Calendar terminology

# A note on Hemacandra's *Abhidhānacintāmaṇi* and Sanskrit *karmavāṭī*

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(1)

Together with the *Amarakoṣa,* Hemacandra's *Abhidhānacintāmaṇi* (AC) is the most famous dictionary of synonyms produced in Sanskrit.[1] It is well known that Hemacandra's work broadly follows the same lines as his illustrious predecessor and that both lexicons share a large amount of words and definitions. This is true, but only in part. The *Abhidhānacintāmaṇi* is clearly the work of a Jaina and the Jaina stamp is present in many ways. One of the most visible signs is the mythological information and the list of Jinas found in the first section (I.24ff.). The result was that Hemacandra's work played a significant role in the discovery of Jainism by Western scholars and in the intuition that Jainism had its own tenets and view of the world, which were different from those of other Indian religions.

Attention to the *Abhidhānacintāmaṇi* was first called by Henry Thomas Colebrooke (1765-1837). who, having gone to Bengal as a "writer" in 1782 remained in the service of the East India Company for thirty years. Mainly based in Calcutta, he has been recognized as a pioneer in many branches of Indian studies - a role he could not have played, however, without the collaboration of many Indian pandits or informants. He was the President of the Asiatic Society of Bengal,

1. Edition mainly used here: *Abhidhāna Chintamani* of Sri Hemachandrācharya. Edited with an Introduction by Dr. Nemicandra Śāstrī and the Maṇiprabhā Hindi Commentary and Notes by Śrī Haragovinda Sāstrī, Varanasi. The Chowkhamba Sanskrit Series Office, Varanasi. 1964 (The Vidyabhawan Sanskrit Series 109). See below for other editions and manuscripts consulted.

as well as the editor and main contributor of *Asiatic Researches.* His broad interests also extended to the Jains, as is evidenced primarily from his "Observations on the Sect of Jains" (1807).[2] Whereas Major Mackenzie and Colonel Buchanan, he writes, got information on the Jains from "Jain priests" and oral information, "I am enabled to corroborate both statements, from conversation with Jaina priests, *and from books in my possession, written by authors of the Jaina persuasion"* (p. 287).

The main part of Colebrooke's essay is then devoted to the contents of these books :

"I shall ... state the substance of a few passages from a work of great authority among the Jainas, entitled Kalpasûtra, *and from a vocabulary of the Sanskrit language by an author of the Jaina sect"* (p. 302).

'Combined information provided by both works about the 24 Jinas of the *avasarpiṇī* and other Jaina mythological categories is then analyzed:

"[Jinas] appear to be the deified saints, who are now worshipped by the Jaina sect.

They are all figured in the same contemplative posture, with little variation in their appearance, besides a difference of complexion; but the several Jinas have distinguishing marks or characteristic signs, which are usually engraved on the pedestals of their images, to discriminate them" (p. 304).

Ages and periods of time as described in the *Abhidhānacintāmaṇi* are also dealt-with (p. 313). Finally comes an exposition of Jaina cosmology: "The Saṃgrahaṇīratna and Lokanāb-sūtra [i.e. Lokanālī), both in Prakrit, are the authorities

2. 'Observations on the sect of Jains' in *Asiatic Researches* Vol. 9, pp. 287-322, Calcutta, 1807 (London ed. 1809), available on Google Books : reprinted in Miscellaneous Essays by *H. T. Colerooke* (with the Life of the Author. By his son, Sir T.E.Colebrooke, in 3 volumes), Vol. 2, pp. 171 ff.

here used" (p. 318 n. 2). A lithographed edition of the *Abhidhānacintāmaṇi* was prepared under the supervision of Colebrooke and published in Calcutta as early as 1807 AD. The bibliographical details are given in the form of three Sanskrit verses on the title page:

*sanekārthanāmamālatmakaḥ koṣa-varaḥ śubhaḥ*
*Hemacandra-praṇītābhidhānacintāmaṇir maṇiḥ //1//*
*nagare Kalikattâkhye Kolavrūk-sāhavajnayā*
*śrīVidyākaramiśreṇa kṛta-sūcī-samanvitaḥ //2//*
*Veda-rttv-aṣṭa-kalānātha-saṃmite Vikramābdake*
*mudrākṣarena vipreṇa Vāvūrāmeṇa lekhitaḥ //3//*

The date is indicated in the Indian fashion, using the Vikrama era and a chronogram : VS 1864. As announced here, the book contains two of Hemacandra's lexicons, the *Abhidhānacintāmaṇi* (pp. 1-120) and the *Anekāarthasaṃgraha* (pp. 1-140), preceded by an index (pp. 1-96) prepared by Vidyākaramiśra and followed by Corrigenda (pp. 1-4+1).[3]

This first edition, known as "Calcutta edition", was uncritical and deprived of clues and tools necessary to communicate the value of Hemacandra's work. It was superseded 40 years later by the critical edition jointly provided by Otto Böhtlingk (1815-1904) and Charles Rieu (1820-1902):[4]

3. I consulted the copy kept at the Bibliothèque Nationale de France, Paris, Département des manuscrits orientaux (shelfmark: Sanscrit 1049), purchased at Mirzapur, 16 Oct. 1816.

4. Charles Rieu was a Swiss orientalist, who studied in Bonn and then went to St. Petersburg where he developed a friendship with Otto Böhtlingk. The Preface of the *Abhidhānacintāmaṇi* explains the genesis of their common project: Böhtlingk was puzzled by the Calcutta edition of the text, and Rieu, who was in England, wished to prepare a new edition. He suggested that they work on it jointly. Later on, Rieu worked in the manuscript section of the British Museum, London, as professor of Persian and Arabic in University College London and as Adams-Professor in Cambridge (see Otto Böhtlingk, *Briefe zum Petersburger Wörterbuch,* Harrassowitz Verlag, Wiesbaden, 2007, p. 723 n. 6).

*Hemak'anḍra's Abhidhānacintāmaṇi, ein systematisch Angeordnetes Synonymisches Lexicon. Herausgegeben, übersetzt und mit Anmerkungen begleitet* (St. Petersburg, 1847). Their edition is based on five different manuscripts and makes use of a commentary, accessible to them in one manuscript of the Bodleian Library (Oxford). This commentary, where Sanskrit and vernacular language *(bhāṣā)* are used, is copiously quoted in the accompanying notes.

Hence the *Abhithānacintāmaṇi* belongs to those few Jaina works which were edited by Western scholars in the early period of Indology and in the infancy of what became Jaina studies.

(2)

The *Abhidhancintāmaṇi* is a comprehensive storehouse of Sanskrit words of all kinds. But it is also a dictionary of all topics that relate to the foundations of Jainism and the specificities of the Jaina conception of the world. We have already referred above to section I *(devādhidevakāṇḍa)*. It deals with the concept of Arhat through its 25 denominations, listing the 24 Jinas of the present era, giving synonym names for some of them. Their bio-data and characteristics are also given: names of their fathers and of their mothers, of their *yakṣas* and *yakṣīs,* of what is called *dhvaja* (in other texts *lāñchana)* and 'the colour of their body.[5] Names of the 24 Jinas of the past and those of the future are then listed. The supernatural features *(atiśaya)* characterizing all the Jinas are defined through adjectives (1.57). Proceeding in such a way, Hemacandra follows the earlier tradition established, for instance, in the *Āvaśyakaniryukti,* the *Sthānānga-* and the *Samavāyānga-sūtra,* etc., combining elements from different origins but also handing down or introducing concepts not traced earlier. Thus the *Abhidhānacintāmaṇi* is often referred to as the key Śvetambara source for the 24 Jinas' emblems *(lāñchana).* Key-figures of

5. See already Colebrooke "Observations...", pp. 305ff.

early Jaina history are present in this first section as well: the nine *ganas* and eleven *gaṇadharas,* the last *kevalin* the six *śrutakevalins* and the *daśapūrvins.*

In the subsequent sections, other key concepts and categories typical of the Jaina worldview are given a prominent place. Section II *Devakāṇḍa* (4ff.) deals with the world of gods, in a typically Jaina fashion, listing the traditional groups of deities, even though it also provides the names of Brahma, Śiva and Viṣṇu. The structure of Section IV *Tiryakkāṇḍa* corresponds to the traditional Jaina classification of life based on the number of sense organs, in increasing order, and the environment where these beings live. Section IV unfolds in agreement with the introductory statements of Section I:

> *(narās tṛtīye) tiryañcas turye ekendriyādayaḥ // 20*
> *ekendriyāḥ pṛthivy-ambu-tejo-vāyu-mahīruhaḥ*
> *kṛmi-pīlaka[6]-lūtādyāḥ syur dvi-tri-catur-indriyāḥ//2*
> *pañcendriyāś cebha-keki-matsyāḍyāḥ sthala-khāmbugāḥ*
> *(pañcendriyā eva devā narā nairaiyikā api) //22[7]*

"The earth, water, fire, air, and [plants] have a single organ or sense; worms, ants, spiders, and the like, have two, three, or four senses; elephants, peacocks, fish, and other beings moving on the earth, in the sky or in water, are furnished with five senses: (and so are gods and men, and the inhabitants of hell)''.[8]

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6. *Pīlaka:* a rare form against the usual *pipīlika.*

7. Compare *Triṣaṣṭi.* I.1.160-168 (with different words) where this exposition takes place in the discussion of *abhayadāna.* Another occasion when Hemacandra deals with the classification of living beings is the exposition of the four *gatis*. His purpose is then to describe the torments awaiting all those born in the *tiryaggati.* cf. *Triṣaṣṭi.* III. 4.100-126.

