops up once more in the transla-

<sup>1</sup> Above, Vol. III, p. 127 ff.

<sup>2</sup> See the preceding note, and the **Parlā-Kimeḍi** plates, *Ind. Ant.*, Vol. XVI, p. 184.

<sup>3</sup> Verse 4 of the subjoined grant is identical with line 23 f. of the **Achyutapuram** plates, and with line 19 f. of the **Parlā-Kimeḍi** plates, of **Indravarman I**.



tion of a Gāṅga grant in Vol. XIII, p. 216. As I have shown in Vol. VII, p. 107, note 4, *akṣaṭāli*, the person to whom the engraving of copper-plate grants is entrusted, means 'a goldsmith,'<sup>1</sup> and must not be confounded with *akṣhapāṭalika*, 'a keeper of records.'

Of the localities mentioned in this inscription, *Kalinganagara* (l. 1) is the present *Mukhalīngam*,<sup>2</sup> and *Urāmalla*, where the donee resided (l. 12), is *Utlām*<sup>3</sup> where the copper-plates were obtained. In the absence of local maps, I am unable to identify the village granted, *Hoṇḍevaka* (l. 8), and another village, *Hattaravanna*, which seems to be referred to in the description of the boundaries of the former (l. 16). The district of *Krōṣṭuka-vartani* (l. 8) occurs also in the *Chicacole* plates of *Dēvēndravarmān*.<sup>4</sup>

TEXT.<sup>5</sup>

*First Plate ; Second Side.*

- 1 श्रीं स्वस्ति [1\*] सर्व्वसुखरमणीयादिजयकलिङ्गनगरात्सकलभुवननिर्माणेक-
- 2 सुनधारस्य भगवतो 'श्रीकर्णस्वामिनश्चरणकमलसुगलप्रणामादपगत-
- 3 कलिकलङ्गी विनयनयसम्पदामाधारः स्वसिधारापरिसन्दाधिग-
- 4 तसकलकलिङ्गाधिराज्यस्तुदधितरङ्गमेखलावनितलप्रवि-
- 5 ततामलयशाः) अनेकसमरसंघोभजनितजयशब्दो<sup>9</sup> गाङ्गा-
- 6 मलकुलप्रतिष्ठः प्रतापतिशयानामितसमस्तसामन्तचूडा-

*Second Plate ; First Side.*

- 7 मन्विप्रभामञ्जरीपुञ्जरश्चितचरणो मातापितृपादानुज्ज्ञातः परम-
- 8 माहेस्वरः श्रीमहाराजो हस्तिवर्मा (1) क्रोष्टुकवर्त्तन्यां होण्डेवक्यामे स-
- 9 र्व्वसमवेतात्क्रोष्टुम्बिनस्समापयति [1\*] विदितमस्तु वो यथास्माभिः[1\*]<sup>9</sup>
- 10 अस्मिन्ग्रामेप्रहारिकसकायात्क्रोत्वा हर्षहस्तस्य भूखेदीकृत्याचन्द्रार्क-
- 11 प्रतिष्ठममहारङ्गत्वा सर्व्वकरैः परिहृत्य मातापितृराजनस्य पुण्याभितृप्तये<sup>10</sup>
- 12 सरामङ्गनिवासिने वस्त्रसंगोचाय वाजसनेयसन्नञ्जचारिणे ज[य]-

*Second Plate ; Second Side.*

- 13 शर्मणे कार्तिककृष्णाष्टम्यामुदकपूर्व्वं संप्रप्ता [1\*] तद्विदित्वा स्वभूमिमनुपाल-
  - 14 यतां न केनचित्परिवाधा<sup>11</sup> कार्य्येति । सीमासिद्धानि चात्र [1\*]
- पूर्व्वेण वक्ष्यीकस्ततः

<sup>1</sup> Cf. 'agasāli, agasālavāḍu or agasāleedāu, a goldsmith,' in Brown's *Telugu-English Dictionary*.

<sup>2</sup> See above, Vol. IV, p. 187 ff.

<sup>3</sup> This identification was suggested in the *Madras Epigraphical Report* for 1920, p. 96.

<sup>4</sup> Above, Vol. III, p. 181.

<sup>5</sup> From ink-impressions supplied by Rao Bahadur H. Krishna Sastri.

<sup>6</sup> Expressed by a symbol,

<sup>7</sup> Read श्रीकर्णः

<sup>8</sup> Read 'संघोभ',

<sup>9</sup> Read 'शब्द',

<sup>10</sup> Read यथास्माभिरिति

<sup>11</sup> Read 'वाधा',

i.

[illegible]*ii a.*

8  
 10  
 12

8  
 10  
 12

ii b.

[illegible]

iii a.

20      20  
 22      22  
 24      24

iii D.

26

26

- 15 चेचपाली ततो घोषववाप्या[<sup>1\*</sup>] पश्चिमपाली ततः पुनरपि चेच-  
पाली [<sup>1\*</sup>]  
16 दक्षिणेन उत्तरवल्लीमान्तिका एव<sup>1</sup> [<sup>1\*</sup>] पश्चिमेन चेचपाली ततो  
वल्लीकः<sup>2</sup>  
17 ततः कृतमा<sup>3</sup> पाषाणपङ्क्तिः [<sup>1\*</sup>] उत्तरेषापि चेचपाली ततो वल्लीकः  
पुनर्वल्लीकः<sup>3</sup>  
18 ततो<sup>4</sup> पूर्ववल्लीकमनुप्राप्तेति । भविष्यद्राजभिषायन्दानधर्मीनुपासनीयः [<sup>1\*</sup>]

*Third Plate ; First Side.*

- 19 तथा च व्यासगीताः [<sup>1\*</sup>] बहुभिर्बहुधा दत्ता बहुभिर्बहुधापाणिता [<sup>1\*</sup>]  
यस्य यस्य  
20 यदा भूमिस्तस्य तस्य तदा फलं [॥ १\*] स्वदत्ताभ्यरदत्ता वा यज्ञादथ  
युधिष्ठिर [<sup>1\*</sup>] मही<sup>5</sup>  
21 महिमतां चेष्ट दानाच्छ्रेयोनुपासनं [॥ २\*] पष्टिं वर्षसहस्राणि मोदते दिवि  
22 भूमिदः [<sup>1\*</sup>] चाक्षेता चालुमन्ता च तान्मेव नरके वसेदिति । [<sup>1\*</sup>]  
प्रवर्द्धमानविजय-  
23 राज्यसंवत्सरा अयोतिः ८० कार्तिकदिन ८ ॥ इदं विनयचन्द्रेण भातु-  
24 चन्द्रस्य सलुना [<sup>1\*</sup>] मासनं राजसिङ्ग<sup>6</sup> लिखितं स्वमुखाग्रदा ॥ [४\*]

*Third Plate ; Second Side.*

- 25 मण्डलाग्रनिष्पेषनिष्पिष्टारातिसङ्गतेः<sup>7</sup> [<sup>1\*</sup>]  
26 त्रीमतोप्रतिपाद्यस्य रथभीतस्य मासनम् ॥

#### TRANSLATION.

(Line 1.) Om. Hail! From Kalinganagara, (the city) of victory, which is pleasant (on account of the simultaneous presence) of the comforts of all seasons, the glorious Mahārāja Hastivarman, a fervent worshipper of Mahēśvara, who meditates on the feet of (his) mother and father, . . . . .<sup>8</sup> commands (as follows) the ryots, accompanied by all (others), at the village of Honḍevaka in (the district of) Krōṣṭuka-vartani.

(L. 9.) 'Be it known to you that We have purchased two and a half ploughs (*kala*) of land in this village from the *Agrahārikas*,<sup>9</sup> have constituted (this land a separate) section.

<sup>1</sup> Read लीमान्तिकेय.

<sup>2</sup> Read कृतिमा.

<sup>3</sup> Read मही.

<sup>4</sup> Read ०सङ्गतेः.

<sup>5</sup> The epithets omitted here will be found translated above, Vol. III, p. 120.

<sup>6</sup> i.e. the residents of the *agrahāra*.

<sup>7</sup> Read वलीकस्ततः.

<sup>8</sup> Read कस्ततः.

<sup>9</sup> Read सिङ्गस्य.

have made (it) an *agrahāra* which is to last as long as the moon and the sun, have exempted (it) from all taxes, and that, for the sake of the increase of the religious merit of (Our) mother and father and of Ourselves, on the eighth (tithi) of the dark (fortnight) of Kārttika, with libations of water, We have given it to Jayasārman, who resides at Urāmalla, belongs to the Vatsa *gōtra*, (and) studies the Vājasaneyā (*śākhā*). Knowing this, nobody should cause obstruction to (the new owners) while they are preserving their own land.<sup>1</sup>

(L. 14.) And the marks of the boundaries of this (land are): In the east, an anthill; then the bank (*pālī*) of a field; then the western bank of the *Ghōṣhaṇa* tank; and then again the bank of a field. In the south, only the boundary of Hattaravanna. In the west, the bank of a field; then an anthill; then an artificial row of stones. And in the north, the bank of a field; then an anthill; again an anthill; then (the boundary) reaches the anthill in the east.

(L. 18.) And future kings should preserve this meritorious gift. There are also the following (verses) sung by Vyāsa.

[Lines 19-22 contain three of the customary *Ślokas*.]

(L. 22.) Eighty—(in figures) 80—years of the reign of increasing victory, the day 8 of Kārttika.

(Verse 4.) At the command of his (the king's) own mouth, this edict of Rājasinha has been written by Vinayachandra, son of Bhānuchandra.

(V. 5.) (This is) an edict of the glorious Rājabhīṣa, whose orders are irresistible, (and) who has crushed the collection of (his) enemies by the strokes of the point of (his) scimitar.

#### NO. 20.—IPUR PLATES OF GOVINDAVARMAN'S SON MADHAVAVARMAN.

By PROFESSOR E. HULTZSCH, PH.D., HALLE (SAALE).

This is a set of three thin copper-plates in the possession of Brindavanam Gopalachariu at the village of Īpur in the Tenālī Tāluk of the Guntūr District, which was brought to the notice of Rao Bahadur H. Krishna Sastri by Mr. A. Rangasvami Sarasvati. The plates measure  $6\frac{1}{4}$  inches in breadth and  $1\frac{1}{4}$  inches in height. The outer faces of the first and last plates have been left blank, while the middle one bears writing on both sides. The margins of the plates are not raised into rims, but the writing is in good preservation. The plates are strung on a copper ring, which is 3" in diameter and is passed through a hole on the left side of the writing. The two ends of the ring are secured in the base of a circular seal, which measures  $1\frac{1}{4}$ " in diameter and is somewhat worn. It is divided by a cross-line into two sections. The lower section bears, in relief, the legend श्रीमद्वर्धन in two lines. Above the line seems to be a figure of Lakshmi or a Svastika on a pedestal, flanked by two lamp-stands and surmounted by the sun (?) and the crescent of the moon. The weight of the plates, with ring and seal, is 30 tolas.

The alphabet is of an earlier southern type than that of the two other published grants of the Viśhṇukūṇḍin family<sup>2</sup>. The secondary forms of *i* and *ī* are not always clearly distin-

<sup>1</sup> Cf. the corresponding portion of the Achyutapuram plates, above, Vol. III, p. 129.

<sup>2</sup> These are the Rāmatīrtham plates of Indravarman, above, Vol. XII, p. 133, and the Chikkulla plate Vikramādityavarman II, Vol. IV, p. 132.



ii a.

6 8

7

ii b.

10

10

iii.  
12 12  
14 14

*Seal*



FULL SIZE

guished; in °*kuṇḍinām*= (l. 1) *i* looks like *ī*, and in *bhagavach-Chhriparrvata*- (l. 1), *śrī-Gōvinda*° (l. 3), and *-mahī*- (l. 4), *ī* looks like *i*; *t* is distinguished from *n* by a loop on the left: but in *-janin*= (l. 9) the second *n* has a loop, and in *-jagat-kalmashaḥ* (l. 7) and *-saṃvatsarā* (l. 14) the *t* has no loop. Final forms of *m* and *t* occur in *-arītham* (l. 10), *vasundharām* and *vrajēt* (l. 13). The numerical symbols 5, 7, and 10 are used in the date (l. 14).

The language is Sanskrit prose (with two verses quoted in l. 12 f.), but the abbreviation *gi* (l. 14) presupposes the Prakṛit word *gimha* (= *grishma* in Sansk. 't). The incorrect form *saptātriśē*, (for *saptatrinśē*, l. 14) seems also to be due to Prakṛit influence. Palatal *ñ* is expressed by lingual *n* in *Mañchyanna*- (l. 11). Consonants are doubled after *r* throughout, and *dh* before *y* in *-ānuddhyātasya* (l. 1), while *tva* represents *tva* in *-satva*- (ll. 3, 6). As the notes on the text will show, the rules of *sandhi* are frequently disregarded.

The inscription records the grant of the village of Vilembali in the Guddādi-vishaya (l. 8 f.) to the Brāhmaṇa Agniśarman. The grantor was the Mahārāja Mādhavavarman (l. 8), son of the Mahārāja Gōvindavarman (l. 3), who was a worshipper of the temple at Śrīparvata and belonged to the family of the Viśhukupḍins (l. 1). Mādhavavarman issued his order to the villagers from his camp at Kuḍāvāḍa (l. 8) and seems to have resided at Trivaranagara (l. 4). The executor (*ājñā*) of the grant was (the king's) 'dear son,' Mañchyanna-bhaṭṭāraka (l. 11). Its date was the 15th day of the 7th fortnight of the hot season in the thirty-seventh year of the reign (l. 14).

In consideration of the comparatively early type of the alphabet of this inscription, I felt tempted to identify Mādhavavarman with a king of the same name, who is known to have been the grandfather of the grantor of the Rāmatīrtham plates, and the great-grandfather of the grantor of the Chikkulla plates.<sup>1</sup> For easy reference, I subjoin a tabular statement.

| <i>Ipūr plates.</i>      | <i>Rāmatīrtham plates.</i> | <i>Chikkulla plates.</i>           |
|--------------------------|----------------------------|------------------------------------|
| Gōvindavarman.           |                            |                                    |
| ↓                        |                            |                                    |
| Mādhavavarman (year 37). | Mādhavavarman.             | Mādhavavarman.                     |
|                          | ↓                          | ↓                                  |
|                          | Vikramēndra.               | Vikramēndravarmān I.               |
|                          | ↓                          | ↓                                  |
|                          | Indravarman (year 27).     | Indrabhaṭṭārakavarman.             |
|                          |                            | ↓                                  |
|                          |                            | Vikramēndravarmān II<br>(year 10). |

Of the localities mentioned in this inscription, Śrīparvata (l. 1) is perhaps identical with Śrīśailam in the Karpūl District.<sup>2</sup> Whether the Guddādi-vishaya (l. 8 f.) has anything to do with the Guddavādi-vishaya to which Drākshārāma and Chellūr in the Gōḍavari District belonged,<sup>3</sup> I am unable to say, nor can I identify Vilembali (l. 9), Kuḍāvāḍa (l. 8), and Trivaranagara (l. 4), which can hardly be identical with the distant Tripurī (Tewar).

