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A Modular Framework for the Analysis of the Dates Found in Manuscripts Written in the Tamil and Tamilian Grantha Scripts

Abstract: This article focuses on the analysis of the dates included in the scribal colophons found in manuscripts written in the Tamil and Tamilian Grantha scripts. In order to better investigate and understand different scribal patterns, a new approach has been adopted: the dates are conceived as modular entities, which can conveniently be segmented into smaller constituents, referred to as ‘submodules’. In turn, these submodules will be scrutinised from the point of view of their constituents and their mutual relationship.

1 Introduction

This article focuses on the analysis of the dates included in the scribal colophons found in manuscripts written in the Tamil and Tamilian Grantha scripts. The analysis made here will be based on data collected, thus far, by Giovanni Ciotti and this author, which is to provide the basis for a forthcoming, broader work on scribal colophons and lending/borrowing statements in palm leaf manuscripts hailing from the Tamil-speaking South of India.

In this article, the dates will be investigated from the point of view of their constituents and the relationships existing between them. For this purpose, a date will be conceived as a modular entity, which can conveniently be segmented into smaller constituents, referred to hereafter as ‘submodules’.¹ The submodules are basically made up of the ‘value’ of a calendrical element (its name or its numerical amount) and, more often than not, of one or more ‘markers’: a marker is a symbol, a word (or an abbreviation thereof) which clarifies what calendrical element the value refers to. A value may be accompanied by one or more markers or left unmarked; some elements, however, are regularly marked in the dates,

¹ In a broader perspective, colophons themselves can be understood as modular entities, made up of a string of component units (modules, in fact): in such a framework, the date is one of the several modules composing the colophons, together with the information concerning the owner(s) or the scribe, the title of the work and the copying statements, apology formulas, borrowing formulas, invocations etc. (see Ciotti in this volume).

some only sporadically. For example, in the date 1021 <symbol for Kollam year> *viśvāvasunāmasaṃvatsaram* *arpaci* <symbol for month> 23 <symbol for day> *vyāḷakkeḷamai śuklapakṣattil saptamitiṭhi śravaṇanakṣattiram* (EO0076a)² are eight submodules: Kollam year, Jovian year, month, day, day of the week, fortnight (*pakṣa*), lunar day (*tiṭhi*) and constellation. The values of the submodules are 1021, *viśvāvasu*, *arpaci*, 23, *vyāḷa*, *śukla*, *saptami* and *śravaṇa*, whereas their markers are <symbol for Kollam year>, *saṃvatsaram*, <symbol for month>, <symbol for day>, *keḷamai*, *pakṣa*, *tiṭhi* and *nakṣattiram*, respectively.³ Elements such as *nāma* in *viśvāvasunāmasaṃvatsaram* ('the year called Viśvāvasu'), which are not indispensable in the structure of the submodule, are called here 'expletives'; they are found usually – but not only – in metrical dates, where they are used to fill out the verses.

As said above, this article focuses on dates thought of as strings of submodules, and especially on the elements contained in the submodules and their relationships. Linguistic considerations, such as the distinction between the Tamil, Sanskrit or hybrid forms of the elements in the submodules, will be taken into account only occasionally, when felt convenient. Similarly, the different spellings in which one and the same calendrical element is attested in the database are given here without any pretence to exhaustiveness, sometimes limited to the most frequently occurring forms.

This article is organised in sections. The next section presents the reader with an overview of the database at large and, more specifically, with some overall figures concerning the dates occurring in it: their number and chronological distribution, their most frequently attested structures, the frequency and order of their submodules. The sections following are mostly devoted to the description of the submodules, namely those of the Kollam year, Jovian year, Śālivāhanaśaka, Kali and Christian years, solar month, lunar month, day, day of the week, *pakṣa*,

² The manuscripts quoted in this article are referred to by their accession number preceded by a siglum that indicates the library in which they are held: RE for Institut français de Pondichéry; EO for École française d'Extrême-Orient, Pondicherry; VM for University Library, Leiden (van Manen collection); BN-INDIEN for Bibliothèque nationale, Paris; UVSL for U.V. Swāmināthaiyar Library, Chennai; MS-OR for Cambridge University Library; TORI for Oriental Research Institute & Manuscripts Library, Trivandrum; MORI for Oriental Research Institute, Mysore; GOML for Government Oriental Manuscript Library, Chennai; TAM for Tiruvāvaṭuturai Āṭiṇa Nūlakam; CNM for National Museum, Copenhagen; NLK for National Library, Kolkata.

³ In the dates, the Kollam year, the Jovian year, the month and the day are often marked with different symbols and abbreviations: henceforth, these symbols and abbreviations will be represented in the transcriptions as <KY>, <JY>, <M> and <D> respectively. A collection of these symbols (although now in need of a supplement) can be seen in Ciotti and Franceschini 2016, 85–105.

tithi, nakṣatra, minor calendrical elements and *nālikais*. Most of these sections have been complemented with tables, collected in the Appendix, the purpose being to present the different attested structures of the submodules in a visually clear and direct arrangement. On the whole, these tables are, hopefully, self-explanatory; however, an explicative note has been prefixed to the first table of the series, i.e. that of the Kollam year.

2 Frequency and order of the calendrical elements

At present, the database collected by Giovanni Ciotti and this author includes 910 colophons and lending/borrowing statements, to be found in 438 manuscripts, held in 16 libraries (11 in India, five in Europe). The dates found in these colophons are 518. A good number of these dates (197, i.e. 38%) cannot be converted into a Gregorian calendar date, being based on a Jovian year, and thus recurring cyclically every 60 years, or due to them being incomplete or containing contradictory elements, thus wrong values. The diachronic distribution of the remaining 321 dates is extremely uneven: 19 (6%) date from the seventeenth century, 39 (12%) the eighteenth century, 248 (77%) the nineteenth century, with 15 (5%) dating from the first two decades of the twentieth century.

The number of calendrical elements recorded in the dates varies greatly: the frequency of occurrence of each single calendrical element in the dates in our corpus is shown in Table 1 (Appendix).⁴ The eight elements underlined in the Table (from the Kollam year down to the nakṣatra) are those more frequently recorded in the dates; for this reason, their submodules will be analysed further below. Among these frequent occurring elements, the year, month and day are by far those most commonly present: all the dates contain at least one year (given in accordance with one of four different eras or with the so called Southern Jovian cycle), 99% contain at least one month (solar or lunar) and 87% contain the day. Given these premises, it comes as no surprise that the most common combination

⁴ For the analysis of the frequency and order of the calendrical elements, only the (452) ‘complete and independent’ dates have been considered. This means that we have excluded all the dates in our corpus that are incomplete, either due to folio damage or because some of the calendrical elements (typically the year, sometimes also the month) have already been provided in a preceding date (in the same colophon or manuscript) and must be inferred from there. An example of the latter category is: 1040 <KY> āvaṇi <M> 5 <D> bālakāṇḍam ārambham piratṭāci <M> 6 <D> samāptam (RE20158), ‘The beginning [of the copying] of the Bālakāṇḍam on the Kollam year 1040, month of Āvaṇi, 5th day; completion on the month of Piratṭāci, 6th day’.

of elements in the dates is Jovian year + solar month + day (found in 84 dates, 19%), followed by Kollam year + solar month + day (79 dates, 17%); 29 dates contain Jovian year, month, day, day of the week; 18 dates contain both Kollam and Jovian years, month, day; 11 dates Kollam year, month, day, day of the week. As for the dates containing a large number of calendrical elements, 26 feature all eight of the most frequent calendrical elements (Kollam and Jovian years, solar month, day, day of the week, pakṣa, tithi, nakṣatra), 30 feature these eight elements with the exception of the Jovian year and 32 comprise these eight elements without the Kollam year.

In terms of their order, the calendrical elements and their submodules are usually arranged as shown in first column of Table 1, whereas the last column shows the number of ‘misplacements’, i.e. infringements regarding the ‘standard’ order, for each calendrical element. As can be seen, the day of the week alone counts for almost a half of the total misplacements (36 out of 76): largely due, in all likelihood, to the influence of the *pañcāṅgas*, the traditional Indian calendars used for determining the most auspicious time for celebrating rites and observances – as well as unfavourable periods when no ritual should be performed. As their name suggests, *pañcāṅgas* are based on five calendrical elements invariably arranged in this order: tithi, vāra (day of the week), nakṣatra, yoga and karaṇa. In all the dates where the day of the week is ‘misplaced’, it has been moved forward in the sequence of calendrical elements; more precisely, in 27 cases of 36 it has been placed after the tithi – the position it occupies in the *pañcāṅgas*.

Beginning with the following section the different submodules have been analysed, in accordance with the order shown in Table 1.

3 Analysis of the submodules

3.1 Kollam year

In the 518 dates collected in our database, the Kollam year has been recorded a total of 190 times and is accompanied by one or more markers in all occurrences but two. As a rule, the number of the year has been written in numerals (187 times out of 190). By far, the most common case is the number of the year being marked by a symbol for ‘Kollam year’ after it: this occurs in 176 of 190 cases (93%).⁵ Six of

⁵ This number includes five dates in which the Kollam year has been marked with a symbol normally used for marking the Jovian year, presumably by mistake.

these dates feature the letter *m* directly after the number of the year, possibly imparting an ordinal meaning to the number, and once an *m* is placed after the symbol for the year, probably as an abbreviation for *[kolla]m*.⁶

Two more markers have been used in combination with the Kollam year written in numerals, although far less frequently than the symbols: the word *kollam* and a small group of terms of unclear meaning. The word *kollam* has been used in eight dates and always immediately precedes the number of the year. The words (abbreviations?) *āmta*, *mta*, *mtu* occur in just four dates: they are always written directly after the number of the year, sometimes in combination with the word *kollam* preceding it. The meaning of *āmta*, *mta*, *mtu* is not clear: they possibly confer an ordinal meaning to the numbers or may tentatively be understood as abbreviations for the Tamil word *āṇṭu* (as *āmt*, *mt*, *mtu* respectively), which means ‘year; year of the Kollam era in Malabar’.⁷

In three dates the number of the Kollam year has been expressed in words, twice in Sanskrit and once as a Tamil ordinal number. In two of them, the number has been accompanied by a word for ‘year’ as a marker: the number recorded in the Sanskrit language is followed by the Sanskrit word *abda*, the number expressed in the Tamil language is preceded by the Tamil word *āṇḍu*.⁸ Please note that these two are the only metrically arranged dates in which the Kollam year is stated.

Lastly, the number of the Kollam year is twice not accompanied by any marking element whatsoever: in one case it is written in numerals, in the other in Sanskrit words.

3.2 Jovian year

In our database, the Jovian year has been recorded 330 times. The Jovian year is always identified by its name. Two different markers are used to identify the Jovian year: a symbol standing for ‘Jovian year’ or a word for ‘year’ (San./Tam. *saṃvatsara/camvaccaram*, *varṣa/varuṣam*, *abda*, *abdaka*, *vatsara*, and their

⁶ Compare the relatively numerous cases of an *m* appended to the symbols for Jovian year and for month, below, which can be interpreted as the last letter of the word *[varuṣa]m* and *[māsa/māca]m* respectively.

⁷ TL, s.v. The latter assumption is supported by the fact that they invariably occupy the place that in other dates is filled by the symbol for Kollam year, which never appears together with them, or by the word *āṇḍu*.