8. Colebrooke's translation in "Observations", p. 302.

9. Hemacandra's *Nighaṇṭuśeṣa,* a botanical vocabulary, is a supplement to this section of the AC.

| | | |
|---|---|---|
| one-sensed beings *(ekendriya)* | *pṛthivī*° | 1-134 |
| | *ambu*° | 135-162 |
| | *tejas*° | 163-171 |
| | *vāyu*° | 172-175 |
| | *mahīruha*° | 176-267 |
| two-sensed beings *(dvīndriya)* | | 268-272 |
| three-sensed beings *(trīndriya)* | | 273-275 |
| four-sensed beings *(caturindriya)* | | 276-281 |
| five-sensed beings *(pancendriya)* | living on earth *(sthala-ga)* | 282-381 |
| | living in the sky *(kha-ga)* | 382-409 |
| | living in water *(ambu-ga)* | 410-423 |

The wealth of vocabulary contained in this section is remarkable, as it is in several Jaina texts, and would need further exploration: the influence of local languages is felt in several animal names which have no equivalent in Sanskrit.

Section V *Nārakakaṇḍa,* the shortest of the lexicon, provides essentials of the Jaina view on the subject: the names of the seven hells from top to bottom and the number of residences *(narakāvāsa)* in each of them.

In this manifesto of Jaina doctrine, which echoes the beginning of the author's *Triṣaṣṭiśalākāpuruṣacaritra* in many respects, there is an area which has special significance and is dealt with at length, namely that of time (II.40cd-76). We are immediately immersed in a distinctly Jaina-atmosphere:

*kālo dvividho 'vasarpiny-utsarpiṇi-vibhedataḥ* (II,4lab) This half-verse is found identical in the *Triṣaṣṭi.* (I.2.112ab: golden age, life of Sāgaracaṅdra and Priyadarśanā). In the two works the subsequent stanzas describe the "twelve-spoked

wheel of time" *(dvādaśāraṃ kālacakram,* AC II.42 and *Triṣaṣṭi.* I.2.111) at length. The name of each spoke is given, followed by its total duration. Life duration, size and the mortals' frequency of food-taking in the different spokes are stated for the first three spokes, then for the fourth, fifth and six ones. Most verses of the *Abhidhānacintāmaṇi* are found identical in the corresponding passage of the *Triṣaṣṭi.*[10] There is no doubt that the author has used them in a "paste-copy" procedure, perhaps from the *Triṣaṣṭi.* to the AC: their descriptive contents make them different in character from all surrounding verses of the lexicon, which are made of lists of synonyms, and thus break the normal pace. In the *Triṣaṣṭi.* these didactic verses are supplemented by some additional ones describing the resources supplied by the *kalpadrumas,* a topic irrelevant in the context of a discussion of time like that of the lexicon, although the word itself is present (II.47).

In the *Abhidhānacintāmaṇi,* this typically Jaina development is followed by terms relating to the divisions of time in the usual meaning of the word, from the smallest unit (18 *nimeṣa* = 1 *kāṣṭhā,* II. 50) up to the largest one, the *kalpa* (II.75), before proceeding to the next topic, namely space *(vyoma,* II.77). The result is a combination of purely Jaina data wilh pan-Indian information of the type provided in the *Amarakośa* or the Hindu Purāṇas (see below 3 (b) ). Yet, Hemacandra's lexicon distinguishes itself from other sources by the presence of terms he is the only one to mention.

Sanskrit *karmavāṭī (*herefrom k.*)* is such a word:

*pañcādaśāhorātraḥ syāt pakṣaḥ, sa bahulo 'sitaḥ.*
*tithiḥ punaḥ karmavāṭī, pratipat pakṣatiḥ same* (II.61; 147 in Böhtlingk-Rieu ed.).

Because the earliest scholarly edition of Hemacandra's lexicon was co-authored by Otto Böhtlingk, the word entered the Sanskrit-German dictionary (also known as the Petersburg

10. AC. II.43 =*Triṣaṣṭi.* I.2. 113; 44 = 114; 47=134; 48=135; 49=136.

dictionary) co-authored by him and R. Roth, with a unique reference, that of the *Abhidhānacintāmaṇi:*

*"karmavāṭī (karman + vāṭi)* f. ein lunarer Tag (weil er die heiligen Werke abgrenzt) H. 147''.

From there *k.* reached Monier-Williams *Sanskrit-English Dictionary,* which is largely based on its German predecessor. It is listed under compounds starting with *karma:*

*"-vāṭī* f. 'demarcation or regulation of religious actions,' a lunar day"

without any textual reference. The same is true of Apte's *Sanskrit-English Dictionary:*

*"-vāṭī* lunar day (tithi)".

Unfortunately, I have not been able to have access to the cards prepared for the Pune Sanskrit and Prakrit dictionaries kept at the Bhandarkar Oriental Research Institute during the preparation of this article. Hence I am not sure to be in possession of a complete corpus of occurrences of *k.*

To the best of my knowledge, Hemacandra's *Abhidhānacintāmaṇi* is the earliest source where *k.* is recorded (see below 3).[11] But it is not the only one. The authenticity and liveliness of *k.* outside the lexicon is guaranteed by its presence in Jaina manuscript colophons and occasionally in inscriptions, where it occurs only in the locative, *karm(m)avāṭyām* (see below Appendix). Some authors of manuscript catalogues seem to have been puzzled by this word. Schubring did not read it properly in one case (below Appendix, "VS 1832"). It is listed among place names in some

11. It is neither in Halāyudha's *Abhidhānaratnaṃālā* nor in Dhananjaya's *Nāmamālā.* – Its presence in the 20th century *Suśīlanāmamāla* by Vijayasuśīlasūri, Sirohi, Vīra saṃvat 2504 (VS 2034. Nemi saṃ. 29) is not significant, as this is a modern compilation mainly based on the AC. I was regrettably unable to check the *Vaijayantī* and Śubhaśīlagaṇi's *Pañcavargasaṃgrahanāmamālā* (14th-15th c.).

Indian catalogues (Ahmedabad, LD. Appendix 5 to vols. 1-3, p. 625). But the contexts all point in the same direction: *k.* is a term relating to the calendar and appears in the expression of the date (see Appendix) always at the same place within the usual format, which is in its fullest form:

> era (Vikrama or Vikrama and Śāka) - year - month - fortnight (dark or bright) - ordinal number of the day (any from 1 to 15) + *karmavāṭyāṃ* - name of the day - asterism.

Thus *k.* appears in the expression of the date according to the system of the lunar calendar, and does not distinguish itself from *tithi* or *dina,* which are liable to occupy the same place. It is, nevertheless, much rarer than these two words. For instance, out of 1000 inscriptions published by Nahar, only one of them has *k.* (see below Appendix "VS 1857"). Manuscript catalogues point to a similar situation. This raises a question: is *k.* exactly the same as *tithi,* as Hemacandra seems to indicate, or does it refer to something different of more restrictive meaning? In view of the generally precise use of calendar terms in India, the question is at least justified.[12] Observing the available data does not provide any hint or allow any conclusion. The use of *k.* is not restricted or specified by any contextual constraint. The word appears in connection with any of the twelve months, with the bright or with the dark fortnight, and with any of the 15 days. We can also observe that in the colophons where *k.* occurs, the Śāka era is often mentioned along with the Vikrama era, but there are colophons with both eras and *tithi,* not *k.* Thus it is difficult to draw any conclusion from this fact. Copyists of the manuscripts where the word occurs are monks or pandits who are

12. See, for instance, F. Kielhorn, "The meanings of *vyatīpāta", The Indian Antiquary,* August 1891, reprinted in *Kleine Schriften,* Wiesbaden, 1969, pp. 627-628: the actual use of the term in dates is in agreement with the definitions available in specialized treatises.

disciples of monks, not professional scribes but this element is probably not relevant anyway.

