Vṛddhagārgīya Jyotiṣa (3)
(Continued from previous issue)

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Tithi-karma-guṇa

Tithi-karma-guṇa is the second chapter in the first *aṅga* of VGJ called *karma-guṇam;* counted from the start this is the fifth chapter of VGJ. *Tithi* is the second time parameter of the quartet *nakṣatra, tithi, karaṇa, muhūrta* of the first *aṅga.* Outlines of this *aṅga* have been presented already in the previous issue. We note here that the *nakṣatra* concept as a time measure is connected with the daily position of moon with the members of the closed strand of the visible 27 constellations depicted in the *nakṣatramālā* figure[3]. *Tithi* is also a concept of time measure connected with the position of moon but in relation to sun.

Tithi is popularly called lunar day, widely prevalent in India currently for socio-religious purposes. With the advent of mathematical astronomy of the *siddhānta* texts, the meaning of *tithi* has changed from its more ancient observational moorings, to become a *day* calculated on the basis of 12-degree separation in longitude between sun and moon**,** starting from conjunction or opposition. This sophistication is the outcome of a long period of theorization rooted in the observation of the daily change in the *kalā* (digit) of moon. In the earliest period of Vedic practice, the word *tithi* was used in the sense of an unspecified date in a year or a month or a fortnight. This we see in the use of the word *tithi* in the *Śatapatha Brāhmaṇa* while referring to the promise of the Fish to arrive on a promised *tithi* (day) in a foretold *samā* (year). However, neither the day nor the year is specified[4,5].

Another Vedic text *Aitareya Brāhmaṇa* (AB) also uses the word *tithi* while referring to the dual character of *pourṇamāsī* (full moon day) and *amāvāsyā* (new moon day) and the connected *upavāsa* (ritual fasting) before the full moon and new moon sacrifice respectively. First, the names *anumati, rākā, sinīvālī, kuhū* are defined in AB. If on the last day of the nominal *pakṣa* (fortnight) the setting/rising moon is observed to be less than full, such moon is *anumati.* Visually perfect full

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4 स हि ज्येष्ठं वर्धतेऽथेतिथीं समां तदौघ आगन्ता तन्मा नावमुपकल्प्योपासासै [..] स यतिथीं तत्समां परिदिदेश ततिथीं समां नावमुपकल्प्योपासांचक्रे [..] । *Mādhyandina SB* (1.8.1)

5 स होवाचेतिथीं वै समामौघ आगन्तेति तन्नावमुपकल्प्योपासासै स औघ उत्थिते नावमापद्यासै तत्त्वा पारयितास्मीति तं तथा भृत्वा समुद्रमभ्यवजहार स यतिथीं समां परिदिदेश तदयं नावमुपकल्प्योप निषसाद [..] । *Kāṇvīya SB*)2.7.3)

moon is *rākā*. Similarly, on the last day of the dark fortnight, when sun is about to rise, if a *kalā* (digit) of moon is seen, such *amāvāsya* is called *sinīvālī* otherwise it is *kuhū*. Thus two types of full moon (day) and *amāvasyā* (day) were recognized in the early Vedic period. This recognition must have been the result of long observations to infer that the count of full moon to *amāvāsya* is not equal to integral number of 14 or 15 sun rises or solar days. Without going into the details of the *darśa-pūrṇamāsa yāga*, we note that AB uses the word *tithi* as applied to the first, and the last day of the lunar (synodic) half-month. The relevant text in its context is given below. This is followed by the interpretation of the underlined sentence that uses the word *tithi,* by three modern scholars.

पूर्वां पौर्णमासीमुपवसेदिति पैङ्ग्यमुत्तरामिति कौषीतकं । या पूर्वा पौर्णमासी साऽनुमतियोत्तरा सा राका।या पूर्वाऽमावास्या सा सिनीवाली योत्तरा सा कुहूः। <u>यां पर्यस्तमियादभ्युदियादिति सा तिथिः</u>॥   *Aitareya Brāhmaṇa* (7.11)

i) "*The space which the moon requires for setting and rising again is called tithi.*"   (M. Haug[6])

ii) "*Tithi is that period of time during which the moon sets and rises again.*"   (S.B. Dikshit[7])

iii) "*The period is that when (the sun) sets near or rises towards the moon.*"   (B. Keith[8])

As seen from the AB text, the above sentence cannot be isolated from the context of the difference of opinion between *Ṛṣi Paingya* and *Ṛṣi Kauṣītaka*. However, Dikshit interprets it like the definition for the time measure *tithi*, which appears incorrect. The other two interpret the sentence in the larger context, but conspicuously Keith, an influential translator of Sanskrit texts does not like to recognize the word '*tithi*'. He hesitantly interprets the word as 'the period'. He argues that *tithi* - word and concept - is seen only in the *Gṛhyasūtras* and not in the *Brāhmaṇa* texts. His argument is that *tithi* in AB is a mere corruption of the word *sthiti*, appearing in the *Kauṣītaki Brāhmaṇa* (KB) in the context of differing opinions of *Paingya* and *Kauṣītaki*. The text of KB under consideration is:

पूर्वां पौर्णमासीम् उपवसेदिति पैङ्ग्यम् । उत्तरामिति कौषीतकम्। <u>यां पर्यस्तमयम् उत्सर्पेदिति सा स्थितिः</u>। पूर्वां पौर्णमासीमुपवसेदनिर्ज्ञाय पुरस्तादमावास्यायां चन्द्रमसम् ।   *Kauṣītaki Brāhmaṇa* (3.1.7)

"*On the first full moon (day) 'should he fast is' the view of Paingya; 'on the second' that of Kauṣītaki; that on which (the moon) appears (full) about the setting of the sun is **the rule**; he should fast on the second full moon day.*"   (B. Keith[9])

We need not go into the correctness or otherwise of the translation of Keith. But it is to be noted that he interprets the two, almost same, sentences in two different ways in his translations of AB and KB. With the above in the background it would be important to know how *Sāyaṇācārya* the

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[6] Haug, M. (Ed.). (1863). *The Aitareya Brahmanam of the Rigveda* (Vol. 2)
[7] Dikshit, S. B. (1896). *Bharataya Jyotish Sastra. Poona. (Transl. RV Vaidya)* (Vol.1).: Govt of India Press. 1969, 1981, New Delhi.
[8] Keith, A.B. (1920) *The Aitareya and Kauṣītaki Brāhmaṇas of the Rigveda.* Vol. 25. Harvard University Press.
[9] See Keith, A.B. (*ibid*).

prime authority on the sacrificial tradition understood the above AB sentence. The commentary with translation follows;

अमावास्यां पौर्णमासीं वा यां परिप्राप्य सूर्योऽस्तमियात्तथा यामभिलक्ष्य सूर्य उदियात् सेयमुदयास्तमयव्यापिनी कर्मोपयुक्ता तिथिः। ताद्दृश्यां तिथौ उदमयास्तमययोर्मध्ये पूर्वोत्तराभ्यां चतुर्दशीप्रतिपद्भ्यां मिश्रणे सति पर्वणो द्वैविध्यं भवति। तस्मिन् द्वैविध्ये पूर्वोक्तं मतद्वयं द्रष्टव्यम् ॥

*Having neared amāvāsyā or pourṇamāsī when sun sets and similarly when sun rises approaching them (amāvāsya or pourṇamāsī), that **tithi** extending from sun rise to sun set is (the period) fit for the prescribed work. When such a **tithi** between sunrise and sunset, is mixed with previous or next caturdaśī or pratipat (respectively), the two parvans (pourṇimā & amāvāsya) acquire duality. The aforesaid difference of opinion is to be seen in view of such duality.*

Due to the archaic nature of the AB language other interpretations may be possible, but that is not our focus here. The sum and substance of the above discussion is that the word *tithi* is used in AB referring to the *full moon day and amāvāsya day* for carrying out the *upavāsa* connected with the *darśa-pūrṇamāsa* Vedic rite. *Sāyaṇācārya* also interprets this word as a time interval symbolic of the two *parvans*. In KB the word *sthiti* refers to a particular configuration or position or station of sun and moon. In the context of dutifully preserved difference of opinion of two *Ṛṣi*s, both antecedent to the tradition of AB and KB, the text with the word *sthiti* in KB, is possibly more ancient than the corresponding AB text, as Keith opines. Hence, it stands to reason that over a period of time the word *tithi* of AB could have evolved as a transformation of the word *sthiti*, to connote a particular shape or phase of moon. Keith's arguments have no force to negate the evidence of use of the generic word *tithi* in the Ṛgvedic AB and the Yajurvedic SB texts, in the sense of an unspecified *day* or *date*, most probably marked by rise or set of full moon[10].

