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CONNECTIONS BETWEEN THE *VEDÂṄGA JYOTIṢA* AND OTHER VEDIC LITERATURE

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The *Vedâṅga Jyotiṣa* represents a sophisticated calendar system, stated cryptically in terms of symbols and formulas. Notwithstanding the fact that it is approximate, it represents a development closely linked with the previous Vedic literature. The connections between *Vedâṅga Jyotiṣa* and the Vedic Saṃhitā are investigated in this paper. It is argued that the year length of the system was based on the Vedic long count 3339, first appearing in the *Ṛgveda*, but interpreted by the *Brahmâṇḍa Purâṇa* as the number of deities drinking Soma on daily basis in the dark fortnights.

Key words: Brāhmaṇa, *Brahmâṇḍa Purâṇa*, Calendar, Five year Yuga, Saṃhitā, Vedic Astronomy

INTRODUCTION

The *Vedâṅga Jyotiṣa* (*VJ*) has been studied and discussed by several authors over the last hundred years and more. Initially the effort was to edit, amend and to interpret the text. After Kuppanna Sastry (1984) brought out a critical edition of *VJ*, interest in the text has been to understand the basis of the Vedic calendar through the help of *VJ*. It is known that the Vedic people had a luni-solar calendar where the year was solar but the months were lunar. Intercalation was practiced to bring the solar and lunar year into harmony by various methods. The central theme of *VJ* is to provide an algorithm to find in advance the *tithi, parvan, nakṣatra* in the formalized Vedic five year cyclic calendar. Thus its focus is not observational but essentially computational. This does not mean that the basic elements of the calendar were borrowed from an out of India source. It also does not suggest that the users did not observe the sky to correct the dates as and when necessary. However, the observational element is less obvious than the

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computational bias that is quite conspicuous all through the text. Formulaic algorithms combined with the mnemonic devices presented in *VJ* indicate a level of sophistication possible only after long observation. This raises the question, what could have been the observational features hidden behind the development of *VJ*. To find this material, which would have been superseded by the tradition mentioned in *VJ* originating around 1400 BC, we have to go by the internal evidences in *VJ* and possible dependence of its basic elements on anterior literature namely the *Ṛgveda* (*RV*), the *Yajurveda* (*YV*) and the ancillary texts. It is demonstrated in the present paper that there are strong reasons to link the basic parameters of *VJ* with the characteristic number 3339 of the *RV* which has been previously demonstrated to be the 18-year eclipse period number (Iyengar 2005).

Background

VJ has come down to us in two branches, namely *ârca-jyotiṣa* of *RV* and *yâjuṣa-jyotiṣa* of *YV*. The basic elements are common to both and hence the two are here considered together as a single tradition of ancient Vedic astronomy. The basis of *VJ* is the five year *yuga* period equated to 62 synodic lunar months of 1830 days, taken equal to 67 sidereal months. There are 1768 moon rises and 1835 risings of the ecliptic star Śraviṣṭhâ (Dhaniṣṭhâ, Vâsava ~ β-Delphini), with which sun and moon came together at the winter solstice *c* 1400 BC. The length of a solar year according to *VJ* is 371 *tithi* or 366 days. Any three independent elements among the above parameters lead to the complete luni-solar calendar of *VJ*. There are several publications discussing the strength and weakness of *VJ* as a calendar. The glaring inaccuracy is with the length of the solar year which is too long. Hence if the formulae are used blindly, the results would perceptibly miss reality within a few years. However it has been pointed out in the past (Abhyankar 2002) corrections were done in the form of intercalary months and dropping of *tithi* to keep the calendar in tune with the sun. There have been efforts to interpret *VJ*, claiming that the 19-year Metonic cycle is implied by the Ṛgvedic *VJ* text, which, in turn would have lead to a near perfect synchronization between the lunar and solar movements (Holay 1989). But this does not explain why *VJ* went in for a five year cycle with excess length of the solar year. It may be noted here that the five year cyclic calendar with 366 days per year was adopted by the non-Vedic Jain astronomical text popularly known as *Sûryaprajñapti-Candraprajñapti* (1989). There are no direct evidences in the *VJ* text to link its parameters to long term observations and/or eclipses. This leads one to look for the basis of *VJ* in the Saṃhitâ, the Brâhmaṇa and the Sûtra literature. This would be natural since