Although Hemacandra's record proves that the word was known in the 12th century, no record of it could be traced in the earliest available contemporary manuscripts, those on palm-leaf. But this absence has to be considered within a broader perspective: a word meaning "date" or "day" is not systematically mentioned in the colophons of these manuscripts. The general pattern is, rather: number-week day - *adya iha* + place name.[13] In the later phases, the date formula is expanded in full, and all resources of the calendar vocabulary are made use of consistently: for example, *pratipad* "the first day of the lunar fortnight", *pūrṇimā* or *rākā* "full moon day", or a less frequent term such *as bhūteṣṭā* "fourteenth day of a fortnight" (see below Appendix "VS 1716"), when the actual date requires it. If the manuscript or inscription is written on a festival day, its name may be given.[14] Synonyms for the names of the months and the week days are often handled skillfully with literary ambitions.[15] The word *k.* is part of such a development. Its occurrences are much later than the palm-leaf manuscript period. But, on the other hand, the word has a

13. E.g.: saṃvat 1191 *varṣe Bhādrapada śudi 8 bhaume adyeha Dhavalakke ...*; *saṃvat 1330 varṣe Vaiśākha sudi 14 gurau....* etc.

14. E.g. *Vaiśākha-śukla-pakṣe 3 akṣayatṛtīya dine.* etc. See below Appendix "VS 1783" for another example.

15. See individual notes in the Appendix below. – Other rare names of months are recorded and discussed in the *Śeṣasaṃgraha* by Hemacandra, the Appendix to his AC, on which see Th. Zachariae, "Die Nachträge zu dem synonymischen Worterbuch des Hemacandra" *(WZKM* 16, 1902, reprinted in *Kleine Schriften,* Wiesbaden. 1977, pp. 471-502). *ucchara* for Vaiśākha and *śairin* for Kārttika are two such examples (p. 479 n. 4 and p. 480 n. 1). Sanskrit grammars, especially that of Hemacandra, have special sutras regarding the formation of nouns or adjectives relating to the calendar: see F. Kielhorn, "Pausha Samvatsara", *The Indian Antiquary* 1893, reprinted in *Kleine Schriften.* Wiesbaden, 1969, pp. 274-275.

long life, being attested as late as the middle of the 19th century. The provenances of manuscript colophons or inscriptions where *k.* occurs point to a geographical area of expansion limited to Western India and the areas of North India where Śvetāmbara monastic orders were prevalent.

(3)[16]

Skt. *karmavāṭī* is thus an isolated and rather puzzling term, the actual meaning of which is obscure. Superficially, however, it has the structure of a compound word. Analyzing its two members in turn and the relation they have could be rewarding.

**(a) *-vāṭī* and time divisions**

In Hemacandra's auto-commentary on the *Abhidhānacintāmaṇi, karmavāṭī* is analysed very briefly:

*karmmaṇāṃ vāṭīva karmmavāṭī, tat-pratibaddhatvāt teṣām.*[17] *"k.v.* like an enclosure of activities, because they are demarcated by it".

This explanation is the basis of the expanded definitions found in Böhtlingk-Roth and Monier-Williams Sanskrit dictionaries (see above 2). It is not especially illuminating. Nevertheless, it invites to understand Skt. *vāṭī,* which normally means "orchard" or "enclosure", with a metaphorical connotation because it is here applied to an abstract notion. The *Sāroddhāra* commentary by Śrīvallabhagaṇi (VS 1667 = 1610

16. Sections 3(b) and 4 have largely benefited from several observations and hints given by Prof. Sreeramula Rajeswara Sarma (Aligarh/ Düsseldorf), a renowned specialist of the history of Indian sciences, to whom part of the material was submitted. I am most grateful to him for his interest and generous help. Some of his suggestions or remarks are marked as such. I am only responsible for any mistake or shortcoming.

17. P. 33 in *The Abhidhāna Chintāmaṇi Nāmamālā* ... ed. by ... Shree VijayNemiSurishwarji Mahārāj ... Jain Sahitya Vardhak Sabha. Ahmedabad. V.S. 2032. Vīra Saṃvat 2502. Nemi Saṃvat 28 (Shree-Vruddhi- Numi-Amrut-Granthamālā 72).

CE) provides interesting information about several other words in the same passage of Hemacandra's lexicon, but nothing for *k.*[18] The statement *tithi-nāmnī dve* just emphasizes that *k.* means the same thing as *tithi.* The absence of further comment on *k.* means either that the word was very common and too obvious or, on the contrary, that it was somewhat mysterious. Now, in the area of calendar vocabulary there are other words which are formed in a way similar to *k.* The *Sāroddhāra* commentary is valuable in that it provides vernacular *(bhāṣā)* equivalents for some of the technical terms: *pakhavādī* for Skt. *pakṣa, amavāsi-paḍivārī-sandhi* and *pūnima-paḍivārī-sandhi* as referring to the juncture with the new moon and the full moon respectively.[19] Thus there is a small group of terms in this semantic area with a second element *-vāṭī*, *-vāḍī* and *-vārī.* The different forms are phonetic variants. These words can be brought near to all compounds relating to time units where the second element is Skt. *-vāra* or a derivative from it in Sanskrit or Middle Indian. Names for the seven days of the week with all their possible synonyms are one well-known case *(soma-vāra, maṅgala-vāra,* etc.). But there are other similar formations, some of which have to be supposed on account of words found in modern Indian languages:

> Guj. *pakhavāḍuṃ, pakhavāḍiyaṃ, pakhavāḍika* < Skt. *pakṣa* + *vāra* or *vāraka,* Hindi *pakhavāḍa,* K.L. Turner, CDIAL 7634;
>
> Ski. *dina-vāra, divasa-vāra;*
>
> **rātrīvāra* CDIAL 10703, nighttime, cf. Pāli *rattivāra* in *Kattikarattivāra (Critical Pāli Dictionary* III 2);

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18. I had no access to any printed edition of this commentary and used the British Library manuscript Or. 13806 (folio 10 verso).

19. The boundaries between Sanskrit, Prakrit and vernaculars are often very thin in lexicons, as rightly observed long ago by Th. Zachariae, *Beiträge zur Indischen Lexicographic,* Berlin, 1883, p. 55ff.

**vasanta-vāra* CDIAL 11441, springtime and **hayanavāra* CDIAL 13978, winter as etymons of two Kati words;

Skt. *tithi-vāra* attested for example in Weber No. 261 (manuscript colophon), CDIAL 5811 **tithivāra* "a festival", cf., for instance, Hindi *tyohār* and Guj. *tehevār.*

Ski., *karmavāṭī* can easily join this group if we assume that it is a wrong or hyper-Sanskritisation. The second element is not Skt. *vātī* but a Sanskritisation of a Middle-Indian or vernacular form in-*vārī.* The feminine form -*vārī* instead of –*vāra,* also shown in some of the terms mentioned above, can easily be justified because of the implied or explicit association of such terms with the feminine noun *tithi.* This solution seems more satisfactory than taking -*vāṭī* in *k.* with its face value "enclosure", as the traditional explanation does, for it would be the only example where *vāṭī* has a metaphorical meaning for which no support is found anywhere, not even in modern languages (see CDIAL 11480). On the semantic level, the boundary between *vāṭī* "enclosure" and °*vāra* "the time fixed or appointed for anything", hence "day" or "time division" can be felt as rather thin, which makes the word at least superficially understandable without too much difficulty.

**(b) *karma-* with time divisions**

The list of divisions of time in increasing order found in Hemacandra's *Abhidhānacintāmaṇi* is neither the only one of its kind nor the earliest. The convenient synoptic table established by W. Kirfel shows that the designations correspond to those found in the *Amarakośa* and in the *Mārkaṇḍeyapurāṇa.* For the smaller units, in particular, Hemacandra uses *nimeṣa* and *kāṣṭhā,* like the former, and not *āvali, ucchvāsa, stoka,* etc., which are typical of Jaina sources.[20]

20. W. Kirfel. *Die Kosmographie der Inder,* Bonn-Leipzig, 1920, p. 334 and 337-338. Another convenient table of the divisions of time in the Jaina tradition is found in *Jainendra Siddhānta Kośa* vol. 2 p. 216 (under

Hemacandra's list corresponds exactly to the classical divisions which define lime in its conventional meaning, as found -in Kundakunda:

*samao ṇimiso kaṭṭhā kalā ya āvalī tado divārattī*
*māsoduya-saṃvaccharo tti kālo parāyatto*
(Pancāstikāya 25).

The larger units are common to all sources:

30 *muhūrta* = 1 *ahorātra*
*15 ahorātra* = 1 *pakṣa*
*2 pakṣa* = 1 *māsa*
*2 māsa* = I *ṛtu*
3 *ṛtu* = I *ayana*
*2 ayana* = 1 *saṃvatsara*
5 *suṃvatsara* = 1 *yuga*

But no attestation of *karmavāṭī* or of any other time division based on *karma°* is found in any of these sources.