⁸ They are *abde pañcapañcasahasre vikramanāmasaṃvatsare [...]* (VM1.45β) and *āirattu pannireṇḍām āṇḍu [...]* (RE15447γ).

numerous variant spellings).⁹ Most frequently, the flagging element appears to the right of the name of the year: this is always the case for symbols of the Jovian year and largely so with the words for ‘year’, the only exceptions being when some dates have been arranged metrically.

The name of the Jovian year has been marked by the following symbol for ‘Jovian year’ (once, erroneously, a symbol for ‘Kollam year’, RE37121) in 174 occurrences of 330 (53%), e.g. *viṣaya* <JY> (RE082568). Additional elements occurring in these dates are the adverb *nāma*, inserted – in just one single date – between the name of the year and the symbol (*kuroti nāma* <JY>, RE04137), and the letter *m*, written after the symbol for Jovian year in ten dates (e.g. *tāruṇa* <JY>*m*, RE10831y): it probably stands for the last letter of *varṣam/varuṣam*, the word represented by the preceding symbol. Interestingly, in three dates the pair ‘name of the year’ plus ‘symbol’ has been preceded by the progressive number of the year (written in numerals) in the Jovian sixty-year cycle, stated in similar (standardised?) expressions, roughly meaning: ‘the N° year in the cycle beginning with (Tam./San.) Pirapava/Prabhava’ (i.e. the name of the first year in the Jovian year cycle).¹⁰

The name of the Jovian year has been marked with a word for ‘year’ in 152 occurrences of 330 (46%). As above, the word for ‘year’ largely follows the name of the year, either compounded to it (e.g. *heviḷaṃbisaṃvatsara*, VM10.8a; *svabhānuvatsare*, VM10.5; *citrabhānuvarṣa*, VM9.4c; *nandanābde*, VM8.8c) or constructed as appositions (e.g. *vikīrama varuṣa*, BN-INDIEN 199; *kurodhi saṃvatsaram*, RE55844α; *sarvadhāriṇy abde*, RE04127). On the other hand, the word for ‘year’ precedes the name of the year in seven dates, all of them metrically arranged.¹¹ In the dates marked by a word for ‘year’, the adverb *nāma* (‘by name’)

⁹ A good many of them occur in the dates, e.g. *saṃvatsara*, *saṃvassaram*, *camvaccaṇam* and all the way to *smamasaram*.

¹⁰ The three expressions are: [...] *pirapavāti* <JY> 12 *ākiya piramāti* <JY> [...] (UVSL1), ‘the Jovian year Piramāti, which is the 12th in the [cycle] beginning with Pirapavam’; [...] *pirapavātikatāptta* <JY> 31 *viḷampi* <JY> [...] (UVSL67ε), ‘the Jovian year Viḷampi, i.e. the 31st year that comes (*keta° for *gata°) in the [cycle] beginning with Pirapavam’; [...] *pirapavātiketārtam* 57 *yitir cellāniṇṇa rattāṭca* <JY> [...] (GOML D465), ‘the Jovian year Rattāṭca, which occurs as [lit.: in] the 57th year of the cycle that begins with Pirapavam’. In all the three dates the progressive number assigned to the Jovian year is one unit larger than expected, as if the number zero was assigned to the first year of the cycle. Lists of the names of the years in the southern Jovian sixty-year cycle are found in Rhenius 1836, 274–275; Pope 1867, 197; Sewell and Dikshit 1896, ii (Table I); Pillai 1922 (I.1), 189 etc.

¹¹ They are: *abde tāruṇanāmake* (EO0009b), *abde parābhava* (EO0014), *abde kilakanāmake* (EO0021), *abde bhavākhye* (EO0036α), *varṣe nāmnā virodhau* (EO0067β), *abde śrīplavanāmake* (EO0078y), *asminn abde plavaṃge* (EO0143).

has often been inserted between the name of the Jovian year and the word for ‘year’ (e.g. *vikramanāmasaṇvatsare*, RE05920; *vilambināmābde*, EO0138). Please note that the only occurrence of *nāma* preceding the name of the Jovian year, as well as those of more unusual adverbs in place of *nāma* (such as *nāmaka*, three times, and *ākhyā*, one time), are found in metrical dates.

All the 26 dates composed in metre found in our database contain the name of the Jovian year: in 25 dates it is marked with a word for ‘year’, in one date it has been left unmarked. As to be expected, in these 26 versified dates the expressions used to record the Jovian year are slightly more elaborate than usual, e.g. *asminn abde plavaṃge* (‘in this year Plavaṃga’, EO0143), *abde śrīplavanāmake* (‘in the illustrious year called Plava’, EO0078y), *varṣe nāmnā virodhau* (‘in the year called Virodhi’, EO0067β), *abde bhavākhye* (‘in the year whose name is Bhava’, EO0036α). Moreover, three out of the five words for ‘year’ used as markers are found exclusively in metrically arranged dates: *abda* (16 occurrences), *abdaka* (once), and *vatsara* (three times).

In two cases, the Jovian year has been followed by a marker now lost or unintelligible. Finally, the name of the Jovian year has been recorded with no marker of any kind in only two dates, one of them metrically arranged.

3.3 Other years: Śālivāhanaśaka, Kali, Christian eras

In our dates, the year is sometimes recorded in accordance with three systems of annual reckoning other than the Kollam era and the Jovian sixty-year cycle: they are the Śaka or Śālivāhanaśaka era (recorded in 16 dates), the Kali era (occurring in 11 dates), and the Christian era (attested 12 times).

The Śaka year – or, as it is more often called in the colophons, the Śālivāhanaśaka year – is expressed in numerals in all its 16 occurrences and is always marked. In 11 dates, the number of the year is preceded by the compound-marker *śālivāhanaśaka/cālivākanacaka*, which is either immediately followed by a symbol for year or compounded with a word for ‘year’ (*abda*, *arttam*, *artam*, *attam*); in the latter case, a symbol for year is sometimes placed after the number of the year. In four dates, the number of the Śālivāhanaśaka year is preceded by the compound *śakābda* or *śakārttam*; in three of these dates, the number of the year is also followed by a symbol for year (in two cases) or the word *varuṣam* (one case). In one date only, the number of the year is simply followed by the word *āṇṭu* (‘year’) as its marker. It is worth noting that the invocation *svasti śrī*, often found before the year in inscriptions, precedes the Śālivāhanaśaka year in three dates: although this invocation does not occur elsewhere in our corpus – and, as

such, seems to have an exclusive association with the Śālivāhanaśaka year – it has not been considered a marker of this era.

The year is recorded in accordance with the Kali era in 11 dates. The number of the Kali year is expressed in numerals seven times, three times in words; in one date, a blank space has been left in its place. The Kali year is always marked: in 10 dates, the number of the year is preceded by the word *kali* or a compound including it as a marker (*kalyādi*, *kaliyukāti*, ‘since the beginning of the Kali age’; *kaliyuka*, ‘the Kaliyuga age’; *kaliyukārtam*, *kaliyukāptam*, ‘year in the Kaliyuga age’); in the remaining date, the compound *vatsaraparimitakalau*, (‘in the Kali era amounting to year [...]’) is appended to the number of the Kali year expressed in words. In nine dates out of 11 a second marker has been added, either in the form of a symbol for the Jovian year (placed before or after the number of the year) or in the form of a word for ‘year’ (*vatsara*, *varṣa*), placed after the Kali year.

The Christian year is expressed in numerals in all its 12 occurrences and is always marked. The most common marker is the symbol for the Jovian year: in six dates it is placed after the number of the Christian year, in two dates it is placed before it, preceded in turn by the word *īṅkilicu* (‘English [era]’). In two dates, the number of the Christian year is preceded by the expression *tēvacakārtam* (‘year of the epoch of god’) and followed by the Tamil syllabic vowel *i*, this latter is most likely to be understood as an abbreviation for *īṅkilicu*. In the remaining two dates, the number of the Christian year is followed by the Tamil word *āṇṭu* (‘year’) as its marker.

It should be noted that the years given according to the Śālivāhanaśaka, Kali and Christian eras are recorded in the dates together with at least one more year – usually the Jovian year, sometimes the Kollam year, on a few occasions both are featured; in only one case, a Christian year is given as the only year in a date (BN-INDIEN 333). It is not rare for the dates to record three different years (Śālivāhanaśaka, Kali, and Jovian or Śālivāhanaśaka, Kollam and Jovian) and in two dates four different years are mentioned (Śālivāhanaśaka, Kali, Christian and Jovian).

As shown in Table 1 (Appendix), as a rule the Śālivāhanaśaka, Kali and Christian years precede the Kollam and Jovian years. A noteworthy syntactical feature often found in these dates is the presence of a relative participle placed between the Śālivāhanaśaka, Kali and Christian year(s) on the one side, and the Kollam and/or the Jovian year(s) on the other. Such a relative participle (*itiṇ mel cellāniṇṇa*,¹² *mel/mer/melc cellāniṇṇa*, *cellāniṇṇa*, *cellum*, *itil nikalkiṇṇa*, *ākiya*, all

¹² The word *itiṇ* is sometimes abbreviated to its last letter (*ṇ*), as in: *svastī śrī śālivāhanaśakābdam 748 ṇ melc cellāniṇṇa kollam 1002 <KY> vyaya <JY> tai <M>m [...]* (EO0033β),

for ‘which occurs in’; *sariyāna*, ‘which is equivalent to’) constructs a relative subordinate as in: *cakārttam 1630 <JY> mer cellāniṅṇa caṇucitti varuṣam āvaṇi mācam [...]* (BN-INDIEN 329), ‘The Jovian year Caṇucitti, which occurs in the Caka year 1630, the month of Āvaṇi’. This practice seems to be associated with the Śālivāhanaśaka year in particular, as this syntactical structure is found in 15 dates of the 16 in which the Śālivāhanaśaka year occurs in our corpus.¹³ However, it is also attested in dates where only the Kali or the Christian year has been recorded (together with the Jovian year), although rarely – one and three times respectively.¹⁴

3.4 Solar month

In our database, the solar month has been recorded 485 times. The month is always identified by its name,¹⁵ which can be given according to two distinct sets of names: one in Tamil and the other in Sanskrit. The Tamil names of the months are a great deal more common, being attested 422 times, seven of them in abbreviated form;¹⁶ the Sanskrit names are used only 60 times;¹⁷ in three dates the

‘*Svasti śrī*. The Kollam year 1002, which occurs in the year 748 of the Śālivāhanaśaka era, Jovian year Vyaya, month of Tai’; *cālivākaṇacakārttam 1701 ṇ mer cellāniṅṇa kollam 956 <KY> cāru <JY> cittirai <M> [...]* (TORIML6355), ‘The Kollam year 956, which occurs in the year 1701 of the Cālivākaṇa era, the Jovian year Cāruvari, the month of Cittirai’.

13 E.g., *svasti śrī śālivāhanaśakābdaḥ 1733 itiṅ mel cellāniṅṇa sarvatāri <JY> painkuṇi <M>m [...]* (RE20078β), ‘*Svasti śrī*. The Jovian year Sarvatāri, which occurs in the year 1733 of the Śālivāhanaśaka era, the month of Painkuṇi’; *śakābdaṃ 1520m varuṣam ākiya parāpava <JY> kārttikai <M>m [...]* (RE20042), ‘In the Jovian year Parāpava, which is the year 1520 of the Śaka era, month of Kārttikai’; *śālivāhana śakābdaṃ 1787 <JY> sariyāna raktākṣināmasamvatsaram tulāmāsaṃ [...]* (MORI-3633), ‘The year called Raktākṣi, which is equivalent to the year 1787 of the Śālivāhanaśaka age, the month of Tulā’.

