The Scientific Dating
Of
The Rāmāyāna
&
The VEDAS

Dr. P. V. Vartak
The Scientific Dating of
The Rāmāyaṇa &
The Vedas

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FOREWORD

Veda Vidhyāna Mandala, Patna is an institute founded in 1976 by Dr. P.V. Vartak, the Late Sri M.B. Pant and the Late Wrangler Sri G.L. Chandratreya to promote research in the ancient Indian Sciences.

Dr. P.V. Vartak has done great work on the historicity of the Mahabharata. He has established that Bhuloka is the hero of the epic Mahabharata. He established the dates of almost sixty incidents from the Mahabharata depending on Astronomatics and has shown how advanced Science was then. He published his Marathi book 'Swayamhree' on this topic in 1971. It was highly appreciated by all. As the book was in Marathi its readership was limited. Many people requested him to bring it out in English. Dr. Vartak had read many papers on the Mahabharata in many conferences. Looking at the popularity and earnestness of his research, the Veda Vidhyāna Mandala published his research paper "The Scientific Dating of the Mahabharata War" in 1989. The Mandāl supplied its copies free to many institutions, Universities, and scholars. The response was satisfactory. About ninety scholars appreciated that book and requested to publish Dr. Vartak's research on the Rāmāyana and the Vedas, as well.

People, in general, only know that Rāma was born on the ninth day of the bright half of the lunar month Chaitra. But is which year? How many years ago? Nobody knew the year or even the century in which Rāma was born. Many scholars claim that Rāma is a historical person, but they have not been able to decide his historicity and produce record of his time. The Rāmāyana, world's first epic that narrates his life history does not give any date, opined the scholar. The western scholars taught us that our ancestors in India did not have the sense of history and our scholars accepted that view blindly. Scholars of
the past five decades said vehemently that the dates of the Rāmāyana and the Mahābhārata could not be fixed because even the western scholars could not do that job. In these circumstances, it is difficult to believe if somebody tells us that Rāma was born on the 4th December 5523 years before Christ. Dr. P. V. Vartak, a researcher with the sixth sense, has ventured to hazard this guess on very convincing grounds.

The scholars, the world over, are still disputing the periods of the Rāmāyana and the Mahābhārata and the Vedas as well. They are reluctant to place any civilization in India more than five thousand years back. Could, then, Rāma’s times be as old as 9300 years? How could Dr. Vartak arrive at so precise a date?

Dr. Vartak, like Lokamānya Tilak and few other Indian researchers, depends on the Astronomical evidence contained amply in our ancient works, to calculate and ascertain the antiquity of the Rāmāyana and the Vedas. He collected from the Rāmāyana references to planetary positions at the times of the events connected with Rāma’s life. Dr. Vartak then undertook the stupendous task of working out the motions of the concerned planets up to the points of the references. All the planetary positions tallied with his calculations for dates.

Dr. P. V. Vartak has already published his work on the Vālmiki Rāmāyana in Marathi in a book titled as ‘Vāstava Rāmāyana’. It is very popular in Marathi literary world and great scholars have appreciated it. He has given in it a history of 7500 years before Rāma and true history of Rāma. To prove that the Rāmāyana is a true history he has worked on it with the help of Astroonomy to fix the Dates of almost 50 incidents from the Rāmāyana. The Veda Vidyaśāna Mantralaya requested him to give his research work in English for publishing so that the whole world will get the benefit of it.

The Rāmāyana is an important landmark in history, just like the Mahābhārata and the Vedas. So after fixing the date of
the Mahabharata war, Dr. Vartak went deeper into the past history to fix the dates of the Ramayana and the Vedas. We are glad to publish his work for the benefit of the world. Dr. Vartak has studied very logically all the available evidences. He has considered not only the astronomical but has taken into account all evidences, all the references to Vishnu's Ramayana in the ancient Literature of India, ranging from before the Christian era up to a few centuries in the Christian era. He has fixed the dates of those Literatures as well. The reasoning and the logic in his work is laudable. He has pointed out even the teeth in Rama's mouth. He is open minded having scientific attitude therefore he has given one evidence showing the date of the Ramayana in the Treta Yuga i.e. before eight lakhs years. Though it goes against the date he has derived, he has produced it for other researchers to work further. That shows his clear mind as a researcher.

Some times it may happen that on calculation a planet's position may not come in the Sign of Zodiac mentioned in the text but may come in one sign earlier or later. About this problem Dr. Vartak gives explanation as follows - Suppose on a clock there is some insect seated near 1 O'clock position. If one observer tells that position, second observer may try to see it between 12 and 1; while the third may try to see it between 1 and 2. The same thing may happen in the case of Nakshatra or Rasis. If Jupiter is said to be present in Cancer, it may be calculated in Mithuna. One sign of Zodiac or one Nakshatra here or there is immaterial. Dr. Vartak has shown that much accuracy. Other scholars give a position almost diametrically opposite to that mentioned in the text and, therefore, their views are unacceptable. Dr. P. V. Vartak, a physician and surgeon by profession, is deeply involved in research about scientific knowledge in ancient India. He is also a visionary spiritualist and uses his intuitive powers for scientific research. In 1975 when the U.S.A. launched an expedition to the planet Mars, Dr. Vartak explored the Mars in his vision on 10th August 1975, and kept his report published.
On 20th August 1975, 'Viking 1' was sent towards the Mars which landed on the Mars on 21st July 1976 and sent reports which tallied with Dr. Vartak's report except one point of his 21 published points. The remaining point was of the black patches on the red rocks caused by the ancient moss which died and blackened a few days of years ago, when water on the Mars disappeared. Dr. Vartak's report about the ancient moss and water is tallied 22 years later by the American Space-ship 'Pathfinder' in 1997. Dr. Vartak made second trip to the Mars and forecasted about docking of Viking 1 and Viking 2. His report tallied with NASA report in 1976. He visited the planet Jupiter on 27th August 1977 and published his findings which were tallied later by the American Space-ship 'Voyager' in 1979.

Instead of dwelling more in the foreword, we prefer to reproduce below the letters of two scholars about Dr. Vartak's research. One is a great Mathematician Wrangler G. L. ChandraJeeyo who in his letter dated 21st August 1966 has expressed his opinion about the date of the Mahabharata War fixed by Dr. Vartak. Another stalwart in history is Dr. Hira Lal Gupta who has expressed his opinion about the work of Dr. Vartak namely "Perfect Dating of Rama-Ravana War by Astronomical Method ". Many scholars all over India have appreciated various research papers read by Dr. Vartak in various conferences held all over India during the last 20 years.