Some insight, however, is provided by the *Jambuddīvapannatti* (JP), the *Sūrapannatti* (SP) and the *Joisakaraṇḍaga* (JK) in passages which are interrelated.[21] Written in Jaina Māhārāṣṭrī and composed in verses, the JK-deals with the same subject matter as the SP, and is partly based on it. The seventh

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*gaṇita).* It is based on Śvetāmbara and Digambara sources : *Aṇuogaddāra. Jambudddīvapannatti* and *Joisakaraṇḍaga* on the one hand. *Tiloyappaṇṇatti* and *Jambuddīvapaṇṇatti* (Dig.) on the other hand.

21. 1 have used the following editions: JP with Śānticandra's commentary: vol. 13 in *Āgamasuttāṇi.* Ed. Muni 'Dīparatnasāgara. 2000. SP with Malayagiri's commentary: vol. 12 in *Āgamasuttāṇi.* Ed. Muni Dīparatnasāgura. 2000; see also Josef Friedrich Kohl, *Die Sūryaprajñapti. Versnch vine Textgeschichte,* Stuttgart, 1937 - JK: Pādaliptasūri's *Joisakdraṇḍagaṃ* with Prākṛta ṭippanaka by Vācaka Śivanandi. Ed. Late Muni Shri Puṇyavijayaji. Introduction etc. by Pt. Amritlal Mohanlal Bhojak, Bombay, Shri Mahāvīra Jaina Vidyālaya, 1989 (Jaina-Āgama-Series No. 17 (Part III)), reviewed by Nalini Balbir in *Bulletin d'Etudes*

and last chapter of the JP describes at length matters relating to time.

These three texts have the same two terms starting with *kamma*° which refer to time units. They are defined in a consistent manner and form a system of their own.

(i) *kamma-samvacchara* is one of the designations for the third of the five types of the year known as *pamāṇa.* In the sūtras (JP 7, sū. 278 and SP 10.20 sū. 78), it appears under the name *udu* (Skt. *ṛtu):*[22] *tā pamāṇa-saṃvacchare paṃcavihe paṃ, taṃ: nakkhatte, caṃḍe, uḍū, āicce, abhivaḍḍhie:* (1) constellation year, (2) lunar year, (3) season year, (4) sun year, (5) extended year. The same list in a different sequence is read in JK:

*ādicco uḍu caṃdo rikkho abhivaḍḍhito ya paṃc' ete saṃvaccharā Jiṇa-mate...* (JK 40).[23]

Śānticaṇḍra's commentary on JP underlines two features of this type of year: its practical relevance, and the fact that it is designated by two other terms "in another source":

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*Indiennes* (Paris), No. 7-8, 1989-90, pp. 375-387. I refer to the verse-numbering of this ed. I had access to the ed. with Malayagiri's commentary ed. by Āc. Sāgarānandasūri and published by Rishabhadevaji Kesharimal Ratlam. 1928, only for the relevant extracts (kindly sent to me by Prof. S.R.Sarma).

22. For another calendar term using *uu-* in Jaina sources, see Nalini Balbir, "A new instance of Common Jaina and Buddhist Terminology", in G. *Roth Felicitation Volume,* Patna, 1997, pp. 211-231 [Pāli *utubaddha* and Pkt. *uubaddha*].

23. The definition of five types of year and their length is also taken up in Nemicandra's *Pravacanasāroddhāra,* dvāra 142. But the category considered is the *jugasaṃvacchara* (also dealt with in JP 7, sū. 278), not the *pamāṇasaṃvacchara.* - Another rare word referring to a type of year is *iḍvatsara. iḍā",* recorded in Hemacandra's *Śeṣasaṃgraha,* see Th. Zachariae. "Die Nachträge" [as in n. 15], p. 476.

*ṛtavo - loka-prasiddhā vasantādayaḥ tad-vyavahāra-hetuḥ saṃvatsaraḥ ṛtusaṃvatsaraḥ. granthāntare cāsya nāma sāvana-saṃvatsaraḥ karma-saṃvatsaraś ceti* (p. 484).

"Other source" means here JK. In the definition of this year, which consists of 12 months, 24 fortnights and 360 days and nights, its three alternate names are given:

*saṃvaccharo u bārasa māsā, pakkhā ya te cauvvīsaṃ*
*tiṇṇ 'eva ya saṭṭha-sayā havaṃti rāiṃdiyāṇaṃ tu*
*iya esa kamo bhaṇio ṇiyamā*[24] *saṃvaccharassa kammassa*
*kammo tti sāvaṇo tti ya uḍu tti vi ya tassa ṇāmāṇi*
(JK 38-39).

The phrase *saṃvacchara- kamma-* (adjective) is abridged into *kammo.* In Malayagiri's commentary on SP where these verses are quoted, the phrase is rendered as a Sanskrit compound. The explanation underlines, the practical relevance of this type of year in connection with the daily activities of the people:

*karma-saṃvatsarah savana-saṃvatsaraḥ, tatra karma laukiko vyvavahāras tatpradhānaḥ saṃvatsaraḥ karma-saṃvatsaraḥ loko hi prāyaḥ sarvo 'py anenaiva saṃvatsareṇa vyavaharati* (p. 179).

The phrase *kamma- saṃvacchara-* occurs again when the number of days of each type of year is defined:

*tiṇṇi sayā puṇa saṭṭhā kammo saṃvaccharo havati* (JK 44cd).
"Three hundred and sixty days are a 'practical (= civil) year'".

In another verse of Ihe JK, which deals with the number of *muhūrta*s in each type of year, the "practical year", which has 10800 of them, is designated by the synonym *kamma-vāsa:*[25]

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24. The reading adopted in the Jaina Āgama Series edition is : *eso u kamo bhaṇito uḍussa.*

*dasa* c'*eva sahassāiṃ aṭṭh' eva sayā havaṃti saṃkaliyā*
*eyaṃ muhutta-gaṇitaṃ ṇātavvaṃ kamma-vāsassa*
(JK 49).

(ii) *kamma-māsa, sāvaṇa-māsa* or *uu/riu-māsa*. To each of the five years listed above correspond five types of months.[26] The "practical month", which like the corresponding year, has three names, consists of 30 days and nights:

*... sāvaṇo tīsaṃ* (JK 62).[27]

"A practical (month) has 30 (days and nights)".

Thus this type of month has an integer number of days (Pkt. *niramsayā,* "non fractional"; Skt. *paripūrṇa*), differently from the other types of months.[28] This makes the *kamma-māsa* easier to handle in practical matters than the other types of months:

*kammo niraṃsayāe māso vavahāra-kārao loe*
*sesā u saṃsayāe*[29] *vavahāre dukkarā ghettuṃ* (JK 106

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25. *Kammasaṃvacchara* is also one of the five years known as *lakkhaṇa* ("symbolic" ?) in JP 7.278. The verse of the sūtra (281) where it is defined states that it is "that year in which the vegetation occurs when it is not the normal period of vegetation. The flower and fruit go when it is not their season. The rainfall is also not at proper time and as required" (p. 523 of *Sacitra śrīJambūdvīpa prajñapti sūtra.* ed. Pravartak Shri Amar Muni, Delhi, 2006).

26. They are also listed and described in Nemicandra's *Pratvacana-sāroddhara,* dvāra 141.

27. Compare *unmāso tīsa-diṇo* of the *Pravacanasāroddhāra* and the commentary: *esa eva ca ṛtu-māsaḥ karma-māsa iti vā samāna-māsa (!) iti vā vyavahriyate. uktaṃ ca:*

*esa c'eva un-māso kamma-māso sāvaṇa-māṣo bhannai /* (unidentified quotation).

28. Cf. JK 61-64; 30 ½ . *ahorātras* in the solar month. 29 32/62 in the lunar month, 27 21/67 in the constellation month and 31 121/124 in the extended month. - Compare *Arthaśāstra* 2.20. 47-51 (see below).

in JAS ed. = 94 in ed. with commṃ; also quoted in commentaries on JP p. 485 and SP p. 180).

Śānticandra (on JP) and Malayagiri (on JK) comment this statement in almost identical words:

> *āditya-karma-candra-nakṣatrābhivaṛdhita-māsānāṁ madhye karma-saṃvatsara-sambandhī māso 'niraṃśatayā' paripūrṇa-triṃśad-ahorātm-pramāṇatayā loke sukhena vyavahārako bhavati* (M p. 55) / *loka-vyavahāra-kārakaḥ syāt* (Ś).

Śānticandra says that a fractional number *(sāṃśa-)* does not suit practical activities. An integer number is thus: 60 *palas* = 1 *ghatikā,* 2 *gh.* = 1 *muhūrta,* 30 *m.* = 1 day and night, 15 days and nights = 1 fortnight, 2 fortnights = 1 month and 12 months = 1 year. This is what is used by people in ordinary life. Experts in treatises, he observes, use all the-types of months for their respective activities.[30]

The two commentators illustrate their point with one example each. Malayagiri refers to "uneducated people like peasants":

> *tathā hi haladharādayo pi bāliśās triṃśatam ahorātrān parigaṇayya māsaṃ parikalpayanti* (comm. on JK p. 55).