14 The relative participle occurring in all these four dates is *cellum*, which, conversely, is never found in the dates in which the Śālivāhanaśaka year is recorded. E.g.: *tēvacakārttam 1847 i cellum kilaka <JY> kārttikai <M> [...]* (MS-OR-BOX Y Box Y item 3α), ‘The Jovian year Kilaka, which occurs in the year of the epoch of god 1847 of the English era, month of Kārttikai’.

15 In one date the name of the month is followed by the number (written in numerals) corresponding to its position in the list of the months (starting with Tam. Cittirai/San. Meṣa): *tai 10 <M>m* (RE20046), ‘the month Tai, number 10’.

16 The abbreviated forms are: *mārkaḷ*^o for *mārkaḷi* (EO0074y), *c*^o and *citt*^o for *cittirai* (RE04082β and EO0034y), *kārt*^o (twice), *kartti*^o and *karr*^o for *kārttikai* (EO0006α, EO0064β, RE47712β and RE47712y respectively).

17 In one date the name of the solar month is given twice in a row, in the Sanskrit and in the Tamil languages: *taṇucuravi mārkaḷi <M>* (RE15398), ‘the month of Mārkaḷi [i.e.] month Taṇucu’. The compound *taṇucuravi* is a tamilized form for Sanskrit **dhanū-ravi*, ‘the month Dhanus’.

month has been recorded with its English name, followed in the same date by its Tamil counterpart.¹⁸ Furthermore, in one colophon in which dates for both the start and end of writing have been recorded, the second occurrence of the name of the month (which is the same in the two dates) has been replaced with a symbol representing the Tamil word *merpaṭi*, ‘the aforesaid’.¹⁹ In one date, the name of the month has been lost.

Basically, two markers are alternately used to flag the name of the month: a symbol for ‘month’ and a word for ‘month’ (*māsa*, *mācam*, *mātam*, *mati*, *mās*, *ravi*). Both markers are written after the name of the month, with the exception of a few cases occurring in metrically composed dates (see below). In over 75 percent, the name of the month has been marked with a symbol for ‘month’ (373 out of 485), in approximately 20 percent by a word meaning ‘month’ (92 out of 485); in one date the two markers appear together (*mācimāca* <M>, RE436438). In eleven cases the name of the month has not been marked in any way whatsoever; in four dates the (Tamil) name of the month has been preserved, but the marker is lost.

The symbols for month are far more frequently coupled with the Tamil names of the months (365 times of 422) than those of Sanskrit (only six of 60), and they are used as markers in all the three cases in which the month has been recorded in its English name. In 67 occurrences the symbol for month has been followed by the final part of the word that it represents: *m* (presumably for *māsam* or *mācam*, 64 times), *cam* (i.e. the final syllable of the word *mācam*, two times), *t*^o (probably for *tam*, the final syllable of the word *mātam*, one time).

As for the words for ‘month’ used as markers, they occur in combination with both the Tamil and the Sanskrit names of the months, evenly split (45 and 46 times respectively). The marker-words attested in our dates are *māsa* (80 times, by far the most frequently attested), *ravi* (three times), *mācam* (four times), *mātam* (three times), *mati* and *mās* (one time each). The words *māsa* and *ravi* have been used to mark both Tamil and Sanskrit names of months, *mātam* and *mācam* occur only in combination with Tamil names, *mās* and *mati* with the Sanskrit name of a month.

As expected, the 17 solar month submodules which occur in metrical dates (all in the Sanskrit language) have sometimes specific features, such as: use of expletives (e.g. *meṣasaṃjñe ca māse*, ‘in the month called Meṣa’, VM10.18aβ), in-

¹⁸ E.g. 1835 <JY> *mārci* <M> *ceya* <JY> *paṅkuṇi* <M> 9 [...] (CNM D1063), ‘Year 1835 [of the English era], month of Mārci [i.e. March], Jovian year Ceya, month of Paṅkuṇi, 9th day’.

¹⁹ The date runs: 1043m <KY> *tai* <M> 8 <D> [...] <merpaṭi> <M> 1 <D> (RE47715β), ‘Year Kollam 1043, Tai month, 8th day [...] the above-mentioned month, the 1st day’.

verted syntax, with the marker preceding the calendrical element (e.g. *māse mithunasaṃjñike*, ‘in the month called Mithuna’, EO0138), use of uncommon forms of the name of the month and of the marker-word (as in *taulike māsi*, EO0143), use of quasi-standardized periphrastic expressions in absolute locative construction meaning ‘when the sun was in/entered/reached (name of the month)’, such as: *tulāṃ prāpte divākare* (EO0069a), ‘when the sun has entered the [month of] Tulā’.²⁰ The metrical requirements are very likely why in two metrical submodules the mere name of the month is mentioned, with no accompanying marker or specification whatsoever.

3.5 Lunar month

In our database, the lunar month has been recorded in 32 dates. The names of the lunar months, which are always recorded only in Sanskrit, have been marked by a name for ‘month’ in two-thirds of the dates (24 out of 32): *māsa* is used in 21 dates, *mās* in three (once preceded by the expletive *ca* in a metrical date). As usual, the marker-word can either be compounded to the name of the lunar month (e.g. *phālgunamāse*, EO0002a; *mārgaśīrṣamāsam*, EO0111b) or added to it as an apposition (e.g. *puṣye māsi*, ‘in the month of Puṣya’, VM2.28).

The name of the lunar month has been followed by a symbol for month on three occasions, in one of which the symbol has been followed in turn by the letter *m*, representing the last letter of the word *māsam* or *mācam* (see above, under ‘Solar month’). Remarkably, these three are the only mentions of a lunar month occurring in dates in prose: all the other dates in which the lunar month is mentioned, whether marked by a word for ‘month’ or not, are metrical.

The name of the lunar month has not been accompanied by any marker in five out of 32 occurrences (16%): this is a relatively high rate, especially when compared with that of the solar month (2,3%). All five occurrences, however, bear peculiar features that may well justify the absence of a marker identifying the name of the month as such (although, admittedly, in the same dates other calendrical elements have been ‘regularly’ marked by a specifying word): two dates are

²⁰ Such periphrastic expressions are attested in five dates, the other being: *dinakare meṣam gate*, ‘when the sun enters the [month of] Meṣa’, EO0078y; *cāpaṃ yāte tv aḥaskare*, ‘when the sun has gone to the month Cāpa [i.e. Dhanuṣ]’, RE30370; *gate bhānu kaṭakaṃ*, ‘when the sun had reached [the month] Ka[rka]ṭaka’, EO0009b; *kumbhe pūṣiṇi sthite*, ‘when the sun is in the [month] Kumbha’, RE04127.

metrical or quasi-metrical,²¹ one date has been visually segmented into its elements by means of *daṇḍas* inserted between them,²² two dates are made up of a single Sanskrit compound.²³

3.6 Day of the solar month

In our corpus, the day of the solar month has been recorded 467 times, in a quite wide variety of ways; the marker, when present, always follows it, with just one exception. The number of the day can be given in numerals or in words, and in the latter case the number can be an ordinal (as is often the case) or a cardinal. The marker can be a symbol for ‘day’, a (Sanskrit or Tamil) word for ‘day’ (or an abbreviation) or, in a few cases, a combination of them.

In the large majority of cases (426 out of 467, 91%), the number of the day has been expressed in numerals. By far, the most common case is that of the number of the day expressed in numerals and marked by a symbol for ‘day’: alone, it makes for about four-fifths of the total number of cases, i.e. 370 out of 467, including one occurrence in which *ā*, possibly a Tamil ordinal tag,²⁴ has been put right after the numerals, and six more cases in which the number of the day or the marker is either now lost or illegible, but were most probably represented by numerals followed by a symbol for ‘day’. In four cases the numerals and symbol for ‘day’ have been followed by one more marker, i.e. the syllable *ti*²⁵ (presumably representing the last syllable of the Tamil word *tikati* or *tiyati*, ‘day’).²⁶ In 42 cases

21 E.g. *dhādvatsare mādhavākhye śukle tv ekādaśe dine* (RE08258a, *anuṣṭubh*), ‘In the year Dhāḍ [sic!], in the month of Mādhava, in the bright [fortnight], on the 11th day’.

22 *nantaṇasaṃvasaram | āśvījam | baḥaṭratrayodaśīyin aṇṇu | budhankīlamai nāḷ* (RE10924a), ‘The day of the year Nantaṇam, [month of] Āśvījam, on the thirteenth day of the dark fortnight, Wednesday’.

23 *durmmukhināmāsaṃvatsaramāghaśuddhadaśamyām* (VM10.22β), ‘On the tenth [lunar day] in the bright fortnight of the [month of] Māgha of the year called Durmmukhi’; *hevilam-bisaṃvatsarapuṣyaśuddhapaurṇamyām* (VM10.8a), ‘At the full moon of the month of Puṣya of the year Hevilambi’.

24 See Ciotti and Franceschini 2016, 71.

25 In one case, between the numerals and the syllable *ti* the scribe erroneously wrote a symbol for ‘month’ in place of a symbol for ‘day’.

26 If so, this practice would be parallel to that of writing the last letter(s) of the words replaced by the symbols for Kollam year, Jovian year and month (see above). The writing of the last letter or syllable of the word represented by a symbol is possibly connected to the practice of actually reading the symbolised word. The symbol replaces the word it represents, thus suspending the linear process of writing: the written last syllable or letter of the replaced word is a splice – so to say – which joins that suspension with the resumed linear process of writing.

the numerals expressing the day have been followed by a marker other than a symbol: a Tamil word for ‘day’ (*teti/tēti*, *ted(h)i*, *tikati*, *tiy(y)ati*: 15 times)²⁷ or an abbreviation for one of such Tamil words for ‘day’ – the Tamil consonant *t* with a curl on its right top (attested 27 times) or the syllable *ti* (for *tikati* or *tiyati*, see above in this section) attested only once, with the Tamil locative suffix appended to it (*tiyil*). Finally, in 19 cases the day represented in numerals has been left unmarked.

The number of the day has been recorded in words 39 times (8%); it is usually marked by a word for ‘day’ or an abbreviation thereof (32 times), but in four dates it has been marked by a symbol instead, and in three dates contains no marker. Most usually, the number has the form of an ordinal: this is always the case with the numbers expressed in Tamil (14), marked by a following Tamil word for ‘day’ (*teti*, *tēti*, *tedi*, *tikati*; eight times), by a symbol for ‘day’ (four times)²⁸ or unmarked (two times). The numbers expressed in Sanskrit are ordinals in 12 cases, cardinals in eight dates; in five cases, they either represent a cardinal or ordinal number (*ekādaśa*, *trayodaśa*, *saptadaśa*). The Sanskrit numbers have been marked by a Sanskrit word for ‘day’ following (*dina*, *divasa*, *vasara*, *ahan*; 23 times in all)²⁹ or left unmarked (one time).

The day has been mentioned in seven versified dates: the number of the day is expressed in Sanskrit in all of them, and the marker a Sanskrit word for ‘day’. Note that some unusual marker-words, such as *vasara*, *ahan*, *sudina*, occur only in these metrical dates.

3.7 Day of the week

The day of the week has been recorded 204 times in our database. The names of the days of the week are built from the name of a ‘planet’ (derived from that of a

²⁷ In six dates, the number of the day is followed by *ā/ām/m*, possibly Tamil ordinal tag (Ciotti and Franceschini 2016, 71), and marked with *tikati*, *tiy(y)ati*. The form *tiyyati* is the Malayalam counterpart of Tamil *tiyati*: it is attested only twice in one single colophon, both times preceded by ordinal tag *ām*, which also occurs only here.