Available *samhitā* texts, do not invoke the word *tithi*, but the *darśa-pūrṇamāsa* rite is common to all Vedic traditions[11]. Irrespective of whether one followed *Paiṅgya* or *Kauṣītaki*, the waning and waxing of moon had to be observed in a sequence to keep count of the elapsed days in both the dark and bright fortnights. *Taittirīya Brāhmaṇa* attests that the days and nights were tracked in the *śuklapakṣa* and the *kṛṣṇapakṣa* separately by naming them as *samjnānam, vijnānam, darśā, dṛṣṭā* etc[12]. The list of such names that occur in groups of five is shown in the accompanying table 5.1. This does not mean that *ahorātra* were not counted in terms of ordinals in the Vedic texts. Both *amāvāsya* and *pūrṇimā* were referred as *pancadaśī,* the Fifteenth.

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[10] It is to be noted here that the misunderstanding of Keith on *tithi* is seen also in the *Vedic Index of Names and Subjects* by Macdonell and Keith, Published for Govt. of India, J. Murray, London. 1912.

[11] यज्ञं व्याख्यास्यामः॥ सत्रयाणां वर्णानां ब्राह्मणराजन्यवैश्य च॥ स त्रिभिर्वेदैर्विधीयत ऋग्वेदयजुर्वेदसामवेदैः। ऋग्वेदयजर्वेदाभ्यां दर्शपूर्णमासौ॥ *Āpastamba-paribhāṣā-sūtra* (1-4). (Ed.) A. M. Śāstri; Mysore, 1893.

[12] संज्ञानं विज्ञानं दर्शा दृष्टेति । एतावनुवाकौ पूर्वपक्षस्याहोरात्राणां नामधेयानि । प्रस्तुतं विष्टुतं सुता सुन्वतीति । एतावनुवाकावपरपक्षस्याहोरात्राणां नामधेयानि ॥ TB (3.10.10.2)

Table 5.1   Tithi Names

#	VGJ	PT	SKA	Ahorātra in TB (day/night)	
				Śuklapakṣa	**Kṛṣṇapakṣa**
1	Nandā	Nandā	Nandā	Saṃjñāna / Darśā	Prastuta / Sutā
2	Bhadrā	Bhadrā	Bhadrā	Vijñāna / Dṛṣṭā	Viṣṭuta / Sunvatī
3	Balā	Balā	Jayā	Prajñāna / Darśatā	Saṃstuta / Prasutā
4	Riktā	Atiriktā	Riktā	Jānat / Viśvarūpā	Kalyāṇa / Sūyamānā
5	Pūrṇā	Pūrṇā	Pūrṇā	Abhijānat / Sudarśanā	Viśvarūpa / Abhiṣūyamāṇā
6	Soma	Māsā	Jayā	Saṅkalpamāna / Āpyāyamānā	Śukra / Prītī
7	Mitrā	Mitrā	Mitrā	Prakalpamāna / Pyāyamānā	Amṛta / Prapā
8	Mahābalā	Mahābālā	Mahābalā	Upakalpamāna / pyāyā	Tejasvi / Sampā
9	Ugrasenā	Ugrasenā	Ugrasenā	Upakḷpta / Sūnṛtā	Tejas / Tṛpti
10	Sudharmā	Svadharmā	Sudharmā	Kḷpta / Irā	Samiddha / Tarpayantī
11	(Sunandā*)	Svanandā	Mānyā	Śreyo / Āpūryamāṇā	Aruṇa / Kāntā
12	Yaśā	Yaśā	Yaśā	Visīya / Pūryamāṇā	Bhānumat / Kāmyā
13	Jayā	Jayā	Jayā	Āyat / Pūrayantī	Marīcimat / Kāmyājātā
14	Ugrā	Ugrā	Ugrā	Saṃbhūta / Pūrṇā	Abhitapat / Āyuṣmatī
15 śukla	Paurṇamāsī	Siddhi	Siddhā	Bhūta / Paurṇamāsī	--
15 kṛṣṇa	Amāvāsyā	Siddhi	Siddhā	--	Tapasvat / Kāmadughā

VGJ provides a historical perspective to the above Vedic tradition of *tithi,* first in the 24th *aṅga* namely, *mahāsalila.* Evolution of the ancient tradition can be traced in the present *tithi-karma-guṇa* chapter and further in the second *aṅga* titled *candramāna.* The questions raised in the *salila-praśnādhyāya* are:

[..] कथं वा चन्द्रमसो वृद्धिह्रासौ वा। को वैतमाप्यायते ह्रासयते वा। कथं वा चन्द्रमसश्चन्द्रत्वं।

The answers are cryptic but convey the purport that the fortnight was equated with time measure of 15 *tithi,* depending on the decrease in the brightness or change in the size of moon[13].

[..] शुक्लं कृष्णं वृद्ध्या ह्रासेन हि चन्द्रमाः तद्देवा पूर्वपक्षमीहन्ते । तस्यैताः पञ्चकलाः पञ्चमीष्वपपीयन्ते । द्वितीया पञ्चकला दशमीष्वपयीयन्ते । तृतीयाः पञ्चकलाः पञ्चदशीष्वपपीयन्ते। षोडशी अवशिष्यते [..] स सन्नातो परे पश्चाद्दृश्यते तद्दर्शस्य दर्शत्वं भवति। मुखमेतत् प्रजापतेः यद्दर्शपौर्णमासम् एवमापूर्यमाणक्षीयमाणश्च सोमः पूर्णतिथिपौर्णमासं कालो भवति निर्वर्तयति ॥

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[13] The two chapters of *Mahāsalila* are yet to be edited.

It is said that deities drink the first five digits on the 5th, the second five digits on the 10th and the third five digits on the 15th nights (in dark fortnights). Further the word *tithi* is used in the sense of the full moon day being named *pūrṇa-tithi* before the cycle repeats. Explanation of the fortnight in three groups made up of five digits of moon follows the TB tradition where also the names are given in three groups of five. Two important observational facts stand out from the above. First, the decrease is not said to be at the rate of one *kalā* per night and hence the measure of *kalā* is not constant at least in the *mahāsalilādhyāya*. More interestingly the 16th *kalā* is said to be remaining. We can infer that whatever total measure was assigned to the orb of the full moon by *Vṛddhagarga* that number was not an integral multiple of 15 or 16 but a small fraction denoted as the 16th *kalā* remained. This might have been the reason for later Sanskrit texts to take the word *kalā* to mean the fraction (1/16).