Śānticandra notes that in common parlance people employ the practical year and the practical month when they speak of the increase in the age of their children or for time intervals:

*ṛtumāsa-ṛtusaṃvatsarāv eva lokaiḥ putravṛddhi-*

29. This is the reading of JK with Malayagiri's commentary and of the commentaries on JP and SP, against the Jaina-Āgama-Series ed.: *evaṃ sesā māsā.*

30. *Śāstra-vedibhis tu sarve 'pi masāḥ sva-sva-kāryeṣu niyojitāḥ* (p. 485)

*kālāntaravṛddhy-ādiṣu vyavahriyete* (p. 485).

The five types of years and months distinguished in the Śvetāmbara sources are not unique to them. The five types of years recall the 4+1 systems of measurement of time listed in the beginning of Varāhamihira's *Bṛhatsaṃhitā* where it is said that the astrologer should be *caturṇāṃ ... mānānāṃ saura-sāvana-nakṣatra-cāndrāṇām adhimāsakāvama-sambhavasya ca kāraṇābhijñaḥ* (II.4). Pkt. *sāvaṇa*, one of the three designations of the "practical" year and month, corresponds to Skt. *sāvana* here. This is a Vedic term precisely designating the year of 360 days and nights and the month of 30 days and nights. The word refers to the pressuring of Soma, called *savana* (from *SU-*) which, according to the old Vedic ritual, continues for 360 days and constitute the year-long sacrifice.[31] The Jaina commentators have clearly recognized this term, which they Sanskritized correctly into *savaṇa/sāvaṇa* although they connect it with a different root:

> *savanaṃ - karmasu preraṇaṃ ṣū(t) preraṇe* [= Hemacandra, *Dhātupāṭha* 5.18; root SU-] *iti vacanāt tat-pradhānaḥ saṃvatsaraḥ savana-saṃvatsara ity apy asya nāma* (M on SP p. 180).[32]

The *Arthaśāstra* distinguishes five types of months with varying durations corresponding to those transmitted in Jaina sources:

> *triṃśad-ahorātraḥ karma-māsaḥ* (2.20.47). *sārdhaḥ sauraḥ* (48). *ardha-nyūnaś candra-māsaḥ* (49). *saptaviṃśatir nakṣatra-māsaḥ* (50), *dvātriṃśad bala-māsaḥ* (51).

"Thirty days and nights make a works month. A half

31. See, for instance, G. Thibaut, *Astronomie, Astrologie und Mathematik*, Strassburg, 1899 (Grundriss der Indo-Arischen Philologie und Altertumskunde III,9), § 17.

32. Thus Prakrit dictionaries should have two entries *sāvaṇa* : 1) corresponding to Skt. *sāvana*, 2) corresponding to Skt. *śrāvaṇa*.

day more a solar month. A half day less makes a lunar month. Twenty-seven (days and nights) make a month of constellations. Thirty-two make a month for the army". (Kangle's translation).

The translation "a month for the army", partly based on the rather tortuous explanations of the commentators, is highly questionable. *Balamāsa* is indeed a strange compound, for *bala-* is a substantive and not an adjective. Yet, given the context of the list and the parallel fivefold distinction of months in the Jaina sources, I am convinced that *balamāsa* is a rough semantic equivalent of Pkt. *abhivaḍḍhia-*, and refers to the "extended month". Its duration as 32 days and nights in the *Arthaśāstra* corresponds roughly with that of the JK, namely 31 121/124:

*abhivaḍḍhito tu māso ekkattīsaṃ bhave ahorattā*
*bhāga sata ekkavīsaṃ cauvīsa-sateṇa chedeṇaṃ* (JK 64).

Like for the other types of months, the duration is given in the *Arthaśāstra* in the form of an integer number, while it is given as the fractional number required by the calculations in JK (see note 28 above). If this assumption is correct, we would have another instance of correspondence between the *Arthaśāstra* and Jaina sources in matters of time-divisions and conception. These agreements do not mean that one borrowed from the other, but that both reflect a common Indian knowledge characteristic of the "middle period".[33]

Skt. *karmasaṃvatsara* is also attested in the *Arthaśāstra*:

33. Another example of similar correspondence between the *Sūrapannatti* and the AŚ relates to the length of the shade, which has been analyzed by H. Jacobi. His observation is worth remembering : "Die Übereinstimmung Kauṭilyas mit den Jainas ist von Interesse. Nicht als ob jener, ein Verfechter der brahmanischen Rechtgläubigkeit, von den Jainas etwas entlehnt hätte, sondern beide geben ja nur das wieder, was, wie Thibaut im Grundriss III, 9, § 11 auseinandersetzt, während der mittleren Periode der indischen Astronomie indisches Gemeingut war. Es is nicht

*triśataṃ catuḥpañcāśac cāhorātrāṇāṃ karma-saṃvatsaraḥ* (2.7.6).

"Three hundred and fifty-four days and nights constitute the year of work" (Kangle's translation).

This duration is not that of the *k.s.* as understood in the Jaina sources (= 360 days), but that of a lunar year, close to the number of 354 12/62 given in JK:

*tiṇṇi ahoratta-satā caupaṇṇā ṇiyamaso have cando*
*bhāgā ya bāras' eva ya bāvaṭṭhi-kateṇa chedeṇa* (45).

Thus as understood in the *Arthaśāstra* the two terms *karma-saṃvatsara-* and °*māsa-* do not belong to the same computing system: *k.-māsa* belongs to the "practical year" and *k.-saṃvatsara* to the lunar year.

**(iii)** The Jaina pair of terms could well have been completed by a third one formed in the same way (*karma*+X) referring to the "practical = civil day" in contradistinction with the lunar day, the well-known *tithi*, and other types of days corresponding to the different types of years and months. In the Śvetāmbara canonical sources, this notion is conveyed by *ahoratta* and *rāiṃdiya*. The duration of the civil day is given as follows:

*be ṇāliyā muhutto, saṭṭhiṃ puṇa ṇāliyā ahoratto* (JK 36ab)

"Two *nālikā*s are one *muhūrta*; and 60 *nālikā*s are one day and night".

Such a definition corresponds to the *Vedānga*s, the *Arthaśāstra*

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zu bezweifeln, dass das Kauṭilīya der Abfassung des Jainakanons zeitlich nahegestanden hat; denn nur so erklären sich die mannigfachen Übereinstimmungen in Vorstellungen und Worten zwischen beiden", p. 254 = p. 895 of the article "Einteilung des Tages und Zeitmessung im alten Indien" (*ZDMG* 74, 1920) as reprinted in H. Jacobi, *Kleine Schriften*, Wiesbaden, 1970.

(*pañcadaśa-muhūrto divaso rātriś ca*, 2.20.37) or other sources.

The expected third term, however, is found in Malayagiri's commentary on the *Joisakaraṇḍaga*:

> *tathā sūryadivasasyaikaṣaṣṭir ghaṭikāḥ parimāṇaṃ, karmma-divasasasya ṣaṣṭir ghaṭikāḥ, candra-divasasya...* (p. 36).
>
> "The solar day measures 61 *ghaṭikā*s, the civil day 60,[34] the lunar day …".

Further, the JK defines time not only in time units but also in units of volume and units of weight. The reason is that the instrument used to measure time is a water clock, which discharges through a small hole certain amount of water in 24 minutes. The volume discharged in one *nāḍī* is two *āḍhaka*s, and the weight of the water discharged in one *nāḍī* is 100 *pala*s.[35] Malayagiri elaborates on this by systematically giving the volume and weight of each type of day:

> *ekaikasyāṃ ca ghaṭikāyāṃ dvau dvāv āḍhakāv iti divasasya meya-cintāyāṃ: sūrya-divasasya dvāviṃśam āḍhaka-śataṃ parimāṇaṃ 122, karmma-divasasya viṃśaty-uttaram āḍhaka-śataṃ 120 ... / ekaikasyāṃ ca nālikāyāṃ pala-śatam iti tulyatva-cintāyām idaṃ divasasya parimāṇaṃ: sūrya-divasasyaikaṣaṣṭiḥ pala-śatāni parimāṇaṃ 6100, karmma-divasasya ṣaṣṭiḥ pala-śatāni 6000* … (M on JK p. 37).
>
> "In terms of the volume of the day, since in each *ghaṭikā* (= *nāḍī*) there are 2 *āḍhaka*s, the solar day has 122, the civil day 120 … In terms of the weight of the day, since in one *nālikā* there are 100 *pala*s, the size is as follows: the solar day has 6100, the civil day 6000…".