<sup>1</sup> See my remarks above, Vol. XII, p. 133, and cf. the Madras Epigraphical Report for 1920, p. 55.

<sup>2</sup> See above, Vol. IV, p. 195.

<sup>3</sup> See above, Vol. IV, p. 83; *Ind. Ant.*, Vol. XIV, p. 53, text l. 77; Vol. XIX, p. 424.



TEXT.<sup>1</sup>*First Plate ; Second Side.*

- 1 स्वस्ति [१\*] भगवच्छोपर्वतस्वामिपादानुद्धातस्य विश्वकुण्डिनामपरिमितबल-  
पराक्रमस्य  
2 परमधार्मिकस्य प्रणतसकलसामन्तस्थानिकगोहिरण्यभूमिप्रदानस्य महाराजस्य  
3 श्रीगोविन्दवर्मणः पुत्रः क्षुतिमतिबलसत्त्वधैर्यैर्वैविनयसंपन्नः<sup>2</sup>  
4 सकलमहीमण्डलमनुजपतिप्रतिपूजितशासनः<sup>3</sup> चिवरनगरभवनगतयुव-

*Second Plate ; First Side.*

- 5 तिष्ठदयनन्दनः स्वयंयवलंविजितसकलसामन्तातुलबलविनयनयनिय-  
6 मसत्त्वसंपन्नः<sup>4</sup> सकलजगद्वनिपतिप्रतिपूजितशासनः<sup>5</sup> अग्निष्टोमसहस्रया-  
7 जो हिरण्यगर्भप्रसूतः<sup>6</sup> एकादशाश्वमेधावभृथविधूतजगत्कल्पः सुस्तिर-<sup>7</sup>  
8 कर्म[१] महाराजश्रीमाधववर्मा विजयस्कन्धावारात्<sup>8</sup> कुडावाडवासक-<sup>9</sup>  
गुहादिविव-

*Second Plate ; Second Side.*

- 9 ये विलिख्यन्तिग्रामजनान्स्वर्वावेवम[१\*]प्रापयति यथा<sup>10</sup> अस्मै वक्तव्योवाय  
ब्राह्मणा-  
10 य<sup>11</sup> अग्निशर्मणे अकलहंविभूत्यर्त्यम्<sup>12</sup> सर्वपरिहारेण दत्तवानस्मि [१\*]  
तदवगम्य सर्व-  
11 राजपुत्रैः परिहर्तव्यः पालयितव्यश्च [१\*] अस्याज्ञा प्रियपुत्रः<sup>13</sup> मण्यव्यस्य-  
महारकः [१\*]

*Third Plate ; First Side.*

- 12 बहुभिर्वसुधा दत्ता बहुभिर्बानुपालिता [१\*] यस्य यस्य यदा भूमिस्तस्य तस्य  
तदा ज-

<sup>1</sup> From ink-impressions supplied by Rao Bahadur H. Krishna Sastri.<sup>2</sup> Read 'सुख'.<sup>3</sup> Perhaps स्वयंयवलं is intended. <sup>4</sup> Read 'सामन्ती इत्युच्यते'.<sup>5</sup> Read 'सत्त्वसंपन्नः'.<sup>6</sup> Read 'प्रसूतिरेवाद्वा'.<sup>7</sup> Read 'शासकान्दुहादि'.<sup>8</sup> Read 'ब्राह्मणायाप्रिभक्तैश्चेत्युच्यते'.<sup>9</sup> Read 'पुत्री मन्त्रावर्ण'.<sup>10</sup> Read 'शासनविचर'.<sup>11</sup> Read 'शासनोद्दिग्'.<sup>12</sup> Read 'सुस्तिर'.<sup>13</sup> Read 'व्याप्य'.<sup>14</sup> Read 'व्याप्य'.

13 ल[म् ॥\*] स्वदत्तां परदत्तां वा यो हरित वसुधराम् [॥\*] चाचेता  
चातुमन्ता च सर्वथा नरक<sup>१</sup> प्रजेत् [॥\*]

14 प्रवर्द्धमानविजयराजसंवत्सरे सप्तमिषि<sup>२</sup> मि प ७ दि १० ५ ॥

## TRANSLATION.

(Line 1.) Hail! The son of the glorious Mahārāja Gōvindavarman, who meditated on the feet of the holy lord of Śrīparvata; (who belonged to the family) of the Vishnukundins; whose power and valour were immeasurable; who was most religious; to whom all vassals were bowing; (and) who (performed) many gifts of cows, gold, and land;

(L. 3.) the glorious Mahārāja Mādhavavarman, who is endowed with (knowledge of) the law, intelligence, power, honesty, firmness, valour, and modesty; whose edicts are worshipped by all rulers of men on the circle of the earth; who delights the hearts of the young women standing on (the top of) the palaces of Trivaranagara; who has subdued all vassals by the power of his own arm; who is endowed with unequalled power, modesty, policy, self-restraint, and honesty; whose edicts are worshipped by the rulers of the earth in the whole world<sup>३</sup>; who has performed thousands of *Agnishōma* sacrifices; who is a producer of (i.e. who has performed *Hiranyagarbhas*<sup>४</sup>; who has removed the stains of the world by bathing at the end of eleven *Atvamēdhas*<sup>५</sup>; (and) whose religious rites are everlasting;

(L. 8.) from (his) camp of victory, pitched at Kuṣāvāṣṭa, commands as follows all men at the village of Vilembali in the district (*vishaya*) of Guddadi.

(L. 9.) 'For the sake of the prosperity of Our family, I have given (this village), with all exemptions, to this<sup>६</sup> Brāhmaṇa Agniśarman of the Vatsa *gōtra*. Knowing this, all royal officers should exempt and preserve it.'

(L. 11.) The executor (*ājñā*) of this (grant was the king's) dear son, Mañichyanna-bhaṭṭāraka.

[Line 12 f. contain two of the customary Ślokas.]

(L. 14.) In the thirty-seventh year of the reign of increasing victory, the 15th day of the 7th fortnight of the hot season.<sup>७</sup>

## No. 21.—IPUR PLATES OF MADHAVAVARMAN II.

By PROFESSOR E. HULTZSCH, PH.D.; HALLÉ (SAALÉ).

This is another set of three thin copper-plates without rims, which belongs to the same owner as the preceding one (above, No. 20). The plates measure 7 inches in breadth and 1½ inch in height and have four inscribed faces, the outer sides of the first and last plates having been left blank. The writing is much injured, especially on the two last faces. The plates are strung on a ring, which is about 3" in diameter, and the ends of which are secured in the base of

<sup>१</sup> Read नरक.

<sup>२</sup> Read सप्तमिषे.

<sup>३</sup> The two last epithets are nearly identical with two others applied to the king before in line 3 f.

<sup>४</sup> *Hiranyagarbha* is the name of the fifth of the sixteen *Mahādānas*. Cf. *anika-Hiranyagarbha-ōḍḍha-ōḍḍha* in the Maṭṭepād plates of Dāmōdaravarman (above, No. 18), text l. 2 f., and *apramāya-Hiranyagarbha-prasavina* in the Gōraṇṭha plates of Attivarman *Ind. Ant.*, Vol. IX, p. 102, text l. 3.

<sup>५</sup> The same epithet occurs (with the various reading *avadhāuta* for *vidhāuta*) in the Bāmatīrtham plates, l. 3 f., and in the Chikkulla plates, l. 2 f.

<sup>६</sup> Cf. above, Vol. IX, p. 59, note 6.

<sup>७</sup> With *gi pa* 7 cf. *gimhā pakha oḥḥaḥ* 6 in the Mayidavōla plates (above, Vol. VI, p. 88); [*g*] *imha-pakha pachame* 5 at Kārīlā (Vol. VII, p. 61); the following dates of four Nasik inscriptions (above, Vol. VIII): *gimha-pakha pachame* 5 (p. 59); *gimhāna pakha bisiye* 2 (p. 60); *gi pa* 2 (p. 66); . . . *mha-pakha oḥḥaḥ* 4 (p. 88) and *gimha-pakham padaman* in a Malavalli inscription (Vol. X, Appendix, p. 188, No. 1195).

a circular, much worn seal, which is turned towards one side. The seal is divided by a cross-line into two sections. In the lower section the legend श्रीमध्व[चक्र] in two lines, is very faintly visible, while the symbols in the upper section cannot be made out. The weight of the plates, with ring and seal, is 30 tolas.

The alphabet reminds us of that of the British Museum plates of Chārudēvi (above, Vol. VIII, p. 143). The *Upadhmāniya* occurs in lines 12 and 16. The numerical symbols 7 (thrice) and [40] are used in the date (l. 13).

The language is Sanskrit prose (with two verses quoted in ll. 14-16); but the abbreviation *vā* (l. 13) presupposes the Prākrit form *vāsa* (= *varsha* in Sanskrit). Consonants are doubled after *r* throughout, *t* before *r* in *kshattriyā*<sup>1</sup> (l. 3 f.) and *-puttras* (l. 5), and *āh* before *y* in *ādhyātō* (l. 7),<sup>2</sup> while *tva* is employed for *tva* in *-satva* (l. 6).

The inscription records the grant of a village, the name of which is doubtful, by Mādhavarman (II) (l. 7), who resided at [Amajrapura (l. 1), ruled over the Trikūṭa and Malaya mountains (l. 5), was a worshipper of the temple at Śrīparvata (l. 6 f.), and belonged to the family of the Vishṇuśūndins (ll. 7, 13). His father was Dēvavarman (l. 5), and his grandfather the Mahārāja Mādhavarman (I) (l. 3 f.). As the alphabet of this inscription seems to be of an earlier type than that of the preceding one, and as grandsons are frequently named after their grandfather, I consider it not impossible that Mādhavarman II was the grandfather of Govindavarman's son Mādhavarman,<sup>3</sup> who would then have to be designated Mādhavarman III. The first figure of the year in the date portion of the subjoined inscription (l. 13) is injured and uncertain.

The localities mentioned in this inscription I am unable to identify, with the exception of Trikūṭa, a mountain on the Bombay side,<sup>4</sup> and Malaya, i.e. the Western Ghāṭs, both of which were at a safe distance from the dominions of Mādhavarman II, although he professes to have ruled over them. For Śrīparvata=Śrīśailam see above, Vol. IV, p. 195.

#### TEXT.<sup>4</sup>

##### *First Plate ; Second Side.*

- 1 स्वस्ति [i\*] [चम]रपुरादेकादशाश्वमेधावभूयावधुतजगत्स्व[व]-
- 2 स्यान्निष्टोमसहस्रयाजिनोनेकशमन्तमकुटकूटम-
- 3 णिखचितचरणशुगलकमलस्य<sup>5</sup> महाराजस्य श्रीमा-
- 4 धववर्म्मणः प्रियनसा क्षत्रियावस्कन्दप्र[वर्त्ति]ताप्रतिमवि-

##### *Second Plate ; First Side.*

- 5 [व्या]तपराक्रमस्य श्रीदेववर्म्मणः प्रियपुत्रस्त्रिकूटमलयाधिपति-
- 6 न्येयविनयसत्त्वसंपन्नी<sup>6</sup> भगवच्छ्रीपर्वतस्वामिपादान्त-

<sup>1</sup> But not in *-vādhyāya* (l. 8) and *-ādhyānō* (l. 12).

<sup>2</sup> See above, No. 20.

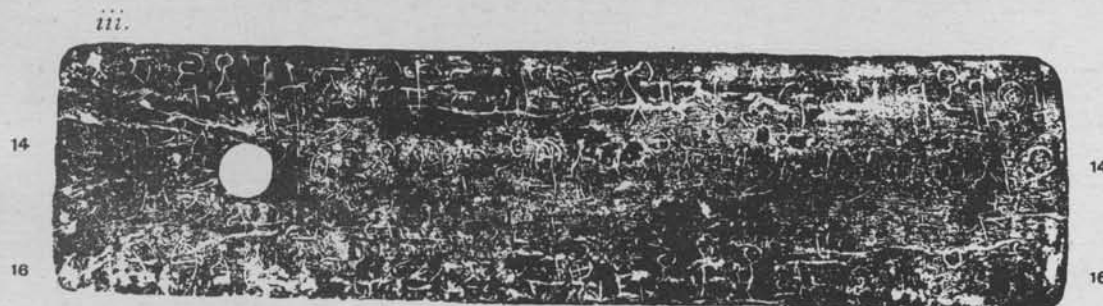
<sup>3</sup> See above, Vol. XI, p. 220, and cf. Vol. IX, p. 209.

<sup>4</sup> From ink impressions supplied by Rao Bahadur H. K. Ishua Sastri.

<sup>5</sup> Lead "चरणकमलदुग्धस्य."

<sup>6</sup> Lead "सत्त्व".

Ipur Plates of Madhavavarman II.