One may wonder why instead of stating one *kalā* is consumed per night the decrease is demarcated at interval of five nights. The reason is clearly observational, since the illumination of moon does not decrease linearly but changes its rate of decrease near the 5th and the 10th nights. This is demonstrated in Figure 5.1 by modern illumination data collected from the Stellarium software starting from an arbitrary full moon near apogee and perigee. It may be observed from the figure, the illumination decreases slowly by about 20% in the first five moonrises but drops steeply by about 55% in the next five rises. The rest 25% falls further slowly in the remaining five rises.
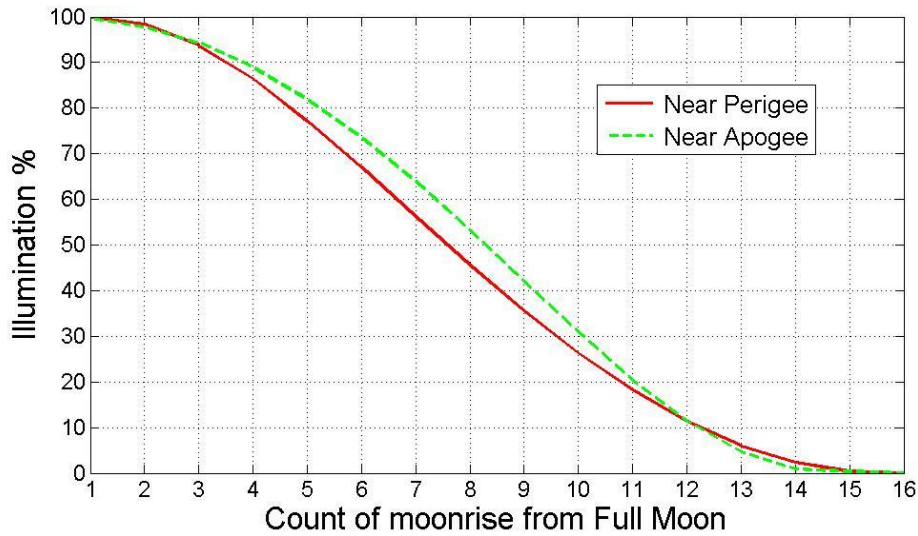

Figure 5.1 Variation of illumination of Moon in the Kṛṣṇapakṣa

In the *Vedāṅga* period, two different traditions for specifying the day seem to have come into vogue. In the first system, for each fortnight two sets of five names were repeated thrice to cover the fortnight. The Jaina text *Sūrya-candra Prajñapti* (*c* 300 BCE) follows a variant of this system, with five names for the morning half and five for the night half of each *tithi,* repeated thrice in the

two fortnights[14]. *Bṛhatsamhitā* (6th cent. CE) mentions only five *tithi* names[15] that are repeated thrice in the two fortnights, but lists by name fifteen *tithidevatā*.

In the second system an entirely different sequence of 15 names were selected. This is shown in PT, VGJ and SKA (Table 5.1). Gradually, the days in a fortnight were sequenced using ordinals as *prathamā, dvitīyā*, etc. (first, second etc.). In these schemes the name of the *pakṣa* had to be specified for clarity. This was a simplification of the TB ordering subsequent to the recognition of the *pakṣa* or *ardhamāsa* (half synodic month) being not equal to 15 *aho-rātra*, but defined to be equal to 15 *tithi*.

Prajāpati Legend in SB

The *Śatapatha Brāhmaṇa* provides the heuristics for selecting the numbers 15 and 30 through a legend connected with *Prajāpati* the Year. After creation of the cosmos the joints of *Prajāpati* became slack at the meeting of day and night and at full moon and *amāvāsya*. His joints at the syzygy were fixed by conducting the *darśa-pūrṇamāsa* rites[16]. The text further works out how the 360 days and 360 nights making up the Year of 720 (*ahas + rātri*) can be factored into integers starting from 2 and increasing by unity at every step up to 24.

The number 720 is divided by 2, 3, 4, 5, 6,8,9,10,12,15,16,18,20 to get 360, 240, 180, 144, 120,90,80,72,60,48,45,40,36. The text says for each of these possibilities, *Prajāpati* could not envelop (*sa naiva vyāpnot*)[17]. When divided by 7, 11,13,14, 17, 19, 21, 22, and 23 *Prajāpati* could not manifest himself (*na vyabhavat*)[18].

The legend concludes that *Prajāpati* made himself into 24, resulting in 30 *iṣṭaka* (bricks of the altar)[19]. Then, He sat there in that 15 boxed figure. Since he settled in the Fifteen, there are 15 forms (for moon) in the waxing and 15 forms in the waning fortnight[20]. Twenty-four is the number of *ardhamāsa* (half-months) in a year[21].

The division of *aho-rātra* (day-night) cycle into *ahas* and *rātri* is dictated by *ṛtam,* the cosmic law. Similarly, the *amāvāsya-amāvāsya* or *pūrṇimā-pūrṇimā* cycle is divided into two halves, the bright and the dark. This self-similarity in the two basic time units plays key role in Indic worldview and

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[14] नन्दा, भद्रा, जया, तुच्छा, पुण्या (day half-tithi); उग्रवती, भोगवती, यशोवती, सर्वसिद्धा, शुभनामा (night half-*tithi*). These are the Sanskrit equivalents for the original *Prākṛta* names as given by *Malayagiri* in his commentary.

[15] नन्दा भद्रा विजया रिक्ता पूर्णा च तास्त्रिविधाः ॥ *Brhatsamhitā* (98.02)

[16] प्रजापतेर्ह वै प्रजाः ससृजानस्य पर्वाणि विसस्रंसुः। स वै संवत्सर एव प्रजापतिस्तस्यैतानि पर्वाण्यहोरात्रयोः संधी पौर्णमासी चामावास्या चतुर्मुखानि ॥ स विस्रस्तैः पर्वभिः । न शशाक संहातुं तमेतैर्हविर्यज्ञैर्देवा अभिषज्यन्नग्निहोत्रेणैवाहोरात्रयोः संधी तत्पर्वाभिषज्यंस्तत्समदधुः पौर्णमासेन चैवामावास्येन च पौर्णमासीं चामावास्यां च तत्पर्वाभिषज्यंस्तत्समदधुश्चातुर्मास्यैरेवर्तुमुखानि तत्पर्वाभिषज्यंस्तत्समदधुः ॥ ŚB (1.6.3)

[17] स द्वेधात्मानं व्यौहत् षष्टिश्च त्रीणि च शतान्यन्यतरस्येष्टका अभवन्नेवमन्यतरस्य स न व्याप्नोत् ।त्रीनात्मनोऽकुरुत तिस्रस्तिस्रोऽशीतय एकैकस्येष्टका अभवन्स्त नैव व्याप्नोत् । [..] विंशतिमात्मनोऽकुरुत षड्त्रिंशदिष्टिकान्त्स नैव व्याप्नोत् ॥ SB (10.4.2; 2-14)

[18] न सप्तधा व्यभवत् । [..] नैकविंशतिधा व्यभवन्न द्वाविंशतिधा न त्रयोविंशतिधा ॥ SB (10.4.2; 8-16)

[19] Some of the Vedic sacrificial altars are designed to be spatial representation of Time as *Prajāpati* the Year.

[20] चतुर्विंशतिमात्मनोऽकुरुत त्रिंशदिष्टकान्त्सोऽत्रातिष्ठत पञ्चदशे व्यूहे तद्यत्पञ्चदशे व्यूहेऽतिष्ठत तस्मात्पञ्चदशापूर्यमाणस्य रूपाणि पञ्चदशापक्षीयमाणस्य ॥ SB (10.4.2; 17)

[21] अथ यच्चतुर्विंशतिमात्मनोऽकुरुत तस्माच्चतुर्विंशत्यर्धमासः संवत्सरः । SB (10.4.2; 18)

intellectual traditions. Since the nominal half-month synchronizes with 15 *tithi*, the measure of day or night was also reckoned to be 15 *muhūrta*, making *ahorātra* to be 30 like the month was equated with 30. We have seen that in TB the day and night of the two *pakṣa* or *ardhamāsa* were discriminated by naming them separately. This naming was extended to cover the whole year by reckoning the 24 *ardhamāsa* by 24 names[22]. This exercise was continued further to name the fifteen *muhūrta*s in the day and the night separately. The principle was to specify a particular time interval within the Vedic year by mentioning names of the *ardhamāsa*, the *ahas/rātra* and the *muhūrta*. A modification of this led to the *tithi* with moon's illumined orb taken as equal to 15 divisions or 16 *kalā*, decreasing (or increasing) by one *kalā* counted by each moon rise. This scheme had to be made more accurate for better synchronization of the movement of moon and sun over longer periods of time. VGJ introduces such an improvement in the 2nd *aṅga: Candramāna*.