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34. Pkt. *ṇāliyā* and Pkt. *ghaḍiyā* and their Sanskrit equivalents are all synonyms.

35. JK 34-35.

**(c) *karma* and *vāṭī***

If we combine the results of (a) and (b), it becomes possible to assume the following equivalence: *karma-vāṭī* = **karma-vāra/vārī* = *karma-divasa*, "practical day, day for/of work/rituals = civil day". In its original meaning the word could refer to the basic time unit which was used in classical India for practical activities and as the basis for payment of wages, interests, etc. The commentary on the *Arthaśāstra* (2.7.6 and 20.47) or works such as the *Śukranīti* and Sanskrit mathematical texts use civil time units in daily computing: "*Karmasaṃvatsaraḥ*: this is the official year for completing the accounts of the various undertakings".[36] Whereas the solar and lunar years are important for astrological and astronomical purposes, the starting point of all calculations is the "standard" year of 30 days x 12 months = 360 days. The year of 360 civil days (called *ahorātra*, *dina*, *divasa*) is the one invariably mentioned in the introductory definitions of technical terms (*paribhāṣa-saṇjñā*) in Sanskrit mathematical treatises.[37] No generic term designating this type of year is used or has been handed down to us in these sources, but reference to the civil year, month and day is generally implied. The Jaina tradition, however, has coined a specific terminology for these notions, used it consistently and preserved it sporadically in the available sources: civil time had probably much more impact in practice than what they reveal. The statement of the Jaina commentator Śānticandra (see above 3(b) (ii)) proves true: everybody uses different types of years depending on his field.

Yet part of the mystery remains: why is *karmavāṭī* or its Prakrit equivalent not attested as a term in any treatise? Why does it appear in a unique manner in the 12th century,

36. Note in Kangle's translation of AŚ 2.7.6.

37. See Āryabhaṭa, *Āryabhaṭīya, Kālakriyāpāda* 1; Śrīdhara, *Pāṭīgaṇita*, rule 13; Mahāvīra, *Gaṇitasārasaṃgraha* 1.34-35. (References kindly communicated by Prof. S.R. Sarma).

only to surge up again from the 15th century onwards in manuscript colophons (and inscriptions)? Nonetheless, it appears that *karmavāṭī* and *tithi* could have referred originally to two types of days reckoning. *Tithi* is a lunar day, and *k.* a civil day. Their juxtaposition in Hemacandra's lexicon does not automatically imply that they designate the same notion. All the verses do not follow the same pattern, and reading *pakṣaḥ sa bahulo 'sitaḥ* (II.61ab), nobody would fancy that *bahula* = *asita*! Or does *k.* refer to special or unusual astrological conditions, which could account for its rarity? All shades of differentiation between *k.* and *tithi*, however, seem to be blurred in the actual usage. How could it be explained otherwise that inscriptions on different images located in the same temple refer to exactly the same date, with *tithau* in some and *karmavāṭyāṃ* in others? (See below Appendix end). The fact that it is attested in Jaina manuscript colophons and inscriptions until rather recent times (19th century at least) would suggest that this technical term belonged to daily use and was part of the language of the scribes, although it does not seem to have any vernacular equivalent. In the two occurrences which could be traced in Old Gujarati poems, the word has its "Sanskrit" form (see below Appendix "VS 1757" and "VS 1760"). *Karmavāṭī* could have entered Hemacandra's *Abhidhānacintāmaṇi* from the practice (of scribes? of astronomers?) and survived there as a *unicum* preserved by the lexicographer as a treasure.

**(4)**

Appendix : occurrences of Skt. *karmavāṭī*

This list cannot pretend to be exhaustive. However, it is meant to be complete for the works listed below:

Balbir Nalini, Sheth Kanhaiyalal, Sheth Kalpana K., Tripathi Candrabhāl, *Catalogue of the Jain manuscripts of the British Library, including the Victoria and Albert Museum and the British Museum*,

London, The British Library, the Institute of Jainology, 2006. 3 vols. + CD.

BhORI = H.R. Kapadia, *Descriptive Catalogue of the Government Collections of Manuscripts deposited at the Bhandarkar Oriental Research Institute,* Poona, Vol. XVII to XIX.

Ahmedabad, L.D. = *Catalogue of Sanskrit and Prakrit Manuscripts in the L.D. Institute of Indology, Ahmedabad,* Ahmedabad: Volumes 1-4, 1963-68 (L.D. Series 2, 5, 15, 20) by Muni Punyavijaya. [Volumes 5 and 6 do not quote the colophons. Hence they are of no use in the present context].

JGK = M.D. Desai, *Jaina Gūrjar Kavio.* Descriptive catalogue of Jain poets and their works in Gujarati Language. Edition used: revised by Jayant Kothari, Bombay, Shri Mahavir Jain Vidyalay, Vol. 1-9, 1987-1997.

Nahar, Puran Chand, *Jaina Inscriptions*, Delhi, Indian Book Gallery, 2nd ed. 1983 (1st ed. 1918).

PrS = A.M. Shah, *Śrī Praśastisaṃgraha*, Ahmedabad, 1937.

Punyavijayaji, Muni Shri, *New Catalogue of Sanskrit and Prakrit Manuscripts*. Jesalmer Collection, Ahmedabad, 1972 (L.D. Series 36).

Schubring, Walther: *Die Jaina-Handschriften der Preussischen Staatsbibliothek*. Neuerwerbungen seit 1891. Leipzig, Otto Harrassowitz, 1944.

Tripāṭhī, Chandrabhāl: *Catalogue of the Jaina Manuscripts at Strasbourg*. Leiden, E.J. Brill (Indologia Berolinensis 4), 1975.

Vinayasāgar = Mahopādhyāya Vinayasāgar, *Kharataragaccha Pratiṣṭhā Lekha-saṃgraha*, Prakrit Bharati Academy, Jaipur, 2005.

Weber, Albrecht: *Verzeichniss der Sanskrit- und Prâkrit-Handschriften der Königlichen Bibliothek zu Berlin*, Zweiter Band. Zweite und Dritte Abtheilung. Berlin, 1888 & 1892.

(Other catalogues or collections of Praśastis than these have been consulted as well. They are not in this list because they do not contain any occurrence of *k.*).

## Manuscript colophons

VS 1497: *saṃvat 1497 varṣe Bhādrapada-māse asita-pakṣe*

*paṃcamī 5 kramavāṭyāṃ (*sic*) pṛthivītanaya-vāre Bharaṇī-nāmni nakṣatre Harṣaṇa-yoge ... Sūracandranagare ...* (Puṇyavijaya No. 1231; *Vivekavilāsa*). – *Harṣaṇa* is the 14th of the 27 yogas (S.R. Sarma).

VS 1539: *saṃvat 1539 varṣe Kārttika-māsāsita-caturthī-karmmavāṭyāṃ śani-rohiṇī-yoge śrīmati śrīJesalameru-mahādurge* ...(Weber No. 2021; commentary of the *Praśnottararatnamālā*). – *Śani-rohiṇī-yoga* is not one of the 27 yogas, but the compound is attested Jaina inscriptions or manuscript colophons.

VS 1642: *saṃvat 1642 Bāhulānjanetara-dvitīyā-karmmavāṭyām* (read so; Schubring, wrongly: karma-cāḍyāṃ*) .... Kiṣkindhā-nagaryāṃ* (Schubring No. 639; *Ṛṣimaṇḍalavṛtti*). – The month is *Bāhula*, a synonym of Kārtika recorded in AC II. 69 and in the *Amarakoṣa*. *Anjanetara* = *bahuletara* = *asitetara* = bright fortnight.

VS 16xx: *ājāneyābja-ṣaṣṭha-dvija-sadṛśa-same karmmavāṭyāṃ daśamyāṃ Veṣe māse subhāse vimalatara-dine maṃju-pakṣe valakṣe* (Punyavijaya No. 1363; *Sthānāngasūtravṛtti*). – Some elements are unclear, e.g., the understanding of the last two digits of the year and the identity of the month: could it have something to do with *iṣa* = Āśvina (AC II.69)?

VS 1681: … *saṃvat 1681 varṣe Aśvina-māse bhauma-vāsare trayodaśī-karmmavāṭyāṃ likhitā śrīVīramapuri-nagare* (PrS No. 756 p. 189; Hemacandra's *Abhidhānacintāmaṇi*!)

VS 1716: *saṃvat 1716 varṣe Madhu-māse asita-pakṣe bhūteṣṭā-karmmavāṭyāṃ guru-vāsare ... Seṣapure ...* (Ahmedabad, L.D., vol. I, No. 627; *Kalpasūtra*). – *Bhūteṣṭā* is recorded as a synonym of the fourteenth lunar day of a fortnight (*caturdaśī*) in AC (II.65), but not in *Amarakoṣa*.

