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Article

# Why the Gregorian Calendar is Unscientific and the Vaidika Pañcāṅga is Mathematically Accurate

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**Abstract:** The article suggests that the the Gregorian calendar is unscientific and ivestiagtes why the Vaidika Pañcāṅga is mathematically accurate. It is a qualitative study and the library method of research has been carried out to support the claims. For Indic words, the International Alphabet for Sanskrit Transliteration (IAST) method is used.

**Keywords:** Gregorian calendar; Pañcāṅga; new year; history; calendar

## Introduction

Throughout history, many civilizations have claimed the title as the inventor of the calendar system. Most of these prehistoric calendars were used to predict weather, to indicate the right time for harvesting, and occasionally, to navigate while travelling or sailing. These calendar models varied greatly. For instance, the Sumerian calendar, which many Western historians think is the first calendar in the history of mankind, would differ on several aspects from the Egyptian calendar. Similarly, Assyrian calendar was different from the Elamite calendar and the Babylonian calendar would start from a different time in respect to the Zoroastrian calendar. Not just that, even the reasons behind formulating calendars tend to differ from one another. Whereas the Hebrew calendar was made to fix the official date of reading the *Torāḥ*, the holy text of Judaism, the Celtic calendar's invention was fuelled by Pagan festivities and celebrations.

## The Scientific Vaidika Pañcāṅga

In Bhārata (India), king Vikramāditya, after whom the Vikrama Saṃvat calendar is named, is often given credit as the first to have invented or appointed scholars and mathematicians to invent the calendar. But, it is only a half-truth. The history of calendar in the Sanātana Dharma is beyond a particular era and it is believed to be eternal. This results owing to the fact that the nature of time, the *kāla cakra*, is cyclical in essence. The *kāla cakra* predates *sṛṣṭi* (creation of the universe or, in terms of science, the big bang) and postdates *pralaya* (the annihilation of the universe, or the big crunch according to astrophysicist Alexander Friedmann's universe models<sup>1</sup>). Time is the span between the two and, therefore, its potentiality is only that of an in-between part of the *kāla cakra* and not the whole.

The time span of the universe is equal to half a day of Brahmā, the one who creates it. It is called a *kalpa*. One *kalpa* is further divided approximately into fourteen *manvantaras*. Each of these *manvantaras* comprises of seventy-one *divya yuga*. A *divya yuga* is a cumulative time duration of four *yugas* (viz. Satya, Tretā, Dvāpara, and Kali). The time span of Kali is 432,000 years whereas the time spans of Dvāpara, Tretā, and Satya are 864,000 years, 1,296,000 years, and 1,728,000 years respectively<sup>2</sup>. According to this calculation, the age of the universe is 8.6 billion years which sits well with the modern cosmology that suggests that the probable date of the creation was in somewhat remote past of 13.8 billion years. Observing this, one of the greatest astrophysicists of all time, Carl Sagan, expressed his wonder in his *Cosmos* (1980), stating that only in the Sanātana Dharma "the time scales correspond, no doubt by accident, to those of modern scientific cosmology"<sup>3</sup>. The units of time range from micro to macro: from *truti*, which is  $10^{-7}$  to one second, to *mahākalpa*, which is  $10^{22}$  of one

second— a time frame that is irrationally magnificent. Therefore, the astronomical calculations behind the timing, dating, and the calendaring system in the Sanātana Vaidika Jyotiṣa Pañcāṅga differ significantly from the rest of the calendars available in currency or are defunct. The present year, according to this calculation, is 5124<sup>th</sup> of the 7<sup>th</sup> *manvantara* which is named after Vaivasvata Manu.

**I write it as 5124 KY (५१२४ क. यु.)**

Now, having said this, let us not dive into the curiosity of asking who invented the first calendar (for who really knows and what does it really matter if time is cyclical?), and rather concentrate on the functionalities of the calendar system. Every calendar system either follows the lunar calculation or the solar calculation. Both the methods of astronomical calculations suggest that the time of commencement of a year proceeds from around the middle or the late of March to early April.