Tithi in the Mahābhārata (MB)

The word *tithi* appears in MB several times as a generic time unit referring to an unspecified day or night[23]. The birth *tithi* of Yudhiṣṭhira is specifically mentioned as *pūrṇa*[24] referring to a full moon day. In the *Vanaparvan* Ch 214 while describing the birth, growth and eventual descent of *Kārtikeya* as *Skanda,* nights are named; *dvitīyā, tṛtīyā, caturthī, śuklapañcamī* and *ṣaṣṭhī*. The sixth day from his birth *ṣaṣṭhī* is called the *mahātithi*[25]. In the *Anuśāsana parvan* Ch 87, all the fifteen *tithi* of *kṛṣṇapakṣa* are mentioned in the order *pratipat, dvitīyā,..trayodaśī, caturdaśī* ending on *amāvāsya*. The word *tithi* in the sense of a general *date* occurs in the Epic in about fifteen places in both feminine and masculine forms.

The *Atharvaveda-pariśiṣṭa* an ancillary Vedic text refers to *tithi, tithichidra, śubhatithi,* as if the specialized meanings of these terms were well known.

Tithi-devatā

Gṛhyasūtra texts explicitly refer to *tithi* as a calendrical unit and also to *tithi-devatā,* in the naming ceremony[26] and other household rites[27]. It is easy to see that both the *nakṣatra* and *tithi* on any day are linked with the moon; the *nakṣatra* reckoning appears to be more ancient than the latter. It is possible the *tithi-devatā* custom arose as a follow up of the *nakṣatra-devatā* concept. Among the ancient texts the names of the *tithi-devatā* are available only in the *Parāśaratantra* and the VGJ. Several of the names match with Vedic *devatā* names, but an underlying principle of number equivalence seems to be operative in identifying the deities. For example, *tṛtīyā* has *Viṣṇu*

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[22] पवित्रं पवियिष्यन् पूतो मेध्यः । यशो यशस्वानायुरमृतः । जीवो जीविष्यन्त् स्वर्गो लोकः । सहस्वान्त् सहीयान् ओजस्वान्त् सहमानः । जयन्नभिजयन्त् सुद्रविणो द्रविणोदाः । आर्द्रपवित्रो हरिकेशो मोदः प्रमोदः । TB (3.10.1.3)

[23] MB: *Ādi* (21.13; 124.9), *Sabhā*)2.13; 23.4(, *Vana* (4.9; 267.14; 279.2), *Śānti* (101.23; 211.38), *Anuśāsana* (22.17; 87.7; 87.18; 107.62; 109.30)

[24] ऐन्द्रे चन्द्रसमायुक्ते मुहूर्तेऽभिजितेऽष्टमे । दिवामध्यगते सूर्ये तिथौ पूर्णेऽतिपूजिते ॥ MB (1-122.6)

[25] द्वितीयायामभिव्यक्तस्तृतीयायां शिशुर्बभौ । अङ्गप्रत्यङ्गसम्भूतश्चतुर्थ्यामभवद्दृढः ॥ पर्वताश्च नमस्कृत्य तमेव पृथिवीं गताः । अथायमभजल्लोकः स्कन्दं शुक्रस्य पञ्चमीम् ॥ श्रीजुष्टः पञ्चमीं स्कन्दस्तस्माच्छ्रीपञ्चमी स्मृता । षष्ठ्यां कृतार्थोऽभूद्यस्मात्तस्मात्षष्ठी महातिथिः ॥ MB (3-214.)

[26] कुमारयज्ञेषु च नक्षत्रं नक्षत्रदैवतं तिथिमिति यजते [..] । *Jaiminīya Gṛhyasūtra* (1.9)

[27] [..] द्वाभ्यामग्नियोजयित्वा नक्षत्रमिष्ट्वा नक्षत्रदेवतांयजेत्तिथिं तिथिदेवतामृतुदेवतां च ॥ *Mānava Gṛhyasūtra* (1.10.9)

(*trivikrama* of three steps) as its deity. Like-wise *ṣaṣṭhī* has *Kumāra* (*Kārtikeya*) and *saptamī* has *Saptarṣi* (Seven Sages) as *devatā*. The names of the *devatā* as available in VGJ and the *Parāśaratantra* are shown in Table 5.2 after the Sanskrit text.

Previous work on *Tithi-karma-guṇāḥ*

The present chapter on *tithi* of VGJ has been previously edited and translated by Bill Mak in two publications. In the first paper he published verses 11 to 44 of the text, with translation, based on two manuscripts[28]. In the introduction to this paper Mak rightly points out the weakness in the argument of Pingree[29] that the concept of *tithi* might have been borrowed from Mesopotamia. Subsequently, he published a general overview of the text of "Gārgīya Jyotiṣa" highlighting its importance for understanding ancient Indian astral sciences. In this paper he has also presented a critical edition of all the 44 verses of *Tithikarmaguṇāḥ* with the help of thirteen manuscripts[30]. His conclusion is worth quoting: "*To sum up, based on our cursory survey of the passages on time-reckoning and planetary science, we can see that the Gārgīyajyotiṣa consists of a body of astral lore that gradually evolved from the late Vedic period up to the early centuries of the Common Era.*"

It will be observed that our text presented below is not too different from Mak's version. The two readings differ in some places due to our choice of variant readings which we feel suits the context better.

Observational roots of Tithi

The concept of *tithi* in India has been widely used as a calendar date in inscriptions and records for nearly two millennia and continues to be used. However, reckoning of this has been largely based on *siddhānta* astronomical treatises which define *tithi* as the time taken for separation of sun and moon in longitude by 12 degrees. The more ancient reckoning was not computational but observational with some pragmatic interpolation as VGJ recommends in the second *aṅga* on *Candramāna* (measure of moon). An important branch of astral science cultivated in India has been *muhūrta-jyotiṣa* or event astrology that decides auspiciousness or otherwise of time intervals for carrying out desired activities by humans. A celebrated text on this subject is *Vidyāmādhavīyam* by *Vidyāmādhava* (c 1360 CE). Equally famous is the commentary *Muhūrtadīpikā* on this text by *Viṣṇusūri* son of *Vidyāmādhava*[31]. Mathematical astronomy was well developed by 14th century for accurate time determination including prediction of eclipses. Nevertheless, the above text quotes more ancient authors about observing the sky for knowing the time. In this regard the text and commentary are of great historical importance. *Viṣṇusūri* commenting about *pancāṅga* the five elements of medieval Hindu astrology, namely *nakṣatra, vāra, tithi, karaṇa & yoga*, writes;

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[28] Mak. B. "Tithikarmaguṇa in Gārgīyajyotiṣa - Tithi Worship According to a Number of Early Sources." *Journal of Indian and Buddhist Studies*, 66.3 (2018) pp. 958–911

[29] Pingree, D. (1963). Astronomy and astrology in India and Iran. *Isis*, *54*(2), 229-246.

[30] Mak.B "Vedic Astral Lore and Planetary Science in the Gārgīyajyotiṣa." *History of Science in South Asia*, 7 (2019) pp. 52–71.

[31] *Vidyāmādhavīyam by Vidyāmādhava with the Muhūrtadīpikā commentary*. Ed. R.Shama Sastry; Oriental Library Publns, Univ. of Mysore 1923.

तिथिः - चन्द्रस्य बिम्बपञ्चदशांशावृद्धिक्षयकालः। तथा च भरद्वाजः - यदा पञ्चदशो भागो वर्धते क्षीयतेऽपि वा। कालेन यावता चन्द्रः स कालस्तिथिरुच्यते ॥ इति ।

This means, *tithi* was defined as the time taken for reducing or increasing 1/15th part of moon's orb which has to be essentially observational.