²⁸ The four Tamil ordinals followed by a symbol for ‘day’ are all represented in unusual forms: in three occurrences, all from the same manuscript (UVSL67), they are abbreviated to the first syllable (*mu* for *mutal*, ‘first’); in the remaining case, *mutal* is represented by a specific symbol (BN-INDIEN 65).

²⁹ Among the four attested markers, *dina* is by far the most frequently attested: it occurs in 18 cases out of 23, once (in a metrical and highly corrupted date) in the form *sudina* placed before the ordinal number indicating the day (RE15543a).

deity) followed by a word for ‘day’; both the names of the planets and the words for ‘day’ can be expressed in Sanskrit and Tamil.³⁰ In most cases, the word for ‘day’ following the name of the planet, although being part of the name of day of the week itself, acts as the marker: in two cases, both in metrical dates, the word for ‘day’ actually precedes the name of the planet. In 15 occurrences, an additional marker, in the form of one more word for ‘day’ (*dina/tina, nāl*), has been added after the name of the day of the week.³¹ In one case the marker has gone lost; in just four occurrences (2%) the name of the planet is given without any marking element.³²

A few linguistic remarks are relevant here. The names of the planets are recorded in Tamil (68 times), in Sanskrit (71 times) or in hybrid forms (65 times) which stand in between those of the first two sets;³³ the three groups are split almost evenly. Similarly, the words for ‘day’ coupled with the names of the planets can be Tamil (*kiḷamai, vāram, teti*) or Sanskrit words (*vāra, vāsara, dina, divasa*). As a rule, the name of the planet and the word for ‘day’ attached to it are in the same language, but with some distinctions and exceptions. The Tamil and hybrid names for the planets are all combined with Tamil words for ‘day of the week’, namely *kiḷamai* and *vāram*,³⁴ but with a contrasting distribution: *kiḷamai* is largely combined with the Tamil names of the planets (59 times out of 73, 81%), and only in a minority of cases with the hybrid names of the planets (13 times out of 73,

30 E.g. San. *soma-vāra*, Tam. *tiṅkaḷ-kiḷamai*, ‘Mon-day, Mon-tag, lune-dì’; San. *guru-vāra*, Tam. *viyāḷa-kkiḷamai*, ‘Thurs-day, Donners-tag, giove-dì’.

31 E.g. *somavāradinaṃ* (RE19996β), ‘the day Sunday’; *stiravāraṇāḷ* (RE50420), ‘the day Saturday’; *nāyittikiṣamai dinaṃ* (RE10906α), ‘the day Sunday’.

32 By chance, all the four are names for the planet Mercury (*budha, buddhi, putan*).

33 Besides the ‘purely’ Sanskrit and ‘purely’ Tamil names of the planets – such as *soma/tiṅkaḷ* (Moon), *maṅgala/cevvāy* (Mars), *guru/viyāḷam* (Jupiter), *śukra/veḷḷi* (Venus), *ravi/ñāyiru* (Sun) – a group of hybrid forms is attested in the dates. These hybrid forms are actually adaptations of Sanskrit words to the Tamil writing conventions and/or to the Tamil phonetic system (e.g. *coma* for *soma*, ‘Moon’; *maṅkala* for *maṅgala*, ‘Mars’; *kuru* for *guru* ‘Jupiter’; *manta* for *manda*, ‘Saturn’; *cavumiya* for *saumya*, ‘Mercury’; *cukkira/cukkura* for *śukra*, ‘Venus’; *pāṇu* for *bhānu*, ‘Sun’). All of these forms are accepted in TL. A few more hybrid forms are attested in the dates, that are partial (‘halfway’) adaptations to the Tamil language (*pudhan* and *buda* for *budha*, ‘Mercury’; *stira* for *sthira*) and cases of hypercorrection (*sdhira* for *sthira*, ‘Saturn’). However, in the present article they are treated as a separate category (‘hybrid names of the planets’, ‘Hyb’ in the table): the reason for this is that the dissimilar frequency of occurrence of the words for ‘day’ coupled with the ‘purely Tamil’ and the ‘hybrid’ forms of the names of the planets strongly suggests that the scribes perceived – consciously or not – these two sets of names as linguistically unlike (see below).

34 In one date, the Tamil word *teti*, ‘day of the month’, is coupled with a Tamil name for a planet (RE19028β).

18%);³⁵ on the contrary, the word *vāram* has been coupled with the Tamil names of the planets only in 12% of the cases (seven out of 59), whereas it is used 88% of the times (52 out of 59) in combination with the hybrid names of the planets.³⁶ The Sanskrit names of the planets, have mostly been coupled with Sanskrit words for ‘day’ (*vāra*, *vāsara*, *dina*, *divasa*),³⁷ but have also been followed by the Tamil word *kiḷamai*, albeit in just one case.

The day of the week has been recorded in 16 metrical dates, entirely composed in Sanskrit. These dates features unusual marker-words (such as *divasa* and *vāraka*) and names for the planets not to be found elsewhere as well as unusual syntactic constructions and more elaborate expression, e.g. *vārake ca jīvākhyake saṃjñe* (VM10.18aβ), ‘on the day called Jīva [= Thursday]’.³⁸

3.8 Pakṣa

The lunar fortnight (San. *pakṣa*, Tam. *paṭca*, ‘wing; half’) has been recorded in 78 dates. In all the dates but one (for which see at the end of this section), the value of this submodule is an adjective meaning ‘bright’, ‘white’, ‘former’ (referring to the waxing moon) or ‘dark’, ‘black’, ‘latter’ (regarding the waning moon);³⁹ the marker of the submodule, when specified, is a noun for ‘fortnight’ – always *pakṣa/paṭca/pakka*, except for a single *chada*. The adjectives attested in our corpus indicating the waxing fortnight are *śukla/cukkila* (‘bright’), *śveta* and *valakṣa* (‘white’), *śuddha* (‘clear, bright’), *pūrva* (‘former’); those indicating the waning fortnight are *kṛṣṇa/kuṣṇa* (‘black’), *bahala* (‘thick, dense; intense, deep (of a colour)’), *tāmisra* (‘dark’), *apara* and *amara* (‘latter’),⁴⁰ *valakṣetara* (‘the other than the white’, i.e. ‘the dark/black’), *amāva[ci]*, ‘new moon’.⁴¹

35 Cf. Tam. *putaṅkiḷamai* (RE10835y) and Hyb. *pudhanṇiḷamaiyum* (EO0044a), both for ‘Wednesday’.

36 Cf. Tam. *ātivāramum* (BN-INDIEN 319) and Hyb. *pāṇuvāram* (RE20066), ‘Sunday’.

37 Among these four markers, *vāra* (occurring 40 times out of 65) and *vāsara* (18 occurrences) are by far the most commonly used.

38 Jīva is an epithet of Bṛhaspati, who is the regent of Jupiter, which, in turn, is the planet which identify Thursday.

39 In Southern India the lunar months are *amānta*, i.e. they end on the new moon tithi: thus, the waxing fortnight comes first and is sometimes called ‘former’ (*pūrva*), the waxing fortnight follows and is sometimes called ‘latter’ (*apara*, see below).

40 For *apara*, ‘latter’, see the preceding note. According to TL, Tam. *amara* derives from San. *apara* (see under the entry *amarapakkam*).

41 The compound *amāvapakkac*, attested once and referring to the dark fortnight, should be emended into *amāva[ci]pakkac*, ‘the fortnight of the new moon tithi (*amāvaci*)’. Still, it is rather

In 60 cases (out of 66, 91%) the specifying adjective and the noun for ‘fortnight’ have been joined in a compound⁴² (*kṛṣṇapakṣattil*, ‘in the black (i.e. waning) fortnight’, EO0134aβ; *pūrvapaṭcattil*, ‘in the former (i.e. waxing) fortnight’, BN-INDIEN 340), sometimes including the *tithi* as the third member (e.g. *pūrvapakṣacaturddaśyām*, ‘in the 14th [tithi] of the former (i.e. waxing) fortnight’, RE05920; *kuṣṇapaṭcatiriyoteciyuṇi*, ‘in the 13th [tithi] of the black (i.e. waning) fortnight’, EO0034y). On the other hand, in six cases the adjective and the noun are grammatically distinct units, each bearing its own ending (always the locative): in these cases (all occurring in versified dates in Sanskrit), the syntactic order of the two words is, of course, freer than usual (e.g. *pakṣe śvete ca*, ‘and in the white (i.e. waxing) fortnight’ VM10.18aβ; *pakṣe śukle*, ‘in the white (i.e. waxing) fortnight’, RE04127; *pakṣe vaḷakṣetare*, ‘in the other-than-the-white (i.e. waning) fortnight’, EO0009b).

In eight dates, the word for ‘fortnight’ (i.e. the marker) has been dispensed with, e.g.: *śukle* (RE08258α), ‘in the white [fortnight]’; °*śuddha*° (VM10.22β), ‘the bright [fortnight]’;⁴³ *bahalatrayodaśiṇi* (RE10924α), ‘in the 13th tithi in the dense (i.e. dark) fortnight’; *śukladvitiyai* (RE05574), ‘the second [tithi] in the bright [fortnight]’.

In one date the fortnight is recorded with its proper name, i.e. *mākālayapakṣa* (San. *mahālayapakṣa*). The Mahālayapakṣa is the latter (waning) fortnight of the lunar month of Bhādrapada (or Bhādra): it is best known as Piṭṭapakṣa and, as its name indicates, is particularly devoted to the celebration of rites in honour of the ancestors. The manuscript in point (MS-OR-2369a) was completed on *mākālayapakṣa amāvāsai*, ‘The new moon tithi of the Mākālayapakṣa’, i.e. on the last tithi of the Mahālayapakṣa.

Lastly, in three dates all that has been recorded is a word for fortnight (*pakṣa*, twice, *pakkam*, once), without any complement of specification to tell us into

puzzling, since no similar compound is found in our database referring to the dark or the bright fortnight (**pūrṇamāipakkac*, ‘the fortnight of the new moon’); possibly, it is an elliptical expression equivalent to (a hypothetical) San. compound *amāntapakṣa* or *amāvāsyāntapakṣa*, ‘the fortnight which ends on the new moon tithi’, along the lines of *amānta*, ‘[the lunar month] that ends on the new moon tithi’.

⁴² Given the rudimentary grammar that often characterises our colophons, in some cases it is admittedly difficult to determine if the adjective and the noun are actually compounded or simply juxtaposed, especially when none of the two is marked by an ending, e.g. *cukkila paṭca* (or *cukkila paṭca*?).

⁴³ This date is expressed as a single compound *durmmukhināmasamvatsaramāghaśuddha-daśamyām*, ‘On the tenth [tithi] in the bright fortnight of the [month of] Māgha of the year called Durmmukhi’.

which of the two *pakṣas* the date falls. These last three may simply be scribe's oversights, in which adding the specifying adjective to the word *pakṣa*⁴⁴ has been forgotten.