*Seal*



- 7 क्वातो विष्णु — —<sup>1</sup> श्री[म]ाध[व]र्मा सुरो-क-किपामे जमाने[व]मा-  
8 प्रापयति यथा ॥ यमनियमस्वाध्यायक्रियासम्पन्नाभ्या-

*Second Plate ; Second Side.*

- 9 . . . . . अग्निशर्मेन्द्र[शर्मा]भ्य[र]-  
10 मा . . . . . [कळि]क-  
11 ग्राम . . . . .  
12 — — जानपदैः परिहर्तव्य[\*] [प]रिहार[यितव्यश्च] [\*] यस्य [शास]-

*Third Plate ; First Side.*

- 13 [न]स्यान्ना विष्णुकु[ण्डधि]र[र]ज[धानोदात्ता] ॥ सं [४०] ७ वा प ७  
दि ७ चो<sup>२</sup> ॥  
14 बहुभिर्वसुधा दत्ता बहुभिश्चानुपालिता [\*] यस्य यस्य यदा भूमि-  
15 [स्तस्य] तस्य तदा फल[म्] ॥ स्वदत्तां परदत्तां वा यो हरित वसुन्वराम् ।]  
16 [गवां] शतसहस्रस्य [हन्तु]ः पिबति किल्बिष[मिति] ॥

#### TRANSLATION.

(Line 1.) Hail! From [Ama]rapura, the dear grandson of the glorious Mahārāja Mādhavavarman, who had removed the stains of the world by bathing at the end of eleven *Āsvamedhas*; who had performed thousands of *Agnishōma* sacrifices<sup>3</sup>; (and) whose pair of lotus-feet was studded with the jewels on the top of the diadems of many (bowing) vassals;

(L. 4.) the dear son of glorious Dēvavarman, who displayed matchless, well-known valour in attacking warriors;

(L. 5.) the glorious Mādhavavarman, the lord of the Trikūṭa and Malaya (mountains), who is endowed with policy, modesty, and honesty; who meditates on the feet of the holy lord of Śrīparvata; (and who belongs to the family) of the Viṣṇu[kuṇḍins], commands as follows the men at the village of . . . . .

[Line 8 f. seems to refer to two donees, Agniśarman and Indrasarman.]

(L. 12.) The command (*ājñā*) of this edict<sup>4</sup> was ennobled by the meditation (?) of the overlord of the Viṣṇukunḍins.

(L. 13.) The year [4] 7, the 7th day of the 7th fortnight of the rainy season.<sup>5</sup> *Om.*

[Lines 14-16 contain two of the customary Ślokas.]

<sup>1</sup> Restore perhaps दिव्यकुण्डिनी.

<sup>2</sup> Expressed by a symbol.

<sup>3</sup> These two epithets occur also in line 6 f. of the other Ipūr plates (above, No. 20).

<sup>4</sup> Cf. *asya śōvanasy-ājñāptih*; *South-Ind. Inscr.*, Vol. I, p. 57, text l 113 f.

<sup>5</sup> With *vā pa* 7 cf. *vāsa* 6 in the Hirahadagalli plates (above, Vol. I, p. 7); *varsha-pakṣhē caturthē* (Vol. III, p. 262); *varshā-pakṣhah aṣṭamah* (*Ind. Ant.*, Vol. VII, p. 37); *vāsa-pakṣham* 8 in two inscriptions at Jaggaṃyapāta (ASSI, Vol. I, p. 110); *vā pa* 4 at Kārlē (above, Vol. VII, p. 64); *vāsa pakṣhe* 2 and *vāṣina pakṣhe* 4 at Nāsik (Vol. VIII, pp. 71, 73.)

No. 22.—REVISED TEXT AND TRANSLATION OF TWO OF THE  
KURAM PLATES.

By PROFESSOR E. HULTZSCH, PH.D., HALLE.

Some time after I had published the Kūram copper-plates of the Pallava king Paramēśvaravarman I,<sup>1</sup> the late Professor Kielhorn recognised that plates III and IV of that inscription in which I had noticed only two verses, are all in poetry. I now reprint the very corrupt text of this portion of the inscription (ll. 19-49), arranging it in verse lines, correcting the writer's mistakes, as far as I am able to do this, in notes, and adding a fresh translation. Rao Bahadur Krishna Sastri was good enough to contribute to this article a few additional conjectures, viz. °धनुषि, verse 12; युक्रमटे or वृत्तमटे, v. 14; मृगमद°, v. 15; कृतवान्, v. 21; स्यष्ट, v. 23.

The subjoined passage consists of 22 verses (5-26). The relative pronouns in verses 5, 6, 21, and 26 refer to the name of the donor Paramēśvaravarman, l. 19) at the end of the preceding prose passage. Verses 8-21 form one long relative sentence, describing the king's victory over the Chalukya king Vikramāditya I. Verses 22-26 praise Paramēśvaravarman's state-elephant Arivāraṇa, his charger Atiśaya, his dagger, and his girdle.

TEXT.<sup>2</sup>

महेन्द्रवर्मणः . . . . पुत्रः . . . . परमेश्वरवर्मा  
भरत इव सर्व्वदमनः[\*] सगर इव कृतासमञ्जसत्यागः [1\*]  
कर्ण इव पुष्कलांगो यः प्रियकः[\*] व्यो ययातिरिव [॥ ५ ॥\*]

(a) Metre of verses 5-9: Āryā (30+27 mātrās).

अनुपमताम्री राज्ञा (a) यस्यान्ना भवति सर्व्वदायीका (b) [1\*]  
सैव सुहृदाम्यच्छति सुखशोभा (c) कर्णपूरतया [॥ ६ ॥\*]

(a) Read राज्ञा. (b) Read °दीडः. (c) Read °शोभा.

चतुरः कलाविलासि नियतम् यथांदो (a) भवत्यनंगस्य [1\*]  
मुक्तागुणस्तु हृदये मुक्तागुण एव वनिता[ना]म् [॥ ७ ॥\*]

(a) Read नियतं चञ्डी

अगणितनरइयकरिकुलविमर्हजनितेन रेणुतुहनेन [1\*]  
पारोपितशशिमण्डलसादृश्यसहस्रकरविम्बे [॥ ८ ॥\*]  
यटहरवगर्जितोये विकीर्णनिस्त्रिंशत्विद्युदाभोगे (a) [1\*]  
प्रचरितकुम्भरजसदे विकालवर्षावतार इव [॥ ९ ॥\*]

(a) Read °निस्त्रिंशत्विद्यु (dyn)°

<sup>1</sup> *South-Indian Inscriptions*, Vol. I, pp. 144 ff.

<sup>2</sup> As the notes on the text are numerous and contain long Nāgarī passages, I am using for them ordinary type instead of the small and indistinct note-type, which, as I know from experience, is liable to breaking and dropping.

तुंगतुरंगतरंगी प्रचरत्करिमकरजनितविषमावत्तो (a) [1\*]

अविरक्तमुदोर्ध्वशंखे विजृम्भमाणे समुद्र इव [॥ १० ॥\*] (b)

(a) Read °वर्त्त. (b) Metre: Sugiti (32+27).

अङ्गलतावरणयुते समरासननागतिलकपुष्पागघने [1\*]

उद्धतकलकलशब्दे कानन इव चण्डवेगपवनाकुलिते [॥ ११ ॥\*] (a)

(a) Metre: Āryāgiti (32+32).

योधापुरोतधनुषु (a) व्यतिपतितपतत्रिरुहपवनफले (b) [1\*]

प्रचरिततोमरशक्तिप्रासगदाकणयकण्णचक्रे (c) [॥ १२ ॥\*] (d)

(a) Read योधापुरितधनुषि. (b) Read °पवनपथे. (c) Read °कण्णं. (d) Metre: Pragiti (30+29).

अन्योन्यलीशरदनकुलीशस्थिरकिलितवदनमत्तगजवृन्दे (a) [1\*]

अन्योन्यभूर्धपातितखड्गव्यतिपत्ततुरगसादिगणे [॥ १३ ॥\*] (b)

(a) Read अन्योन्यरदनकुलिशस्थिरकौलित°. (b) Metre: Giti (30+30).

शस्त्राशस्त्रकचाकचिदण्डोर्कियाप्रव्यक्तभटजने (a) [1\*]

अन्योन्यसदृशगणनपरिभवनोर्ध्वार्तना (b) [॥ १४ ॥\*]

(a) Read शस्त्राशस्त्रकचाकचिदण्डोर्कियाप्रव्यक्तभटे or °प्रवृत्तभटे. (b) Read °नभनापरिसवनोर्ध्वार्तना. The remainder of this verse is left out by the writer.

मृगमदमिश्रोतशीणितकुङ्कुमघनलिप्य[मा\*]नभूमितले (a) [1\*]

विरहितनिपतितबाहुग्रीवाजंघो[घो]रुकाण्डदन्तबलौघे (b) [॥ १५ ॥\*] (c)

(a) Read मृगमदमिश्रित°. (b) Read °लौघे. (c) Metre: Lalitā (30+32).

मूहस[म्या]तविदोर्ध्वप्रजवितविदुत[भूमित]तोभयपथे (a) [1\*]

अन्योन्यजयपराजयसन्देहप्रैखलग्नलक्ष्मीविहिते (b) [॥ १६ ॥\*] (c)

(a) From [म्या]त to the end, this line is engraved on an erasure. To satisfy the metre ममिसम्यात° might be read. (b) Read perhaps °विहिते. (c) Metre of verses 16-19: Āryāgiti.

बधिरौघपालिकायीतपतितगजश्रेणिपृष्ठविचरत्सुभटे (a) [1\*]

अन्योन्यघातरन्ध्रानधि[ग]मलसक्तियायतस्थितयोधे (b) [॥ १७ ॥\*]

(a) Read बधिरौघपालिकायित° and °पृष्ठ°. (b) Read °जुप्तक्रियायित°.

शस्त्रौघतभुजदण्डैः (a) सारभविलोहिताक्षदष्टोष्ठपुटैः[\*] (b) [1\*]

राजन्धैः[\*] कृतकृत्यैः नोद्धतिता[र्ध]हतेरितस्थितः (c) संकौर्ण्ये च (d) [॥ १८ ॥\*]

(a) Read शस्त्रौ. (b) Read संरम्भ°. (c) Read °कृत्यैर्निहतार्धहतेरितस्थितः. (d) The metre requires च to be cancelled.

श्रेष्ठैर्धजातपत्नैः[\*] पतितगजश्रेणिपृष्ठविचरत्सुभटे (a) [1\*]

अण्डितविन्दितचूर्णितमकुटगदहारकटककर्णाभरणे (b) [॥ १९ ॥\*]

(a) Read °गजाभ. (b) Read °मकुटागद°.



दधिरमधुपानमत्तप्रमोतकूष्माण्ड[रात्त]सपिशाचे [1\*]

द[त्त]लयतुल्यकालप्रतिभयनीनृत्यम्कवन्धशत्रयोनी (a) [॥ २० ॥\*] (b)

(a) Read °भयनत्यक्तवन्धशत्रयोनी. (b) Metre: Giti.

[योने]कलात्तसाधनमा[योध]नशिरसि (a) विक्रमादित्य[म् 1\*]

कण्टमात्रपरिच्छदम् (b) एकाकिपलायितम् [कृत](c) [॥ २१ ॥\*] (d)

(a) Read °कृत्. (b) Read कण्ट°. (c) Read °च्छदमेकाकिपलायितं कृतम्. (d) Metre: Āryā.

रत्नप्रभाञ्जितकाञ्चनशारिखम् (a)

साक्षाच्च (b) नागमकिवारणनामधेय[म्\*](c) [1\*]

नित्यानुबन्धमदनिजरमद्रिनाथ (d)

साक्षादिव द्विपसहस्रकृतानियात्रम् (e) [॥ २२ ॥\*] (f)

(a) Read रत्न° and °बन्ध. (b) Read सदाच्च. (c) Read °नरिवारण°. (d) Read °निर्भरमद्रिनाथ°. (e) Read °कृतानुयात्रम्. (f) Metre: Vasantatilakā.

त्रिदशपतितुरंगस्येवमष्टमंगलयत्रे (a)

वरसञ्चलसम् प्रव्यक्तकल्याणजातिं (b) [1\*]

तुरगमतिशयाख्या (c) रत्नपल्याणवन्तम्

सतमपि (d) हयलक्ष्मामरच्छन्नकर्णे [॥ २३ ॥\*] (e)

(a) Read perhaps °तुरंगस्यष्टमंगलयत्रे. (b) Read perhaps वरमनलसम्प्रव्यक्त°. (c) Read °याख्या रत्नपल्याणवन्तं. (d) Read सतमपि. (e) Metre: Mālinī.

समरपरिष्वस्य सदृत्वशमहपलमलयुजवोकम् (a) [1\*]

रत्तनखरमनुपम (b) माणिक्यमरकतनिवेशमण्डनम् [॥ २४ ॥\*] (c)

(a) Read °समसदृशं त्वसममहोपलमलयुजवोकम्. (b) Read रत्न° and °मनुपमं च. (c) Metre: Giti.

ञ्जल्लगुणं गुणन्तकटिसूत्रम् उदीर्णम् मणिप्रभम् (a) [1\*]

भासुरकिरणमालिकोटमाणिक्यमनघमविश्रुतम् (b) [॥ २५ ॥\*] (c)

(a) Read गुणवरकटिसूत्रमुदीर्णमणिप्रभम्. (b) Read °कोटिमाणिक्यमनघमविश्रुतम्. (c) Metre: ?

मनसि भयवि[— — —\*]र्णयन्यार्थिवाना- (a)

न्दिशि दिशि चटितनिर्वो यशम् पुष्पमाला[म्\*] (b) [1\*]

इदम् महरदशेष (c) सक्तया शक्तलक्ष्म्या

सह वधुषी (d) विशेषालंक्रते धीरकृत्या [॥ २६ ॥\*] (e)

(a) Read perhaps भयविषादावर्ण°. (b) Read अलितारिर्धो यशम् पु². (c) Read इदमहरदशेष. (d) Read वधुषि. (e) Metre: Mālinī.