Dr. Hira Lal Gupta,
Ex. Senior Professor & Head of
History Deptt. University of Sagar,
U.P. Pin. 212 601
2. 2. 1989.

Dear Dr. Vartak Padmavak Visistu,

I have read with considerable interest your article entitled "Perfect Dating of Rama-Ravana War by Astronomical...
Method " (from 3rd November or Phalguna Kṛṣṇa 3rd to 15th November or Phalguna Amāśāyī, 7292 years B.C.) It sheds considerable light on the dating of various incidents in the life of Rāma at a time when Archaeological excavations have not yielded any tangible and convincing result. Your approach is novel and laudable and interest of a medical practitioner in the subject, foreign to his sphere, is admirable. I congratulate you for this great contribution. Perhaps you are the second scholar in the country next to Lokakantha B. G. Mitra to base historical findings and literary writings on Astronomical calculations. It is a novel method worth trying wherever it may be applicable. In the absence of any other method it may be incontestable and convincing too. It may solve several historical riddles.

Not being conversant with Astronomy, I am interested in your findings. You have fixed the date of Māhābhārata by the same method, I would request you to send me various dates of the incidents of the life of Shri. Rāma as well as articles on Māhābhārata and dates of the Bhīṣma battle and Gīśa.

As historians are not the competent authority to judge the veracity of your paper, may I advise you to give wider publicity to your articles in the standard Astronomical journals of India and abroad after modifying the title that you may receive authoritative and worthwhile comments of some notable scholar of Astronomy at your method and calculations. When the subject is thrashed out by competent astronomical authorities, the historian's attention may be drawn to it and may be considered for acceptance.

Yours Sincerely,
H. L. GUPTA

Before the suggestion of Dr. H. L. Gupta, Dr. Varshak had already shown his paper to Wrangler Chandrasvaya who was a mathematician as well as an Astronomer. We are publishing his comments here. The Late Shri M.B. Pant who was also a great mathematician Astronomer had approved Dr. Varshak's research.
THE CORRECT DATE OF THE MAHABHARATA WAR
Derived by Dr. P. V. Variax.
Wrangler G. L. Chandraiy, 1233 B Aptie Road,
Pune 411 004
21st August 1986

Quite a number of efforts have been made by various scholars to find the date of the Mahabharata War. Various methods have been used, using historical references in the Puranas, language conditions, archeological findings etc. A few have used astronomical methods to determine the time of the Mahabharata. It is possible to determine the date of an astronomical reference by considering the movements of the planets including the Sun and the Moon in the various constellations of the sky, the movement of the Earth with its axis inclined to the ecliptic and the precession and nutation of this axis as well as the seasonal changes referred to in the text.

I had the pleasure of going through the work done by Dr. P. V. Variax, “The Scientific Dating of The Mahabharata War” and I find it very interesting. The astronomical references in the Mahabharata have been gone through carefully and the positions of the planets Saturn, Jupiter, Mars etc. in the various constellations are finalised by properly understanding the distribution in the Sayan and Nirayan systems. This has been done by considering the references from the viewpoint of consistency. A particular period has been obtained from the references to various dynasties of kings, accounts of writings of foreign visitors to India and of references in those countries in this connection like Greece, Egypt and Persia.

The periods of the various planets being known, have been used to find the positions of the planets, including Rahu and Ketu in the constellations of the sky by mathematical method. These positions agree with those given in the Mahabharata text. The agreement cannot be by chance and so it is reasonable to
argue that the date of the Mahabharata war is 16th October 5561
Years B.C. as given by Dr. P. V. Vartak.

The seasonal references to various incidents in the
Mahabharata are investigated and they also agree with
calculations of the exact dates during the period mentioned. The
Tropical year and the Sidereal year have been used for verifying
these dates. Thus the references to the Equinoxes and Solstices
(Ayanas) have also been accounted for.

Of course, it is presumed that the astronomical
references are genuine and do refer to the incident mentioned in
the text of the Mahabharata. I am unable to say if all the
references (astronomical) have been taken into account. But it is
quite reasonable to conclude that the dates as obtained by Dr. P.
V. Vartak are correct. It has been shown that the other dates are
inconsistent with the references.

Additional efforts will have to be put in by calculating
the positions of the planets at some other times and verifying the
method used. It is possible to find the dates of other works,
medieval and ancient, and verifying these with the actuals as
known to us. It will also be useful to determine the changes in
the seasons mentioned and comparing them to the period
obtained by applying the principle of the two systems of calendar
- Solar and the Luni-Solar and calculating the difference due to
the precession of the earth's axis.

All in all, it is possible to state that the dates as derived
by Dr. P. V. Vartak are more correct than the various other dates
prophesied by other workers in the field who have been carried
away by the statements made by Western scholars. They have
been prejudiced against the richness of the Indian Civilization in
the past and have always tried to attribute much later dates and
consequently to denigrate the glorious past of India.

G.L. Chandratreyya.

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Dr. Vartak designed the cover himself to depict the main point of this research on the cover so that inquisitive readers may refer to the map of the sky presented on the cover and judge the accuracy of Valmiki's descriptions.

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For correct pronunciations of the Sanskrit words we have used letters like this: न=न, र=र, श=श, ष=ष, ठ=ठ, ड=ड, ढ=ढ, त=त, स=स, त्र=त्र.
The Scientific Dating of the Rāmāyana

Introduction:

I think that I have done some research in fixing the dates of the Rāmāyana and the Vedas. Research implies a critical and scientific enquiry seeking all possible evidence that may enlighten the real fact. Research is a scientific undertaking which by means of logical and scientific methods, aims to discover new facts. In my research I have done an investigation to ascertain the dates for which purpose I have put forward an entirely original data to discover an unexplored horizon of knowledge. I have used in my work scientific and rational methods and have taken into account many branches of modern science e.g. Astronomy, Meteorology, Biology etc, to fix the dates. Therefore, I call this book 'The Scientific Dating of the Rāmāyana and the Vedas' and present before the people.

It is very difficult to fix the date of any great personality or literature of ancient India because of the great philosophy of India. I am great, my name should go down in the annals of history, my work should be praised by the future generations and such other thoughts did not arise in the minds of great Indian personalities because their philosophy taught them that whatever they did was the task given by the God Almighty and was done by Him through the medium of their physical bodies. Because of this notion, the great Indian personalities did not try to leave a stamp on history. Even the great Marthanda Varma and the great Rāmakrishna, the great, did not write anything in their own praise for fame. Therefore it is very difficult to establish the period of any great man of India.