VJ was developed as a guide for timing the rituals appropriately. It may not be erroneous to presume that *VJ*, as available now, was formally enunciated only after the philosophy, principles and canons behind the Vedic rituals were fixed. It is not an observational text but is skillfully algorithmic in its contents. The problem of tracing the background is made difficult due to absence of explicit astronomical statements in Vedic literature, as we understand them today. In addition to this is the distinct possibility of various Vedic schools following different modes of counting days/nights which shows up already in *VJ* advocating months ending/starting on New Moon (*amânta*). It is well known that months ending/starting on Full Moon (*pûrṇimânta*) was in vogue and continues to be followed to this day in some parts of India. Notwithstanding this bifurcation of an older practice, the concept of *tithi* or, what may be loosely called, lunar day is of prime importance all over India. This amply indicates that once upon a time the month and the year were based on the moon and not on the sun. Several scholars in the past (Roy 1976) have noted this point citing support from the *RV* statement *samânâm mâsa âkṛtiḥ*, that is, *moon is the maker of the years*. The transition of the ancient lunar calendar would have taken a fairly long time to evolve to its final luni-solar form that *VJ* represents. Both *RV* and *YV* contain sufficient evidences to show that strictly solar positions such as equinoxes and solstices were important in some of the rituals even as moon's position was important for other observances. Thus the cosmic view of the Vedas is neither exclusively lunar nor solar, but is admittedly luni-solar. However, observation of the sky would have been possible only in the nights giving prominence to moon and its position, in the background of the fixed stars, as the marker of time. Hence it would be reasonable to start looking for lunar numbers and how they might have got connected with later numbers such as the length of the solar year. This, however, is subject to an important limitation. The available Vedic literature at best reflects astronomical truths in an indirect fashion having transformed them into rituals to be observed by the faithful. Hence the effort here is to seek the source of a number or a rule from the context in which it arises. This is the typical inverse problem wherein searching the cause from the effect may not always lead to a unique conclusion.

The Vedic Year

Vedic people had recognized several types of years such as the *nâkṣatra*, the lunar, the *sâvana*, the solar and the intercalary year. The *Nidâna-sûtra* (V.11-12) belonging to the school of the Sâmaveda states this as,

ṣaṭtriṃúono navonaúca ṣaḍhono'tha sâvano'ṣṭâdaúabhirjyâyânahobhiḥ sâvanâtparo nâkṣatramiti mâsaúca tasya caiva trayodaúa cândramâsassâvanaúca ubhâvathâṣṭâdaúyuttano aṣṭâ-saptatriṃúate pourṇamâsyâm prasâdhayet |

The year that is less (than the *sâvana* year) by 36, the year that is less by 9, that which is less by 6, then the *sâvana* year, then the year greater by 18 days. The sidereal year (less by 9) has thirteen months (of 27 each). The two kinds of years are the lunar and the sâvana. The year greater than 18 days has to be observed on 37-38 Full Moon.

This was understood by taking a *Sâvana* year of 360 *tithi* as the reference. The first one deficient by 36 was the *nâkṣatra* year of twelve sidereal months making 324 *tithi*. Then the one less by 9 was a lunar year consisting of 13 months of 27 *tithi* each. The *sâvana* lunar year of 360 *tithi* was made up of 12 synodic months. The solar year of 366 days and intercalary years of longer duration were also recognized. This has been discussed in the past by Shamasastry (1938) and others. For our purpose the points to note are that the month was always reckoned with the help of moon's position and the *VJ* solar year with 371 *tithi* was an approximate effort at making the *sâvana* year match with the position of the sun. The rich variety of years clearly indicates an effort at synchronization of two or three different observable celestial rhythms. Since it is the moon that was observed we surmise, the ancients would have first noted the synchronization between the sidereal and the synodic months. It is conjectured that the near equivalence of 12 synodic months with 13 sidereal months, counted in terms of sunrises, would have lead to the concept of year as a longer measure of time than the month. This harmonizes with the earliest Ṛgvedic word denoting year as *samâ*, used in the sense of being same, coincident or equivalent. With the recognition of seasons as dependent on the sun, synchronization of three rhythms seems to have become important. Nidâna-sûtra refers to this equivalence more accurately in the form of a verse already well known to the Vedic community it was addressing.