VS 1720: *saṃvat 1720 varṣe Māgha sudi dvitīyā-karmavāṭyāṃ budha-vāsare 'lekhi ... Stambhatīrtha-madhye* (PrS No. 853

p. 230; *Laghujātakavṛtti*).

VS 1721 : ... *saṃvvati 1721 pramitābde Proṣṭha-māsi sitetara-pakṣe śrīmati śrîSthambhanatīrthe aṣṭamyāṃ karmavāṭyāṃ surācārya-vāsareyaṃ likhitā* (PrS No. 856 p. 230; *Jambūdvīpaprajñapti*). – *Proṣṭha*° could be an abbreviation of *Prauṣṭhapada*, recorded as one of the names of Bhādrapada in AC II.68 and *Amarakoṣa*.

VS 1721: *saṃvvati 1721 pramitābde Pauṣa-māsi sitetara-pakṣe śrīmati śrīSthambhatīrthe sutīrthe aṣṭamyāṃ karmavāṭyāṃ surācārya-vāsareyaṃ likhitā* (PrS No. 857 p. 231; *Jambūdvīpaprajñapti*).

VS 1724: *saṃvat 1724 Aśvina-sita 5 iti karmavāṭyāṃ likhitā ... śrīVallabhapure* (Ahmedabad, L.D., Vijayadevasūri collection, vol. IV, Appendix No. 246; *Devaḥ prabhostotra*).

VS 1731: *saṃvat 1731 varṣe Poṣa-vadi caturdaśī karmavāṭyāṃ* ... (PrS No. 919 p. 245; *Siddhāntacandrikā*).

VS 1745: *saṃvat 1745 varṣe śāke 1610 pra° Aśvina-māse śukla-pakṣe saptamyāṃ karmavāṭyāṃ* ...(Ahmedabad, L.D., vol. I, No. 368; *Rājapraśnīya*).

VS 1749: … *saṃvat 1749 hāyane Maghā-māsāvadata-pakṣe oṣadhikāṃtādhiṣṭhitāṣṭamīkarmavāṭyāṃ ... śrīmad-Ahammadāvāda-draṃge* ... (Tripāṭhī No. 14; *Uttarādhyayanasūtra* with Bhāvavijaya's commentary).

VS 1752: *saṃvan-netrendriya-rṣīndu (1752) pramite Madhau māsi navamyāṃ karmavāṭyāṃ ... śrīVikramapura-madhye* (Ahmedabad, L.D., vol. II, No. 3793; Devaprabhasūri's *Pāṇḍavacaritra*).

VS 1757: *saṃvata 17 saṃyama gīrī Pāṇḍava mīteṃ, varṣe varṣā dhūrī māsākiteṃ*
*(cālī) māsa pahilo sarada ṛtu no asīta pakṣa pralakṣae karmavāṭī navamī vāru vāra kavi mityūkta e*

*tūrya māṃsuṃ rayā supareṃ draṃge Mahisāṃṇaka mahiṃ...* (JGK vol. 5 No. 3645, p. 141; date of composition of *Harivāhana rājā no rāsa* by Mohanavijaya). – = VS 1757 (or 8) Kārtika vada 9 śukravāra according to Desai.

VS 1760: *puraṇa kāya muni candra suvarṣe (1760), vṛddhimāsa śuddha pakṣa he aṣṭamī karmmavāṭī udayika, saumyavāra supratyakṣa he ...* (JGK vol. 5 No. 3647, p. 146; date of composition of *Mānatuṃga Mānavatī no rāsa* by Mohanavijaya). – = VS 1760 adhika māsa śu. 8 budha according to Desai.

VS 1765: *saṃvat 1765 varṣe Kārttika-māse sita-pakṣe navamī-karmmavāṭyāṃ kuja-vāre ... śrīmatPattana-pattane* (Ahmedabad, L.D., vol. I, No. 2837; *Śīlāngaratha*).

VS 1766: *śrīsaṃvad-darśana-rasa-tyaṣṭi-varṣe 1766 Śāke candra-rāma-rasa-śaśi (1631) pravarttamāne Śukra-māse śukletara-pakṣe ekādaśī-karmavāṭyāṃ 11 parharṣula-vāsare* (BhORI vol. XIX. I, No. 98; *Kalyāṇamandirastotra* with *Saubhāgyamañjarī*). – *Śukra* is a synonym of Jyeṣṭha recorded in AC II.68 and *Amarakoṣa*.

VS 1768: *bhogyaṅga-muny-abja-mite (1768) varṣe harṣeṇa Mṛgasira-māse / navamyāṃ karmavāṭyāṃ ca likhitaṃ śukra-vāsare //* (Ahmedabad, L.D., vol. II, Appendix No. 5118; *Dṛṣṭāntaśataka-stabaka*).

VS 1771: *... saṃ. 1771 varṣe Māgasira-vadi trayodaśī-karmavāṭyāṃ mustarī-vāsare ...* (PrS No. 1106 p. 287; *Upadeśamālāstabaka*). – "*Mustarī-vāsara* is Thursday, for *muśtarī* is Arabic for Jupiter. In his astrological work *Kheṭakautuka*, Khān-i-khānān Abdul Rahīm Khān employs Arabic and Persian words in Sanskrit verses. There verse 51 reads:

*muśtarī yadi bhavet tāle sāhibaḥ khuśadilo manujaḥ syāt*
*āmilaḥ puru-sakhūn siradāraḥ phāraso hy akaviro mahabūba?*.

But *mustarī-vāsara* would be intelligible only to those who are familiar with *tājika*, i.e. Islamic astrology in Sanskrit, and not to others" (S.R. Sarma).

VS 1780: *saṃvat 1780 varṣe Māgha-māse śukletara-pakṣe 10 daśamī-karmavāṭyāṃ śanau vāsare lipīkṛtam* (PrS No. 1148 p. 296; *Sthānāngasūtrastabaka*).

VS 1780: *saṃvat 1780 varṣe Phālguna-māse kṛṣṇa-pakṣe aṣṭamī-karmavāṭyāṃ suraguru-vāre ... śrīSojita-nagare* (PrS No. 1154 p. 298; *Haimī nāmamālā*).

VS 1781: *saṃvat śaśi-siddha-sāgara-kumudabāṃdhava-mite (1781) Aśvayuja-kṛṣṇa-pakṣe ekādaśî-karmavāṭyām … Vikramapuravare* … (Ahmedabad, L.D., vol. I, No. 622; *Kalpasūtra*).

VS 1783: *samagni-nāgadri-candra-pramitābde (1783), Śāṃke vasv-abdhi-rasaike pravarttamāne (1648)/ mahā-māngalya-prada-Bāhulaka-māse dhana-trayodaśyāṃ karmavāṭyāṃ // cāndrivāsare // śrīmajJesala-peśala-durgge ...* (Balbir-Sheth-Tripathi, British Library Cat. No. 747; Matisāra's *Śālibhadra-caupaī*). – For *Bāhula* see above on "VS 1642". *Dhanatrayodaśī* is a festival celebrated on the 13th day of the dark fortnight of Āśvina, "on which money-lenders and others worship money" (F. Kielhorn, "Festal days of the Hindu lunar calendar", *Indian Antiquary* 1897, reprinted in *Kleine Schriften*, Wiesbaden, 1969, p. 866). Known in Gujarati as *Dhanteras* "Wealth Thirteenth", it is also part of the Śvetāmbara Jaina calendar (cf. J.E. Cort, *Jains in the World*, Oxford University Press, 2001, p. 164).

VS 1785: *saṃvat kusumāyudhāyudha-kailaśa-bhūdhara-śirastaṭīkānta-bhūdhana-gaganāṅgaṇa-tilaka-vāhana-rajanībhūṣaṇa-pramite varṣe hṛṣya-vaiduṣya-sākṣiṇi vicakṣaṇa-mukhya-mānanīye Taiṣye māsi valakṣa-vipakṣa-pakṣe pañcamyāṃ karmavāṭyāṃ budha-jana-manojña-jña-vāsare, akarkaśa-pariṇati-*

*svāmini karka-lagne tasminn eva ca nandāṃśa-svāmini likhitaṃ idaṃ praśastaṃ pustakam* (Ahmedabad, L.D., Vijayadevasūri collection, vol. IV, Appendix No. 473; *Yogaśāstra-antaraślokas*). – This is a rather complicated chronogram. The understanding as "1785" is given in the Catalogue entry. *Taiśa* is a synonym of Pauśa recorded in AC II. 66 and *Amarakoṣa*.

VS 1786: *saṃvat 1786 varṣe Phālgunavadi-pakṣa-pañcamīti karmavāṭyāṃ budhe likhitā ... Śrīmālapure* (Ahmedabad, L.D., Vijayadevasūri collection, vol. IV, Appendix No. 88; *Kalpasūtra-stabaka*).