### **The Unscientific Gregorian Calendar**

The Gregorian calendar, which places January as the starting month of a year, is thoroughly unscientific and without any mathematical validation. This calendar is named after Pope Gregory XIII who churned up this mathematical mess by replacing the Julian calendar which was previously issued by the Roman emperor, Julius Caesar. All the names of the days and months in English language have originated from the Julian calendar. For instance, the Julian "*Ianuarius*" (pronounced as 'Januarius') became Gregorian January; "*Februarius*" because February; "*Martius*" became March; "*Aprilis*" became April; "*Maius*" became May; "*Iunius*" (pronounced as 'Junius') became June; "*Quintilis*", which was later renamed "*Iulius*" (pronounced as 'Julius') after Julius Caesar, became July; "*Sextilis*", later renamed as "*Augustus*", became August; and the last four months (viz. September, October, November, and December) have kept their original names intact as their Roman originals.

The Julian calendar marked the beginning of a new year in March. However, on 4<sup>th</sup> of October in 1582 CE, Pope Gregory XIII, who was certainly an incompetent mathematician and a detestable plagiarist of the Julian calendar, forcefully declared January to be the first month of the year. One would be shocked to know that the ten days from 5<sup>th</sup> of October (Thursday) to 14<sup>th</sup> of October (Friday) in the annum of 1582 CE went missing from the new calendar. No explanation was provided for these missing dates. Apparently, Pope Gregory XIII was "fixing" the calendar (only god knows how!). Moreover, he also fails to provide any rational support as to why a new year should begin from January. The ostentatious attitude of staying aloof of the mathematicians and astronomers is what makes the Gregorian calendar unscientific. Science follows the path of wisdom and rationality, not a fanatic bully's whims.

Even until 1751 CE, the followers of the Gregorian calendar had celebrated the new year in March. The English word "march", after which the month is named, means "to proceed or to start walking", symbolizing the beginning of a new year. It is to be noted that in English literature, from the *Canterbury Tales* of Chaucer (1340-1400 CE) to the *Sonnets* of Shakespeare (1567-1616 CE), the month of April gets mentioned repeatedly as the season of joy and festivals. Up until 19<sup>th</sup> century CE, many small regions in Europe celebrated new year in April. However, it was at the behest of King George II that a bill was passed in the British parliament in 1750 CE which declared a radical change in the counting of the beginning of a new year, shifting it from March to January. However, this decision was purely an illogical one and unnecessary as well. Although some mathematicians and astronomers from the Vatican City (Rome), who followed the Orthodox Christianity, had objected to this change, but the contemporary British courtiers, who were busy appeasing the king, haughtily overlooked their suggestions. So, the bill was passed and people were compelled to follow it. Later, as the British Empire expanded, this method was imposed all over the globe. Even today, the Orthodox Christianity follows the old Julian system for their liturgical deeds. On the other hand, in the Sanātana Vaidika Jyotiṣa Pañcāṅga, the old year ends on the Caitra Saṁkrānti (the last day of the solar month) and the new year begins in the month of Vaiśākha which generally falls around mid-March or early April. Thus, the progression of the year also shows the astronomical basis behind the

calendar. This period of year is also marked as the new year by the ancient Babylonian and Egyptian calendars.

### Conclusion and Suggestion

Despite this erroneous dating, people have been following the bizarre Gregorian calendar without casting a glance at the Sanātana Vaidika Jyotiṣa Pañcāṅga which is mathematically accurate and based on scientific astronomy. If you are reading this article till now, it means you are interested in knowing the truth. So, to you, I give a call to revive the Sanātana Vaidika Jyotiṣa Pañcāṅga and make it the standardized norm all over the globe. If accomplished, it would not only bolster the process of decolonizing people's psyche, but it would also lead us one step closer to making Bhārata the *viśva guru* intellectually. It is obvious that many would laugh at this proposal and ridicule it, saying it is never going to be possible and I am only day-dreaming to bring a change. To them, I sing John Lennon's prophetic words:

"You may say I'm a dreamer,  
But I'm not the only one:  
I hope someday you'll join us  
And the world will live as one."<sup>4</sup>

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