Starting from the Ṛgveda, the decrease and increase in the illumination of moon[32], repetition of full moon, notation for four special phases as deities namely, *anumati, rākā, sinīvālī, guṅgū (kuhū)*[33] and existence of the thirteenth intercalary month[34] are described in the background of Vedic mysticism and ritualistic injunctions. Vedic textual references to moon in the backdrop of the visible sky are too many to be discussed here. The most colourful among these refers to deities drinking soma (of the moon) in the dark fortnights. No special explanation is needed to understand this to be the decrease in the brightness of moon's orb. VGJ provides us a ringside view of why Vedic concepts of Time, metaphors about moon, sun and other celestial deities are to be treated as models of ancient science and how the associated ritualistic practices like *nakṣatreṣṭi, darśapūrṇamāsa*[35], *cāturmāsya, agnicayana, gavāmayana* have led to Indian mathematical astronomy. As far as *tithi* is concerned, one can trace its development from the Vedic *Samhitā*, through the *Brāhmaṇa* and the *Sūtra* texts. Before reaching the VGJ, *tithi* has had a long history from *soma* drinking deities, to moon's love for *rohiṇī*[36], his suffering the curse of *yakṣma*[37], cure from *rājayakṣma* (consumption disease) for humans by the ritualistic offer of *sannāyya-havis* on *amāvāsya* when moon and sun are brought together like curds and milk[38]. In the Vedic texts *tithi* does not appear as a finished concept or parameter in a fixed sense, but the various legends with variable meanings reflect the emotional and intellectual dynamism of a community of deep thinkers to discover meaning to an aspect of transcendental Time in terms of changing but visible pattern of moon's light received from sun[39].

Chapter 5 of VGJ

The edited text of the *tithikarmaguṇa* chapter is presented at the end of this section with variant readings and brief summary as in the previous parts. We have added one more manuscript of VGS to our data base. This is (*Bṛhadgārgīya Samhitā*; Mss. No.542 of 1895/1902; 226 folios) from the Bhandarkar Oriental Research Institute, Pune; denoted further here as P4. With this inclusion our collection has ten manuscripts of VGS of varying readability and accuracy to arrive at a critical edition of VGJ. Additionally, for verifying attributions to *Vṛddhagarga* and Garga by *Utpala*, a manuscript of BS, from Kashmir with commentary of *Utpala* has been procured. This is denoted

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[32] RV (10.85.5), TS (2.4.14)

[33] RV (2.32.8); TS (3.3.11, 3.4.9)

[34] RV (1.25.8)

[35] Iyengar, R.N., Satheeshkumar, V.H., Archaeo-astronomical Significance of the Vedic Darśapaurṇamāsa Altar. *Indian Journal of History of Science,* 47.3(2012) 513-519.

[36] TS (2.3.5), MS (2.2.7), KS (11.3)

[37] तं वैश्वदेवेन चरुणामावस्यां रात्रीमयाजयत् तेनैनं यक्ष्मादमुञ्चत्। सोऽमुमेवाप्यायमानमन्वाप्यायत वैश्वदेवेन चरुणामावस्यां रात्रीं यजेत॥ *Kaṭha Samhitā* (11.3)

[38] See M. Haug *(ibid)*. footnote on p.443 for *Sānnāyya-havis*

[39] सुषुम्नः सूर्यरश्मिश्चन्द्रमा गन्धर्व । TS (3. 4. 7)

as JK2752. The manuscript M2602 of BS with *Utpala*'s commentary cited in previous parts of VGJ by us does not contain the *tithikarmaguṇa* Chapter 98 of BS.

A few observations about the narration style of the text may be in order. The chapter begins as a conversation between Garga and his son *Kroṣṭuki* as reported by a third person. In verse 3 the query is about *tithivarga,* where the word *varga* most likely carries the meaning of *group of five*. The legend about *yakṣma* and the definition of *tithi* in the next two verses clearly reflects the foundational concepts from the *mahāsalila* (24th aṅga), the most ancient layer of VGJ that is composed somewhat like a Vedic *Brāhmaṇa* text. *Kāla* or Time can be characterised in terms of *kalā* (moon's phase) and *tithi*, can be inferred from the *mahāsalila*, that has been partly quoted above. The sixth verse here in VGJ Ch.5 gives the maximum time measure for a *tithi* to be less by 2 *lava.* The verse giving the length of *ahorātra* as 124 *lava* is missing in our manuscripts. But, some verses of Garga about *tithi* as quoted by *Somākara* in his commentary on the *Yājuṣa-jyotiṣa* are available in the manuscripts. Keeping this in view for better understanding of the Sanskrit text the verse stating the length of the day to be 124 *lava* has been added in our text in parantheses[40]. We get an idea behind this number in later sections of VGJ. The names of *tithi* and their ordering are stated in verses 7 to 9 completely. But again, from verse 11 *tithi* are enumerated in greater detail with *devatā* names and the type of work suited to each *tithi.* Some inconsistency is seen between the two narrations. *Utpala*'s commentary on BS quotes only verses 11-42 as by Garga, but not the earlier ten and the last two verses. Thus, it is plausible that this chapter has been constructed by the school of *Vṛddhagarga* over an older layer of VGJ.

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[40] *Yajusha-Jyautisha and Archa-Jyautisha*, Dwivedi, S. Benares. 1908.

५ ॥ तिथिकर्मगुणाः[1] ॥

वने चैत्ररथे रम्ये महर्षीणां[2] समागमे। कृताह्निकमृषिं सिद्धं[3] गर्गं कोष्टुकिरब्रवीत्॥ १ ॥

भगवन्[4] का तिथिर्नाम कुतश्चैषां[5] प्रवर्तनम्[6]। किं कर्म[7]-फलयोगाद्वा[8] भगवन् प्रब्रवीहि[9] मे॥ २ ॥

एतस्य तिथिवर्गस्य[10] प्रवृत्तस्येह[11] सर्वदा। सर्वस्य विस्तरेणेह ब्रूहि कर्म शुभाशुभम्॥ ३ ॥

[12]पृथक् देवता[13]-स्तिथ्यो *नामानि च*[14] पृथक् पृथक्। कोष्टुकेर्वचनं श्रुत्वा गर्गो वचनमब्रवीत्॥ ४ ॥

श्रृणवन्तु[15] ऋषयः सर्वे *देवाश्च सपुरोहिताः*[16]। यदा स भगवान् यक्षः[17] सोमो[18] यक्षमाणमुत्सृजत्[19]॥ ५ ॥

ततः प्रक्षीयमाणस्य[20] तिथिरेवं[21] च संज्ञिता। द्विलवोनमहोरात्रम् एतस्य परमा गतिः[22]॥ ६ ॥[23]

[मासस्त्रिंशदहोरात्राः पक्षोऽर्धं सावनं स्मृतम्। अहोरात्रलवानां तु चतुर्विंशं शतात्मकम् ॥६’॥]

वक्ष्यामि च पृथक्त्वेन देवता नाम कर्म च। नन्दा भद्रा बला[24] रिक्ता पूर्णा मासा[25] प्रकीर्तिता॥ ७ ॥

मित्रा महाबला[26] चैव उग्रसेना सुधर्मिणी[27]। आनन्दा च यशा चैव जया प्रोक्ता[28] त्रयोदशी॥ ८ ॥

उग्रा चतुर्दशी ज्ञेया सौम्या पञ्चदशी[29] तथा। द्विरेताः परिवर्तन्ते चान्द्रे माने[30] पृथक् पृथक्॥ ९ ॥

शुक्कः[31] कृष्णश्च पक्षौ द्वौ प्रवर्तयति यः प्रभुः। नामदैवतकर्माणि तासां वक्ष्यामि कृत्स्नशः॥ १० ॥

नन्दा[32] प्रतिपदा प्रोक्ता प्रशस्ता ध्रुवकर्मसु। ज्ञानस्य च समारम्भे[33] प्रवासे चापि[34] गर्हिता॥ ११ ॥

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[1] A1 *mt*; F1 तिथिकर्मागुणा; K1 तिथिकरणगुणाः; P2 विथिकर्मरउर्माेः; U1 तिथिकंगुणाः

