

KOLLAM ERA

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Kollam era, called also Malabar era, is reckoned from August 15, 824 AD. Unlike most other Indian eras in which : (i) the year is luni-solar or lunar, (ii) commences from *meṣa-rāśi* (sign Aries), and (iii) the year-number refers to the 'expired' year, the *Kollam* era is entirely solar both with regard to the year and to the twelve constituent months, the year-number refers to the current year, and the year commences from the *siṃha-rāśi* (sign Leo). The era is called *Kollam* era on account of its having been inaugurated at the city of Kollam which is situated in Kerala on the West coast of India, and is called Malabar era after the region where it was and is still prevalent. The numerical notation used for digits in expressing astronomical constants and computation is according to the *Kaṭapayādi* system as against the *Bhūtasankhyā* system prevalent in the other parts of India. In spite of the prevalence of legendary accounts, historically, the era was inaugurated by King Udaya Mārtāṇḍa Varma at his capital city of Kollam after elaborate consultation with his court astronomers who were devoted to the study and propagation of the discipline of astronomy.

Key Words : *Bhūtasankhyā*, *Kaṭapayādi* system, *Keralolpatti*, *Kollam era*, *Malabar era*.

COMMENCEMENT AND CONVERSION FORMULA

Kollam era commenced on a date corresponding to August 25, 824 AD. There again, it is 'solar' and 'current' (as against 'expired'). From the time of the acceptance of Pope Gregory's compensation of 10 days to the Julian era, in 1582, the commencement of the *Kollam* years has shifted to August 15 of the Christian year. The formula for conversion would then be AD date = *Kollam* date + 824 (for August 15 to December 14) and *Kollam* date + 825 (for December 15 to August 14). It is also to be noted that while the above is the case for the major part of Kerala, comprising of South and Central Kerala, in North Kerala the era is reckoned from the next month, Kanyā, i.e. from September 25/15 instead of from August 25/15.

This era is called *Kollam* era since it is purported to have been inaugurated in the city of Kollam on the West coast in Kerala. It is also called 'Malabar' era on account of its being prevalent in Malabar. In Sanskrit texts, the era is termed *Kolamba*. The prevalence of the era extended to the adjoining districts of Tirunelveli and Madurai in Tamilnadu and part of Sri Lanka. It is described as a 'current' era for the reason that, unlike all purely Indian eras, such as *Kali*, *Śaka*, *Samvat*, *Bengali Śan* and others,

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which are all expressed by their 'expired' years, and wherein one has to add 1 to the year number to get the number of the 'current' year, *Kollam* era alone, is expressed in its current years like the Christian era, AD.

The *Kollam* era is 'solar' for the reason that unlike several other eras which are either lunar or luni-solar, necessitating the application of *adhika-māsa* ('additional month') and *Nyūna-māsa* ('deleted month'), in the *Kollam* era, the months are purely solar, as reckoned from *saṅkrānti* to *saṅkrānti* (Sun's transit), i.e., from the moment when the sun enters a *rāśi* (sign of the zodiac) to the moment when it leaves that sign and enters the next, and, in this manner, through the twelve signs of the zodiac.

In *Kollam* era, the years commence with the *Siṃha-rāśi* (sign Leo) and not with *Meṣa-rāśi* (sign Aries) as in most other systems. Naturally, the year ends with *Kaṭaka-rāśi* (sign Cancer). The days are reckoned from one local sunrise to the next. Since the *saṅkrānti*-s need not coincide with sunrise and can occur any time in the day or night, a convention has been adopted to the effect that if the *saṅkrānti* occurs within 18 *nāḍikā*-s from sunrise, then that day would be taken as the first day of the new month and if after 18 *nāḍikā*-s, that day would be taken as the last day of the current month, and the next day would be taken as the beginning of the next month. On account of this system of reckoning the number of days in a month varies from 29 to 32.

KOLLAM ERA AND LOCAL PARLANCE

Being prevalent in the Malayalam speaking region of the land, certain words and expressions in the Malayalam language would be used when the years in the era are mentioned in manuscripts and inscriptions. It is therefore necessary to know the common expressions used in such contexts.

The year is mentioned as just *Kollam* or with the addition of a word meaning 'year', like *varṣa* or *āṅṭu* in Malayalam and *abda* in Sanskrit.

The twelve months, all solar, of the year are :

1. *Ciñṇam* (*Siṃha*, August-September)
2. *Kanni* (*Kanyā*, September-October)
3. *Tulām* (*Tulā*, October-November)
4. *Vṛścikam* (*Vṛścika*, November-December)
5. *Dhanu* (*Dhanus*, December-January)

6. *Makram* (*Makara*, January-February)
7. *Kumbham* (*Kumbha*, February-March)
8. *Minam* (*Mina*, March-April)
9. *Meṭam* (*Meṣa*, April-May)
10. *Iṭavam* (*Rṣabha*, May-June)
11. *Mithunam* (*Mithuna*, June-July)
12. *Karkaṭakam* (*Kaṭaka*, July-August)

The days of the week are : *Nāyar* (Sunday), *Tiṅkaḷ* (Monday), *Covvā* (Tuesday), *Budhan* (Wednesday), *Vyāzhan* (Thursday), *Velli* (Friday) and *Śani* (Saturday). The term *vāram* means 'week' and *tīyati/āzhca* means day/date.