In the past the royal dynasties were well recorded and maintained, which could have been used to fix the dates of the kings but the Muslim invaders burnt and destroyed all their
genealogies. The invaders before Muslims also caused the same destruction. Therefore, there is no clue left to fix the dates of the past history of India.

It will be totally wrong to say that there was no measurement of time in ancient India. They did not count the years as we do at present, from a particular king or saint.

Now-a-days we count the years from the Christ and say A.D. (Anno Domini) or B.C. (Before Christ.) By using the present method of counting years how much knowledge we achieve is questionable. "Sivaji reigned three hundred years ago while Atoka ruled two thousand three hundred years ago." By these two statements what exact meaning a common man derives? Atoka ruled much before Sivaji is the only meaning derived. If the same thing is sensed by any other method what is wrong in it? "Parikshit ruled when the Saptaris were in Naksatra Magha while Nanda ruled when Sagartatis were in Pirvā Kṣetra." This is an ancient statement with a note that Saptaris stay for 100 years in one Naksatra. This statement also gives the meaning that Nanda ruled 1100 years after Parikshit. Practically there is no difference in the modern and the ancient statement, then why label our ancestors as ignorant barbarians?

If we consider carefully it will be revealed that the Indian calendar is more useful and accurate. For example, if we meet with a shipwreck and are thrown on an isolated island inhabited by no human being, then in a few days we will forget the date and month of the modern scientific calendar which hangs on the walls of every man's home. We can never recount the date and the month again. But a man who knows some primary things about the Indian calendar can recognise the Tithi, Naksatra and the lunar month by just looking at the Moon. The Full moon indicates Poorāṇa, half moon Asami, quarter moon indicates Chaturthi and so on. The star seen near the moon indicates Naksatra of the day. The star which rises in the east at the sun-set indicates the name of the lunar month. A star near the full moon also gives the name of the lunar month. For example, 2a The Scientific Dating of the Ramayana and the Vedas
if the full moon is near Chaitr Nakastra the month’s name will be Chaitra. Thus just by looking at the sky at the night a man can fix the Tithi, Nakastra and the lunar month. If he looks at the rising Sun he can recognise whether it is Utratiya, the northern journey of the Sun or Dakshinyana, the southern journey of the Sun. From the position of the rising Sun on the horizon he can recognise the Ritu or the season too. Thus Panchlinga is complete. Five Angas of Time are Tithi, Nakastra, Masa, Ritu and Ayana. Thus the Indian Panchlinga (calendar) is really eternal. The ancient Indian sages had noted that the rising Sun goes on swinging on the eastern horizon from left to right and back. When the rising Sun goes from our left hand side towards the right hand side, the period is called as Dakshinyana. Dakshina means right side. Approaching a certain limit of the Dakshina i.e. south the Sun turns to the left or towards the north. This turning point is called as the end of Dakshinyana or beginning of Utratiya. This is called as Winter Solstice. This point was also held as the beginning of Sita Ritu. The ancient observed extreme cold at this point. It is the end of the Hemanta Ritu. The name Hemanta is suggestive of cold (Heman) as well as snow. Anta means the end or inside. There was cold and possibly snow fall in the Ritu and at its end, so the name. According to the modern scientific calendar Dakshinyana Anta or Winter Solstice falls on 22nd December. From 22nd December begins the Sita Ritu wherein for two months the cold gradually diminishes up to the 21st February. Sita is the word derived from shivers of the cold.

At the end of Utratiya, the northern journey of the Sun, when the Sun reaches the extreme north, there is extreme heat. From this point which is called as the Summer Solstice the Sun returns and travels towards the south. From the Summer Solstice there begin rains and so is held as the beginning of the Varsha Ritu, rainy season. According to the modern calendar the Summer Solstice falls on 21st June.

The Date of the Rickshiyana #3
On 21st March and 23rd September the rising Sun is in the middle of the Eastern horizon i.e., on the Vizuvaya Yitta, the equator and so the days are called as Vizuvāhya, which means equal day and night.

Ancient Indian sages discovered these four nodes—the two solstices (the summer and the winter) and the two equinoxes (the Vernal and the Autumnal). Moreover they were shrewd enough to record the positions of the Sun in the Nakṣatra cycle on the Solstices and/or the Equinoxes. By these records it was observed that the Sun on the nodes receded backwards very slowly. In the modern science this receding of the Sun is named as the Precession of the Equinoxes and its rate is one degree in 72 years or one Nakṣatra in 960 years, or 50.2 seconds per year.

Many times the Nakṣatra-position of the Sun on the solstice is recorded as in the Taittirīya Brūhmaṇa 1.5.1-2.6.7 which states that Kṛttika to Viśākhā were the Deva Nakṣatras which were situated on the northern course of the Sun. While Aṃrutādha to Ababhaṛacī were the Yama Nakṣatras being situated on the southern course of the Sun. This discloses the fact that on the Winter Solstice the Sun was between Kṛttika and Bharani Nakṣatra while on the Summer Solstice it was between the Viśākhā and the Aṃrutādha Nakṣatras. At present on 22 December 1998 the Sun on the Winter Solstice is on the Mūla Nakṣatra while during Taittirīya period it was at Kṛttika. This means that the Sun has receded by 12 Nakṣatras. Calculating at the rate of 960 years for one Nakṣatra, the period for 12 Nakṣatras comes to 11,520 years. Subtracting 1998 from it we get 9522 years before Christ as the Date of Taittirīya Brūhmaṇa. If we take the exact position of Kṛttika as 26° 40' we get the exact year as 8357 B.C.

In this way roughly we can estimate the time if we know the Nakṣatra-position of the Sun on Solstices or Equinoxes. We can go thousands of years in the past or in the

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future by this method. The lunar months devised by the ancient Indians are such that if we know the name of the lunar month, we can fix the position of the full Moon and from it can fix the Sun's position. For example, if we know that Rāma was born in Chaistra Māsa, it means that the full moon was near Naksatras Chitra. The full Moon is 180 degrees opposite the Sun. Naturally when the full Moon is near Chitra Naksatra the Sun must be near Atśivini Naksatra. Thus the name of the lunar month can give us an approximate position of the Sun. When it is stated that the Varṣa Pūtṛ began in the Aṣṭadha Māsa, it is evident that in that month the full Moon was near Aṣṭadha Naksatra, suggesting the Sun's position in Punarvasu Naksatra. From this data we can understand how many years have passed if we know the position of beginning of the rainy season at present in India. At present the rainy season begins with the Sun on Mrga Naksatra. The above statement shows Punarvasu. Two Naksatras are changed. Considering the rate of precession as 960 years per Naksatra, we get 1920 years. It shows that 1920 years ago the statement was written. This was the period of Kālidāsa and the book is Meghadoota wherein the statement is found (अग्निवर्तयो यो नादुरुः). The historians agree with this date of Kālidāsa.