[2] K1 ब्रह्मर्षीणां

[3] K1 सिद्धिं; P2, P4 सिद्धि

[4] P1 भगन्

[5] P4 कुतश्चैषा

[6] P4 प्रवर्तते

[7] P2 कार्ये

[8] A1 फलयोगा

[9] P1 प्रब्रवीमि

[10] A1 तिवर्गस्य

[11] K1 प्रवर्त्तस्येह

[12] P4 *mt* from here till सपुरोहिताः (*v* 5a)

[13] A1, A2, U1 देवत; M2 दैवत

[14] A1, U1 नामानीह; A2 नामानी

[15] P2 श्रृह्वंनु

[16] A2 देवास्श्वपुरोहिता; K1 सदेवाश्च पुरोहिताः

[17] B1 पक्षे; P4 दक्षः

[18] P4 सोमे

[19] *irr*; A2 यक्षमाणमुश्चजेत्; K1 यक्षमाणमसृजेत्

[20] P4 प्रक्षीयमाणेदो

[21] A2, M2 तिथिरेव; P4 स्तिथिरेवं

[22] K1 परमांगतिम्; U1 परमांगतिः; A1, A2, B1, M2, P1, P2 परमंगति

[23] See ref #39. That verse not available in *our Mss* is inserted here as 6’

[24] A2 जया; U1 बला with जया in margin

[25] *em*; A1, A2, B1, K1, M2, P1, U1 चासां; P2 वामां; P4 वृद्धि

[26] P4 बला

[27] A1, A2, P2, U1 सुधर्मिनी; M2 सुधार्मिनी

[28] P2 *mt* from here till ज्ञानस्य (*v* 11b)

[29] P4 पंचदेण

[30] A1, A2, M2, P2, P4, U1 मासे

[31] A1, U1 शुक्कं; A2, M2 शुक्कं; K1 शुक्क

[32] A2 चन्द्रा

[33] M2 समारभौ; P4 मारम्भे

[34] B1, P1 चापि

दानं दद्यात्तपः कुर्यात् पुष्टिसौभाग्यमेव च[1]। जन्म चात्रोत्तमं विन्द्यात्[2] स्वयम्भूश्चात्र[3] देवतम्[4]॥१२॥

भद्रेत्युक्ता द्वितीया च[5] शिल्पव्यायामिनां[6] हिता। आरम्भभैषजानां[7] च प्रवासे च प्रवासिनाम्॥१३॥

आवाह[8]-व्यवहारार्थे वास्तुक्षेत्रगृहादिषु। पुष्टिकर्मसु च श्रेष्ठा *देवता च बृहस्पतिः*[9]॥१४॥

बलेत्युक्ता तृतीया च बलं[10] स्यात्तत्र[11] कारयेत्। गोष्ठ[12]-कुञ्जरभृत्यानां[13] दम्यानां दमनानि च[14]॥१५॥

कुर्याच्च सर्वकर्माणि बीजान्यपि च वापयेत्। बल[15]-कर्मारभेद्वापि[16] विष्णुं[17] विन्द्याच्च[18] देवतम्॥१६॥

[19]रिक्ता चोक्ता चतुर्थी च क्षुद्रकर्म प्रयोजयेत्[20]। गोग्रहं दारुणं कर्म कूटसाक्ष्यमारभेत्[21]॥१७॥

कुर्यात् सांवत्सराण्यत्र[22] अभि[23]-घाताश्रयाणि च। ग्रामसेनावधं कुर्यात् यमं[24] विन्द्याच्च[25] देवतम्॥१८॥

पूर्णा[26] तु पञ्चमीमाहुः प्रशस्ता ध्रुवकर्मसु। *नावं नानाश्रयाणां*[27] च[28] शयनासनवेश्मनाम्[29]॥१९॥

जन्मक्षेत्रविभूषार्थ[30] व्यवहारौषधिक्रियाः[31]। प्रशस्तं पौष्टिकं कर्म सोमं[32] विन्द्याच्च[33] देवतम्॥२०॥

षष्ठी सोम[34]-तिथिर्नाम प्रशस्ता ध्रुवकर्मसु। क्षेत्रारम्भं गृहं कुर्याद्देवता-यतनानि[35] च॥२१॥

कारयेत् संश्रयाद्वार[36]-गोपुरा-*ट्टालकानि च*[37]। [38]अध्वानं तु न गन्तव्यं कुमारश्चात्र देवता॥२२॥

सप्तमी मित्रनामा च मैत्रीं कुर्यान्नृपेषु[39] च। कुर्याद्राज्ञां ध्वजं छत्रमासनं शयनानि च॥२३॥

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[1] P4 वा

[2] A1, A2, B1, P1, P4, U1 विद्यात्

[3] A1 स्वयम्भूश्चात्र; A2 श्वयभू P2 स्वयंभूश्च

[4] P2, P4 देवता

[5] A2 *mt* from here till दमनानि च (*v* 15b)

[6] K1 शल्येन्यायामिमां; B1 वि-शल्ये-यायिनां; M2 शिल्पाध्यायिनां

[7] A1, P1, P4, U1 आरम्मे भेषजानां

[8] P4, विवाह; U1 वीवाह

[9] P4 विधाता चात्र देवता

[10] P4 बले

[11] M2 स्यांन्नन

[12] M2 गोश्व

[13] U1 कुञ्जरभृत्यानी

[14] B1 दमनं तथा; A1, A2, P2, U1 दमनेन च

[15] *em* as per JK2752; A1, A2, P1, P2 बाल; B1 बलं; K1 बालं; M2 वाल; U1 वास्तु

[16] A1, A2, P2 कर्मारंभेद्वापि; B1 कर्मभिभेद्वापि; M2 कर्मारिभेद्वापि; U1 कर्मारंभेद्वापिच

[17] A2, M2 वंवि; P2 वंविर्क

[18] B1, M2 विद्यात्स

[19] A2, M2 *mt* from here till देवतम् (*v* 18b)

[20] P4 सुयोजयेत्

[21] B1 कूटसाक्षीं समारभेत्; K1, M2 कूटसाक्षि समारभेत्; P2 कटकाक्षेयमारभेत्; P4 कूटसाक्ष्यं समारभेत्

[22] A1, U1 संवत्सराण्यत्र; Reading सम्मारणं in UV seems better

[23] P1, P4, U1 असि

[24] A1, P2, U1 सोमं; P1 सामं

[25] P4 विद्यात्

[26] P1, P4 पूर्णां

[27] A1, K1, M2, P1 नावनानाश्रयाणां; A2, U1 नवानानाश्रयाणो; P4 धनधान्यात्रपानानां; B2 धनंधान्यादिसङ्घं

[28] P2 *mt* from here till देवतम् (*v* 20b); U1 त्र

[29] A1, A2 यनासनवेश्मना; B1 यनासनवेश्मनाम्; K1, P2, M2 शयनासनवेश्मनि; P4 शयनाशनवेश्मनाम्

[30] A1, A2, B1, K1, M2, P1, P2, U1 जन्मक्षेत्रविविभूषार्थं

[31] A2, B1, K1, M2, P2, U1 A1, P1, P4 व्यवहारोषधीक्रिया

[32] K1 सौमं

[33] P4 विद्यात्

[34] P4 वृद्धि

[35] U1 -यजनानि

[36] A1, A2, M2, P1, P2, U1 संश्रयेद्वा; P4 संश्रयेद्वापि B1 संश्रयेद्वारि

[37] *em*; A1 ट्टलकादिच; A2 वृत्तकादिवा; M2 कृतकादिवा; P2 ज्ञकादिवा; P4 दालकानिच; U1 ट्टलकादिवा

[38] A1, A2, M2, P2, U1 *mt* from here till नृपेषु (*v* 23a); P4 *mt* from here till शयनानि च (*v* 23b)

[39] P1 कुर्यात्--सु

रत्नानि[1] मणियुक्तानि[2] वस्त्राण्याभरणानि च। धारये[3]-द्दूषणार्थाय देवाः[4] सप्तर्षयः[5] स्मृताः॥२४॥