yasmin vai parivatsare sauryo mâso'tha cândramaso |

nâkṣatro na vilupyate kasvittam veda kasvit ||

aṣṭâsaptatriṃúate tasmin samvatsare mite |

sauryo mâso'tha cândramaso nâkṣatro na vilupyate ||

Who knows that year in which the solar, the lunar, and the sidereal months are not lost, who knows that? In the year measured by 37

> or 38 (full-moons), the solar, lunar and the sidereal months are not lost. (Shamasastry)

This points to the approximation of 37 synodic months with 40 sidereal months, even though the latter number is not mentioned. Similarly, for the solar cycle also to have matched, 37 synodic months should have been taken equal to three (solar) years. The number word *aṣṭâ-sapta-triṃśate* gives the meaning of being *between 37 and 38*, not of *37 or 38*, as in the above translation of Shamasastry (1938). Taking 30 *tithi* per month, one gets 1110 *tithi* in three (solar) years giving 370 *tithi* per year, which is nearly the value used in *VJ*. The above also hints at the presence of a three year cycle that should have existed before the improved five year cycle of *VJ* came into vogue. This leads one to infer that the basic *VJ* parameters have had their roots in more ancient beliefs and observations. The text of the *Nidâna-sûtra* cited above is available on the web (at http://is1.mum.edu/vedicreserve/kalpa/shrauta/nidana_shrauta_sutra.pdf). However, it is to be noted that on page 72 of this web edition the words *atha sâvanaḥ* appear wrongly as *atha sâdhanam.*

There is evidence in the Vedic literature to note that not all Vedic groups synchronized their annual calendar with the seasons. In the *darśa-paurṇamâsa* (DP) rites, which are eminently suited for time keeping, some drifted through the seasons for thirty years. *Darśa* is linked with the visible new moon and hence not concerned with the precise conjunction of the moon and the sun. Similarly, *pourṇimâ* need not have been the precise opposition of the two celestial bodies. However, when a ritual was observed for such a long period, surely there would have been a few lunar eclipses on Full Moon days. Rituals ordained during eclipses are first noticeable in the *Atharva Veda Pariśiṣṭa*, a very late text that also names planets and comets. In the available core Vedic literature there are no direct references to occurrence of eclipses during a ritual. But, a close reading of the hymns shows up several interesting statements pointing to a relation between eclipses and the ritualistic numbers. For example, the *Nidâna-sûtra* mentions a special sidereal year that falls short by nine *(navona*) in relation to the *sâvana* year of 360 *tithi*. This year had 13 months of 27 *tithi* making the length of the year to be 351 *tithi*. This corresponds to a year of 346-347 (solar) days. What was being achieved by this, unless this had some hidden connection with the eclipse year? In modern parlance, eclipse year is the time taken for the lunar nodes to be in line with the

sun and the moon, when an eclipse is possible. The well known eclipse period of 223 lunations is equal to 18.03 solar years or 6585.32 days. This consists of 19 eclipse years of 346.6 days. The unknown element here is the ancient way of measuring *tithi*. We can however be reasonably certain that it was associated with the moon but the earliest Vedic way of fixing the *tithi* is not yet deciphered. Nevertheless it was known to be less than the mean solar day with its value varying in the interval 0.984-0.986, stated to be equal to (61/62). Desire to avoid fractions in the remote period of Vedic astronomy would have given place to approximations in terms of integers with an error of one unit. Thus, the eclipse year length would have been approximated to 351 *tithi*, while its actual length was nearer to 351.5 *tithi*. Nineteen such years lead to 6669-6678.5 *tithi* as the equivalent of 223 lunations. This makes a case for postulating the knowledge of a Vedic long count as the basis of the *VJ* calendar.

Vedic Long Count

The *Ṛgveda* presents many small and large numbers, their physical meaning hidden behind an almost forgotten esoteric world view that can be labeled ancient Hindu scientific naturalism. A case in point is the Ṛgvedic number 3339 which is half of 6678 cited above. This number appears in two places in the *RV* (III.9.9; X.52.6) and once in the *RV-khila*. Traditional Vedic interpreters have taken this to be a mystic count of a group of deities called *Viúvedevâḥ*, with no known physical basis. *RV* states this figure to be the number of deities who worship Agni, hiding in unknown places. The present author (Iyengar 2005), with the help of evidences internal to *RV* and the *Brahmâṇḍa Purâṇa*, has shown this number to be associated with the recurrence of similar lunar eclipses. The counting method given in the Purâṇa, in line with the naturalistic mysticism of the Vedas, may be briefly described here.