TRANSLATION.<sup>1</sup>

Mahēndravarmā's . . . . . son (was) . . . . . Paramēśvaravarmā,

(Verse 5.) who was a subduer of all (enemies), just as Bharata (bore the surname) Sarvadāmana<sup>2</sup>; who avoided improper conduct (*asamañjasa*), just as Sagara banished (his son) Asamañjasa<sup>3</sup>; who possessed a strong body (*aṅga*), just as Karpā (was the king) of the rich Aṅgas; who was fond of poems (*kāvya*), just as Yayāti was fond of (his father-in-law) Kāvya (Uśanas);

(Verse 6.) whose command always becomes a chaplet on the heads of (*i.e.* is received with respect by) independent kings, (but) also confers splendour on the faces of (*i.e.* fills with joy) (his) friends by reaching (their) ears, [just as an ear-ring (*karṇapūra*) becomes an ornament to the face];

(Verse 7.) (who) is clever in the sport of fine arts (*kālā*) (and) constantly passionate in love,<sup>4</sup> and who avoids vice (*muktā-guṇa*) in (his) heart, (but) also (becomes) a pearl-necklace (*muktā-guṇa*) on the breast of (his) wives;

(Verse 21.) who put to flight Vikramāditya,—whose army (had consisted) of several lakhs, (but who was left) quite alone (and) covered only by a rag,—at the head of a battle,

(Verse 8.) in which the disk of the sun was made to assume the likeness of the circle of the moon through the mist of dust produced by the stamping of countless troops of men, horses, and elephants;

(Verse 9.) which inspired terror through the thunderlike sound of kettle-drums; in which unsheathed swords (reminded of) the curves of flashes of lightning; in which elephants were advancing like clouds; (and which therefore) resembled an unseasonable breaking of the monsoon;

(Verse 10.) in which tall steeds (looked like) high waves; in which elephants tore up the ground on their path, just as sea-monsters produce whirlpools in diving up; in which conches were incessantly blown (or: cast up); (and which therefore) resembled the gaping ocean;

(Verse 11.) which contained curved swords and shields (*avarana*), (resembling) rhinoceroses, creepers, and *varana* (trees); which teemed with heroes holding bows and (riding) mighty elephants, (as if it were) covered with *śara* (grass) and with *asana*, *nāga*, *tilaka*, and *punnāga* (trees); in which confused noises were raised; (and which therefore) resembled a forest agitated by a violent wind;

(Verse 12.) in which bows were bent by warriors; in which the air was obstructed by arrows flying past each other; in which javelins, pikes, darts, clubs, lances, spears, and discuses were flying about;

(Verse 13.) in which troops of *most* elephants firmly impaled each other's faces with the thunderbolts of their tusks; in which squadrons of horsemen were connected by their swords that had struck each other's heads;

<sup>1</sup> To make the construction clear, I had to place verse 21 before verse 8.

<sup>2</sup> Cf. *Mahābhārata*, I, 74, 8; VII, 68, 7, and *Śakuntalā*, ed. by Cappeller, p. 93, l. 2; p. 95. l. 24; p. 97, l. 8; p. 102, l. 21.

<sup>3</sup> In the epic poems he is called Asamañja or Asamañjasa.

<sup>4</sup> The poet seems to hint a comparison of the king to the moon, who is 'charming in the splendour of his digits (*kalā*),' and to Śiva, who 'was angry with the god of love.'

(Verse 14.) in which soldiers were engaged in fighting with sword against sword, pulling of hair against pulling of hair, and club against club; . . . . . considering each other as equal (or) despising (each other);

(Verse 15.) in which the ground (seemed to be) thickly smeared with saffron, as the blood (of the wounded) was mixed with the musk (anointing their bodies); in which (both) large armies had lost and dropped arms, necks, shanks, thigh-bones, and teeth;

(Verse 16.) in which, during the encounter, both parties were broken, urged on, put to flight, and stretched on the ground; which was witnessed by the goddess of fortune sitting on the swing of doubt about mutual victory and defeat;

(Verse 17.) in which brave warriors were marching on the back of lines of fallen elephants forming a bridge over the flood of blood; in which soldiers stood rendered motionless, as their blows did not hit each other's weak parts;

(Verse 18 f.) which was covered here and there with elephants which had fallen (simultaneously with shattered banners and parasols), and whose respirations waved the mass of chowries and with dead (or) half-dead warriors who had done their duty, whose strong arms (still) raised the weapon, whose lips were bitten, and whose eyes were deep-red with fury; in which tiaras, armlets, necklaces, bracelets, and ear-rings were broken, crushed, and pulverized;

(Verse 20.) in which Kṛṣṇamāṇḍas, Rākṣhasas, and Piśāchas were singing aloud, as they were intoxicated by drinking the liquor of blood; (and) which contained hundreds of headless trunks dancing together in a fearful manner and beating the time (with their hands).

(Verse 22.) Having caused to be accoutred the elephant named Arivāraṇa,—whose golden howdah was studded with the splendour of jewels, the flow of whose rut was incessant, (and who therefore) resembled the king of mountains (Himālaya) himself, whose torrents never cease to flow,—followed by thousands of (other) elephants;

(Verse 23.) also the excellent horse named Atiśaya,—who displayed the majestic stepping of the horse of the lord of gods (Indra); who manifested his noble breed by his active jumping; (and) who bore a saddle (set with) jewels,—accompanied by lakhs of (other) horses whose ears were surmounted by chowries;

(Verse 24.) (and having put on) an unique and unequalled curved dagger (set with) jewels, which was fit for the fatigue of battle, attached to a string of matchless big stones, (and) ornamented by being inlaid with rubies and emeralds;

(Verse 25.) (and) a valuable, priceless, famous girdle (which was strung) on a soft string, which emitted the splendour of gems, and the ruby at the end of which (resembled) the bright sun;

(Verse 26) he (*viz.* Paramēśvaravarman) who had destroyed his enemies, inspiring with fear [and despair] the minds of princes, (and spreading) the flower-garland of (his) fame in all regions, carried all these (ornaments)<sup>1</sup> on (his) body that was highly adorned with heroic deeds, —along with the powerful goddess of fortune clinging (to him).

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<sup>1</sup> This seems to refer to verse 24f.

No. 23.—DHANAIDAH COPPER-PLATE INSCRIPTION OF THE TIME OF  
KUMARAGUPTA I: THE YEAR 113.

BY RADHAGOVINDA BASAK, M.A., CALCUTTA.

This inscription, engraved on a thin copper-plate which now looks very much worn out and fragile, was discovered about a decade and a half ago in a village called Dhanaidaha in the Natore Sub-division of the Rājshāhi District in the Rājshāhi Division of the Bengal Presidency. Babu Akshaya Kumāra Maitrēya, B.L., Director of the Varendra Research Society of Rājshāhi, obtained it from Maulvi Muhammad Ershed Ali Khan Choudhuri (now Khan Bahadur), and it is now deposited in the Museum of the Society along with the five copper-plate inscriptions<sup>1</sup> of the Gupta period recently discovered at Dāmōdarpur in the District of Dinājpur. It was edited in 1909 by Mr. R. D. Banerji, then of the Calcutta Museum, in the *Journal of the Asiatic Society of Bengal* (Vol. V, No. 11, pp. 459-61). Mr. Banerji's decipherment of the inscription was not correct, and the text as prepared by him contained some mistakes. Mr. Vincent Smith in his *Early History of India* (3rd Edition) has referred to this epigraph by the name of the Natore inscription in a foot-note at page 327; but he could not make out any material for the history of the period, probably because Mr. Banerji's reading was unsatisfactory and because of his remarks that "the wording of the record is rather difficult to interpret," and that "no continued translation is possible of the text." While editing two of the Dāmōdarpur inscriptions belonging to the same monarch's reign, I had to revise the reading of this inscription, and I re-edited it in the Bengali monthly, the *Sahitya* of Calcutta, in the Pausa issue, 1323 B.S. I now record the results of my decipherment in this *Journal* for the scrutiny of scholars. Some of the chief mistakes in Mr. Banerji's reading will be pointed out below in the foot-notes. Other differences in our readings may be left to be found out by those of our readers who may care to do so.

The inscription is a fragmentary one, consisting of 17 lines of writing incised in the early Gupta characters of the 5th century A.D. It is written on one side only of the plate, which is now very much corroded. In length the full plate seems to have been almost twice the fragment now preserved, which measures  $5\frac{1}{4}'' \times 5\frac{1}{2}''$ . Almost the whole of the proper right half of the plate is broken and lost together with the upper right and lower left corners. From an examination of the portions of the writing preserved in lines 14-16, which form parts of the well-known imprecatory verses, it can be ascertained that about a dozen and a half letters are cut off from the proper right side of each of the lines. This loss of almost half of the inscribed portion and the extremely blurred state of the letters preserved are the greatest obstacles in explaining the document. But the five newly discovered Dāmōdarpur copper-plates and the four Faridpur grants<sup>2</sup> have helped us much in deciding that the present plate also, like them, is not an ordinary royal land-grant, but is a sale-deed embodying the record of a purchase of land for the purpose of donation. Mr. Banerji states that the fragments of the proper upper right corner, which was broken in the exhibition grounds of the Calcutta Industrial Exhibition of 1906-7, contained the two letters *ma* and *ra*, which, he thinks, were evidently the second and third syllables of the name of the emperor Kumāra-gupta. The inscription is dated in 113, which must be referred to the Gupta era, and this evidently proves that it belonged to the time of the Gupta

<sup>1</sup> Above, Vol. XV, No. 7. I take this opportunity to acknowledge most thankfully the suggestion of Mr. K. N. Dikshit, M.A., Superintendent of Archaeology, Eastern Circle, that I should have read 128 in place of 129 and 224 in place of 214 as the dates in Plates Nos. 2 and 5 respectively of the Dāmōdarpur inscriptions. These corrections in the dates do not quite materially affect the historical deductions I made in my paper on them published in this *Journal*.

<sup>2</sup> *Indian Antiquary*, 1910 and *J. A. S. B.*, 1911, No. 8.

monarch Kumāra-gupta I. The language of the inscription is Sanskrit, and it is in prose throughout excepting in lines 14-16, which contain the three imprecatory verses. Mr. Banerji's statement that "the bad state of preservation makes it very difficult to make any remarks on the orthography" cannot be upheld; for, the following points in respect of orthography may easily be observed:—

- (1) as in the Dāmōdarpu copper-plates, the sign of the medial *ā* is attached by a hook-sign towards the bottom of the lower right of some of the letters, especially of *kha*, *ga* and *na*, e.g. *khāsaka* l. 5; *Khādā*(*tā*?)*pāra*- l. 7; *grām-āshṭa*- l. 6; and *guṇ-āguṇa*- l. 13;
- (2) the sign of *dvagraha* is not used, as in *-vishayē-nuvṛitta*- l. 7;
- (3) the letters *ga*, *na*, *ta*, *ma*, *ya* and *va* (and not *sha*, e.g. *varsha*- l. 15) are doubled with a preceding *r*, e.g. *vargga*- l. 4, *svarggē* l. 15; *utkirṇam* l. 17; *kirtti* l. 4; *-darmma* ll. 3 and 5, *dharma* l. 8; *-maryādā*- l. 7; and *-pārva* ll. 2 and 16, *sarva* l. 9;
- (4) *m* has sometimes been joined with following *pa* and *va*, e.g. in *svadattām-para-dattām-vā* l. 14; and
- (5) *ka* has been doubled with a following *r*, e.g. in *kkramēna(na)* l. 8.

The form of the initial vowels *ā*, *i* and *u* are seen in the following words respectively, *dyuktaka* l. 11, *iha* l. 7, and *utkirṇam* l. 17. The form of the letter *mā* in *kkramēna(na)* l. 8, *sarvam-ēva* l. 9, *Stha*(*Sta*)*mbhāṣvara* l. 17, and *-kulyavāpa-m-ēka* l. 11, is to be noticed. For a similar incision of *mā*, especially the *ē* mark in it, we may compare the words *kāvyam-ēshām* l. 31 in Fleet's, C. I. I. Vol. III, No. 1 and *guhām-ētām* l. 5 (*ibid*, No. 6), and the word *dōsha-grāmō* l. 1 (wrongly read as *dās-āgrēna* by Mm. H. P. Śāstri and Mr. R. D. Banerji) of the Susunia Rock Inscription (above, Vol. XIII, p. 133). In my paper on "The Five Damodarpur copper-plate inscriptions of the Gupta period," published in this Journal (*vide* Vol. XV, Part III), I made a remark at the outset that those sale-deeds, which our present inscription resembles, "may be regarded as having roughly six different parts in the form in which they are drawn up." The same remark holds good with regard to this inscription also. The first part ends with the word *viñāpitā* l. 7, the second with *dā[tum]* l. 8, the third with *tad-avadhritam-iti yatas* l. 10, the fourth with *ēka* *dattam* l. 11, the fifth with *-Varāha-svāminō dattam* l. 12, and the sixth with the rest of the grant.

The contents of the inscription may be stated as follows:—In the year 113 G.E. (=432-33 A.D.), belonging evidently to the reign of Kumāra-gupta I, some one (very likely a royal officer, an *dyuktaka*) whose name seems to have ended in *-vishṇu* (l. 7) approached the village householders, the *mahattaras* and the *ashṭa-kul-adhikaranas* and perhaps also the local government of the district and expressed to them his desire to purchase one *kulyavāpa* of cultivated land by paying the price at the usual rate prevalent in the *vishaya* of *Khādā*(*tā*?)*pāra*. It seems that the applicant wanted to buy the land by destroying the *neti-dharma* (the non-transferability of it), i.e. with the right of alienation. His prayer was granted and the purchased land was severed for him by proper measurement. He in turn seems to have made a donation of the same to a *Sāmavēdin Brāhmaṇa* (*chhandōga* l. 12) of the name of *Varāha-svāmin*. It seems very probable, though the mutilated condition of the plate does not permit us to be very confident on the point, that the Dhanśidaha plate contained a reference to the Puṇḍravardhana *bhukti* being under a governor appointed by the Gupta ruler (compare the Dāmōdarpu plates of the years 124 and 128 G.E., belonging to the same monarch's reign) and that the *vishaya* of *Khādā*(*tā*?)*pāra* was, like *Kōṭivaraṇa*, one of the many districts of the same *bhukti*. In the Khālimpur copper-plate<sup>1</sup> of Dharmapāla, King of Gauda, though of the 9th century A.D., we have the names of two other *vishayas*, viz. *Mahāntāprakaśa* (l. 31) and *Sthālikkaṭa* (l. 41), as being situated in the *bhukti* of Puṇḍravardhana.



Dhanaidaha Copper-plate of the time of Kumāragupta I : the year 113.



I edit the inscription from the original plate:—

TEXT.