महाबलाष्टमी चैव कुर्याद्बल[7]-निदर्शनम्[8]। अधिकारान् प्रयुञ्जीत यन्त्रकाण्डधनूंषि[9] च ॥२५॥

कुर्याच्च नगरे[10] गुप्तिं[11] सुरुङ्गान्[12] परिखांस्तथा[13]। हस्त्यश्वांश्च[14] प्रयुञ्जीत[15] वसवश्चात्र देवताः ॥२६॥

उग्रसेना तु नवमी रोधने वधबन्धने[16]। अमित्रदमनार्थे च हितशत्रु[17]-वधार्थिनाम्[18] ॥२७॥

अध्वानं[19] च न[20] गच्छेत्[21] प्रोषितो[22] न विशेद्[23]-गृहम्। संहरन्ते[24] विषादीनि रुद्राणी[25] चात्र देवता ॥२८॥

सुधर्मा[26] दशमीं प्राहुर्ध्रुवं[27] कुर्याद्यशस्करम्। [28]कूपान् खनेन्नदीश्चैव कूपं पुष्करिणीं शुभाम् ॥२९॥

आरामा नगराश्चैव क्षेत्राणि च गृहाणि च। पुण्यशालं सभां कुर्याद्धर्मं विद्याच्च दैवतम् ॥३०॥

सुनन्दैकादशीमाहुः ध्रुवं विद्यान् महानसम्। निवेशनगरग्राम-यज्ञेयप्रसभः[29] तथा ॥३१॥

स्त्रीषु चोग्रं प्रवर्तेत दासकर्मकरेषु च। गूढार्थे न प्रयुञ्जीत कामशत्रुश्च देवता ॥३२॥

द्वादशीं तु यमामाहुः[30] ध्रुवं विन्द्याद्यशस्करम्। मङ्गलान्यत्र कुर्वीत[31] मन्त्रोपनयनानि च ॥३३॥

[32]कोष्ठागाराणि कुर्वीत[33] निधानं च निधापयेत्। ऋणं चात्र न गृह्णीयाद्[34] आदित्यश्चात्र[35] देवता ॥३४॥[36]

जयां[37] त्रयोदशीमाहुः कर्तव्यं चानुकारकम्[38]। वस्त्रमाल्यमलङ्कारं चित्राण्याभरणानि[39] च ॥३५॥

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[1] A1, A2, M2, P2, U1 रक्तानि

[2] A1, M2, P2, U1 युक्तानि; A2 युक्तरनि

[3] K1 कारये

[4] A2 दिवाः; P4 देवं

[5] P4 षण्मातुरः

[6] A1, P1 महाबलाचाष्टमीच; B1 महाबलाचाष्टमीतु; P4, U1 महाबलाष्टमीप्रोक्ता

[7] A2 कुर्याहल

[8] A1, B1, M2, P1, P4, U1 निदंशनम्; A2, P2 निदंसतम्; JK2752 कुमारसूर्यदर्शनं

[9] A1, A2, B1, K1, M2, P1, P2, U1 पञ्चकाण्डधनूंषि

[10] B1 नरेश्वरे P1 नरे

[11] A2, M2, P2 गुप्तिं; B1 गुप्त

[12] A1 स्तुरांगां; A2 स्तुरां; B1 गुरुं; K1गुरुंगां; M2 स्तुरूं; P2 स्तुरुं; P4 उरगान्; U1 सुरुंवन्

[13] *em* as per UV; A1 पञ्चखांस्तथा; A2 पञ्चखांरस्तथा; B1 पञ्चषांतथा; K1पचरवांतथा M2 पञ्चरवारस्तथा; P1 पञ्चरवांतथा; P2 पञ्चरवारस्तथा; P4 यंखानपि; U1 रवांरस्तथा

[14] P4 रथाश्वगो

[15] A1, A2, M2, P2 *mt*; P4 हस्त्यादीन्

[16] A2 चधनंधने; P4 बन्यबन्धने

[17] A1, P1, P2 हितोशत्रु; A2 हितौशस्त्रु; B1, P4 हिताशत्रु; M2 हितौशस्त्र

[18] A1 -बधोर्थिना; A2 वधोपिवा; M2, P2 वधोपिना; P1 वधोर्थिनम्

[19] A1 अध्वाने; A2 श्रधाने; K1 आध्वानं; M2 अधाने; P2 अधोने; P4 अध्वांनं; U1 अधानं

[20] A2 *mt*

[21] *irr*

[22] A1 प्रोप्यंन A2, K1 प्रोष्यंन; P1 प्रोश्यंन; M2, P2 प्राप्यंन

[23] A1, A2, B1, K1, M2, P1, P2 प्रविशेद्; U1 नप्रविशेद्

[24] *em* as JK2752; A1, A2, K1, M2, P1, U1 सहरोघ; P2 सहतोघ; P4 गृहोरोध

[25] U1 रुद्राणां; K1 रुद्राणि

[26] P4 सुधर्मी

[27] M2 माहुर्ध्रुवं

[28] *All mt from here till v 33a; Add text from JK2752 att to G*

[29] Reading यज्ञविप्रसभास्तथा in UV seems better

[30] *em* as per *v 8*

[31] A2 कुर्यात्

[32] A1 *mt* from here till *v 7 of Ch muhūrtaguṇa*

[33] A2, B1, P1, P2, P4, U1 युञ्जीत

[34] A1, K1 निगृह्णीयात्

[35] P4 धर्मश्चैवात्र

[36] K1, P1 three blank lines in *Mss*

[37] P2 लयां

[38] P4 वास्तुवेशनम्

[39] A2, M2, P2, U1 चित्रान्याधरणानि

सौभाग्य-करणं[1] स्त्रीणां कन्यावरणमेव च। मण्डनं[2] युग्मवसनं[3] कामं विद्याच्च देवतम्[4] ॥३६॥

उग्रा[5] चतुर्दशी[6] नाम[7] दारुणान्यत्र कारयेत्। पशूनां[8] रोधनं[9] चैव[10] प्रवासं चात्र वर्जयेत् ॥३७॥

पूर्वाभिघातनं[11] चैव दारुणं[12] विष[13]-घातनम्[14]। ग्रामसेनावधं[15] कुर्याद्विद्याद्रुद्रोऽत्र देवता ॥३८॥

अमावास्या[16] तु सिद्धार्था[17] पितृयज्ञोऽत्र[18] शस्यते[19]। देवकार्याण्यग्निकार्याणि गोकुलानि निवेशयेत्[20] ॥३९॥

पुरोहितं च वरयेत्[21] कुर्याद्यज्ञक्रियास्तथा। बलिं[22] चारोपहारांश्च[23] पितरश्चात्र[24] देवाः॥४०॥

कल्याणी पौर्णमासी च देवकर्माधि[25]-कारकम्[26]। विप्रकार्याण्यग्निकार्ये[27] च गवां घोषान् निवेशयेत्[28] ॥४१॥

राज्ञां पुरोहितान्[29] कुर्याद्यज्ञानि विविधानि च। शुभं[30] कर्म च[31] कर्तव्यं सोमं विद्यात्तु[32] देवतम्[33] ॥४२॥

एतास्तु[34] तिथयः सर्वाः परिवर्तन्ते[35] चक्रवत्। शुक्लपक्षे[36] च कृष्णे च[37] शुक्ला[38] चन्द्रमसा वृताः[39] ॥४३॥

अप्रमत्तः सदा[40]-युक्तो[41] ब्राह्मणः सुसमाहितः। तिथयो[42] निर्दिशेत् सम्यग्गर्गस्य[43] वचनं यथा ॥४४॥

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[1] B1 ॰कारणं

[2] em; All मण्डलं

[3] A2 युग्मवसं; K1, M2, P2, P4 युग्मवसने

[4] A2 देवतम्; P1 देवताम्; P2 देवताः

[5] B1 उग्रां

[6] B1 चतुर्दशीं

[7] A2, B1, M2, P1, P4, U1 विद्याद्

[8] A2, P1, U1 *mt*

[9] A2, K1, M2, P1, P2, U1 बन्धनं; P4 *mt*

[10] *em* as per JK2752; K1 पशूनां; A2, M2, P1 स्वनां; B1 सूनाः; P2 स्वानां; P4 स्वरिपूणांच; U1 स्वरिपुनांच