The undermentioned examples will illustrate the manner in which dates are mentioned in manuscripts and inscriptions :

Manuscripts :

- i. "820-ām āṅṅu meṭam 28-ām tīyati ..."
(Ms. of *Laghubhāskarīya*, Trivandrum Palace ms. No. 943)
- ii. "... 905-ām āṅṅu kanni-māsam 13-ām tīyati śani-āzcayum apara-navamiyum ..."
(Ms. of *Kumārakalpamālā*, Trivandrum Palace ms. No. 1081-D).

Inscriptions

- i. "Svasti śrī. kollam tonri 148-āmāṅṅu tulāttiḷ vyāzhan ninra viruccika nāyitru..."
(Māpaḷli plate of Śrīvallabhan-kota, King of Veṅāḍu. *Travancore Archaeological Series*, (TAS), 4 (1923) 1-11.
'Hail prosperity. In the year 148 after the appearance of the Kollam (era), in this day of Sunday, in the month of Vṛścika...')
- ii. "Svasti śrī. kollam tonri 336-māṅṅu iṭapa-nāyiru aṅcu cenra śani-makayiram nāl..." (TAS) 7 (1930) 1-2
'Hail prosperity. In the year 336 after the appearance of the Kollam (era), in the month of Vṛṣabha, days passed 5, Saturday, (under the asterism) Mṛgaśīrṣa...'

KAṬAPAYĀDI NOTATION

An understanding of the *Kaṭapayādi* notation of expressing numbers is essential in this context for the reason that in early Kerala texts and manuscripts dates are mostly expressed in this notation. The use of *Bhūtasankhya*¹ notation is seen only rarely.

The *Kaṭapayādi* is a facile system of notation wherein the letters of the Sanskrit alphabet are used to represent the nine digits and zero. The generally meaningful words formed by putting together appropriate letters represent the full number. The system is used not only to represent dates but also numbers that occur in mathematical and astronomical texts. The letters are written from right to the left to form the number.

The system takes its name from letters ka - ṭa - pa - ya which are taken to represent the digit 'one' and the further letters in the respective groups commenced by ka, ṭa, pa and ya to represent the further digits. Thus :

1	2	3	4	5	6	7	8	9	0
ka	kha	ga	gha	ṅa	ca	cha	ja	jha	ṅa
ṭa	ṭha	ḍa	ḍha	ṇa	ta	tha	da	dha	na
pa	pha	ba	bha	ma					
ya	ra	la	va	śa	ṣa	sa	ha	ḷa	

The vowels, standing alone, represent zero and a consonant standing alone, i.e., not followed by a vowel, does not represent any digit. Note that the letter 'ḷa' which is included in the Kerala/Malayalam alphabet represents the digit '9'.

There are two definitions for the *Kaṭapayādi* notation:

1. *na-ṅāv-acaś ca śūnyāḥ; saṅkhyāḥ kaṭpayādayaḥ /
mīśre tūpāntva-hal saṅkhyā; na ca cintyo hal asvaraḥ //*

'na, ṅa, and the vowels (*acaḥ*) (represent) zero. *ka, ṭa, pa, ya* and the letters following them represent the digits. In a conjunct consonant, the penultimate consonant (*hal*) represents the digit. A consonant (standing alone), without a vowel following, is to be discarded (as representing no digit).'

1. By *Bhūtasankhyā* ('Object-numerals') is meant the use of objects having specific numerative quality to express numbers. Thus *indu*, 'the one moon, represents the digit/number 'one'. *akṣi*, the two eyes, represent 'two', *agni*, the three sacrificial fires, represent 'three', *dik*, the ten directions, i.e., the eight quarters and above and below, represent 'ten' etc.

2. *kaṭapya-vargabhavair iha
piṇḍāntair akṣarair aṅkāḥ /
ne ñe sūnyam jñeyam
tathā svarāḥ kevale kathitāḥ //*

'Numbers are denoted, herein, by groups of letters formed by *ka*, *ṭa*, *pa*, *ya* and the letters (commencing) from them. *Na* and *ña* are to be understood as (representing) zero; so also pure vowels (i.e., when not attached to consonants).

The system is especially useful in coining numbers cogently and meaningfully, and fitting them unobtrusively in verses. Formulae are easily remembered. There is also the facility for the same number being 'lettered' differently to suit different metres of verses, if needed. For instance, the undermentioned verse describes a flooded river and people living on the banks fleeing, and, at the same time, the four quarters of the verse express the same Kali date expressed by the differently 'lettered' expressions :

*nadīpuṣṭir asahyā nu
nahy asāram payo 'jani /
nijāt kuṭīrāt sāyāhne
naṣṭārthāḥ prayayur janāḥ //*

In ordinary parlance, the verse would mean :

'The flood in the river was unbearable. There came down an abundance of water. By the evening the people (living on the banks) fled from their houses, having lost all their possessions.'