If we have a precise Tithi we can find out the precise position of the Sun and can calculate the precise date. That is the importance of Indian calendar. But we do not give credit to that importance.

High Tide related to Tithi.

We can find out the time of high tide from Tithi but not from the Date according to the modern scientific calendar. The method is thus: Calculate three-fourth of Tithi and add to it, three times of Tithi as minutes. For example, take Tithi 12. The three-fourth of the Tithi is 9. Three times the Tithi is 3X12=36 minutes. So at 9 36, we will see the high side of the sea, in the morning as well as in the night. If the Tithi is

The Date of the Rimiyana #5
Pourgini at 15, its three-fourth is 45\(\frac{3}{4}\) = 15 minutes. Add 15\(\times\)3 = 45 minutes to 11:15. It comes to 12. Therefore at 12 noon and 12 midnight there will be high tide. The date in any modern calendar cannot give us this information, hence Tithi is most useful for a sailor or a seaman.

For historians also, the Indian system of reckoning time is important because we can calculate thousands of years before or after a certain event from the data. But this method was totally neglected by the scholars, foreign as well as Indian. European scholars did not know that the time can be calculated by a method based on Astronomy. Therefore the European scholars totally neglected the Indian records based on Astronomy and Meteorology. Blindly following their path, the Indian scholars also neglected the Astro-meteorological records of the past. Therefore the Indian historians could not fix the date of incidents precisely. It was only the late Lokamanya B.G. Tiljala, who recognized the importance and validity of the Astronomical records. He used this method in 'The Orion' and 'The Arctic Home in the Vedas'. Stimulated by reading these two great works of Tiljala, I began studying Astronomy. I went even deeper than him and could find dates of almost 60 incidents from the Maratharashtra.

The Scientific Dating of the Mahabharata War—was my first book published in English by Vedā Vidyaṇā Mandaḷ, Pune. About 900 copies were distributed free of charge to many Universities and scholars and we got some response. About 80-90 scholars have appreciated the new approach, new method and strenuous labour behind this research. Here I am publishing research work of mine on the Rāmāyaṇa on behalf of Vedā Vidyaṇā Mandaḷ, Pune. A part of this research paper was highly appreciated by the President of History Section Dr. S.M. Pathak at the oriental conference held in Vishakhapatnam on Jan. 1989. Dr. S. M. Pathak highlighted my new approach and praised my method of fixing the date of Rāmāyaṇa, on 6th January 1989, in the general session of the validating function.
Another part of this work was highly honoured at the South Indian History Congress held in Pune, in 1988.

The Date of the Rāmāyaṇa

Up to now very few scholars have dared to work on the problem of fixing the date of Rāma and the Rāmāyaṇa, because everybody is convinced that there is no mention of any evidence of mensuration of time. However, on deep study, I found many evidences to calculate and fix the various dates. I achieved success in fixing the dates only because I understood the ancient Indian method of reckoning the time which is very ingenious and eternal because it is based on Astronomy.

They had invented a method using solar years and lunar months and were taking supernumerary months or Adhimaśa to adjust the difference between solar and lunar year. They were using seasonal months also. Madhu and Mādhava composed Viṣṇu Rū, Bhūki and Śukra composed Gṛheśa. Nabha and Nabhaśaya were the months of Varṣa. Ha and Urja composed Sarad, Saha and Sahasya composed Hemanta while Tapas and Tapasya composed Śīrā Rū. Śīrā started with the Winter Solstice (22nd Dec.) while Nabha started with the Summer Solstice (21th June.) With the unique combination of Lunar-Solar movements on the star path and the seasonal variation on the Earth they reckoned time, and this is the most accurate method because we can find out the period by this method even if thousands of years have elapsed. The ancient sages knew that the lunar months are not fixed with the seasons. Even then they used it because by the lunar months, positions of the Sun and the Moon are recognised. The ancient sages had a tradition to mention Nakṣatra, Tīrū, Pūkā, Māśa, Rū and Ayana in the नवम (Sankalpa - a solemn vow to perform an observance) of any function or ritual. From this we can find out positions of the Sun and the Moon in the star path and position

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of the Sun in relation to the Earth. With the help of the rate of
precession of equinoxes we can find out the date, thousands of
years ago. Bearing this in mind we will proceed to find the time of
the Rāmāyana.

Before going to the Astronomical evidence let us
see from other evidences how ancient is the Vālmiki Rāmāyana.
We have to decide the time of Vālmiki and Rāma both. If we
read Vālmiki’s Rāmāyana carefully, we are convinced that
Vālmiki was a contemporary of Rāma, because Vālmiki
composed the epic Rāmāyana while Rāma reigned on this earth.
He gave shelter to Seetha and made her sons recite the epic
Rāmāyana and made them sing it before Rāma. Therefore the
dates of Vālmiki and Rāma would be the same. All other books
on the Rāmāyana mention that Vālmiki was the first author of
the Rāmāyana and he was contemporary of Rāma. There is no
evidence to deny this fact so we have to accept that the dates of
the Rāmāyana, Vālmiki and Rāma are one and the same.

External evidences

To fix the date of the Rāmāyana we have to
search through history. In this effort first we are attracted to the
two dramas of Bhāsa, namely Pratimā and Abhīrūkā written on
the theme of the Rāmāyana. Bhāsa’s time has been held to be
the beginning of the Christian Era by many scholars. But recent
research points out the fact that there is no mention of any word
related to Buddhism in these two dramas; so Bhāsa is
pushed back to 500 years B.C. or before. Naturally, Vālmiki
appears to be even more ancient.

Śudraka is of the same age as Bhāsa and he has
mentioned Mārtu in his drama Mucchakittaka. RājaTarangini of
Kālhana has mentioned the Rāmāyana. Here I shall give a list of
books with their dates which have referred to the Rāmāyana,
proving that the Rāmāyana is more ancient than these books.