[11] U1 पूर्वाभिघाथनं

[12] A2, K1, M2, P1, P2 दारुव

[13] A2 *mt*; B1, P1 ध्याभि; K1 ध्येऽभि; M2 *mt*; P1 ध्य; P2 *mt*

[14] *em* as per UV; A2 घातिनम्; B1, P1 घातिनाम्; K1 घातिमाम्; M2 घानिनम्; P1, P4 घातिनम्; P2 घातिनम्; U1 घाणंतिनं

[15] A2 ग्रामंशेनावद्यं; P2 आमशेनावद्यं

[16] *em*; A2, B1, K1, P1 अमावास्यां; M2, P2, U1 अमावास्यायां; P4 अमीवास्या

[17] A2, K1, P1, P2 सिद्धर्था

[18] A2 पितृयशौलं; P2 पितृयज्ञौ प्र; U1 पितृयनुज्ञौत्रं

[19] K1 शिष्यते

[20] A2 निवेसयेत्

[21] M2 ववस्ये; P2 वइये

[22] B1, K1, P1, P4 बलीं

[23] A2 सारोपहारांश्च

[24] A2, P2 पितश्चात्र

[25] B1 देवकर्माभि

[26] A2, U1 ॰कारकाम्; K1 ॰कारक

[27] P4 विप्रकार्या

[28] A2 निवेसयेत्

[29] B1 पुरोहितं

[30] P2 अशुभं

[31] K1 प्र; P2 *mt*

[32] U1 विद्याच

[33] B1 देवताम्; A2, M2, P1, P2, U1 देवता

[34] A2, K1, M2, P1, P2, U1 एतत्तु; B1 एवं तु

[35] K1, M2, P1, U1 परिवर्तंते; P4 परिवत्तेत

[36] P2 शुक्ले पक्षे

[37] P4 कृष्णपक्षे

[38] A2, P2, P4, U1 शुक्लां

[39] *em*; A2, M2, P1, P2, P4, चन्द्रमसावृताः; B1 चन्द्रमसोवृता; K1 चन्द्रमसोवृताः; U1 चन्द्रमस्यावृताः

[40] U1 सतां

[41] P4 मुक्तो

[42] P4 तिथिशो

[43] A2, U1 यस्यगर्गस्य; P4 सम्यग्गार्ग्यस्य

Editorial notation

all	All except defective Mss
att	Attributed to
Ch	Chapter
cf	Compare with
em	Emended
irr	Irregular usage
mt	Missing text
snc	Script not clear
v	Verse
[..]	Editorial addition

Brief Summary

5. *Tithikarmaguṇāḥ*

In the beautiful *Caitraratha* forest, amidst the gathering of Great Sages, *Kroṣṭuki* asked Garga a set of questions, "*Bhagavan*, what is *tithi*; how do they occur, what are the names of the different *tithi*s and their corresponding deities; what are the activities recommended for each *tithi*?"

Having heard *Kroṣṭuki*'s words, Garga answered. When *Soma* (moon) due to *yakṣma* (curse of consumption) wanes, his decrease (in measure) is known as *tithi*. The maximum time extent of a *tithi* is 2 *lava*s short of a day (1 lava = 124th portion of a day of 30 *muhūrta*s).

Garga names the 15 *tithi*s and says that they occur twice in a (lunar) month, during *kṛṣṇapakṣa* (waning fortnight) and *śuklapakṣa* (waxing fortnight).

The rest of the chapter lists in detail the name, the *devatā* (deity) and the activities that are recommended under each *tithi*. This information is summarized in the accompanying Table 5.2. Since VGJ and the *Parāśaratantra* are the only two ancient texts that list *tithidevatā*, names given in PT are shown for comparison.

Table 5.2. *Tithi*, *devatā* and *karma-guṇa*

#	Name	Devatā (VGJ)	Devatā (PT)	Karma-guṇa
1	Nandā/ Pratipadā	Svayambhū	Brahmā	Suitable for fixed/firm activities; charity; *tapas*; nourishment and auspicious rites. Starting of education and journey to be avoided. Birth in this *tithi* is considered good.
2	Bhadrā/ Dvitīyā	Bṛhaspati	Amaramantrin	Recommended for craft work; medical work; start of journey; invitation; marriage; land & construction activities. Best for nourishment rites.
3	Balā/ Tṛtīyā	Viṣṇu	Janārdana	Strengthening activities; taming of cows, horses, elephants and servants and other controlling work; seed sowing.

4	Riktā/ Caturthī	Yama	Yama	Minor activities; capture of cattle; gruesome activities; giving false testimony; killing of village army; annual expeditions or attacks.
5	Pūrṇā/ Pañcamī	Soma	Soma	Fixed/firm activities; making beds, chairs; building houses and boats; herbal preparation and decoration of delivery rooms; nourishment rites.
6	Māsā/Somā/ Vṛddhi/ Ṣaṣṭhī	Kumāra	Kumāra	Fixed/firm activities; start of agricultural work and construction of houses, temples, entrances and towers. Travel is not recommended.
7	Mitrā/ Saptamī	Saptarṣi	Muni	Making friendship among kings; production of royal paraphernalia, flags, umbrellas, beds; wearing ornaments and clothing.
8	Mahābalā/ Aṣṭamī	Vasu	Vasu	Displaying one's strength; employing one's authority, mechanical devices, bows and arrows; building underground cellars, tunnels and moats; labour involving using elephants and horses.
9	Ugrasenā/ Navamī	Rudrāṇī	Piśācī	Stopping, subduing, killing and capturing of enemies; subduing of poisons. Traveling to be avoided; having traveled, should not enter his house.
10	Sudharmiṇī/ Sudharmā/ Daśamī	Dharma	Dharma	Digging wells; river. activities related to wells & lakes, cities, gardens, fields and houses. Building of halls.
11	Ānandā/ Sunandā/ Ekadaśī	Rudra	Rudra	*Yajñas* and learned discussions; work related to villages and cities; firm action regarding womenfolk and workers; hidden wealth must not be used.
12	Yaśā/Yamā/ Dvādaśī	Āditya	Ravi	Certainly benevolent. Recommended for auspicious activities; mantra initiation & sacred thread ceremony; treasury/ granary related work; depositing money. Loans should not be taken.
13	Jayā/ Trayodaśī	Kāma	Kāma	To follow previous work. Clothes, garlands, decorations, paintings, ornaments. Religious rites for welfare of women; *kanyāvaraṇa* (bride-selection).
14	Ugrā/ Caturdaśī	Kāmaśatru	Rudra	Gruesome activities. Capturing animals, pre-emptive strike, poisoning, destruction of village army. Journeys to be avoided.
15a	Saumyā/ Amāvāsyā/ Siddhārthā	Pitṛ	Pitṛ	Ancestral rites, *devakārya*, *agnikārya* are recommended. Establish cowsheds. Priest selection rites; performance of *yajñas*; sacral offerings.
15b	Saumyā/ Paurṇamāsī/ Kalyāṇī	Soma	--	Confers eligibility to worship *devas* (dieties); *agnikārya*; establish cowherd settlements; induction of royal priests; performance of vedic rites, auspicious activities.

Verses 43, 44: *Tithi*s repeat in the above manner cyclically in both the waxing and waning fortnights. The white *kalās* (digits) are sought by moon[1]. A well composed *(susamāhitaḥ),* alert *brāhmaṇa* should properly indicate the *tithi* as per the words of *Garga*.

(To be continued)

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[1] The phrase शुक्ला चन्द्रमसा वृताः (*v* 43) should be taken as related to the explanation शुक्लं कृष्णं वृद्ध्या ह्रासेन हि चन्द्रमाः, **तद्देवा पूर्वपक्षमीहन्ते** of the *mahāsalilādhyāya* quoted previously.