And, in *Kaṭapayādi* notation, the same number is given by all the four quarter-verses, the odd line being read from left to right and the even lines read from right to left.

<i>nu</i>	<i>hyā</i>	<i>sa</i>	<i>a</i>	<i>ṣṭir</i>	<i>pu</i>	<i>ḍī</i>	<i>na</i>
<i>na</i>	<i>hya</i>	<i>sā</i>	<i>ram</i>	<i>pa</i>	<i>yo</i>	<i>ja</i>	<i>ni</i>
<i>ne</i>	<i>yāh</i>	<i>sā</i>	<i>rāt</i>	<i>ṭī</i>	<i>ku</i>	<i>jāt</i>	<i>ni</i>
<i>n</i>	<i>ṣṭār</i>	<i>thāḥ</i>	<i>pra</i>	<i>ya</i>	<i>yur</i>	<i>ja</i>	<i>nāḥ</i>
0	1	7	2	1	1	8	0

In Kerala, while in mathematical and astronomical texts the *Kaṭapayādi* notation is extensively used for sine and other tables and for depicting computational procedures, in other texts it is used in colophonic and other verses to denote dates relating to the

authors or the works.

For example, in the line :

'vidyātmā svar asarpad' adya bhavatām ādhārabhūr acyutaḥ

the expression 'Vidyātmā svar asarpad' ('that learned soul passed to heaven') represents in *Kaṭapayādi* notation, (17,24,514) which gives the Kali day of the death of Acyuta, the author named in the verses.

In the concluding verse of Acyuta's *Uparāgakriyākrama* :

*'proktaḥ pravayaso dhyānād'
Jyeṣṭhadevasya sadguroḥ /
vicyutāśeṣadoṣeṇety
acyutena kriyākramaḥ //*

the expression '*proktaḥ pravayaso dhyānād*' (17,14,262) gives the date of composition of the work by the author.

FOLIO NUMBERS IN MANUSCRIPTS

In the present context of discussing manuscripts, a mention might be made also of a peculiar notation adopted in Kerala for numbering the folios in palm-leaf manuscripts. According to this system, the number 1 is represented by *na*; 2 = *nna*; 3 = *nya*; 4 = *ṣkra*; 5 = *jhra*; 6 = *hā*; 7 = *gra*; 8 = *pra*; 9 = *dre*; 10 = *ma*; 11 = *mana*; 12 = *manna*; . . . 20 = *tha*; 30 = *la*; 40 = *pta*; 50 = *ba*; 60 = *tra*; 70 = *tru*; 80 = *cha*; 90 = *ṇa*; 100 = *ṇa*. While the above notation is used only for numbering folios on the left margins or their obverse sides, normal Malayalam integers are used for representing numbers occurring in the text proper.

LEGENDARY ORIGIN

There are several accounts current, recorded and hearsay, about the commencement of the Kollam era.

One tradition according to one of the legendary texts on Kerala, called *Keralolpattis*, alleges the introduction of Kollam era to Śaṅkarācārya, the exponent of the *Advaita* philosophy. On this it is said : "Of other customs peculiar to Malabar there is a list of sixty-four, These sixty-four rules are called the *Kerala Anācāram*, that is, irregular customs of Kerala; and one tradition alleges that Śaṅkara Acārya promulgated them at Kollam on August 25, 824 AD, the first day of the first year of the Kollam

era followed on the coast. There is some colour for this tradition in the well-known chronogram marking the commencement of the Kollam era, viz.,

0	6	1	4	3	4	1
Ā	cār	ya	vā	ga	bhed	yā

which means, 'Ācārya's (i.e. Saṅkarācārya's) word or law is unalterable or must not be changed. The syllables represent figures as shown above (according to the Kaṭapayādi notation), and these *written backwards* give the age of the *Kali yuga* on the first day of the first Kollam year.' (Logan, 1989, pp. 155-56). Kali day 14,34,160 would work out to September 25, 824, which corresponds to the beginning of the Kollam era in North Malabar, i.e. the first day of the solar month of Kanyā.

Still another story in a different legendary work, also called *Keralolpatti*, states that the Kollam era was commenced from the date on which the then king of Kerala, Cermān Paḷḷibāṇa Perumāḷ adopted the religion of Islam and set sail from the port of Pantalāyani-Kollam in North Malabar. (cf. Logan, *ibid.*, pp. 192-96, 230-32, 240-43).

Another account runs thus : "In the Kali year 3926 (824 AD), when King Udaya Martanda Vurmah was residing in Kollam (Quilon), he convened a council of all the learned men of Kerala with the object of introducing a new era, and after making some astronomical researches, and calculating the solar movements throughout the twelve signs of zodiac and counting scientifically the number of days occupied in this revolution in every month, it was resolved to adopt the new era from the first of Chinṅam of that year August 15, 824, as Kollam year one, and to call it the solar year.

"This arrangement was approved by all the wise men of the time, and every neighbouring country began to adopt the same." (Menon, 1985, pp. 88-89).

Studies on the above divergent accounts have exhibited some historical discrepancies or contradictions in each of them. Obviously, these legends have been concocted round personages or events of the times. What remains in them is the fact of the era to have commenced on August 25, 825 AD.

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