3.9 Tithi

A tithi, sometimes called the 'lunar day',⁴⁵ corresponds to one thirty of the lunation: thus there are fifteen tithis in both fortnights, the waxing and the waning. In our corpus, the tithi has been recorded 143 times. As a rule, tithis are named after their ordinal number, always recorded in words with only one *possible* exception;⁴⁶ however, some tithis have special names. The first tithi of both lunations can be called *pratipad* (also *pratipadā*, *pratipadī*), 'beginning': in our corpus, this name occurs only once⁴⁷ in a metrical date, whereas in nine dates the first tithi is indicated by the word 'first' (*prathamā*, *prathamai* etc.). Aside from which, in our corpus the full moon and the new moon tithis, which occur 18 times, have never been recorded by their ordinal number, but with words and compounds meaning 'full moon' and 'new moon'. The names for the full moon tithi attested in our corpus are *paurṇamāsī* and *paurṇamī* (also *paurṇamī*)⁴⁸ (San.), *paurṇamāvācai* (also °*māvāsai*) and *pavuraṇai*⁴⁹ (Tam.), plus the hybrid, creative (and sometimes incorrect) forms *pūrṇamāvāsyā*, *paurṇamāvāsyā*, *paurṇamāvāsyai*, *paurṇamāsāsyā* (for °*māvāsyā*?), *pūrṇai*; the new moon tithi is called *amāvāsī* (San.), *amavāci* and *am(m)āvācai* (Tam.). Aside from the first and last tithis of the two *pakṣas*, other tithis have special names. In our corpus only

⁴⁴ One can also surmise that the scribes intentionally wrote only the word *pakṣa*, accounting one of the two *pakṣas* as the '*pakṣa* par excellence', which, as such, does not need any further specification. Unfortunately, the data presently at our disposal is far too scant to verify such hypothesis. In one date, the cross-reference with the other calendrical elements let us know for certain that the fortnight denoted by the word *pakkam* is the bright one; however, it is not possible to convert the remaining two dates into the Gregorian calendar and, consequently, it cannot be determined which of the two fortnights is referred to by the word *pakṣa* recorded in them.

⁴⁵ In this article the expression 'lunar day' is never used and the word 'day' is used only to refer to the day of the solar month.

⁴⁶ See the next section, 'On days and tithis', point B, note 54.

⁴⁷ The colophon reads *śuklapratipadau tithau* (VM10.5), where °*pratipadau* is apparently the locative of a stem °*pratipadi*-.

⁴⁸ The form *paurṇamī* (from San. *paurṇamī*) is attested in two versified dates entirely composed in Sanskrit (EO0078y, VM10.4) and one time in a date composed in a hybrid Tamil-Sanskrit language, with the former prevailing over the latter (EO0078y, second date).

⁴⁹ In the colophon, erroneously, *pavuralai* (RE10900β).

one has been attested, i.e. the tithi called in Sanskrit *vijayādaśamī* ('the 10th [tithi, named] Victory'), recorded four times with its Tamil name *vicayatacamī* (also *-tecami*, *-ticaimi*): it is the tenth tithi of the bright fortnight of the lunar month of Āśvina, and is considered especially propitious, as it follows and closes the Navarātra festival – which, in turn, follows the Piṭṭ- or Mahālaya-pakṣa (see above).

Regarding markers, tithis are the only calendrical elements left unmarked in the vast majority of the cases: 114 out of 143 (80%). In all remaining cases but one, tithis have been marked with the word *tithi* (also *titi*, *titi*), which usually follows the number or the name of the tithi. In one occurrence, the tithi has been marked with a word for 'day' (*dina*, in *ekādaśadine*, VM10.23), by contrast with the fact that words for 'day' are used to mark the day in all other occurrences.⁵⁰ As expected, the tithis bearing a special name (such as the new and full moon tithis) are generally left unmarked, no doubt because their very names imply that they are tithis, thus adding a marker could be deemed dispensable; nonetheless, in four cases the name of a tithi has been followed by the marker *tithi*.⁵¹

As usual, in metrical dates the submodule can contain expletives (such as *pañcamīpuṇyātithyāṃ*, 'in the meritorious fifth tithi', EO0143) or more elaborate expressions (e.g. *paurṇamisaṃjñike tithivare*, 'in the excellent tithi called *paurṇami* (i.e. full moon)', EO0078y).

At the inter-submodule level, tithis are strictly related to pakṣas. As mentioned above, most of the tithis have been named after their ordinal number in both fortnights: it is only through the specification of the pakṣa that two tithis bearing the same ordinal number can be distinguished. Thus, one would expect tithis to be regularly paired with the indication of the pakṣa; however, in 51 dates the ordinal number (or the name *pratipad*) identifying the tithi has not been

⁵⁰ On this point, see the paragraph 'Exceptions', at the end of the next section ('On days and tithis'). In two more dates, the tithi (represented in one case by the ordinal number *capṭamī* and in the other case by the name *pūrṇamāvāśya*, 'full moon') is followed by a word meaning 'day', namely by the Tamil word *tiṇa* in the locative case: *cukkilaṭṭapākṣacapṭamītiṇattil* (RE09826) and *pūrṇamāvāśyattiṇattil* (RE33916β). However, the form *tiṇattil* (as well as its hybrid counterpart *dinattil* and their various spellings), used alone or, more frequently, preceded by or compounded with other words (*cu-*, *śubha-/cupa-*, *kūṭiṇa/kūṭiya*, *perra/petta*, *ippaḍi paṭṭa*, *cērnta* and several others) is not a marker of the preceding calendrical element: it occurs exclusively at the end of a date functioning as an end-of-date flag (see below), and this holds true also in the two aforementioned cases.

⁵¹ In addition to *śuklapratipadau tithau* (VM10.5), already mentioned a few notes above, see e.g. *cittirāpaurṇamī tithi* (EO0078β) and *cittirāpaurṇami tithi* (EO0078y), 'the tithi of the full moon of [the lunar month of] Cittirā'.

accompanied by the indication of the pakṣa. Conversely, and somewhat unexpectedly, in six (non-metrical) dates the name denoting the full moon and new moon tithi is pleonastically preceded by the word indicating the pakṣa: *śuklapaurṇamāsyām* (RE04137), *śuklapakṣe paurṇamāvēsyām* (RE15438), *puṣṭvapaṭcattup pūrṇaiyum* (TAM303), *°śuddhapaurṇamyām* (VM10.8a), *kṛṣṇapakṣam amāvāsai* (RE15447y), *mākālayapakṣa amāvāsai* (MS-OR-2369a).

As usual, the submodules recorded in versified dates contain unusual and ornate expressions, such as *paurṇamisaṃjñike tithivare* (EO0078y), ‘the best of the tithis, branded full moon’.

On days and tithis

Both the solar day and the tithi are expressed in numbers, thus it is sometimes unclear whether a number in a date represents the former or the latter. This section attempts to address this matter. Firstly three ‘objective criteria’ have been applied to enable to determine incontrovertibly (‘positively’) whether the numbers contained in a considerable amount of dates represent the day or the tithi; subsequently, using these cases as a statistical basis, consistencies concerning how the solar day and the tithi have been recorded in the dates in our database are sought out – in terms of their relative position, the form in which their respective numbers have been represented and the symbols and words used to mark them. Finally, these consistencies are put in the form of nine ‘rules’ and a quantitative account of the scope of their validity in the frame of our database is provided.

To begin with, numbers in the dates may often be unambiguously (‘positively’) identified as representing a day or a tithi on the basis of the following three objective criteria:

- 1) a number greater than 14 represents the solar day, 14 being the highest number used to record a tithi in our database (the 15th tithi is invariably recorded with a name for ‘full moon tithi’ or ‘new moon tithi’);
- 2) a number represents the day (or, conversely, the tithi) if all the calendrical elements in the date, combined together, correspond to a date in the Gregorian calendar (between 1550 and 1920 CE) only interpreting the number under investigation as representing the day (or, conversely, the tithi), whereas no corresponding date can be arrived at taking that number as representing the other value;
- 3) the calendrical value (day or tithi) represented by a number can be determined with certainty due to the fact that the very date has been repeated

twice (sometimes thrice!) in the same colophon or manuscript, with variations in the calendrical elements mentioned or in the way they have been recorded.

Through the application of criteria 1–3, a good number of numbers representing a solar day or a tithi can be identified;⁵² based on these cases, the following nine statistical ‘rules’ can be deduced. These rules may be proven to be valid in a very large number of cases, but not in all; however, only three have been found ‘positively contradicted’, and this occurs in only two dates (see ‘Exceptions to rules A to I’, below).

- A) The submodule of the solar day precedes that of the tithi. Based on criteria 1–3, this has been proved in 109 out of the 113 dates in our database in which both the solar day and the tithi have been recorded; the remaining four cases are indeterminable according to criteria 1–3, but all can be proven on the basis of rule B, below (two of them on account of rule H also). Thus, no confusion between the solar day and the tithi is possible in the dates in which both of them have been recorded.
- B) A number given in numerals expresses the solar day. In our database, there are dozens of positive attestations of numbers given in numerals referring to the solar day,⁵³ and no one single positive attestation where it stands for the tithi.⁵⁴ Hence, confusion between the solar day and the tithi may arise only in dates where only one number has been recorded (according to rule A) and that number has been expressed in words (according to B).
- C) The symbols for ‘day’ always mark numbers representing the day of the solar month. The symbols for ‘day’ occur almost always after numbers given in numerals (359 times out of 365), which are themselves exclusively used to record the solar day (as stated in rule B, above); however, according to criteria 1–3 (and also rule F, below), the symbols for ‘solar day’ have undoubtedly

⁵² The cases in which this is not possible will be called ‘indeterminable’.

⁵³ In our corpus, out of 422 occurrences of a number given in numerals representing the day or the tithi, 282 can be positively proved to indicate the day on the basis of just criterion 1.

⁵⁴ To be sure, in our database there is one *possible* attestation of the tithi recorded in numerals (RE10829ß). However, we cannot call it a ‘positive’ evidence, since in that date, which is written on a guard leaf and is hardly legible, the tithi *seems* to be recorded with the Tamil digit ‘8’ (or perhaps ‘18’, which would bar it from representing the tithi). Moreover, the calendrical elements in the date (Jovian year, solar month, day of the month, day of the week, tithi (?), constellation) do not correspond to any date in the Gregorian calendar (in the range 1550–1920 CE), thus one of them must be wrong – with the suspicions mainly falling on the tithi.

been used to mark the solar day also in the four occurrences where they follow a number given in words (always a Tamil ordinal, see rule F below).