1) Karma Pradeepa or Kṛṣṇa Smriti (3-1-10) is
from 500-600 B.C. This refers to the Golden statue of Seethā
on The Scientific Dating of the Rāmāyana and the Vedas.
made by Rāma. Śrī Utpala Kanda of Rāmāyaṇa also appears to be more ancient than 600 B.C.
2) Kāśivandhakeyaka Neetiśāra 310 B.C.
3) Śakrā Neeti 1000 B.C.
4) Jaimini Alīvamadhur 36-84 mentions Valmiki.
5) Gāyatrī Samhitā 1650 years B.C. This date is derived from the reference that the hāmkār śvetāsara was at 120°, at the end of Śrīpur Nākaśatra.
6) Šrī Purāṇa includes Rāmāyaṇa at 4/4. It also states equal day and night with the Sun on the head of Kritoś (2.8-76.77) at the beginning of Aries. This gives exact date as 1652 years B.C.
7) All Purāṇas are of the same era and all refer to the Rāmāyaṇa.
8) Daśaratha Jātaka, 450 B.C. gives Rāma's story.
9) At the time of Buddha, Śrīvasti was the capital of Kosās, Aull Buddhists, Jain and Greek literature mention Śrīvasti as the capital. In the Rāmāyaṇa, Valmiki has given Ayodhya as the capital of Rāma and he also says that Śrīvasti was established for Lava by Rāma himself. This fact shows that Valmiki was more ancient than Buddha, Mahāvīra etc.
10) Pāśupatins was established 400 years B.C. but is never mentioned by Valmiki because he is more ancient.
11) The Rāmāyaṇa does not use the name of Simhala Dvēpa for Lanka anywhere, that means the Rāmāyaṇa was completed before the name 'Simhala Dvēpa' arose. It is recorded in history that around 543 years B.C. one king Vijaya took possession of the island and named it after his father's name Simhala. That proves antiquity of the Rāmāyaṇa beyond 543 B.C.
12) A Buddhist book, 'Mahāradjāvalli' from Ceylon states thus: 'Before the birth of Buddha this island was called as 'Śri Lanka'. 1845 years prior to the death of Buddha there took place a great war named as Rāvaka - War. Since that war there was no The Date of the Rāmāyaṇa'.
habitation on this island. After Buddha the island was
rehabilitated. The book is supposed to be written 543 years B.C.
or later. Buddha died during 543 years B.C. So the war might
have taken place 543 + 1845 = 2388 years B.C. But if we
consider the maxim "संस्कृति नमस्ते महिना" we have to place the
digits in the reverse order. Then 1845 will be read as 5481, and
we will have to assume that the war took place 5481 years
before Buddha’s death i.e. 543 + 5481 = 6024 years B.C.

13) Vibhāṣi has not used any known method of counting the
years. e.g. Śālavahana Śaka or Vākrama Samvat or Kaliyuga
or Kali Kāla or Yudhiśthira or Saptarṣi Kāla. Naturally Vibhāṣi
must have been earlier than these methods of counting the years
came into force.

Saptarṣi Kāla (or Loukika Kāla or Kali Kāla) is a
method of counting years since antiquity, but who formulated
that and when was it formulated is unknown. In this unique
method one hundred years are attributed to each of the 27
Nakṣatras and is held that Saptarṣis (Ursa major) stay in one
Nakṣatra for one hundred years. (In reality stars do not move
like this.)

The first Nakṣatra is Ātrini. Holding Saptarṣis in
Ātrini, the years were counted from one to hundred. Then 101st
year was held as the first year with Saptarṣis in Bharani. After
completion of 100 years in Bharani the 201st was taken as the
first year with Saptarṣis in Kṛṣṇa. In this way a cycle of 27
Nakṣatras was completed at the end of 2700 years. Then again
they used to begin counting of years with Ātrini Nakṣatra. This
method is similar to the modern era, wherein we count a century
and add one to 99 years. For example we say 1901 to 1999, or
a particular number of years in the 20th century. Instead of
describing time in centuries, the ancient Indians used the
Nakṣatra name. Today it is 1998, they would say 98 years with
Saptarṣi in the Nakṣatra Purvaḍādha which is the 19th Nakṣatra.

Let me give one concrete example here to explain. The
10a The Scientific Dating of the Rāmāyana and the Veda
is a book of music named "Rāga Tarangini". One Pandit Dattātreya Keśava Joshi has published it in 1918. Its author is Lochana Pandit who has stated his period as follows

**Mukundabhūmaṇīの一か十位方を表すラサナラシラカサラサラカサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサララサ拉

Here Bhūja = two, Vara = eight, Data = ten. These are 256 years.

**Muktadhāraṇī一か十位方を表すラサナラシラカサラサ拉**

Here Bhūja = two, Vara = eight, Data = ten. These are 256 years. Therefore the figure comes to 1082. These are the years of Śaka Kāla (Śaka). At the time when the king Ballāsena began his reign, the book was completed.

**The same period is given by another method thus “After completion of 61 years when Muni or Saṅgārjuna were in Viḍākhā. What does this mean? Muni were in Viḍākhā. Viḍākhā is the 16th Nakṣatra. That means 1500 years were completed and then 61 years of 16th century had passed. So in the modern language it was 1561 years, 61 years in the 16th century. Now let us tally this with Śaka Kāla.**

Garga states, "यदि द्वितीयविभुति: राकुकलसरस सरसः

<table>
<thead>
<tr>
<th>Number</th>
<th>Representation</th>
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<tbody>
<tr>
<td>6</td>
<td>शद्द</td>
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<tr>
<td>2</td>
<td>द्वितीय</td>
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<tr>
<td>5</td>
<td>पञ्चम</td>
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This means that 653 years of Kali Kāla passed and then Kuru - Pāngavas came into being. Here the word is Kali and not ‘Kali Yuga’. So it points to the Saṃparī Kāla or Lōukkha Kāla.

We have to consider two statements. First is that 2526 years before Śaka Kāla the Yudhishthira Kāla began. Second is that 653 years before Yudhishthira Kāla Kāla began. Let us write mathematically, thus -

**The Date of the Rāmāyana**
years of Kali Kša passed
+2526 years of Yudhīṣṭhira Kša passed
+1082 years of Soka Kša passed
---
4261 years of Kali Kša passed when Rāga Tarangini was completed.
-2700 years subtracted because in Kali Kša
---
there is a cycle of 2700 years.
1561 years of Kali Kša

Here we come to a number which shows that 15 centuries are completed and 16th century is running. 16th Nikesātra is Viśākha. Hence it is stated that it was 61st year with Saptatarśi in Viśākha.

Here we considered the period from the beginning of the Saptarśi or Kali Kša and came to the year 1561 as stated by Rāga Tarangini. It shows that both the methods were correct and were in use till 1082 Śaka i.e. 1160 A.D.

All these facts are considered just to show that Saptarśi Kša is the oldest but that too is not used by Vālmiki in his epic Rāmāyaṇa. This in turn shows that Vālmiki and his Rāmāyaṇa existed much before any method of counting the years like Saptarśi Kša came into operation.