- 1 . . . . . mvatsara<sup>1</sup>-śat[ē] trayōdaś-ōtta<sup>2</sup>—
- 2 . . . . . n=d[i]vasa<sup>3</sup>-pūrvvāyām parama-daivata-para-<sup>4</sup>
- 3 . . . . . ā (?) kuṭu[mbi] . . . . . brāhmaṇa-Śivaśarma-Nāgaśarma-  
ma-maha-<sup>5</sup>
- 4 . . . . . va-kirtti-Kshēmadatta<sup>6</sup>-Goshṭhaka - Varggapāla - Piṅgala - Śūṅkuka-  
Kāla-
- 5 . . . . . pa (?) -vishṇu - [Dēva]śarma - Vishṇubhadra<sup>7</sup> - Khāsaka - Rāmaka-  
Gōpāla-
- 6 . . . . . sa (?) su (?) Śrībhadrā-Sōmapāla-Rām-ādyāḥ (?) grām-āshṭa-kul-  
ādhikarapañ-cha
- 7 . . . . . vishṇuṇā (?) vijūṣpitā iha<sup>8</sup> Khādā(ṭṣa?)pāra-vishayē-nuvṛitta<sup>9</sup>-  
maryyādā-sthi[ti]-
- 8 . . . . . nivi-dharma-kshayēṇa labhya[tē] [ta]d-arhatha mam<sup>10</sup>-ādy-  
ānēn-aiva kkrāmēna(pa) dā[tum]
- 9 . . . . . samṛtya-ā(?)bhīhitai(?)sarvva-m-ēva \* jūā(?)kara-prativēśi(?)  
kuṭumbibhir-avasthāpya ka-
- 10 . . . . . \* ri \* kana \* yad-itō \* \* [ta]d-avadhṛitam<sup>11</sup>=iti yatas-  
tath-ēti pratipādya
- 11 . . . . . vaka<sup>12</sup>-nalā[bhyā]m=apaviñchhya kshētra-kulyavāpam-ēkaṁ dattam  
tataḥ ayuktaka-
- 12 . . . . . \* bhrā(?)tṛi - kaṭaka - vāstavya<sup>13</sup> - chhandōga - brāhmaṇa - Varāha-  
svāminō dattam tad=dha-[va?]
- 13 . . . . . bhūmyā dā[n-ākshē]pā cha guṇ-āguṇam<sup>14</sup>-anuchintya śarīra-  
ka(kā)ñchanakasya chi-
- 14 . . . . . ā [u]ktañ-cha bhagavatā Dvaipāyanēna Svadattēm=para-dattām-  
vā
- 15 . . . . . [bhīḥ] saha pachyatō [||\*] Shashṭim<sup>15</sup> varsha-sahasrāni(?)  
avarggā mōdati [bhā]midaḥ [||\*]

<sup>1</sup> Read *śamvatsara*.

<sup>2</sup> Read *-ōttarā*.

<sup>3</sup> Read *asyān-dīvasa*.

<sup>4</sup> Read *-paramabhāṭṭāraka*. In the Dāmōdarpur plates also Kumāra-gupta I is styled *parama-daivata*.

<sup>5</sup> Read, perhaps, *maḥattara*.

<sup>6</sup> & <sup>7</sup> Mr. Banerji reads *Kshamavanta* and *Vishyabhadra*.

<sup>8</sup> Mr. Banerji reads *Mahā-khushāpāra*.

<sup>9</sup> Mr. Banerji reads *nicatta* instead of *anuvṛitta*.

<sup>10</sup> Mr. Banerji's reading "*māsādyā nanu vakkra lēna (?)*" instead of our reading "*mam=ādyā=ānēn=aiva kkrāmēna(pa)*" and his remark on the palaeography of his supposed *la* in his own reading *lēna (?)* is unwarranted.

<sup>11</sup> Instead of *avadhṛitam=iti yatas=tath-ēti* Mr. Banerji read *dahyakam=iti yatas=t(y)ajati*.

<sup>12</sup> Read *ashṭaka-navaka-nalābhāyāḥ*. The sense of the whole document depends on the correct reading of this line of the inscription, and Mr. Banerji's reading gives no help. His reading of the whole line is as follows:—  
" . . . . . vara nālaka sādā (?) vī . . . chya . . . . . kṛitya vasa-laka (?) datta tataḥ  
ayuktaka . . . . ."

<sup>13</sup> Mr. Banerji reads *vantēbhya (?)* for *vāstavya* and *chāndata (?)* for *chāndōga*.

<sup>14</sup> Mr. Banerji reads *sunu (?)* *gunam*.

<sup>15</sup> Mr. Banerji reads *satthi(m)*.



- 16 . . . . . [Pū]rrva-dattām divijātibhyo yatnād-raksha Yuddhishtira [\*]  
mahīm [mahī][matāñ-chhrēshtha\*]  
17 . . . . . ya[m] . . . su (?) Śrībhadrēna(na) utkirṇam Stha(Sta)mhbhā-  
śvara<sup>1</sup>dāsē[na] . . . . .

## TRANSLATION.

In the year one hundred exceeded by thirteen . . . . . on this day (as above specified), [during the reign of] *parama-dāvata parama-bhaṭṭāraka*, etc. *Kumara-gupta* . . . . . the ryots (of the village) . . . . . the Brāhmaṇas Śiva-śarman, Nāgaśarman and the *Mahattaras*<sup>2</sup> [Dē?]vakīrti, Kaśēmadatta, Gōshṭhaka, Varggapāla, Pīṅgala, Śūṅkuka, Kāla . . . . ., -vishṇu, Dēvaśarman, Viṣṇubhadra, Khāsaka, Rāmaka Gōpāla, . . . . . su (?) Śrībhadrā, Sōmapāla, Rāma and others, and the officer<sup>3</sup> in charge of eight *kulas* in the village were informed by (some officer whose name appears to have the ending *Viṣṇu* l. 7) as follows:—

"In this *viśaya* of *Khada(ṭa?)para* the established custom (regarding the sale of cultivated land) prevalent . . . . . to be had (at . . . . . such rate) by the nullification of the custom of permanent endowment<sup>4</sup> (*nivā-dharma*). So deign to ~~make a gift~~ (of land) this day according to this method . . . . . by the neighbouring house-holders who are obedient and who are (thus) addressed establishing . . . . ."

Whereas it was so determined, and whereas this determination was accepted by the statement "be it so"—one *kulyavāpa*<sup>5</sup> of cultivated land was given to him, with its area severed<sup>6</sup> by the measurement of 8 × 9 reeds.

Then the same land was given to the *Ohhandōga*<sup>7</sup> (Sāmavedin) Brāhmaṇa *Varāha-svāmin*, an inhabitant of the *kaṭaka*<sup>8</sup> of . . . . ., by this official<sup>9</sup> (*āyuktaka*).

So, considering the merit and demerit respectively of making a gift and confiscating (it), and (the unstability) of body and gold, (this gift is to be preserved). To the same effect has been stated thus by Bhagavān Dvaipāyana (Vyāsa):—

(1) Whoever confiscates land given by himself or by another becomes a worm in ordure and rots with his forefathers.

(2) Land has been given by many kings, such as Sagara and others: the reward (of these grants) belongs to whosoever at any time possesses the earth.

(3) O Yuddhishtira, best of land-lords, preserve with care land already given to the twice-born (Brāhmaṇas); for, the preservation of land-grants is more meritorious than the making of a grant. Engraved by su (?) Śrībhadrā and (written) by *Stambhāśvaredāsa*.

<sup>1</sup> Mr. Banerji reads the name as *Stambhāśvara*.

<sup>2</sup> Vide my note on this word in Plate No. 4 of the Dāmōdarpur collection, above, Vol. XV, p. 137.

<sup>3</sup> Vide my note on this word, *ibid*, p. 137. Mr. Banerji's explanation of this term as "a local officer (*kulādhikaraka*) who exercised authority over eight villages" does not seem to be correct. He was rather an officer in the village having supervising authority over eight *kulas* (for the technical meaning of which see Kullūka's commentary on *Manu*, VII, 119).

<sup>4</sup> Vide my note on the term *nivā* in Plate No. 1 of the Dāmōdarpur collection, above, Vol. XV, p. 131, n. 8, and *Indian Antiquary*, 1919, p. 14.

<sup>5</sup> Vide my note on this word on p. 132, above, Vol. XV.

<sup>6</sup> The word *apavīchhāya* occurs in the Faridpur grants (*Indian Antiquary*, 1910) and in Dāmōdarpur plate No. 3, l. 10, p. 136, above, Vol. XV.

<sup>7</sup> *Chāṇandōga* means one studying the Sāmaveda. For the use of this term vide *Manu*, III, 145, and the Banabāra Plate of Harsha, above, Vol. IV, p. 211.

<sup>8</sup> *Kaṭaka* may either mean a camp or the capital.

<sup>9</sup> Vide my note on the same in Plate No. 4 of the Dāmōdarpur collection, p. 140, above, Vol. XV.

## No. 24.—SOME IMAGE INSCRIPTIONS FROM EAST BENGAL.

BY NALINIKANTA BHATTASALI, M.A., CURATOR, DACCA MUSEUM.

The short votive inscriptions recorded on the pedestals of images are often very useful to the antiquarian in more ways than one. They not only illumine the darkness of the past like flash-lights by furnishing pointed and concise historical information, but the help that they give in determining the periods of sculptural history is by no means inconsiderable. Students of iconography too have reason to welcome them, since many votive inscriptions contain the names of the images on whose pedestals they are inscribed, helping thus to identify them easily. Below I edit six such votive inscriptions from East Bengal, in some of which all the three characteristics noted above will be found to exist to the fullest degree.

## 1. THE BHĀRELLĀ NARTTĒSVARA IMAGE INSCRIPTION.

The worship of images of Narttēśa-Śiva (the dancing Śiva) seems to have been a peculiarity of Southern India. Such images in metal abound in Southern India and Ceylon; but they are very rarely met with in the North-Indian Provinces. How Bengal came to share this peculiarity with the Deccan is one of the unsolved problems of history. We must, however, note here that north and west Bengal do not show this peculiarity, and it is only in the south-eastern districts, roughly comprising the ancient divisions of Vāṅga and Samatata, that images of the dancing Śiva were discovered. The Dacca Museum has three excellent specimens, while a rather ill-preserved one is to be found in the Rājshāhi Museum.<sup>1</sup> I know of two other very well preserved Narttēśa images, which are being worshipped in two villages in the Dacca and Tippera districts of East Bengal.

The discovery of so many images of the same class in a rather limited area cannot be accidental, and it is quite possible that their worship was introduced by some Śaiva ruling family. The Sēna kings, whose origin some trace to the Deccan, had their metropolis in Vikramapura in the Dacca district, in the heart of the ancient Vāṅga, as is attested by the majority of their copper-plates, and they were renowned Śaivas. It is very probable that the worship of Narttēśa-Śiva came from Southern India with the Sēnas. It is worth noting that out of the seven images so far discovered and known to me, five came from Vikramapura; and a village situated in the suburbs of the capital of the Sēnas in Vikramapura (a *pargana* in the Dacca district) contains the ruins of a big temple and is still called Narttēśvara. The present image, however, appears to be earlier than the Sēnas.

The inscription here edited was found on the pedestal of a huge image of Narttēśa-Śiva dug out of a tank in a village called Bhārellā, Police Station Baḍkāmtā, in the district of Tippera. It was brought to my notice in 1911; and in 1912 I went to Bhārellā too late to save the image, which was broken to pieces by a fanatic Fakir; but I procured the inscribed pedestal for the Dacca Sāhitya Parishat, where it is at present preserved. A large fragment of the figure of the god is now in the Dacca Museum. I edit the inscription from the original.

The inscription is in two lines in four sections on four planed faces of the pedestal, below the lotus-seat of the god. The whole inscribed surface measures in length about 14", and the letters are approximately  $\frac{1}{2}$  long. The first section has suffered a little by the peeling of the stone, while the beginning of the third and the longest section has been altogether chopped off, damaging altogether 12 or 13 letters of each line. The first line runs connectedly to the end of

<sup>1</sup> The image was found in the village of Kalikāl under Police Station Lauhajang in the Dacca district. So it must not be taken as an instance of a find in north Bengal.

the third section and then returns to the first section to begin the second line. The name of the sculptor is given in the fourth section in two lines

The characters used are the ordinary north-eastern characters which gave birth to the modern Bengali script, and which even at this stage show distinct resemblance to the modern script of Bengal. Paleographical considerations would lead us to assign the latter half of the 10th century as the time when this inscription was incised. The date is missing; but it may be that the lost portion of the second line in the beginning of the third section contained a date. There are some data from which a date perhaps is obtainable by mathematical calculation. The image was consecrated on a Thursday, under the star Pushya, on the fourteenth day of the dark half of the month, the day being the 14th of Āshāḍha counted by the movement of the moon. It would be a very interesting calculation to lovers of astronomical problems to find out in which year or years between 900-1100 A.D. all these data met. I myself do not possess the necessary equipment for the calculation. Dewan Bahadur L. D. Swamikannu Pillai who was consulted by Mr. Krishna Sastri on my behalf kindly writes :—

"Between 900 A.D. and 1000 A.D. there are three dates which agree perfectly, viz. A.D. 912, 939 and 983. I have marked these with an asterisk in the accompanying list which shows also dates of less perfect agreement. There must be an equal number between A.D. 1000 and A.D. 1100. We cannot tell which of these dates is meant.

Thursday Ashāḍha, ba. 14. Pushya.  
 A.D. 905. Th. 4 July; .32; n. f. d. 75.  
 A.D. 912. Th. 16 July; .09; .63.\*  
 A.D. 925. Th. 21 July; f. d. t. 52; f. d. n. 68.  
 A.D. 932. Th. 5 July; .52; f. d. n. 90.  
 A.D. 939. Th. 18 July; .41; .86.\*  
 A.D. 942. Th. 14 July; f. d. t. 12; f. d. n. 89.  
 A.D. 966. Th. 19 July; .71; f. d. n. 09.  
 A.D. 969. Th. 15 July; f. d. t. 21; f. d. n. 90.  
 A.D. 983. Th. 12 July; .03; .94.\*  
 A.D. 993. Th. 20 July; f. d. t. 01; f. d. n. 30."

He adds: "14th *tithi* means nothing more or less than 14th day by the movement of the moon. A solar month date would be different, but in a lunar month the days and *tithis* are the same in the Indian Calendar. In the Muhammadan, Jewish and Greek Calendars there may be a slight difference."

The inscription refers itself to the 18th year of the reign of a king Layaha-Chandra by name. Kings with the surname Chandra are found on the thrones of two adjacent countries, viz. Vaṅga and Arakan. The Chandra kings of Vaṅga, who, like the Sēna and the Varman kings, had their capital in Vikramapura, are known from two copper-plates.<sup>1</sup> But no name in their geneology resembles Layaha-Chandra, which sounds indeed rather outlandish. We find an account of the Chandra kings of Arakan in Phayre's *History of Burma*, p. 45, and *Numismata Orientalia*, Vol. II, Pt. I, p. 42, by the same author, where we learn that the dynasty came to an end in 957 A.D. We know of another isolated Chandra king of Vaṅga, Gōvinda-Chandra by name, from Rājendra-Chōla's inscription.<sup>2</sup> Layaha-Chandra-dēva must have belonged to one of these three lines. If Layaha-Chandra was of the Arakan line, 939 A. D. may be taken as the date of this inscription.