- D) Words for ‘day’ (or abbreviations thereof, such as *t^o* for *tikati* or *teti*) have been used to mark the solar day. According to rule B, this is true of all the 47 times in which these words have been used in combination with numbers expressed in numerals;⁵⁵ this also holds for those cases in which a word for ‘day’ has been used to mark numbers expressed in words, albeit with one exception. In our database, there are 33 such cases:⁵⁶ the number can be proved to represent the day in 29 cases (19 on the basis of criteria 1–3, 10 on the basis of rule E, below), three cases are indeterminable; in one case the number inconsistently stands for the tithi. This last one also breaks rule H, see the paragraph ‘Exceptions’, below.
- E) In a date made up of just the year, month and a number, the number represents the day, not the tithi. As shown above (see ‘Frequency and order of the calendrical elements’), this is the most common structure of the dates, occurring 211 times in total. In such dates, it is safe to say that the number following the year and the month represents the day in 119 cases on the basis of criterion 1 (the number is greater than 14) and in 78 more cases on the basis of the statistical rules B and C. Conversely, there is not one such date where the number represents the tithi on the basis of statistical rules G, H and I (see below).
- F) Numbers expressed in the Tamil language represent the solar day. There are 14 such numbers in our corpus, all in the form of ordinal numbers:⁵⁷ seven may be identified as days on the basis of criteria 1–3, six are days according to rule E; one can be interpreted either as the day or the tithi.
- G) The numbers (all expressed in words) marked with the word *tithi* (also *titi* and *tīti*) represent the tithi: at any rate this can be proven in 23 cases of 24 on the basis of criteria 1–3. In addition to these 24, the marker *tithi* has been used in four more dates to mark the name of a tithi (*paurṇamī/paurṇami*, *pratipadi*).
- H) A number given in the form of a Sanskrit (or hybridised Sanskrit) ordinal number in the feminine gender (with or without a marker) represents a tithi. In our dates, of 114 Sanskrit (or hybridised Sanskrit) ordinal numbers in the feminine gender, 108 represent the tithi and six are indeterminable (on the basis of criteria 1–3); moreover, there is not a single positive attestation of a

55 In 39 out of these 49 cases, this is confirmed by the objective rules 1–3.

56 All of these numbers are in the masculine or neuter gender (see point H).

57 In some dates, *mutal* (‘first’) is abbreviated with the syllable *mu* (three times in the same manuscript: UVSL67α, UVSL67γ, UVSL67θ) or represented by a symbol (BN-INDIEN 65).

day recorded in such a form⁵⁸. In addition, in our database there is not a single positive attestation of a tithi represented by a cardinal number: all the 112 numbers expressed in words which proved to represent a tithi through criteria 1–3 are Sanskrit (or hybridised Sanskrit) ordinal numbers. Among these, 108 (96%) are feminine ordinal numbers; for the remaining four cases, see below, at the end of this paragraph.

As for the feminine ordinal numbers representing the tithis, they are sometimes recorded in ‘proper’ Sanskrit, either in their stem form or declined in the nominative (e.g. *śrīśuklaprathamātithau*, *pañcamīpunyatithyām*, *ṣaṣṭhī*, *daśamī*, *caturddaśītithau*)⁵⁹ or, more often, in the locative (e.g. *dvitīyā[yā]ṃ*, *caturthyām tithau*, *pañcamyām*, *daśamyām*, *caturddaśyām*).⁶⁰ However, in most cases these ordinal numbers have been adapted to Tamil phonetics/phonology, with the final Sanskrit *-ī* shortened to *-i* (e.g. *caturtthi/caturtti*, *pañcchami/pañcami*, *ṣaṣṭi/saṣṭi/caṣṭi*, *daśami/tacami/tecami/ticami*, *tīriyoteci/tiriyoteci/tīraiyyoteci*)⁶¹ and the final Sanskrit *-ā* changed into *-ai* (e.g. *prathamai tithi*, *dvitīyai/tvatiyai*, *trītyai/tritikai/tīrtikai/tutikai*).⁶² One may note that in Sanskrit compounds such as *śrīśuklaprathamātithau*, *pañcamīpunyatithyām*, *caturddaśītithau*, the ordinal numbers inflected in the feminine are nouns⁶³ and, joining with the word *tithi*, form *karmadhārayas* of the type: ‘on the auspicious tithi which is the first in the bright [fortnight]’, ‘on the auspicious tithi which is the fifth’, ‘on that tithi which is the fourteenth’.⁶⁴ As mentioned above, of 112 ordinal numbers representing

⁵⁸ In our database, the numbers expressed in words which represent the day are recorded in the form of Sanskrit cardinals, Sanskrit ordinals, or Tamil ordinals. These Sanskrit cardinals and ordinals are all in the masculine or neuter genders and they are always accompanied by a word for day as their marker, e.g. *dvitīyadina/dvitiyadine* (RE10871/VM1.59a), *ṣaṣṭīdinam* (RE19980β), *saptamavāsare* (EO0014), *daśame [']hani* (EO0009b), *ekādaśadivase* (EO0002a), *saptaviṃśati divase* (VM1.21).

⁵⁹ Respectively in EO0021, EO0143, MORI-3633, RE15535, EO0036a.

⁶⁰ Respectively in EO0067β, RE26402, VM10.18aβ, VM10.22β, EO0069a.

⁶¹ Respectively in EO0076β/EFO_GUEST_MSS_001β, RE10717β/EO0069y, RE20103a/RE43643δ/UVSL1, VM4.1a/UVSL67η/TORIML2676/BN-INDIEN 973, BN-INDIEN 199/BN-INDIEN 322/BN-INDIEN 333.

⁶² Respectively in EO0014, EO0408/RE25374, EO0039/EO0583a/NLK3241/BN-INDIEN 318.

⁶³ See also *pakṣe śukle saptamīsaṃyute* (RE04127), ‘in the bright fortnight joined with the seventh [tithi]’.

⁶⁴ In all likely, the feminine gender of these ordinal numbers is the result of their grammatical agreement with the name *tithi*. According to dictionaries, San. *tithi* can be both masculine or feminine, but in our dates we can assume that it is always used in the feminine: this can be evinced by the gender of the ordinal numbers that qualify them (e.g. *pañcamyām tithau*, EO0143;

the tithi, four are not in the feminine gender. Three of them (*tritīyatithi*, found twice in the same colophon in RE33814β, and *tṛtīyatithi* in RE50361) are to be interpreted as karmadhāraya whose first member (the ordinal number) is an adjective. The remaining case, *ekādaśadine* (VM10.23), is an exception to the present rule (as the number is not in the feminine) and also to rule D (because the marker is a word for ‘day’): it will be dealt with separately under ‘Exceptions’, below.

- I) Numbers expressed in words in Sanskrit (or hybridised Sanskrit) and left unmarked represent the tithi. On the basis of criteria 1–3, out of 96 such numbers 87 can be positively proved to represent the tithi, nine cases are indeterminable. Rule I is almost of a corollary to rule H, as 95 unmarked numbers of 96 have been recorded in the form of feminine ordinals: however, only one remaining number, recorded in the form of a masculine or neuter ordinal number, probably stands for the day (see below).

Exceptions to rules A to I. As shown above, the validity of rules A to I can be demonstrated in most cases, but not in all. At the same time, they have been corroborated by the fact that only three of these nine rules are ‘positively infringed’ and, all the more, by the fact that it occurs in only two dates.

The one exception to rule I is represented by the date 925 <KY> *śuklavarṣam pañca ānimāsi sudine* (VM1.59β), ‘on the auspicious day of the Kollam year 925, [Jovian] year Śukla, 5th [day?], month of Āni.’ In this date the number *pañca* probably represents the day, in line with rules E (the date is made up of just the year(s), the month and a number) and H (in our corpus positive tithis are never represented by a cardinal number); however, is contra to rule I, according to which a number expressed in Sanskrit words and left unmarked must represent the tithi. It should be noted that this date is syntactically bizarre, for the number of the day precedes the name of the month, which is odd as *sudine* has been attested to nowhere else in our corpus, neither as a marker nor an ‘end-of-date marker’ (see below).

Also rules H and D have been contravened only once and this occurs in the same date: *śubhakṛtssamvatsare mārگاśīrṣamāse kṛṣṇapakṣe ekādaśadine maṃgalavāsare svātīnakṣatre* (VM10.23). The submodule *ekādaśadine* is expected to represent the solar day according to both H (as the Sanskrit number, whether cardinal or ordinal, is not in the feminine) and D (as words for ‘day’, such

prathamai tithi, EO0014; *dvādaśi tithi* EO0009b), by the sporadic occurrence of the San. locative singular *tithyām* (*pañcamīpūṇyatithyām*, EO0143) and, perhaps, also by that of the hybrid form *titi* (!) (*titi aṣṭami*, BN-INDIEN 351).

as *dina*, mark the day): however, if *ekādaśadine* is interpreted as representing the day, the calendrical elements in the date combined together do not correspond to any date in the Gregorian calendar between 1550 and 1920 CE. Conversely, if *ekādaśadine* is taken to express the tithi, all the calendrical elements in the date concur on 27 December 1842.

3.10 Nakṣatras

In our database, the nakṣatra, ‘constellation’, has been recorded 152 times. In this submodule, the values are always represented by the names of the constellations, which have been recorded in a somewhat wide spectrum of spellings, included between the Sanskrit and the Tamil forms of the names.⁶⁵ The markers are all synonymous words meaning ‘constellation’: *nakṣatra* is by far the most commonly found (113 occurrences, three-fourths of the total), but also *tāra*, *tāraka*, *ṛkṣa* and *bha* have been attested. A straight and forward line separates the former marker from the others: the attestations of *nakṣatra* in versified dates are extremely rare (two out of 113), whereas the other markers occur only in versified dates; moreover, the marker *nakṣatra* always follows the name of the nakṣatra, whereas the other markers sometimes precede the value they flag and are often accompanied by expletives of some sort, inserted for metrical reasons. The name of the constellation has been left unmarked in 28 occurrences (25%).

One interesting case is represented by a submodule in which both the nakṣatras occurring during that day have been recorded: *puraṭṭātiy ākay* [sic] *uttiraṭṭātiyum ākat* (RE47681), ‘when there is [the constellation] Puraṭṭāti and there is [the constellation] Uttiraṭṭāti’. On nearly all days two successive nakṣatras occur, but only one (as a rule the one which is current at sunrise) has been recorded in the date: it is not clear why in this single case the scribe decided to write both the nakṣatras of the day.⁶⁶

⁶⁵ E.g. *ārdrā*, *ārudrā*, *ārudira*, *tinuvātirai*, name of the 6th nakṣatra (respectively attested in EO0583b, RE20103α, RE15447γ, RE25374).

⁶⁶ One can surmise that the scribe finished to copy the manuscript around the time in which one nakṣatra ended and the next one begun. In addition, note that the two nakṣatras bear the same name (Tam. *puraṭṭāti* and *uttiraṭṭāti*, San. *pūrvabhādrapada* and *uttarabhādrapada*) and, as such, they might be felt to form a pair.

3.11 Minor calendrical elements

Some minor calendrical elements have sometimes been recorded in the dates, usually placed after the major ones described thus far. The start, duration and end of these minor elements are not based on the (real or apparent) motion of heavenly bodies, but determined through purely mathematical computation: they are of no help for converting a date into the Gregorian calendar, but are of great importance for calculating auspicious and inauspicious points in time. At present, a proper statistical study on these elements is not possible, due to their low frequency in our dates: for the time being, the following remarks on them must suffice.

These elements are the yoga (which occurs in 11 dates), the karaṇa (recorded in seven dates), the lagna or lakṣaṇa (found in 20 dates), the velā (six occurrences), the muhūrta (two occurrences). As a rule, their submodules are made up of the specific name of the element (the ‘value’) followed by the name of its ‘class’ as the marker, e.g. *cittiṇāmayōkamum keṛacaivākaraṇamum tulālekkanaṇamum rācataveḷaiyum nantaṇimukurtamuṇ* (UVSL1044), ‘the yoga called Citti, the karaṇa Keṛacaivā, the lakṣaṇa Tulā, silver time (? *rācata*-[ve][lai]), the muhūrta Nantaṇi’. The marker has been omitted only two times, in the same date (*mākēntiram [yoga] [...] vaṇicam [karaṇa]*, UVSL67η); in just one (metrical) date, the marker has been mentioned before the value, no doubt for prosodical reasons (*lagne kaṭaka iti*, VM10.18aβ). In the submodule of the yoga, the adverb *nāma* has often been inserted between the value and the marker, as in the above mentioned case (also in *atikeṇṭaṇāmayogamum*, RE05574; *cupam nāmayokamun*, RE15398). Yogas and karaṇas are two of the five elements on which *pañcāṅgas* are based, together with the tithi, the day of the week and the nakṣatra (see above, ‘Frequency and order of the calendrical elements’): one might note that in the seven dates in which the karaṇa has been recorded, the other four calendrical elements have been recorded also, save for one date in which the day of the week is missing.