Let us consider one more point. It is said that when Yudhīṣṭhira was living the Saptarśis were in Maghī. We have seen above that during the reign of Ballalasena at 1082 Śaka or 1160 A.D., Saptarśis were in Viśākha which is 16th from Aswini. Therefore, 1501 years earlier in

340 B.C. Saptarśis were in Aswini.
+2700 One cycle earlier Saptarśis were again in
3040 years B.C.

---
Aswini 11th the beginning of Kaliyuga at

4 2700 One cycle earlier i.e. during 5740 years B.C.

---
Saptarśis' were in Aswini.
5740 years B.C.

12 The Scientific Dating of the Rāmāyaṇa and the Vedas
In 'The Scientific Dating of the Mahabharata War,' I have proved the date of the great war as 5561 B.C. It is two hundred years later so that Saptarishi were two Naksatras ahead in Kritika.

By our calculation, at the time of Yudhishthira 5561 B.C. Saptarishi should be in Kritika, but we have the evidence in the Ardam Bhashgavata 12-2-28 that Saptarishi were in Magh. Is it a mistake? Let us take all the aspects into consideration. In 'The Scientific Dating of the Mahabharata War,' I have shown that Vyasa has given two Naksatras for each planet, and the two positions are eight Naksatras apart, Svastra being eight places earlier than Nasayana. This is because Vyasa called Pusa as Atwini in his Svastra method. Extending the same thought Pusa, Asvatth and Magh were equated with Atwini, Bhairavi, and Kritika respectively. Because Kritika was equated with Magh, Saptarishi were thought to be in Magh instead of actual Kritika. Later Vyasa, the author of the Ardam Bhashgavata, played the same trick as the original Vyasa, the author of the epic Mahabharata who prepared puzzles deliberately to deceive Lord Ganganani and the readers, but the trick was misplaced, there was no reason to insert a puzzle in the Bhagavata.

In the Raja Tarangini, Kalhara states that at 653rd years of Kali Pashupeta lived on this earth. I have proved the date of Yudhishthira as 5560 years B.C. 653 years before this Kali counting has started; so it must have started at 6213 years B.C. Even this system was not used by Valmiki. Hence Valmiki must have lived prior to 6213 years B.C.

(14) Purnima has taken many words from the Rishiyastra; e.g. Shoorpatukha, Surnini, Ravani, Kakkatha, Ravani, Kuskeyi Vaisravana etc. Purnima has differentiated Shoorpatukha as the name and Shoorpatukha as the adjective. Hence Purnima must have seen the Rishiyastra. Date of Purnima is taken as 800 B.C. but I do not agree with it because Purnima has given the first place to Dharmishti in the Naksatra list. This means that Dharmishti was at the winter solstice, its date being 1160 years before The Date of the Rishiyastra.13
B.C. So Pāṇini is about 1,600 B.C. and Rāmāyaṇa is still more ancient.

(15) Taśtriṇya Brāhmaṇa has mentioned Viśākha’s name in the list of great teachers. The Late Mr. Kekeka V.B. has derived the period of Taśtriṇya Brāhmaṇa as 4560 years B.C. So Viśākha is much earlier than this.

(16) Fortification of the city and deep trenches full of water around the fortified city is seen in Indus Valley culture which is dated as 2350 B.C. by the archaeologists. It is described in Viśākha Rāmāyaṇa that Ayodhya and Lankā were fortified cities. So Viśākha and his Rāmāyaṇa should be at least as old as 2350 B.C.

(17) When Bharata marched out to visit Rāma in the forest with his army, Guha suspected his intention and altered his own navy of 500 ships and 50,000 naval soldiers. Such a big powerful naval force has never been described in India or after the invasion of Alexander in 325 B.C. So the description must be older than 325 B.C.

(18) If Viśākha was a poet of 100 A.D. as held by some people, it is surprising why he did not get inspiration to write an epic on Alexander or Paru or Nanda or Chandragupta. Viśākha of 100 A.D. should have conceived a poem on these heroes, or on a great war between Aśoka and Kalinga which killed more than one lakh soldiers. Viśākha has not composed even a single poem on it because he was far more ancient than these events.

(19) The Mahābhārata has mentioned Viśākha14, 15 and the Rāmāyaṇa15 and Rāma many times. I have proved the date of Mahābhārata as 5561 years B.C. So the Viśākha Rāmāyaṇa is earlier than 5561 B.C. Some scholars try to show that the Mahābhārata is earlier than the Rāmāyaṇa. To refute this opinion I shall write a separate essay a little later.

(20) Araṇaṇa the first constellation10

The Mahābhārata Adi 71 and Advarmantha 44 record a tradition

14 The Scientific Dating of the Rāmāyaṇa and the Vedas
of Śrāvaṇa Gaurī (वालिनी गौरी) which means giving the first place to Śrāvaṇa in the list of constellations. This custom was started by Vivasvanā when he prepared a new world because he was dissatisfied with the old custom. The old tradition was to take the Nakṣatras at the Vernal Equinox as first in the list of Nakṣatras. Being dissatisifed with this custom, Vivasvanā started taking the diagonally opposite site, i.e., Autumnal Equinox to name the first Nakṣatra. So it was the period with Śrāvaṇa at Autumnal Equinox when Vivasvanā started this custom. Calculations show this period as 7500 years B.C. Vivasvanā is famous from Rāmāyana and was a teacher of Rāma. So Rāma’s period appears to be around 7500 years B.C.

(21) Rgveda mentions Rāma at 10.93-14. Here are referred three kings Prthuvaṇ, Vena, and Rāma. All the three are from Ikṣvāku dynasty. So Rāma must be the son of Dānāra. So it is evident that Rāma is more ancient than or is contemporary of the Rgveda. I think that the original Rgveda might have many stanzas on Rāma, but as Vālmiki had composed a separate epic on Rāma, Vyāsa excluded all those stanzas about Rāma while editing the Rgveda. It is to be noted that Rgveda hymns were being written up to the Mahābhārata age, that is why Sāntana is mentioned in Rgveda, with his brother Devājī. (Pg 10-98-71)

(22) The Rāmāyana is Earlier Than The Mahābhārata.