âpûrayan suṣumṇena bhâgam bhâgamahaḥ kramât |
suṣumṇâ âpyâyamânasya śuklâ vardhanti vai kalâḥ ||

(*Brah. Pu.* Part I, 23.61)

The bright parts (of Moon) increase in the *śukla pakṣa*, with Sun filling up the phases by his *suṣumṇâ* ray, in daily sequence.

bhakṣârtham amṛtam somaḥ pourṇamâsyâm upâsate |
ekâm râtrīm suraiḥ sarvaiḥ pitṛbhiḥ sarṣibhiḥ saha ||

somasya kṛṣṇa-pakṣâdau bhâskarâbhimukhasya tu |
prakṣīyante pitṛ-devaiḥ pīyamânâḥ kalâ-kramât
trayaśca trimśataścaiva trayaḥ-triṃśat tathaiva ca |
trayaśca tri-sahasrâśca devâḥ somam pibanti vai ||
ityetaiḥ pīyamânasya kṛṣṇâ vardhanti vai kalâḥ |
kṣayanti tasmât śuklâśca kṛṣṇâ âpyâyayanti ca ||

(*Brah. Pu.* part I; 23.66-69)

Moon is approached by all gods, along with manes and sages for a night on Full Moon, for partaking *amṛta*. From the beginning of the dark fortnight, phases of Moon facing Sun, decrease being drunk by *pitṛ-devatâs* digit by digit. Three and three hundred, then thirty-three and again three and three thousand (3339) gods drink soma. Being drunk this way, the dark digits increase with corresponding decrease in the bright digits.

This is a clear enunciation of the model behind the 3339 Vedic gods and what their cosmic role was. Their count was sequential, in the order of the decreasing phases of Moon (*kalâ-kramât*) adding to 3339. It follows the symbolism of gods drinking away the digits of Moon, which obviously refers to the dark fortnight and their total number being 3339 has its origin in the Ṛgveda. For this characteristic number the above Purâṇic model has to be accepted as the proper explanation, being a typical example of ancient naturalism. The count started on a Full Moon to proceed till *amâvâsya* and stopped till the next Full Moon, to repeat again in the same fashion with gaps in the bright fortnights. In other words, this number is clearly the number of *tithi* in the dark fortnights counted as 3339 sequentially for a special purpose. If both the fortnights were to be considered, this number would add to 6678 *tithi*. Now, at the rate of thirty *tithi* per lunation, this number is equal to 222.6 which in round figures is the eclipse period of 223 synodic months. Hence, the *RV* number 3339, which is half of 6678, is a proxy for the so called *Saros* period of 18 (solar) years, mistakenly attributed to the Chaldeans. *RV Sûkta* X.55 is inspired by a total lunar eclipse with the moon turning red. Thus, 3339 is the Vedic long count linked with similar lunar eclipses occurring at the same *nakṣatra* position in the sky. The characteristic number mentioned here is neither the number of lunation nor the total length of *tithi*, but the number of *tithi* counted only in the dark fortnights. The counting method embeds an uncanny and original symbolic imagery of cosmic gods drinking *soma* that unambiguously refers to the waning moon.

VJ Parameters

With the above long count of 3339 *tithi*, we can understand how the basic *VJ* parameters might have been arrived at. The eclipse period would have been taken equal to 18 nominal solar years. This was a consequence of the older concept of 37-38 synodic months being equal to three solar years, consisting of 1110 *tithi* already discussed above. If the solar year were to be taken equal to 370 *tithi*, one would directly get 18.04 years as the eclipse period. On the other hand to get a round figure; 18-year was taken as a gauge number leading to 371 *tithi* per year, which is an important *VJ* parameter. Since we know that the correct solar day count would be 6585.32, dividing this by 18 gives the length of the nominal solar year to be 365.851 days rounded off to 366 by *VJ*. If one takes 223 synodic months as equal to 18 years, the first four convergent of the fraction 223/18 are 12/1, 25/2, 37/3, 62/5. The last one namely (62/5) is the *VJ* approximation. This perhaps was an improvement over a previous approximation of (37/3). Similarly, since 223 synodic months are equal to 241 sidereal months, we can approximate the fraction (241/223) as 13/12, 27/25, 40/37, 67/62. *VJ* uses the last approximation of 67 sidereal months as equal to 62 synodic months, which is better than the previous one of 40/37 corresponding to three years mentioned in the *Nidâna Sûtra*.