Occasionally, other temporal indication has also been recorded, such as the season (e.g. *śaraḍṛtau*, ‘in the autumn season’, RE15438; *varṣarṭuvil*, ‘in the rainy season’, VM4.2a), the course of the sun (e.g. *uttarāyaṇe*, ‘in the northern course of the sun’, EO0002a; *dakṣiṇāyaṇe*, ‘in the southern course of the sun’, VM1.32), the part of the day (e.g. *tivi*, ‘during the day’, UVSL1; *irāttiri*, ‘at night’, UVSL67γ; *utaiyattil*, ‘at sunrise’, EO0004; *ṇāḷk kālame* ‘early in the morning’, BN-INDIEN 309; *sāyaṃkālame*, ‘in the evening’, RE50361), the name of the festivity of the day (*mahāśivaratri*, RE558530).

3.12 Nālikais

In our corpus, 19 dates include numbers representing the *nālikais* (Tam. also *nāli*, San. *ghaṭikā*): a *nālikai*, sometimes called the ‘Indian hour’, corresponds actually to one-sixtieth of a mean solar day, i.e. 24 minutes. In our dates, the *nālikais* have been recorded as integers, mostly represented in numerals, occasionally in words; in six dates the integer is followed by rational numbers (i.e. fractions, represented by special symbols in the Tamil script), whereas in two dates the first integer has been followed by one more integer. In all likelihood, both the fractions and the second integers represent the *vināṭis* (San. *pala*), the ‘Indian minutes’, which correspond to one-sixtieth of a *nālikai*, i.e. 24 seconds. Most of the times *nālikais* and *vināṭis* have been marked by the word *nālikai/nāli* (or a symbol for it), which usually precedes the numerical value, but in a few dates follows it; in two dates the word *maṇi*, ‘hour’ (probably denoting the ‘western hour’, corresponding to 1/24 of the mean solar day)⁶⁷ have been used as the marker instead; in five dates the numbers are left unmarked.

It is not fully clear to what time the *nālikais* refer: their meaning and role in the dates require further investigation, hopefully relying on a larger number of attestations. At present, it is to be supposed that in the dates in which *nālikais* have been recorded next to two or more calendrical elements such as tithi, nakṣatra, yoga, karaṇa, the values of the *nālikais* represent the time of expiration of the calendrical elements which precede them: in point of fact, these dates seem to reproduce part of the content of the *pañcāṅgas*, in which tithi, nakṣatra, yoga and karaṇa have been followed by their time of expiration on each day, expressed precisely in *nālikais* and *vināṭis*. This supposition has been corroborated by the fact that the deviation between the values of the *nālikais* recorded in these dates and the time of expiration of tithis and nakṣatras given in the tables in Pillai’s *Indian Ephemeris* is acceptable in most cases. However, this hypothesis does not hold for the dates in which the *nālikai* has been mentioned only once, as well as for those *nālikais* preceded by (and, thus, refer to) a calendrical element which has no time of expiration (e.g. *tivi*, *pakal*, *divā*, ‘day time’, *irāttiri*, ‘night’): in these cases, it is reasonable to surmise that instead of indicating the time of expiration of a calendrical element, the *nālikais* specify the precise time at which the

⁶⁷ According to TL, *maṇi* is a word of ‘modern usage’ (*Mod.*) meaning ‘Hour; 60 *nimiṣamuṇṇa nēram*’, i.e. ‘the time measured in 60 *nimiṣa*’. In turn, *nimiṣam* is defined as ‘minute, 1/60 hour; *miniṭṭu nēram*’, i.e. ‘time measured in minutes’: it seems reasonable, thus, to interpret the word *maṇi* as denoting the ‘western hour’, consisting of 60 ‘western’ minutes (*miniṭṭu* in TL, s.v.). The dates in which the word *maṇi* is used as the marker dates from 1838 (UVSL67γ) and 1875 (RE43394γ).

copying process came to an end. Although hard to prove, this hypothesis may be supported by a few dates in which this is precisely what the scribe appears to be telling us, e.g.: 1002 <KY> āṭi <M> 20 <D> divā patinañcuṇālikaiyil sampūrṇaṁ budavāram punarpūśam (EO0080aβ), ‘In the Kollam year 1002, month of Āṭi, 20 day, on the fifteenth ṇālikai in the daytime, it is completed. Wednesday, [constellation of] Punarpūśam’.

It is worth emphasising that all mentions of *nālikais* and *viṇāṭis* in our corpus occur in dates from the nineteenth century, with the obvious exception of those dates which cannot be converted into the Gregorian calendar. Hence, one is tempted to infer that the habit of recording *nālikais* and *viṇāṭis* in manuscript dates came into use in that century: this is clearly possible, but care must be taken in drawing this conclusion, for it may also be the statistical consequence of the clear prevalence of dates from the nineteenth century in our corpus, amounting to 77% of the total (see ‘Frequency and order of the calendrical elements’, above).

3.13 End-of-date formulas

Finally, the dates in our corpus have often been closed by a word or expression serving as an ‘end-of-date’ formula. Several of these formulaic expressions have been attested in our corpus, the most frequently occurring being: *śubhadinattil*, ‘in the auspicious day [...]’; *yinta śubhadinattil*, ‘in this auspicious day [...]’;⁶⁸ *śubhayogaśubhakaraṇattil*, ‘in the auspicious yoga and karaṇa [...]’; *perṛa śubhadinattil*, ‘in the auspicious day in which [...] join together’; *ākiya puṇṇiyatiṇattilē*, ‘on the auspicious day in which [...] occur’; *ippaḍi śubhadinattil*, ‘when on such an auspicious day [...]’; *kūṭiya cupadinattil*, ‘on the auspicious day when [...] come together’;⁶⁹ *kūṭiṇa śubhayogaśubhadinattil*, ‘in the auspicious day of the auspicious yoga in which [...] come together’.

However, there is not a corresponding ‘start-of-date’ formula at the beginning of the dates: as a rule, the dates in our corpus start with the submodule of

⁶⁸ E.g., 1021 <KY> viśvāvasuvarṣam āvaṇi māsaṁ 3 <D> nāttikkelaṁai paurṇamāvāsai avuṭṭa naksattiram yinta śubhadinattil triṁśatpraśnottaram eḷuti mukintatu (EO0003a), ‘In the Kollam year 1021, Jovian year Viśvāvasu, month of Āvaṇi, 3rd day, on Sunday, on the full moon [tithi], under the constellation of Avuṭṭa, on this auspicious day, the Triṁśatpraśnottaram was fully copied’.

⁶⁹ E.g., *kilaka* <Y> appiya <M> 19 <D> viyāḷakkīlaimaiyum uttirāṭam naṭcettiramum kūṭiya cupatiṇattil yeḷuti niṛaintatu murriṛu (UVSL892), ‘On the auspicious day when the Jovian year Kilaka, the month of Appiya, the 19th day, Thursday, the constellation of Uttirāṭam come together, it was fully copied and completed’.

one of the years. The formula *svasti śrī*, which occurs at the beginning of three dates, has been found exclusively in combination with the Śālivāhanaśaka year; therefore, it appears correct to interpret it as an element belonging to the Śālivāhanaśaka year submodule, and not as an opening formula pertaining to the entire date.

4 Conclusions

The purpose of the present article has been to present the reader with a review of the different scribal patterns found in the dates of our database. Hopefully, this study lays the groundwork for broader and more in-depth research to help better locate the manuscripts in time and space; in turn, this research will certainly gain even more statistical impact the moment it is cross-checked with similar statistics based on other modules of the colophons and borrowing/lending statements.

Abbreviation

TL *Tamil lexicon in six volumes, published under the authority of the University of Madras, Madras: University of Madras, 1924–1936.*

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Appendix: Tables

Notes on the tables. Table 1 gives all the calendrical elements listed in their ‘standard’ order; for each of them, the number of occurrences, frequency and number of misplacements with respect to the standard order is recorded.

The purpose of Tables 2 to 11 is to present the attested structures of the sub-modules, different for content and syntax, of all the main calendrical elements, in a hopefully visually effective format.

Each line in a table represents a different structure; similar structures have been grouped together through black horizontal lines.

The main columns contain the value(s) and the marker(s) recorded in the submodules. The last two columns to the right show the number of attestations for each single structure and for a group of similar structures. The number of occurrences of a structure is followed by the number of its metrical arrangements (if any),, e.g.: ‘3 (2 metr.)’ means ‘three occurrences of this structure are attested, two of them metrically arranged’. The column **Expl.** contains the ‘expletives’, which are mostly (but not exclusively) found in metrical dates as line filler; they have only occasionally been recorded in the tables.

Content of the cells. Letters or words in lower case represent actual letters or words found in the date (e.g. *abda*, *māsa*, *pratipadi*, *āṇṭu*, *m*); words in lower case preceded by ≈ are actually attested in the dates in several different spellings (e.g. ≈*varṣa* includes the spellings *varṣa*, *varuṣam*, *varuḷam* etc.). Words in upper case represent categories, such as NUM (‘number’), NAME, SYMBOL (also SYMB), PLANET, FULL MOON (i.e. any attested expression standing for ‘full moon’), NEW MOON, PERIPHRAISIS (periphrastic expressions used in some metrical dates for recording the solar month; see the article), ??? (lost or illegible). Words in brackets indicate a characteristic of a category: in numerals (also in num.), in words, abbr. (‘in abbreviated form’), Tam. (‘in the Tamil language’), San. (‘in the Sanskrit language’), Hyb. (‘in a hybrid Tamil-Sanskrit language/spelling’), Eng. (‘in the English language’), metr. (‘metrically arranged submodule’). The symbol | placed between two elements stands for the disjunctive particle ‘or’: *dina* | *vasara* | *ahan* means ‘*dina* or *vasara* or *ahan*’.