<sup>1</sup> *Ep. Ind.*, Vol. XII, p. 136. and *Dacca Review*, Vol. II, p. 250. Recently a third plate of Śrī-Chandra-dēva was found and edited by me in the *Dacca Review* for May and June 1919, 17. XII. 1919.

<sup>2</sup> *Ep. Ind.*, Vol. IX, pp. 232-233,

Ballads, at one time very widely popular are current about a king called Gōvinda-Chandra throughout Bengal. One was published by Grierson in J. A. S. B., 1873. Another was published by Babu Sib Chandra Śil from Chinsura near Calcutta. I published a version by a poet called Bhabānidās, edited from two manuscripts of the song procured from the Tippera district. All these versions say that Gōvinda Chandra was the daughter's son of Tilak Chandra king of Māhārkul which is still a *pargana* of the Tippera district. Gōvinda Chandra of Rājendra-Chōja's inscription and the Gōvinda-Chandra of the ballads appear to have been the same person, and Layaha may have been the name of the father of Tilak Chandra.

Kusuma-dēva, whose son Bhāvu-dēva consecrated the image of Narttēśvara, seems to have been a vassal prince under the suzerainty of Layaha-Chandra, ruling over Karmamānta, which I am inclined to identify with modern Baḍkāmtā (the senior Kāmtā), some three miles south-west of the find-place of the image. Baḍkāmtā is still a place of considerable importance, being a police station with a big Zemindary kachery, situated within a spacious area surrounded by an ancient moat and containing two big tanks, in the smaller of which many ancient stone images of Brahmanical deities were found. Stone images, both Buddhist and Brahmanical, abound in the villages surrounding Baḍkāmtā, and testify to the former prosperity of the tract. The area surrounded by the moat probably indicates the site of the palace. The appellation *Dēva* at the end of the names of Kusuma-dēva and Bhāvu-dēva is also in favour of supporting their claims to royal dignity. My friend Prof. Rādhāgōvinda Bāsak, M.A., however, is in favour of taking the word Karmamānta to mean 'a store of grain,' and degrading Kusuma-dēva to the rank of an officer in charge of the royal granary. We know that the two plates of Dēva Khadga published by the late Gangamohan Laskar in the Memoirs, A. S. B., Vol. I, were issued from Jaya-Karmamānta. I have elsewhere tried to show that Karmamānta the capital of the Khadgas and the Karmamānta of the present inscription are identical, and is the present Baḍkāmtā (J. A. S. B., July 1914).

The language of the inscription is Sanskrit prose throughout. As to orthography, we may note the doubling of consonants after *r* as in *karmamānta* (l. 1), *sarvāḥshara* (l. 2), etc., but *chaturdaśyām* (l. 1) is spelt with one *d*.

Numeral figures for 1 and 4 are used in designating the 14th day of Āshāḍha.

The letters of the inscription are mentioned to have been engraved by one Ratāḥa; but Madhusūdana seems to have been the sculptor who made the image.

#### TEXT.

##### Part I.

- 1 [सिद्धिरस्तु<sup>1</sup>] श्रीमन्नयश्चन्द्रदेवपादीयविजयराज्ये षष्ठा[दश \* \* \* \* \* क] चाचतुर्दशं  
तिथौ वृहस्पति<sup>2</sup>वारे पुष्यनक्षत्रे कर्मांतपालश्री-  
2 कुसुमदेवसुतश्रीभावुदेवकारितश्रीनर्तेश्वरभट्टा[\* \* \* \* \*] चन्द्रगत्ता  
आषाढ़दिने १४ ॥ खनितश्च रतौकेन सर्वाक्षरः

##### Part II.

- 1 खनितश्च श्रीमधु-  
2 सुदनेनेति ॥

<sup>1</sup> Expressed by a symbol; see below, p. 352.

<sup>2</sup> Read वृहस्पति.

N. B.—It is customary to read the auspicious symbol  or  in the beginning of an inscription as *ॐ* and this interpretation has been adopted by eminent epigraphists like Hoernle and Fleet. Hoernle writes thus (Intro. *Bower Manuscripts, Indian Antiquary* reprint, p. 22):—"Indian manuscripts or records as a rule commence with some benedictory word, such as *siddham* 'success' or *swasti* 'hail' or with the sacred particle *Om*. The last mentioned is almost universally used at the present day. It may be either written in full or indicated by a symbol. The latter takes the form of a spiral, which may turn either to the right or to the left, and which is probably a conventional representation of the sacred *śaṅkha*, or conch-shell." In editing the Mankuwar Stone Image Inscription of Kumāra-gupta, where this symbol is met with for the first time, Dr. Fleet remarks (*Corpus. Ins. Ind.*, p. 46, n. 3):—"As was usual throughout the whole of the period covered by this volume, this word is represented by a symbol, not by letters. *Om* is not of very frequent occurrence at the commencement of Buddhist inscriptions." Thus both the scholars read the symbol as *Om*, but none has advanced any reason for their reading it so. Writing about eight centuries and a half earlier, Al Beruni also says the same thing (Vol. I, p. 173):—"The Hindus begin their books with *Om*, the word of creation, as we begin them with 'In the name of God.' The figure of the word *Om* is . This figure does not consist of letters; it is simply an image invented to represent this word, which people use, believing that it will bring them a blessing and meaning thereby a confession of the unity of God." This passage of Al Beruni is perhaps responsible for the confident reading of Hoernle and Fleet. But the reading should be reconsidered in the light of the following points:—

(a) In Bengal, this symbol was largely used in all ancient documents and manuscripts and in teaching alphabets to beginners they were taught to draw this symbol to start with. This custom was prevalent as late as twenty-five years ago, but has disappeared by this time. This symbol was called *am̐i* and was supposed to signify the god Gaṇēśa, the giver of success, being drawn to represent his elephant's trunk. In reading, it was read *Siddhir-astu*.

(b) In the Gupta inscriptions this symbol only appears in those in which the customary benediction *Siddham* is left out, and nowhere does it appear with it. Consequently it must have stood for *Siddham*, and as time went on it must have become more and more customary to represent the word by this symbol.

(c) In some inscriptions the symbol is found to precede *Om*, which would never have been the case if the two were identical. In such cases the reading given is *Om*, *Om*, which is certainly not reasonable. Reference may be made to *Epigraphia Indica*, Vol. XII, p. 8, *Ibid*, Vol. XIV, p. 159, for examples of the joint use of *Om* and this symbol.

In view of these facts, the symbol, I think, should be read *Siddham* or *Siddhir-astu*<sup>1</sup>

#### TRANSLATION.

##### Part I.

May success attend! In the eighteenth year of the victorious reign of His glorious Majesty Jayasachandra-dēva, on Thursday in the dark Fourteenth Tithi, and under the star Pushya, Bhāvu-dēva, son of Kusuma-dēva, Lord of Karmānta, caused to be made the Lord Narttōśvara . . . on the 14th day of Āshāḍha (calculated) by the movement of the moon. And all the letters engraved by Ratōka.

##### Part II.

Also engraved by the illustrious Madhusūdana.

<sup>1</sup> [This seems to be the proper interpretation of the symbol, in spite of Al Beruni's statement to the contrary. In the Tamil country the same symbol slightly modified  is even today called the Piḷḷaiyār-tuḷi 'Gaṇēśa's curl' and is first taught to be drawn by children before they begin to learn their alphabet.—Ed.]

## 2. THE BĀGHĀURĀ NĀRĀYAṆA IMAGE INSCRIPTION.

This inscription was brought to my notice in 1912, when I went to Tippera to secure the inscription described in the foregoing pages. Ramānāth Chakravarty, a former pupil of mine, whom I met in Comillā, gave me to understand that an inscribed image of Viṣṇu had been discovered in a village near the Sub-divisional town of Brāhmanbāriā in the Tippera district and that the local people had been able to read the word Mahipāla on the inscription. My curiosity was considerably roused to come across an inscription of the Pāla kings so far east from their native home in north Bengal. Pressure of business, however, did not allow me to go after the inscription at that time, and for the next two years I was too busy elsewhere to think of getting at it. Towards the beginning of the year 1914 a friend of mine, Babu Upendrachandra Guha, B.A., B.T., who is an enthusiast in matters archaeological, secured chalked photographs of the inscription and published an article with a reading of it in the local monthly, the *Dacca Review*. The reading, however, was rather defective, and I gave a more correct reading in the next number of the journal. I also published a correct reading of the inscription in the January number of the *J. A. S. B.*, 1915 and pointed out its importance.

The image containing the inscription was dug out of a pond some ten or twelve years ago in the village of Bāghāurā near the Sub-divisional town of Brāhmanbāriā in the district of Tippera. It is now worshipped by a half-crazy woman in the neighbouring village of Vidyākūṭa. In January 1915 I visited the spot and obtained some excellent photographs of the image; but no amount of persuasion could prevail upon the woman to part with the image.

The inscription purports to be of the third year of king Mahipāla, presumably Mahipāla I of the Pāla dynasty of Bengal. It records the installation of the god Nārāyaṇa in Samatāṭa, included in the kingdom of Mahipāla, by a merchant, Lōkadatta, son of Vasudatta and hailing from the village of Bilakindaka, in furtherance of the religious merit of himself and parents. Bilakindaka is in all probability the village Bilakēnduāi, situated close to Bāghāurā.

The importance of the inscription is twofold. First, it definitely settles the position of the kingdom of Samatāṭa. There is no room for doubt now that the village of Bilakēnduāi must have been inside the kingdom of Samatāṭa. Now let us recall what Yuan-Chwang says about Samatāṭa. The pilgrim came to the country of Samatāṭa going 1,200 or 1,300 *li* south of Kāmarūpa. Taking 5 *li* to 1 mile, 1,200-1,300 *li* represent about 250 miles. The country of Samatāṭa was about 3,000 *li* (i.e. 600 miles) in circuit and bordered on the great sea. The land lay low and was regularly cultivated. Now, if we look round for the country which must satisfy all these conditions and at the same time must include the Brāhmanbāriā Sub-division of the Tippera district, in which the village of Bilakēnduāi is situated, and if we remember that natural barriers such as mountains and rivers marked off one kingdom from another in those days, we cannot but accept the plain tract of land bounded by the Garo and the Khasi Hills and the hills of Tippera on the north and east, by the Lauhitya, or the old Brahmaputra river, on the west, and by the Bay of Bengal on the south as the ancient kingdom of Samatāṭa. It is a perfectly natural geographical unit with neatly marked boundaries, comprising the eastern half of the present Mymensingh and Dacca districts lying east of the Brahmaputra, the greater part of Sylhet, and the whole of the Tippera and Noakhali districts. The distances between countries recorded by Yuan-Chwang are, in all reasonable probability, distances between the capital towns; and the distance of 250 miles recorded by Yuan-Chwang between Kāmarūpa and Samatāṭa is pretty accurately the distance between Gauhati and Comillā<sup>1</sup> by any modern route. The circuit of 600 miles is also right and the tract, which is a vast plain, borders on the great sea.

<sup>1</sup> I am of opinion that Badkāmṭā, 12 miles west of modern Comillā, was the ancient capital of Samatāṭa. Vide my paper "A forgotten kingdom of East Bengal," *J. A. S. B.*, March 1914.

There has been much discussion about the situation of the countries of *Shi-li-ch'a-ta-lo* *Kia-mo-lang-kia*, etc., mentioned by Yuan-Chwang in his account of the kingdom of Samatāṭa; but no satisfactory solution seems to have been arrived at. With our present identification of Samatāṭa we may proceed to consider their cases also. This is what we find in Beal's edition about them :—

"Going north-east from this to the borders of the ocean, we come to the kingdom of Sriksheṭra (*Shi-li-ch'a-ta-lo*). Farther on to the south-east on the borders of the ocean, we come to the country of Kamalaṅka (*Kia-mo-lang-kia*). Still to the east is the kingdom of Dvārāpati (*To-lo-po-ti*). Still to the east is the country of Ishanapura (*I-shang-na-pu-lo*). These six countries are so hemmed in by mountains and rivers that they are inaccessible."

Now, the pilgrim says that the country of *Shi-li-ch'a-ta-lo* might be reached by proceeding north-east to the borders of the ocean. This anomalous statement seems to have puzzled everybody, including Beal and Watters, as the borders of the ocean are never reached by going north-east from Samatāṭa, wherever its position might have been in eastern India, and the fact that all the original copies of the *Travels* available, as well as the biography of the pilgrim, give north-east as the direction, has stood in the way of emending the text to south-east. My studied opinion is that in spite of the unanimity of all the versions, north-east is a manifest mistake for south-east and the apparent unanimity arises from the mistake having originated in a very early copy of the 'Records.' The very qualifying phrase that the direction would lead to the borders of the ocean is sufficient for the emendation. But the emendation is confirmed by the manner in which the succeeding sentences begin. The next sentence begins thus,—"*Farther on to the south-east, etc.*" and this would lose all force if "south-east" had not been the direction spoken of in the previous sentence. If we accept south-east and move from Comillā in that direction to the borders of the ocean, we arrive at a place called at present Chittagram (Eng. Chittagong), which was anciently called Śrī-Chattala, a name still frequently used. Is there any reasonable objection to identifying Yuan-Chwang's *Shi-li-ch'a-ta-lo* with Śrī-Chattala of the present times? It is evident that it satisfies all conditions.

The second importance of the inscription lies in the fact that it throws some light on an obscure part of the history of the Pāla kings of Bengal. The Bangarh plate of Mahipāla<sup>1</sup> and the Dinājpur pillar inscription<sup>2</sup> inform us that some usurpers drove Vīgrahapāla from the throne and that he, after losing his kingdom, took shelter in the eastern country where water abounds (*dēśe prāchi prachurapayasi*). His heroic son Mahipāla recovered the lost kingdom of his father. The two characteristics, water-abounding and eastern, agree well with the present districts which composed the ancient kingdom of Samatāṭa,—so well that it is impossible to suggest any other country which answers equally to the description; and little room is left for doubt that the eastern country alluded to was the kingdom of Samatāṭa. The new Bāghāurā image inscription, which is the earliest of the reign of Mahipāla, finally settles all doubts on the point. When we find that Samatāṭa was under Mahipāla so early as in the third year of his reign, we cannot but conclude that it was Samatāṭa where Vīgrahapāla took shelter, suffering reverses in war with the usurper, and leaving north Bengal in the hands of the victor. The fact of the earliest inscription of Mahipāla turning up in Samatāṭa points to his having probably been crowned there and this was perhaps the loyal country used by him as the base of operations in his fight with the usurper for the recovery of his father's kingdom.