Yajurvedic Texts

There are several instances of numbers adding to 17, 18 or 19 as special length of years embedded in the Yajurveda texts. In the *Vâjasaneya Saṃhitâ* (XVIII.24-28) the number sequences 1 to 33 of odd integers and 4 to 48 of even integers increasing in steps of four, are given followed by a list of symbolic animals with their ages. The ages mentioned are 1½, 2, 2½, 3, 4 and 6 adding to 19 years. This is followed by offerings to seasons and months showing the context to be part of Time worship. The same *Saṃhitâ* at (XXI 12-17) repeats year numbers adding to 19 associating them, respectively with meters *gâyatri, uṣṇik, anuṣṭup, bṛhati, paṅkti*, and *triṣṭup*. Similar statements occur in the *Kâṇva Samhitâ* (30.24-28), and in the *Taittirîya Saṃhitâ* (TS: 4.7.10), where the animal-ages add to either 17½ or 18 years. The difference arises depending on the interpretation of the word *paṣṭavâham*, taken to be 4½ or 5 or 6.

The interesting fact here is the number of syllables in each of the above named meters increase by four and the total adds to 204 corresponding nearly

to the other total namely 17 years. Even in the ritualistic context the hymn appears to embed some type of equivalence between the animal-ages and the meters. If the length of the year is taken as 360 *tithi*, we have 17x 360 = 204 x 30. On the other hand if it is taken as 354 (solar) days, we get the length of the synodic month to be (17x354)/204 = 29.5 days, which is the value adopted by *VJ*. As already noted the *nâkṣatra* year of 324 nights/days with 27 units per month was also in vogue in ancient times. It is observed that 17 x 324 = 204 x 27. Such interesting properties of the number 17 based on observation of Moon could have lead to the early adoption of this as Prajâpati's number in the Vedas. The immediate next hymn of the *Taittirîya Saṃhitâ* (4.7.11-12) supports this inference. This is the famous sequence of seventeen odd integers 1 to 33, increasing in steps of 2, adding to 289, equal to square of 17. This is followed by a sequence of even integers 4 to 48 increasing in steps of 4 adding to 312. The implied time-wise equivalence of two numbers in the previous hymn makes us wonder whether the number pair (289, 312) also has some useful astronomical property. Quite surprisingly 289 synodic months are very nearly equal to 312 sidereal months.

Vedic literature, from the very beginning, is preoccupied with the 27 lunar mansions (*nakṣatra)* along the ecliptic. Most probably in the *RV* hymns, many deities are neither imaginary nor mystical but simply refer to their corresponding *nakṣatra* in the form of inspired poetry, which have been later used for liturgical purposes. Quite categorically the *Taittirîya Brâhmaṇa* (*TB*) declares that *nakṣatra* are the abodes of the deities *(devagṛhâ vai nakṣatrâṇi* TB I.5.2.6). The ritualistic correspondence is conspicuous in the *TS* and the *TB* wherein special rites are described invoking the 27 *nakṣatra*s and their presiding deities. It is generally accepted that the *Úatapatha Brâhmaṇa* (*ŚB*) reference to star Kṛttikâ (Pleiades) not slipping from the east is an observation of the vernal equinox in the third millennium BCE. This position of Kṛttikâ at the head of the *nakṣatra* list has remained unchanged all through the Vedic texts covering a time span of several centuries. Nevertheless an evolving timeline is recognizable in the TB text. This book contains two sets of long hymns devoted to the *nakṣatra* rites. Both start with Kṛttikâḥ as the first star(s). The first set of hymns refers to Úraviṣṭhâ as approaching from the south (*dakṣiṇato'bhiyantu úraviṣṭhâḥ* || *TB* III.1.2.7). Indication of a direction for the star group Úraviṣṭhâ should have been a specific sky observation introduced into the ritual. The second set of hymns is more specific about its calendar leanings. It invokes Úraviṣṭhâ as *arriving at the front of the equals* (that is years) and offers an oblation to this star naming it *Forefront*

(*agram ha vai samânânâm paryeti…..agrâya svâhâ* || *TB* III.1.5.8). This hymn in appears to be in harmony with the astronomy of *VJ* when Úraviṣṭhâ or Dhaniṣṭhâ was the star heralding the year with the winter solstice.