VS 1796: *saṃvad-rasānga* [read °*anka*, S.R. Sarma]-*muni-bhū1796same Aśvayuji bahuletare pakṣe daśamyāṃ karmavāṭyāṃ śuci-vāre ŚrīPhalavarddikāpuri ... Vijayadaśamī-dine prathama-prahare 'lekhi*. (Punyavijaya No. 1735; *Sārasvatavyākaraṇaṭīkā*). – Note the mention of the *prahara* as well, something which is not very common.

VS 1802: *saṃvat 1802 varṣe māsottama-māsi Nabhasi māsi rākāyāṃ karmmavāṭyāṃ śitītara-pakṣe ... Nīṃvaḍīgrāme cāturmāsikaṃ kurvati* (Ahmedabad, L.D., vol. II, No. 5135; *Bhartṛharitriśatī-vṛtti*). – Since *rākā* refers to the 15th and last day of the bright fortnight, *śitītara* corrected by the editor in *śitetara* "dark" is strange (S.R. Sarma).

VS 1804 :

*abdhi-khaṃ-vyāla-candrai 1804 śca pramite vatsare alikhaṃ māsi taiṣe site pakṣe, śubhāṃ Sthānāṁga-dīpikāṃ 1 karmmavāṭyāṁ dvitīyāyāṁ, vāre ru+aṁgārake* (= day of the week) *mudā* (Balbir-Sheth Tripathi : British Library Cat. No. 15; *Sthānāngasūtra* with Megharāja's *Dīpikā*). – (*S)taiṣe*: see above about "VS 1785".

VS 1811 : *saṃvat 1811 varṣe Mārggasire māse śukla-pakṣe saptamī-karmavāṭyāṃ devaguru-vāsare ...* (Balbir-Sheth Tripathi : British Library Cat. No. 246; *Ṣaḍāvaśyakavyākhyāna*

by Hitaruci).

VS 1812 : *saṃvat netraika-aṣṭādaśa-śatāni varṣe (1812) Śāke 1677 pravarttamānye* (sic) *śrīSaṃtoṣa-nāmni māse sveta-pakṣe navamī-karmavāṭyāṃ śrīmārttaṃḍa-vāsare śrīBhāvanagara-madhye laṣyuṃ chai* (BhORI vol. XIX. I.II, No. 455; *Vidhipañcaviṃśatika* with *Ṭabbā*).

VS (1)832: *saṃvat netrāgni-vasu-abde*(sic) *mite Phālguna-sita-pakṣe ṣaṣṭyāṃ karmavāṭyāṃ mārttaṇda-vāre ...* (Schubring No. 743; no place name given; *Jīvasamāsavṛtti* by Hemacandra Maladhārin). – In the chronogram a word signifying "one" is missing (S.R. Sarma).

VS 1838: *saṃ | 1838 varṣe dvi Jyeṣṭa vadi 14 karmmavāṭyāṃ ...* (Balbir-Sheth-Tripathi 2006, British Library, Cat. No. 1065; *Siddhācalastavana* by Padmavijaya).

VS 1840: *śrīman-nṛpati-Vikramārkasamayātītāt saṃvat 1840 Śāke śrīŚālivāhanasya 1705 pravarttamāne māsottame Jyeṣṭa-māse śubhe śukla-pakṣe pancamyāṃ 5 karmavāṭyāṃ gīrvāṇaguru-vāsare ... śrīmajJayapura-nagare* (Schubring No. 1076; *Vijayacandacariya*).

VS 1844: *saṃvat 1844 varṣe Śāke 1709 pravarttamāne Aśvina-māse kṛṣṇa-pakṣe tṛtīyāyāṃ karmavāṭyāṃ vāsare ...* (BhORI vol. XVII, 2a, No. 564; *Paryuṣaṇāṣṭāhnikā-vyākhyāna*).

VS 1845: *saṃvat-candra-gaja-veda-bāṇa (1845) mitis Tapā-māse asitetara-pakṣe 9 navamyāṃ karmavāṭyāṃ jña-vāsare / saṃvat 1902 miti Phālguṇa vada 2 śukra(?)vāre samāptam* (BhORI vol. XIX II II, No. 387; Udayavīragaṇi's *Pārśvanāthacaritra*). – *Tapāḥ* is a synonym of Māgha recorded in AC II. 67 and in the *Amarakoṣa*.

VS 1850: *saṃvat 1850 Śāke 1715 pravarttamāne Mārgaśirṣa vadi 11 bhṛgau vāsare karmavāṭyāṃ Śrīpūrabidara-nayare ...* (Weber No. 2172; Bhartṛhari's *Śatakatraya* with vernacular glosses).

VS 1851: *saṃvat 1851 varṣe Śāke 1716 pravarttamāne Kārttika-māse viśada-pakṣe saptamyāṃ karmavāṭyāṃ …* (Ahmedabad, L.D., vol. I, No. 264; *Bhagavatīsūtravṛtti*).

VS 1878: *saṃvat gajādri-vasu-candrābde (1878) Śāke vahny-abdhi-muni-śaśi-pramite bde* (1743) *Aśvin-māse śukla-pakṣe dvādaśyāṃ karmavāḍhī (ṭyāṃ*; read *-vāṭī*)*-kumudanī-vāsare śrīmadRājanagre …* (Ahmedabad, L.D., vol. I, No. 3172; *Karmavipākaprakaraṇa-stabaka*). – *Kumudanī*° "is probably a misreading for *kumudinī-nātha-vāsare*, i.e. Monday" (S.R. Sarma).

VS 1883: *saṃvat 1883 rā Phālguṇa-kṛṣṇa-pratipat-karmmavāṭyām iti śrīmacChuddhadantī-draṅge …* (Ahmedabad, L.D., vol. I, No. 680; *Kalpasūtra-bālāvabodha*).

VS 1888: *saṃvad-dhanañjaya-pradara-naga-dvijarāja- (1888) hāyane Śuci-māse prāk-pakṣe ṣaṣṭhī-karmmavāṭyāṃ daityaguru-ghasre ... ŚrīKoṭṭaḍā-durge*. (Ahmedabad, L.D., vol. II, No. 6210; Maheśvarakavi's *Śabdaprabhedanāmamālā*). – *Prākpakṣa* should be the equivalent of *bahulapakṣa* "since in north India the months begin with the dark fortnight" (S.R. Sarma). According to AC (II.68) and *Amarakoṣa*, *śuci* is another name of Āṣāḍha. *Daityaguru*° is Friday. *Ghasra* is not so common in manuscript colophons, but it is recorded as a synonym of *dina* in *Abhidhānac.* II.52 and *Amarakoṣa*.

No year visible: *///si-māse subhra-pakṣe dvitīyā-karmmavāṭyāṃ śukra-vāsare ...* (Balbir-Sheth-Tripathi 2006, Cat. No. 722; *Bhuvanabhānukevalicaritra* with Harikuśalagaṇi's Gujarati commentary).

**Inscriptions**

VS 1857: *saṃ. 1857 miti Caitraka-māse kṛṣṇa-pakṣe ṣaṣṭhyāṃ karmmavā*° (Nahar No. 425 = Vinayasāgar No. 1688; inscription on the *pādukā*s of the eleventh Jina, Śreyāṃsanātha, in the temple of Siṃhapura, a village close to Varanasi, installed

by Hīradharma, a disciple of Jinalābhasūri of the Kharataragaccha, when the sūri was Jinaharṣasūri).

VS 1901: *saṃvac-candrāmbara-nidhi-vasundharā 1901 pramite hāyane śrīmacChālivāhana-bhūbhṛd-vinyasta-śasta-Śāke 1766 pravarttamāne māsottama-Pauṣa-māse śubhe valakṣa-pakṣe rākāyāṃ 15 karmavāṭyāṃ surācārya-vāsare puṣya-nakṣatre ... śrīRatalāma-pattane* … (Vinayasāgar No. 2044; image of Ajitanātha in the Bābā Sā. temple, Ratlam = Vinayasāgar No. 2058, image of Neminātha in the same temple).

VS 1920: … *śrīman-nṛpati Vikramāditya-samayāt saṃvatsare khaṃ-nayanāṃkendu-mite* (1920) pravarttamāne Śāke *jñāna-siddhi-muni-candra-pramite* (1785) *māsottama-māse Māgha-māse śubhe śukla-pakṣe guṇendu* (= 12+1 = 13)*-mitāyāṃ karmavāṭyāṃ śanivāre śubha-muhūrte* ... (Vinayasāgar No. 2291; stone-slab in the Seṭhjī temple, Bundi), cf. also Vinayasāgar Nos. 2299, 2304, 2307, 2308: *Māgha śukla 13 karmavāṭyāṃ*. – In other inscriptions of the same temple, of the same date *tithau* instead of *karmavāṭyām*.

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