The *śilā* in the Bangarh plate which describes Vīgrahapāla's sojourn in the eastern country has been copied also in the Āṅgāchhi plate<sup>3</sup> of his great-grandson Vīgrahapāla III, where,

<sup>1</sup> *J. A. S. B.*, Vol. LXI, pp. 77-87 and *Gaudalēkhamālā*, p. 91. Also *Ep. Ind.*, Vol. XIV, page 224.

<sup>2</sup> *J. A. S. B.*, 1911, p. 615.

<sup>3</sup> *Ind. an Antiquary*, Vol. XXI, pp. 97-101.

curiously, it is applied to him. Mr. R. D. Banerji, M.A., in his Monograph on the Pālas of Bengal,<sup>1</sup> is inclined to discredit the statements of the *śloka* on this ground. When a *śloka* describing some events in the history of a monarch, occurring in a copper-plate of his son, is reproduced in a copper-plate of the great-grandson of that monarch and is applied to that great-grandson, it is presumable that the former application is correct, and the latter plate is (i) either a forgery or (ii) the composition of a very silly panegyrist, who was unaware of the historical significance of the *śloka* and took it only as an attempt at conventional panegyrics, or (iii) the repetition denotes some similar event in the life of the latter monarch.

The inscription is incised under the lotus-seat of a standing image of Nārāyaṇa (Viṣṇu) about 3' high, between two kneeling figures. It is in a perfect state of preservation and is legible throughout without any difficulty. The lines measure each 6" in length and the characters are  $\frac{3}{8}$ " long. The characters belong to the North-Eastern variety, specifically called the Kuṭila character, which gave birth to the Bengali characters of the modern days. The inscription is dated; but the date is given in regnal years. It refers itself to the reign of a king called Mahipāla, presumably Mahipāla I of the Pāla dynasty of Bengal; Mahipāla II had a very short and troubled reign, terminating in the successful Kaivarta revolt. As the chronology of the Pāla kings of Bengal is still uncertain, it is difficult to give the exact year of the inscription; but it cannot be far removed from 976 A.D.

The language is Sanskrit. In orthography, the only point to note is the absence of the *avagraha* sign in *punyayaśō abhi* (l. 4). No distinctive mark of *virāma* is added to final consonants. There are numerical figures for 3, 2 and 7.

#### TEXT.

- 1 [सिद्धिरस्तु]<sup>1</sup> सन्वत् ३ माघदिने २७ श्रीमहीपालदेवराज्ये
- 2 कीर्त्तिरियं नारायणभट्ट[१]रकाख्या समतटे वि(वि)सकीन्द-
- 3 कीयपरमवैश्वस्य दणिकलीकदत्तस्य वसुदत्तसुत-
- 4 स्य मातापितृरात्मनश्च पुण्ययशोभिमिदृश्ये<sup>2</sup>

#### TRANSLATION.

May success attend. The year three, the 27th day of Māgha. In Samatāṭa, in the kingdom of Śrī Mahipāla-dēva, this meritorious work, namely (the image of) the lord Nārāyaṇa, is of the merchant Lōkadatta, belonging to (the village of) Bilakindaka—a great devotee of Viṣṇu—son of Vasudatta, for the furtherance of the spiritual merit and fame of himself and parents.

#### 3. THE KEOĀR VIṢṆU IMAGE INSCRIPTION.

The inscription was discovered by myself in 1909. That year, in the month of June, I happened to be on a visit to the little village of Keoār, some three miles to the south-east of Rāmpāl, the famous site of the ancient capital of the Sēna kings of Bengal, in the Munshiganj Sub-division of the Dacca district. I found the image lying on its face, half buried in earth, and on turning it for inspection, I noticed the inscription. The image has now been fixed against the outside wall of the *maṭh* in the same village.

The inscription is incised on the pedestal of an image of Viṣṇu, about 3' in height. It is in four lines, each line measuring 7"; but the last line is an inch shorter, for want of plane space to write upon. The letters are about  $\frac{1}{2}$ " in height and are everywhere boldly incised.

<sup>1</sup> *Memoirs, A. S. B.*, Vol. V, No. 3.

<sup>2</sup> Expressed by a symbol.

<sup>3</sup> Read दकीर्णमिदृश्ये.



The second couplet has been much injured towards the end by the erosion of the stone, and the several letters could with difficulty be recognized.<sup>1</sup>

The inscription is in verse throughout, and consists of two couplets. The language is correct Sanskrit, with only a single exception, which is perhaps an engraver's mistake. The letters belong to the Kuṭila variety, current in Bengal in the 10th, 11th, and 12th centuries. The inscription is not dated; but paleographical considerations would not possibly allow of an earlier date than the early part of the 13th century A.D. It records the installation of an image of the lord Viṣṇu by one Vaṅgōka, great-grandson of Śaurīśarman, grandson of Pītāmaha and the offspring of the couple Sayōga and Anuyamī.

The absence of a royal name in a pretty long inscription is rather remarkable, though by no means uncommon. It may suggest that the inscription belongs to a period when there was no king worth the name to refer to at the time of the installation of the image. There is another fact which confirms this supposition. The Brāhmaṇa family to which Vaṅgōka belonged is spoken of as hailing from some place in Varēndri, i.e. north Bengal. They must have migrated to Vaṅga, which included the *pargana* of Vikramapura, the region where the image was found, not long before the installation of the statue, as the fact of their descent from a stock of Varēndri was, in Vaṅgōka's estimation, still of sufficient distinction to merit a special mention. The name Vaṅgōka is also significant. In a family where the first three of the line are named in pure Sanskrit after the sacred names of gods, the naming of the fourth member after the name of a country signifies that he was born just after the family had migrated into that country, and the migration was an important event in the family history.

The period at the end of the 12th century A.D. which necessitated the migration of Varēndri Brāhmaṇas from north to east Bengal must have been the time when Lakshmaṇasēna was worsted by Muhammad-bin-Bakhtyar, about 1200 A.D., and the old king and his court fled to Vikramapura. Muhammad established his court at Deb-kot, 14 miles south of Dinajpur, in the heart of Varēndri, and orthodox Brāhmaṇas must have had a rather hot time of it, necessitating flight to the Vaṅga country, where the Sēnas still had sway. The history of the reign of the sons of Lakshmaṇasēna is very imperfectly known; but erasures of royal names on their copper-plates suggest fratricidal war and consequent anarchy, and the present inscription may well belong to this troublous period.

#### TEXT.

- 1 [सिद्धिरस्तु]<sup>2</sup> प्रयमानुयमेयेन सयोगाद्भुवा विभुः [I]
- 2 वङ्गोकेन कृतो विष्णुर्विष्णुसमलोक्यकास्वयः [II]
- 3 वरेन्द्रीतटकीयेन शाण्डिल्यकुलजन्मना [I] पिताम-
- 4 हस्य पीतेश प्रपत्ता श्रीरिशर्मणः ॥

#### TRANSLATION.

May success attend! Longing for a residence in the heaven of Viṣṇu, this (image of) the Lord Viṣṇu, was consecrated by Vaṅgōka, hailing from [the village of] Tataka in Varēndri, offspring of the body of Sayōga and (begotten on) Anuyamī, in the race of (the Saint) Śaṇḍilya, grandson of Pītāmaha and great-grandson of Śaurīśarman.

I should put it on record here, that the assistance of my friend Prof. Rādhagovinda Bālak, M.A., was of very great use to me in obtaining a correct decipherment and interpretation of the inscription.

<sup>2</sup> Expressed by a symbol.

# Some Image Inscriptions from East Bengal.

I The Bharella Nartesvara Image Inscription of the reign of Layahachandra : the 18th year.



SCALE ONE-HALF

II. The Baghaura Narayana Image Inscription of the reign of Mahi-Pala I : the 3rd year.



SCALE TWO-THIRDS

III. The Kewar Vishnu Image Inscription.



SCALE ONE-HALF

IV. The Deulbadi Sarvani Image Inscription of Mahadevi Prabhavati, Queen of Deva-Khadga.



SCALE FOUR-FIFTHS

V. The Dacca Chandi Image Inscription of Lakshmana-Sena : the 3rd year.



SCALE TWO-THIRDS



#### 4. THE DEULBĀDĪ ŚARVVĀNĪ IMAGE INSCRIPTION OF MAHĀDĒVĪ PRABHĀVATĪ, QUEEN OF DĒVA-KHAḌGA.

Deulbādi is a village situated about 14 miles south of Comillā, on the trunk road running from Comillā to Chittagong. The image with which we are dealing was found about two decades ago by one Muhammad Faqir Choudhury, when demolishing the ruins of an ancient structure standing on plot No. 447 of the Settlement Map of Jāmmurā, a *mauza* in which the small village of Deulbādi is included, under Police Station Chaudhagrāma, in the Tippera district. A fine brass statuette of the sun-god, in which the god is represented sitting inside his one-wheeled car, drawn by seven spirited horses, as well as some brass *liṅgas*, of which one was inscribed with a short votive inscription,<sup>1</sup> were discovered along with the image of Śarvvānī. Babu Tarunath Chakrabartti, the then Sub-Inspector of Police in charge of the Chaudhagrāma Police Station, secured the images and placed them with one Kailās Chandra Chakrabartti of Deulbādi. There the images remained for about sixteen years, until they were bought by Babu Saratchandra Chakrabartti and Babu Nibāran Chandra Chakrabartti of the village Dājdī, Police Station Chāndpur, District Tippera. These two brothers are the priests of a temple on the Chāndimurā peak of the Lalmāi Hills in the district of Tippera, near the Lalmāi Station on the Assam Bengal Railway. As the image installed in the temple of Chāndī had long disappeared, these two brothers were anxious to get an image of Chāndī for their temple, and they obtained the present image from a cousin of Kailās, who in the meantime had died. The image was brought to Comillā along with the other images discovered, and for cleaning they were placed in the care of Babu Maheśa Chandra Bhaṭṭāchāryya, a well-known Homœopathic druggist. When the images were with Maheśa Babu, the inscriptions on the Śarvvānī image and on one of the *liṅgas* began to attract attention. Babu Anukūlechandra Roy, Manager, Wards' Estates, Comillā, sent me an imperfect rubbing of the inscription on the image. I at once recognized that this was a new inscription of the Khaḍgas and wrote to Anukūl Babu to that effect. With the help of Mr. F. C. French, C.S.I., I.C.S., late Commissioner of the Dacca Division and President of the Dacca Museum Committee, I opened negotiations for the acquisition of the image for the Dacca Museum and went over to Comillā and obtained rubbings of the inscription and photographs of the image. The owners of the image, after much persuasion by Rai Annadāprasād Sēn Bahādūr, the Additional District Magistrate, and Mr. T. Emerson, C.I.E., I.C.S., the then Magistrate of Tippera, consented to part with the image on condition that a duplicate should be made for them and a sum of money given. At this juncture the annual grant received by the Dacca Museum from the Bengal Government was reduced from Rs. 6,000 to Rs. 3,000 and all ideas of acquiring the image had to be abandoned. The image was taken to the temple at Chāndimurā and set up for worship. I am informed that it has since been stolen from the temple and lost sight of.

The image is of the goddess Śarvvānī, one of the forms of Durgā. It is about 20" in height and rather heavy. A portion of the rim of the top towards the proper left is broken away and lost. The image is cast in low relief. The technique is rather crude, and the pose rigid. The goddess has eight arms, holding on the proper left, from the bottom upwards, the thunderbolt, the bell, the bow and the shield; and on the proper right, from the bottom upwards, the conch-shell, the goad, the sword and the wheel. Two maids are on her two sides, holding fly-whisks. She stands on a lotus-seat on the back of a couchant lion, with a rather well-executed head. The image was gilt all over with thin sheets of gold, the pious work of queen Prabhāvatī, and the original gilding is still intact in places. The white patches in the photograph show where it still clings fast.

<sup>1</sup> दे[व]धर्मि चाचार्यमह[र्ष]मह[र्ष].

The inscription refers itself to the reign of a king called *Dēva-Khaḍga* of the *Khaḍga* line of kings, who ruled over *Samatāṭa*<sup>1</sup> towards the end of the 7th century A.D. The existence of the *Khaḍga* line of kings in east Bengal became known from the discovery in 1884 of two grants of *Dēva-Khaḍga*, evidently the most powerful monarch of the line. These two plates were finally edited by the late Babu Gangamohan Laskar, M.A., in the *Memoirs of the Asiatic Society of Bengal*, Vol. I, No. 6.

The inscription records the names of three generations of the *Khaḍgas*;—*Khaḍgōdyama*, the founder of the line, his son *Jāta-Khaḍga* and his son *Dēva-Khaḍga*. All these names were known from the copper-plate grants of *Dēva-Khaḍga* referred to above, and it has nothing new to tell us in this respect. It informs us that *Prabhāvatī*, queen of *Dēva-Khaḍga*, caused the image of *Sarvvāṇī* to be covered with gold leaves out of reverence for the goddess. The name of *Prabhāvatī* also was known previously, as she figures in one of the plates of *Dēva-Khaḍga* as a donor of land to a Buddhist monastery. The royal family of *Samatāṭa* seems to have been of a particularly religious turn of mind. Yuan-Chwang states that *Śīlabhadra*, the head of the University of *Nālanda*, came of the royal stock of *Samatāṭa*. We can hardly conceive at this distance of time what an exalted position it must have been. As the head of the greatest centre of Buddhist culture of the time, he must have occupied the position of the dictator of the then Buddhist world. It is probable that he was a *Khaḍga*, and those who kept alive the name of *Khaḍgas* in later times tried in their way to emulate their illustrious predecessor by noble deeds of piety and benevolence. *Dēva-Khaḍga* was a donor of land to Buddhist monasteries, and his wife and son also followed in his footsteps, as appears from his grants. Yuan-Chwang calls the king of *Samatāṭa* a devout Buddhist and *Dēva-Khaḍga* seems very well to merit this appellation. The pious soul of queen *Prabhāvatī* has once again spoken to posterity through the present discovery.

The image reveals a curious state of religious belief prevalent in those days. Queen *Prabhāvatī* and the members of her husband's family were all devout Buddhists; but all the same she did not feel it irreligious in any way to pay reverence to a goddess who must have belonged to the Brahmanical pantheon. Harshavardhana, to whose court Yuan-Chwang came, in a similar manner divided his veneration among the Buddha, the Sun-god and *Śiva*. All these clearly show that we must revise our idea of the Buddhists and Hindus of ancient days as two communities shut up in watertight compartments. They were more like the present-day *Śāktas* and *Vaiṣṇavas* than otherwise.