Sengupta (1947) points out several interesting information available about solstices in the Vedic literature. The *Kauṣîtaki Brâhamaṇa* (XIX.3) mentions that the northward motion of the sun starts on the New-moon of the Mâgha month, which is same as the one mentioned in *VJ*. There are indications in the *Maitrî Upaniṣat* (Chapter 6) about times when the northern course of the sun started at the middle of the Dhaniṣṭhâ division. This would have happened a few centuries before the *VJ* period. Even if the above texts are not exactly dateable, there are several evidences to infer that *VJ* tradition represents conscious efforts on the part of its originators to provide a computational tool, incorporating past observational knowledge and beliefs of the Vedic community, for conducting prescribed rituals.

Discussion

The roots of the *Vedâṅga Jyotiṣa* are traced to other Vedic texts to the extent evidences are available in the form of numbers that can be related to *VJ* parameters. It turns out that the length of the year of 371 *tithi* or 366 (solar) days of *VJ* is closely linked to the Vedic long count of 3339 *tithi* first appearing in the *RV*. This number is the count of *tithi* in the dark fortnights making up nearly 18 (solar) years, which is the so called Saros period of (lunar) eclipses of the same type. Abhyankar (2007) points out how our ancients could have used this 18 year length for adjusting their *VJ* calendar. Sometimes opinions are expressed that *VJ* owes its inspiration to foreign sources (Pingree 1978). Internal evidence, however, from the Vedic texts indicates that *VJ* is an indigenous concept of the Vedic people based on observing the sky over long periods of time. While no archival evidence as in the case of Babylonia exists, the special numbers inbuilt into the rituals almost always carry some celestial imagery showing that such numbers should have had a countable observational substratum.

Even though there is a case for the *VJ* parameters to have come out of the observed 18 or 19 eclipse years, lunar eclipses are not mentioned in *VJ*. This situation looks surprising. However, there is mention of moon's lateral movement across the ecliptic, denoted as *ayana* similar to the seasons associated with the

north-south movement of the sun. This has been ignored in the past (Sastry 1984) as being of no astronomical significance. But, a little reflection will show that this indeed is the evidence for *VJ* to have been based on observations of moon and not on any borrowed material. *VJ* mentions that there are 134 *ayana* or north-south movements of moon in 67 *nakṣatra* months. Even though this has nothing to do with the *Ṛtu* or seasons associated with the Sun, the lateral lunar movement is real to an observer on earth. Moon stationed with a known *nakṣatra* say Maghâ will come back to the same star after nearly 28 *tithi*, but not with the same phase. Thus starting with Mâgha *pourṇimâ* one sidereal month later, the *nakṣatra* will be Maghâ but the *tithi* will not be Pourṇimâ. During the course of this month, every night moon can be observed to occupy different *nakṣatra* position in a sinuous fashion. This happens all through the (solar) year with nearly 27 *ayana* for moon. *VJ* recognizes the similarity between sun and moon in the sense of what happens to sun in one (sidereal) year happens to moon in one (sidereal) month. Further as the year evolves, moon continuously wanders on either side of the 27 *nakṣatra* band closely representing the ecliptic. During this serpentine movement whenever a Full Moon occurs on the ecliptic, a lunar eclipse is possible. We have already seen how the symbolism of the 3339 Viúvedevâḥ (Cosmic-deities) is connected with lunar eclipses. This imagery is reinforced by the statement *devâ vai sarpâḥ* in TB (II.2.6.2) which denotes these deities as serpents.

Summary and Conclusion

The connection of the *Vedâṅga Jyotiṣa* with other Vedic texts is the subject matter of this study. It is pointed out that the assumptions and the basic parameters used in *VJ* were already known to the Vedic people in some form or other for use in the rituals. The approximation of 62 synodic and 67 sidereal months in five solar years and the length of the solar year being taken as 366 days are the outcome of the Vedic long count of 3339 *tithi* in the dark fortnights. This appears first in the *Ṛgveda* representing the 18-year eclipse period, the so called *Saros*. Medieval Hindu astronomers knew this period but their source for this knowledge has remained obscure. Comparative study of *RV* hymns with later Purâṇic legends associated with *Agni*, *Râhu* and *Ketu* will throw further light on Indian astronomy prior to the Siddhântic period.

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