Mr. Lal and such other scholars say that the Rāmāyana occurred later than the Mahābhārata. They show only one evidence to support their statement that Pāṇchāla were present for coronation of Rāma, and Pāṇchāla are famous from the Mahābhārata. I want to state that they have not proved that the Pāṇchāla were not present before the Mahābhārata. They can not show it because Pāṇchāla dynasty started in the fourth generation from Ajmencheha. The five brothers were brave enough to establish a new kingdom and it was named as Pāṇchāla Dēta. Their date is near Sāgara or Dilipa (the first) of The Date of the Rāmāyana.15
Kravka dynasty i.e. 40 to 37 generations before Rama. So it is not a wonder that Panchalas were present at the coronation of Rama. I present here evidences to show that Valmiki and his Ramaayana existed much before the Mahabharata. (M 53)

(1) M.B. Vana 85 states that Valmiki was waiting to visit Kurus. Valmiki had met Kurus when he started for negotiations (Udyoga 83/27). (1) Valmiki visited Bhumika (Srimati 47/7) and Yaduvatthira (Anantasa 11). This Valmiki was not introduced as the famous poet. That shows that this Valmiki of Mahabharata era was a descendant of the famous poet Valmiki who lived in the earlier era.

II) Vyasa has referred to Valmiki in many places but Valmiki has not referred to Vyasa anywhere. Vyasa is so famous that had Valmiki lived later than Vyasa, he should have referred to him. Even in the list of great sages Valmiki has not included the name of Vyasa. Only because Vyasa had not been born when Valmiki composed his Ramaayana.

We Since Hastinapur and Kurava Dynasty came into lime light during the Mahabharata any later poet should have mentioned them. Had Valmiki existed later, he should have been careful enough to note who was the king, the throne of Hastinapur. But it is not stated in the Ramaayana because during the Ramaayana era there was no king in Hastinapur powerful enough to be mentioned. This was the condition of Hastinapur at the time of Sambhara when the Ramaayana might have been written. At least we can say that the Ramaayana is written much before the Mahabharata.

(1) Vyasa has written about Ayodhya and Kosala and their kings, Ocerhuya and Vyasabala because they were famous due to the epic Ramaayana.

(2) No part of the Mahabharata is seen in the Ramaayana. No king from the period between Ramaayana and Mahabharata is mentioned in the Ramaayana. That shows antiquity of the Ramaayana over the Mahabharata. Had Valmiki lived after

Yam The Scientific Dating of the Ramaayana and the Vedas
Pandavas he might have given simile of Pāṇḍavas or of any other king from the past after the Rāmāyana and the Mahābhārata. But it is not seen at all. All the stories written by Vīmalki are about the kings more ancient than Rāma and their names are found in the dynasties prior to Rāma. That clearly shows that Vīmalki, his Rāmāyana and Rāma himself are more ancient than the Mahābhārata.

VI ) The Rāmāyana was very popular and famous during the time of Pāṇḍavas, therefore people easily talked of it often, e.g. Mahābhārata Dvīpa 143 states that when Śāriyakī was harshly criticized for killing Bhīṣma, Śāriyakī said, “In the past, sage Vīmalki also really said that it is true that ladies should not be killed; but whatever is troublesome to the enemy must be done.”

Almost the same is the verse 291 and 301 in the Rāmāyana Yuddha 81. In the nick of time, in the fierce battle Śāriyakī remembered Vīmalki Rāmāyana - that shows the great popularity of Vīmalki Rāmāyana at the time of the Mahābhārata war.

VII) The word 'Rāmāyana' is used by Bhṛma. (Mahābhārata Vana 117/1, of BORI) It appears from his talk with Māra that Bhṛma had studied the Rāmāyana carefully.

VIII) Yudhishthira also had studied the Rāmāyana, so he says at Sabhā 76 'Golden deer is an impossibility but still Rāma falls prey to that attraction because at the time of impending calamity the intelligence is eclipsed'.

IX) A question is always raised why Yudhishthira inquired about Rāma in his meeting with the sage Mārkandeya (Vata)

The Date of the Rāmāyana • 17
274), and it is inferred wrongly that the Rāmāyaṇa was not known to Yuddhīṣṭhīra. It is a day-to-day fact that when we meet a great personality we go on talking something and we expect him so to tell something. Yuddhīṣṭhīra was aggrieved because an attempt was made to abduct Dronapadi by Jayadrata, so with grief he questioned Mārkandeya whether there was anybody so unlucky as him. Naturally, Mārkandeya told about Rāma. Yuddhīṣṭhīra too, felt like hearing the Rāmāyaṇa from him again. It is no wonder, even today we hear the Rāmāyaṇa from many people again and again. So it is wrong to assume from this fact that the Rāmāyaṇa was not existent at the time of Yuddhīṣṭhīra.

Mārkandeya did not tell Yuddhīṣṭhīra the true story that the Sesa was abandoned by Vīra as she was taken away by Rāvaṇa. Mārkandeya omitted this part deliberately just to avoid tragedy of Dronapadi being abandoned, thrown out by Yuddhīṣṭhīra. So one should not conclude that Utarā Kāṇga with Sesa-Tyāga was not existing at Yuddhīṣṭhīra's time.

X) Vāsishṭa writes that Hanumāṇa asked Rāma for a boon that he could live till Rāma's story lasted on the earth and that Aasparas should sing for him Rāma's glorious biography. (Utarā S.40), exactly the same episode is narrated by Veṣuṇa in the Mahābhārata Vana 148.

XI) The conversation between Kūṣeṣṭi and Dūṣāṭhā from Ayodhya 10.3314 is reproduced in the Mahābhārata Vana 777/22, 23.12 Similarly the conversation between Viśi and Tūrṇa is reproduced in the Mahābhārata in Vana 280.13

XII) Kṛṣṇa says in Gītā (10.31) 'I am Rāma.'

XIII) Mahābhārata Santu 29 includes the story of 16 kings told by Kṛṣṇa while consoling Yuddhīṣṭhīra. Here Rāma's story with exile in the forest for fourteen years is told.

XIV) Mahābhārata Dvīpa 59 contains the story of Rāma, as told by Nārada to Senjaya.

18The Scientific Dating of the Rāmāyaṇa and the Vedas
 XVII) Mahabharata Sahhã 30 narrates the defeat of Kosalã king Bhadhabala and Ayodhya’s king Deergahyana at the hands of Bheema.21 Here it is stated separately that Uttara Kosalã was also conquered by Bheema. Thus it is evident that at the time of the Mahãbhãrata there were three different parts viz. Kosalã, North Kosala and Ayodhya. At the time of the Rãmâyana all these three were united together and were ruled by Rãma alone. Before his death Rãma divided the land into two parts. Lava was established in Uttara Kosalã, in Srâvasti, while Kuśâku was given Kosala with Kušâkutã as its capital. Ayodhya was devastated 2 at the time of Rãma’s death. Ayodhya appears to have got re-established between the Rãmâyana and the Mahãbhãrata.