Table 1: Calendrical elements listed in their ‘standard’ order, with their frequency and deviation from the standard order (‘misplacements’)

Calendrical element	Occurrences in complete dates	%	Misplacements
Śālivāhanaśaka year	16	3.5%	3
Kali year	11	2.4%	0
Christian year	12	2.7%	1
<u>Kollam year</u>	187	41%	5
<u>Iovian year</u>	327	72%	0
<i>(at least one year)</i>	<i>(452)</i>	<i>(100%)</i>	–
<u>Solar month</u>	416	92%	3
Lunar month	32	7.1%	0
<i>(at least one month)</i>	<i>(447)</i>	<i>(99%)</i>	–
<u>Day of the solar month</u>	392	87%	5
<u>Day of the week</u>	198	44%	36
<u>Pakṣa</u>	75	17%	8
<u>Tithi</u>	138	31%	10
<u>Nakṣatra</u>	149	33%	5
Yoga	11	2.4%	–
Karaṇa	7	1.5%	–
Lagna / Lakṣaṇa	20	4.4%	–
Velā	6	1.3%	–
Muhūrta	2	0.4%	–

Table 2: Kollam year

Marker	Value	Marker	Occurr.	Tot. 190
	NUM(in numerals)	SYMB	169	
	NUM(in numerals) <i>m</i>	SYMB	6	
	NUM(in numerals)	SYMB <i>m</i>	1	176
<i>kollam</i>	NUM(in numerals)	SYMB	5	
<i>kollam</i>	NUM(in numerals)	<i>āmta</i> <i>mtu</i>	2	
<i>kollam</i>	NUM(in numerals)		1	
	NUM(in numerals)	<i>āmta</i> <i>mta</i>	2	10

Table 2 (continued)

Marker	Value	Marker	Occurr.	Tot. 190
<i>abda</i>	NUM(in San. words)		1 (1 metr.)	
	NUM(in Tam. words)	<i>āṇḍu</i>	1 (1 metr.)	2
	NUM(in San. words)		1	
	NUM(in numerals)		1	2

Table 3: Jovian year

Value	Expl.	Value	Expl.	Marker	Occurrences	Tot. 330
NUM		NAME		SYMB	160	
		NAME		SYMB <i>m</i>	10	
		NAME	<i>nāma</i>	SYMB	1	
		NAME		SYMB	3	174
		NAME		<i>≈saṃvatsara</i>	13	
		NAME	<i>nāma</i>	<i>≈saṃvatsara</i>	62 (2 metr.)	
		NAME		<i>≈varṣa</i>	55	
		NAME	<i>nāma</i>	<i>varṣa</i>	1	
		NAME		<i>abda</i>	8 (8 metr.)	
		NAME		<i>abdaka</i>	1 (1 metr.)	
		NAME	<i>nāma</i>	<i>abda</i>	2 (2 metr.)	
		NAME		<i>vatsara</i>	2 (2 metr.)	
		NAME	<i>nāma</i>	<i>vatsara</i>	1 (1 metr.)	145
<i>abda</i>		NAME			2 (2 metr.)	
<i>abda</i>		NAME	<i>ākhyā</i>		1 (1 metr.)	
<i>abda</i>		NAME	<i>nāmaka</i>		3 (3 metr.)	
<i>varṣa</i>	<i>nāma</i>	NAME			1 (1 metr.)	7
		NAME		???	2 (2 metr.)	2
		NAME			2 (1 metr.)	2

Table 4: Śālivāhanaśaka, Kali and Christian years

Marker	Marker	Value	Marker	Occurr.	Total
Śālivāhanaśaka year					Tot. 16
<i>śālivāhanaśaka</i>	<i>abda arttam aṛta</i>	NUM(in num.)		4	
<i>śālivāhanaśaka</i>	SYMBOL	NUM(in num.)		3	
<i>śālivāhanaśaka</i>	<i>abda arttam attam</i>	NUM(in num.)	SYMBOL	4	11
<i>śaka</i>	<i>arttam</i>	NUM(in num.)	SYMBOL	2	
<i>śaka</i>	<i>abda</i>	NUM(in num.)	<i>varuṣam</i>	1	
<i>śaka</i>	<i>abda</i>	NUM(in num.)		1	4
		NUM(in num.)	<i>āṇṭu</i>	1	1
Kali year					Tot. 11
<i>kali</i>		NUM(in num.)	SYMBOL	2	
<i>kali</i>		NUM(in words)	<i>vatsara</i>	1	3
<i>kalyādi</i>		NUM(in words)	<i>varṣa</i>	1 (1 metr.)	
<i>kaliyuka</i>	SYMBOL	NUM(in num.)		2	
<i>kaliyuka</i>		NUM(???)	SYMBOL	1	
<i>kaliyukārtam</i>		NUM(in num.)		1	
<i>kaliyukāptam</i>		NUM(in num.)	SYMBOL	1	
<i>kaliyukāti</i>	SYMBOL	NUM(in num.)		1	7
		NUM(in words)	<i>vatsara-parimitakalau</i>	1	1
Christian year					Tot. 12
		NUM(in num.)	SYMBOL	6	
		NUM(in num.)	<i>āṇṭu</i>	2	8
<i>tēvacakārtam</i>		NUM(in num.)	<i>i</i>	2	
<i>iṅkilicu</i>	SYMBOL	NUM(in num.)		2	4

Table 5: Solar month

Marker	Value	Value	Marker	Marker	Occurr.	Tot. 485
	NAME(Tam.)		SYMB		290	
	NAME(Tam. abbr.)		SYMB		7	
	NAME(Tam.)		SYMB <i>m</i>		62	
	NAME(Tam.)		SYMB <i>cam</i>		2	
	NAME(Tam.)		SYMB <i>t°</i>		1	
	NAME(Tam.)	NUM	SYMB <i>m</i>		1	
	SYMB for <i>merpaṭi</i>		SYMB		1	
	NAME(Tam.)	NAME(San.)	SYMB		1	
	NAME(San.)		SYMB		4	
	NAME(San.)		SYMB <i>m</i>		1	
	NAME(Eng.)		SYMB		3	373
<i>māsa</i>	NAME(San.)		<i>māsa</i>		40 (7 metr.)	
	NAME(San.)		<i>ravi</i>		2	
	NAME(San.)		<i>mās</i>		1 (1 metr.)	
	NAME(San.)		<i>matī</i>		1	
	NAME(San.)				2 (2 metr.)	
	NAME(Tam.)		<i>māsa</i>		37	
	NAME(Tam.)		<i>māca</i>	SYMB	1	
	NAME(Tam.)		<i>ravi</i>		1	
	NAME(Tam.)		<i>mācam</i>		3	
	NAME(Tam.)		<i>mātam</i>		3	
	???		<i>māsa</i>		1	92
	NAME(San.)		PERIPHRAISIS		5 (5 metr.)	5
	NAME(Tam.)		???		4	4
	NAME(San.)				3 (2 metr.)	
	NAME(Tam.)				8	11

Table 6: Lunar month

Value	Marker(s)	Occurrences	Tot. 32
NAME	<i>māsa</i>	21 (3 metr.)	
NAME	<i>mās</i>	2 (1 metr.)	
NAME	<i>mās</i>	1 (1 metr.)	24
NAME	SYMB	2	
NAME	SYMB <i>m</i>	1	3
NAME		1 (1 metr.)	
NAME		4 (1 metr.)	5

Table 7: Day of the solar month

Marker	Value	Marker	Marker	Occurr.	Tot. 467
	NUM(in numerals)	SYMBOL		355	
	NUM(in numerals) <i>ā</i>	SYMBOL		1	
	NUM(in numerals)	SYMBOL	<i>ti</i>	4	
	NUM(in words)(Tam. ordinal)	SYMBOL		4	
	???	SYMBOL		2	
	NUM(in numerals)	???		4	370
	NUM(in numerals)		<i>t°</i>	27	
	NUM(in numerals)		<i>ti</i>	1	
	NUM(in numerals)		<i>teti</i> <i>ted(h)i</i> <i>tikati</i> <i>tiyati</i>	9	
	NUM(in numerals) <i>ā</i> <i>ām</i> <i>m</i>		<i>tikati</i> <i>tīy(y)ati</i>	6	
	NUM(in words)(Tam. ordinal)		<i>teti</i> <i>tēti</i> <i>tedi</i> <i>tikati</i>	8	51
	NUM(in words)(San. ordinal)		<i>dina</i> <i>vasara</i> <i>ahan</i>	11 (2 metr.)	
<i>sudina</i>	NUM(in words)(San. ordinal)			1 (1 metr.)	
	NUM(in words)(San. cardinal)		<i>dina</i> <i>divasa</i>	7 (1 metr.)	
	NUM(in words)(San. cardinal/ ordinal)		<i>dina</i> <i>divasa</i>	5 (3 metr.)	24

Table 7 (continued)

Marker	Value	Marker	Marker	Occurr.	Tot. 467
	NUM(in numerals)			19	
	NUM(in words)(Tam. ordinal)			2	
	NUM(in words)(San. cardinal)			1	22

Table 8: Day of the week

Marker	Value	Marker	Marker	Occurr.	Tot. 204
	PLANET(San.)	<i>vāra</i>		35 (4 metr.)	
	PLANET(San.)	<i>vāra</i> (abbr.)		1	
	PLANET(San.)	<i>vāra</i>	<i>dina</i> <i>tina</i>	4	
	PLANET(San.)	<i>vāra</i>	<i>nāḷ</i>	1	
	PLANET(San.)	<i>vāsara</i>		18 (6 metr.)	
	PLANET(San.)	<i>kiḷamai</i>		1	
	PLANET(San.)	<i>dina</i>		3 (2 metr.)	
	PLANET(San.)	<i>dina</i>		1 (1 metr.)	
	PLANET(San.)	<i>divasa</i>		1 (1 metr.)	65
<i>vāsara</i>	PLANET(San.)			1 (1 metr.)	
<i>vāraka</i>	PLANET(San.)			1 (1 metr.)	2
	PLANET(Hyb.)	<i>vāram</i>		46	
	PLANET(Hyb.)	<i>vāram</i>	<i>nāḷ</i>	6	
	PLANET(Hyb.)	<i>≈kiḷamai</i>		13	65
	PLANET(Tam.)	<i>≈kiḷamai</i>		55	
	PLANET(Tam.)	<i>≈kiḷamai</i>	<i>dina</i>	2	
	PLANET(Tam.)	<i>≈kiḷamai</i>	<i>nāḷ</i>	2	
	PLANET(Tam.)	<i>vāram</i>		7	
	PLANET(Tam. abbr.)	<i>teti</i>		1	67
	PLANET(San.)	???		1	1
	PLANET(San.)			3	
	PLANET(Tam.)			1	4

Table 9: Pakṣa

Marker	Value	Marker	Occurr.	Tot. 78
	śukla	pakṣa	21 (4 metr.)	
	śukla	chada	1 (1 metr.)	
	kṛṣṇa kiṣṇa kuṣṇa	≈pakṣa	15 (1 metr.)	
	pūrva pūruva pūruva puruva	≈pakṣa	13 (1 metr.)	
	apara	pakṣa	5	
	cukkila	≈pakṣa	4	
	tāmisra	pakṣa	1 (1 metr.)	
	amāva	pakkam	1	
	amara	pakkam	1	62
pakṣa	śukla śveta valakṣa valakṣetara		4 (4 metr.)	4
	mākālaya	pakṣa	1	1
	śukla		5 (3 metr.)	
	śuddha		2	
	bahala		1	8
		pakṣa	3	3

Table 10: Tithi

Marker	Value	Marker	Occurr.	Tot. 143
	NUM(in words)	tithi titi	22 (5 metr.)	
	FULL MOON	tithi	3 (1 metr.)	
	pratipadi	tithi	1 (1 metr.)	
tithi titi	NUM(in words)		2 (1 metr.)	28
	NUM(in words)	dina	1	1
	NUM(in words)		94 (10 metr.)	94
	FULL MOON		10 (1 metr.)	
	NEW MOON		5	
	vicayatacami °tecami °ticaimi		4	19
	NUM(in numerals)		1(?)	1(?)

Table 11: Nakṣatra

Marker	Value	Expl.	Marker	Expl.	Occurrences	Tot. 152
	NAME		$\approx$ <i>nakṣatra</i>		113 (2 metr.)	113
	NAME		<i>tāra</i>	<i>sahita</i>	1 (1 metr.)	
	NAME		<i>tāra</i>		1 (1 metr.)	
<i>tāra</i>	NAME	<i>āhvaya</i>			1 (1 metr.)	
<i>tāra</i>	NAME	<i>ākhyā</i>			1 (1 metr.)	4
	NAME	<i>āhvaya</i>	<i>tāraka</i>		2 (2 metr.)	
	NAME	<i>ākhyā</i>	<i>tāraka</i>		1 (1 metr.)	3
	NAME		<i>ṛkṣa</i>		3 (3 metr.)	3
<i>bha</i>	NAME				1 (1 metr.)	1
	NAME				27 (1 metr.)	
	NAME	<i>samanvita</i>			1 (1 metr.)	28