*Asrafpur*, near the bank of the old and the real *Brahmaputra*, the find-place of the two plates of *Dēva-Khaḍga*, and *Deulbāḍī*, sixty miles south-east, almost at the foot of the hills of *Tippera*, the find-place of the present image, mark respectively the western and eastern limits of *Samatāṭa*, the kingdom of the *Khaḍgas*.

The inscribed surface at the base of the image is about 8" in length, and the characters are approximately  $\frac{1}{2}$ " long. They are bigger in the two extreme sections than in the middle one. They are incised pretty deeply and are in an almost perfect state of preservation.

The characters belong to the Eastern variety of the *Gupta* script current in Bengal towards the end of the 7th and the beginning of the 8th century A.D. Mr. Laskar, at the time of editing the plates of *Dēva-Khaḍga*, assigned them to "the 8th or 9th century A.D.", while Mr. R. D. Banerji in his *Bengali History of Bengal* is, on paleographical grounds<sup>2</sup>, inclined to push the date still further forward. I believe, however, that these *Khaḍga* inscriptions cannot be taken farther than the beginning of the 8th century A.D. No one, I believe, can

<sup>1</sup> Vide my paper "A forgotten kingdom of East Bengal," *J. A. S. B.* March 1914.

<sup>2</sup> Vide also Mr. Banerji's Monograph on "The Palas of Bengal," *Memoirs, A. S. B.*, Vol. V, No. 2, p. 67.

compare the letters of the present inscription, as well as those of the two plates of Dēva-Khaḍga, with the letters of the Nidhanpur plates of Bhāskaravarman,<sup>1</sup> the Aḥṣad and the Shahpur inscriptions of Āditya-sēna-dēva, the Deobarnark inscription of Jivita-gupta, the Banskhera and Madhuban plates of Harsha, without coming to the conclusion that a span of about a hundred years covers them all. A comparison of the characters of the Khaḍga inscriptions with those of the earliest known inscriptions of the Pāla kings leaves no doubt that the former must be considerably prior to the latter, possibly by about a century.

There is nothing special to note in the **orthography**, except the doubling of *v* after *r* in Śarvvāpi. The use of only one symbol for *b* and *v* is almost the rule in Eastern Indian inscriptions, as in the modern Bengali language.

The language is correct **Sanskrit** verse. The inscription is in three lines on three sections; the first two lines run over all the three sections, while the third line is incised only on the middle one.

I edit the inscription from rubbings and photographs in my possession.

#### TEXT.

- 1 [सिद्धिस्तु]<sup>2</sup> स्वस्ति खड्गोद्यमो नाम नृपाधिराजस्तत्पुत्रस्य जितस्वः [1\*]  
तदात्मजो दानप-
- 2 तिः प्रतापी श्रीदेवखड्गो विजितारिखड्गः [1\*] राजस्तस्य महादेवो  
महिषो श्रीप्रभावती [1\*] स(म)र्वाणीप्रतिमां
- 3 भक्त्या हिमलितामकारयत् । \* \*

#### TRANSLATION.

May success attend ! May welfare accrue ! There was an overlord of kings, **Khaḍgōdyama** by name. His son (became known) on earth (as) **Jāta-Khaḍga**. His powerful and benevolent son **Dēva-Khaḍga** was (like) a sword, a conqueror of all foes. **Prabhāvatī**, the queen-consort of this king, out of reverence for Śarvvāpi, covered her image with gold.

#### 5. THE DACCA CHANḌĪ IMAGE INSCRIPTION OF THE 3RD YEAR OF LAKSHMAṆA-SĒNA-DĒVA.

The inscription is on the pedestal of an image of Chanḍī, discovered about four decades ago in the ruins of Rāmpāl, the site of Śrī Vikramapura, the capital of the Sēnas referred to in their land grants, in the *pargana* that still goes by the same name, included at present in the Dacca and Faridpur districts. It is at present worshipped in a small temple situated in the Dālbāzār quarter of Dacca on the Farāshganj Road, a little to the east of the Northbrook Hall. The late Babu Baikunṭhanāth Sēn, Deputy-Inspector of Schools, of Sonārang, District Dacca, was an enthusiastic collector of images, quite a crop of which used to turn up every year in the course of casual excavations in and around Rāmpāl. These, on discovery, were usually put under a tree by a roadside to receive the chance worship of the passers-by. Sometimes they were put to altogether unholy uses and sometimes consigned again to neglect and oblivion. It does great credit to Baikunṭha Babu that he alone, amidst the general callousness of his countrymen, was alive to the artistic and archæological merit of these relics of the past, and not a few of them owe their safe preservation to his labour. Many pieces of his collection are, it is gratifying to note, now in the Dacca Museum. This inscribed image of Chanḍī was one of Baikunṭha Babu's finds, and he must have presented it to the founder of the temple in which it at present lies.

<sup>1</sup> *Ep. Ind.*, Vol. XII, p. 65.

<sup>2</sup> Expressed by a symbol.

The inscription, however, seems to have aroused little interest at the time of the discovery, and its existence was unknown to the gentry of Dacca. In April 1911 Mr. R. D. Banerji, M.A., of the Archaeological Survey, and some friends discovered it, and from that time it has been known to the public.

In August 1911 Mr. Banerji published a reading of this inscription in the Bhādra, 1318 (B.S.), number of the *Pratibhā*, the journal of the Dacca Sāhitya Parishat in an article on king Lakshmana-sēna of Bengal. Four months later, in the Pausa number of the same journal, in a long article on the Sēna kings of Bengal, I gave my reading of the inscription. In June 1912 I published the inscription, with a half-tone reproduction of both the inscription and the image, in the *Dacca Review*, in an article on the era of king Lakshmana-sēna. In *J. A. S. B.*, July 1913 Mr. Banerji re-published it in his article on king Lakshmana-sēna. The inscription has thus been published four times; yet it cannot be said that up to this time it has been properly edited. Mr. Banerji's reading in the *J. A. S. B.*, as well as his description of the image, is not free from mistakes.

The image is about 30" high and is a rather fine example of Bengal sculpture of the time of the Sēnas. The goddess has four arms and she stands in a graceful *tribhanga* pose on a full-blown lotus over a couchant lion. Her upper left hand holds a bunch consisting of a half-blown lotus with some buds and leaves. The lower left hand holds an ornamental basket-like thing, either a flower basket or a waterpot. The upper right hand holds an elephant-goad and the lower one is in the *Varada-Mudrā*. Two attendant female figures stand on the two sides of the goddess, and two elephants are pouring water over her from two pitchers. She seems to be a curious mixture of Gaja-Lakshmi and Chāṇḍī and may represent the Śakti of the god Harihara.

The inscription is in an excellent state of preservation. The inscribed surface is about  $9\frac{1}{2}$ " in length, and the characters are approximately  $\frac{1}{2}$ " high. The characters may be called Bengali characters of the 12th century A.D. They are not very well executed and are far inferior in execution to those of the Deopara inscription of Vijaya-sēna. They may be compared in style and coarse execution to the Buddha Gayā inscription of Asōkachalla-dēva executed in the 51st *atita-rājya* year of Lakshmana-sēna-dēva (*Epigraphia Indica*, Vol. XII, p. 29). In this connection I may lay stress on a fact which is sometimes forgotten. Printed types have accustomed us to a standard; but in ancient times contemporary inscriptions varied as much in style as handwritings; because the inscriptions were always written with ink or lac on the surfaces to be inscribed and were then engraved by sculptors who were not always literate.

The inscription refers itself to the third year of the era of king Lakshmana-sēna of the Sēna dynasty of Bengal. As the era has been proved to have begun in 1119 A.D.,<sup>1</sup> the inscription must have been incised in the year 1121 A.D. It records that *Adhikṛita* Dāmōdara, son of *Maladatta*, began the image of Chāṇḍī in the third year of the era of Lakshmana-sēna and that his relative (younger brother?) *Nārāyaṇa* installed the image in the fourth year. The inscription is in two lines on three sections. I edit it from the original stone. The language is incorrect Sanskrit. *Suta* and *adhikṛita*, which should have been in the 3rd case according to grammatical rules, are both used in the 1st case.

#### TEXT.

1 श्रीमल्लदेव- मासदे(द)त्तसुत चक्षित श्रीदामोदरे- श्रीनारायणेन

2 सेनदेवस्य सं ३- ण श्रीचण्डीदेवी समारब्धा तद्वाटकना-प्रतिष्ठितेति ४ ॥

<sup>1</sup> *Indian Antiquary*, Vol. XIX, p. 1.

*Note on the reading.*

The decipherment of this short inscription presents some very serious difficulties. The fourth letter in what I have read as *Māladetta* is very curious. It bears little resemblance to any letter or compound used in the inscriptions of the time. Mr. Banerji has read it as *Mālade-i*; but certainly *tta* it is not like any *i* hitherto met with in the inscriptions of the period. It has moreover no perpendicular straight stroke to the proper left, distinctive of an *i* of the period. The following additional objections to the reading may be advanced :—

(i) *Māladei* must be a Prākṛit form of *Māla-dēvi*, and it is not easy to understand why a Prākṛit word should be used in a Sanskrit inscription.

(ii) The use of only the mother's name to denote parentage is unusual in a North Indian inscription.

The letter that one would expect here is *va*, reading the name as *Māladēva*; but the letter used does not bear the slightest resemblance to the *va* of the period or any of the *va*'s used in this inscription. Then what is this letter? My reading of the letter as *tta* is only conjectural, based on the principle of greatest resemblance and possibility and on a surmise which I shall advance presently. [Perhaps we should read *Māla-khaḍga*.—Ed.]

The second difficulty is about the reading of the name of the donor. Mr. Banerji has read it as *Dāmōdrēna*; but *ē* is clearly absent from *dra*. We can read it at best *Dāmōdrana*, which is inadmissible. I have read it *Dāmōdarēna*, which is admittedly the correct form of the word. It should be noted that the *ā* mark of *nā*, the letter below *dra*, is projected upwards to a considerable distance. I believe the engraver wrote *Dāmōdana* through mistake and attempted to put in *re* between *da* and *nā*. Want of space stood in his way, and he fared very ill. The projection of *ā* of *nā* should, in my opinion, be taken for the engraver's attempt to make a small *va*, and the *r* mark of *Dāmōdra* should be taken as the *ē* he tried to make. I have thus read *rē* between *da* and *nā*.

The next difficult word is what I have read as *tad-bhrāḍakanā*. Mr. Banerji read it as *tabhrāḍakana*, which gives no meaning whatever, and which moreover is incorrect, as *na* has a clear *ā* after it. The word must be a qualifying word of *Nārāyaṇēna*, which follows it, and consequently must be in the 3rd case. It is also expected that the word should signify some sort of relationship between the donor and the founder, whose names prove them to have been close relatives. I have therefore read the word as *tad-bhrāḍakanā*, and would translate it as "by his younger brother." The word *bhrāḍakana*, again, is perplexing and new. I can suggest nothing better than that it was an irregular East-Indian compound of the two words *bhrātā* and *kantyan*.

Now, *Dāmōdara* was evidently a high officer of the state, and we may expect to see his younger brother too in a similar position. We know from the Tarpandighi plate of *Lakshmaṇa-sēna*<sup>1</sup> that one *Nārāyaṇa-datta* was his minister of peace and war. Can this *Nārāyaṇa-datta* be the *Nārāyaṇa* of the present inscription? *Māla* is an appellation of *Vishṇu*, and the names *Nārāyaṇa* and *Dāmōdara* are also names of *Vishṇu*. It was evidently a *Vaishṇava* family and the name of the father agrees well with the names of his sons. If our conclusions, which are based on a series of surmises, are right, and if *Nārāyaṇa* of the present inscription can be identified with *Nārāyaṇa-datta*, the minister of peace and war of *Lakshmaṇa-sēna*, we may read the name of *Dāmōdara*'s father as *Māladetta* and emend it to *Māla-datta* by taking the *e* of *de* as an engraver's mistake.

Mr. Banerji read a *visarga* after *itī*, which is inadmissible; it should be read as 4, resembling the modern Bengali symbol for 4. It is not usual to put the two ciphers of a *visarga* in touch with one another as has been done in the present case.

<sup>1</sup> *Ep. Ind.*, Vol. XII, p. 6.



## TRANSLATION.

The year 3 of the era of the illustrious **Lakshmana-sēna-dēva**. The (image of the) goddess **Chandī** was begun by the Superintendent (*Adhikṛita*) **Dāmōdara**, son of **Māladatta** and was installed by his younger brother **Nārāyaṇa** (in the year) 4.

## No. 25.—A NOTE ON THE VAKATAKA INSCRIPTION FROM GANJ.

(No. 4 of Vol. XVII of the *Epigraphia Indica*.)

By K. N. DIKSHIT, M.A., POONA.

The last four paragraphs of the article on 'a Vakataka inscription from Ganj' illegible correction in the light of information available from the Poona plates of the thirteenth year of the Vakātaka queen **Prabhāvatiguptā** (*Ante*. Vol. XV, p. 32 ff.) and another grant of the 19th year of **Pravarasēna** (II) issued by the same queen **Prabhāvatiguptā** (*Ind. Ant.* Vol. LIII, page 48). The characters used in the Ganj and Nachna inscriptions are later in date than those of the Poona plates of **Prabhāvatiguptā**. The **Prithvishēna** of these inscriptions is therefore more likely to be identified with **Prithvishēna** II of the **Bālāghāt** plates, who was the great-grandson of **Prabhāvatiguptā** and not with **Prithvishēna** I her father-in-law. On paleographical grounds, Prof. **Jouveau-Dubrenil** attributes the Nachna inscriptions to the fifth century instead of the 4th and to **Prithvishēna** II, in preference to **Prithvishēna** I (*Ancient History of the Deccan*, page 73). The present epigraph which is almost identical with the Nachna inscriptions, can therefore also be assigned to **Prithvishēna** II who must have lived in or about the last quarter of the 5th or the opening years of the sixth century A.D.

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<sup>1</sup> The figures refer to pages: n. after a figure, to footnotes; and add. to the additions on pp. vii to xiii. The following other abbreviations are used:—ch.—chief; co.—country; di.—district or division; do.—ditto; dy.—dynasty; E.—Eastern; f.—female; k.—king; m.—male; mo.—mountain; ri.—river; s. a.—same as; sur.—surname; te.—temple; vi.—village or town; W.—Western.

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