 XVI) Mahãbhãrata states that Kosalã king Bhadhabala was defeated and killed by Ahbhimanyu in the great war. (Droha 47.2) Kosalã was famous because of the Rãmâyana and hence Vyãsã had to make some mention of it in history.

 XVIII) It is stated in Sahhã 31 in the Mahãbhãrata that Bheema conquered Vidhãrthajã Janaka 22. Janaka or Videha was not in the time light at the time of the Mahãbhãrata but was famous in the Rãmâyana so Vyãsã had to write about Videha.

 XVIII) Rãma discussed about Rãjaõsã Yajna (Uttara 83) when he mentioned only two ancient kings Mira and Somã. 23 Mahãbhãrata argued that Rãjaõsã is dangerous because it destroys Royal dynasties. Had the Rãmâyana been written after the Mahãbhãrata, it would have cited the example of Rãjaõsã performed by Yudhõcãhira here. But it is too so because the Rãmâyana is more ancient than Yudhõcãhira.

 XIX) Mahãbhãrata Droha 139 describes that Bheema lifted an elephant and stood just like Hanumãnã with Drocoãgiri in his hands.24 This simile clearly shows that Vyãsã had read Vãmãcãri Rãmâyana. It is to be noted that Vyãsã’s version of Rãma-story in the Mahãbhãrata does not include the story that

The Date of the Rãmâyana #19
Hamunān killed Droṇa-giri. It must have been taken from Viśmiki.

XXI Mahābhārata Vana 82/70 gives information about Goparāta. Tercita from river Sarayu that Rāma with his followers went to heaven from that spot. Thus the sites of Rāma-story had historical importance at the time of the Mahābhārata.

XXI) "This bridge of Nala still exists and is well known as Nala Setu," says Vyāsa in the Mahābhārata Vana 283 referring to Rāmâyana and its sites.

XXIII) Harivāna is an appendix to the Mahābhārata. There is a verse with a comment that "this verse is uttered by Rāvan in ancient time."

(Vyāpa Purva A 31/44: 45.) Thus there is a plenty of evidence showing that Vyāsa had read Viśmiki Rāmāyaṇa before writing his Mahābhārata. Vyāsa has included the whole of Rāmâyana twice in his Mahābhārata. Once Mārin told it to Viśmiki and then Mārkandeya told it to Yudhishthira. It is true that there is some difference between the story of Viśmiki and that of Vyāsa but it is minor and could have arisen due to lacunae in memory. For example, who killed Kumbhakarna? Even today scholars can not reply quickly whether Rāma killed Kumbhakarna or Laksmana. They have to refer to the book before replying. But, though referring to a book is easy in these modern times, it was very difficult in the ancient era of the Mahābhārata. And a poet who is inspired strongly to compose poetry does not waste time in referring books. He depends solely on his memory and composing a poem. Some things happened with Vyāsa and he wrote that Laksmana killed Kumbhakarna. Viśmiki has stated that both Rāma and Laksmana attacked Kumbhakarna but Rāma killed him. So such minor differences are there, but they are negligible. Hence we conclude that Viśmiki Rāmāyaṇa definitely existed at Mahābhārata Era. The date of the Mahābhārata is already fixed as 5561 years B.C. so the Rāmāyaṇa goes much 208 The Scientific Dating of the Rāmāyaṇa and the Vedas
EVIDENCES FROM WITHIN THE RÂMâyANA

1) Vālmiki has given an adjective 'Yajurveda Vinta' to Râma. 2) (Sunder 35-14). Here only Yajurveda is mentioned. Sûkla Yajurveda is not mentioned. Krûpa Yajurveda is also not mentioned. That shows the antiquity of the Râmâyana over Sûkla Yajurveda which is composed around 3000 years B.C. Sûpatapa Bhrîhmura which is a part of Sûkla Yajurveda is also not mentioned by Vālmiki. The date of Sûpatapa is fixed by the Late Mr. S. B. DIXIT as 3000 years B.C. or older, relying on its reference that Krûpa is not reflecting from the East. So the Râmâyana must be more ancient than 3000 years B.C. I say so because there is a reference to Yajurveda in the Râmâyana but which Yajurveda Sûkla or Krûpa is not clarified showing the non-existence of these two versions, at the time of Vālmiki.

2) Deities - All the deities of the Râmâyana (Sunder 13.32; Aranyâ 12/17 to 21; Ayodhyâ 25/8 to 12) are quite different from the Mahâbhâtara and are same as that of the Ígyeda, so the Râmâyana is contemporary to the Ígyeda. 20.3.13.14.15

Garapati is respected in the Mahâbhâtara but is not at all mentioned in the Râmâyana though Râmâyana describes Pooja offered to Skanda or Kritisvaya, the elder brother of Garapati. Garapati is not pronounced at the beginning of Râmâyana because there was no such tradition which started from the Mahâbhâtara era. So the Râmâyana is more antique than 5600 years B.C.

3) Homa-Havana - being done by ladies is not mentioned in the Mahâbhâtara but the Râmâyana states that Knrusali did Homa-Havana 30 (Ayodhyâ 25-1, 28, 29), Seeta performed Sandhyâ 5 (5-14.50, 2-87-18). The custom of Sandhyâ, Homa and Havan being done by ladies is from Ígyeda. So the Râmâyana is closer to the Ígyeda and more

The Date of the Râmâyana #21
ancient than the Mahabhārata.

4) Sumantra was an ordinary driver of a chariot but he blamed Kaukeyi, the queen, on her face (Aṣṭhūkā 35). In the Mahabhārata era even Bhūma, the grand father could not dare to blame Dīrghaṅkara, the king. From the Mahabhārata, we know no servant has dared to oppose the queen. So the Rāmâyana appears to be more ancient than the Mahabhārata.

5) Purohitā Vaśisṭha also opposed Kaukeyi and said that Seethā would accept the throne (Aṣṭhūkā 37-24) Bhūma, Dārada, Kṛṣṇa could not dare say so in Mahabhārata times. There was no post of Purohitā in the time of Mahabhārata. It was an ancient tradition. Chāṇadhara Gandharva tells Yudhiṣṭhīra about this ancient tradition and advises him to appoint one Purohitā. (Mahabhārata Adi 170, 174). This shows the antiquity of the Rāmāyaṇa over the Mahabhārata.

6) Dāṭharatha tells Kaukeyi to reign as a widower. (Aṣṭhūkā 42-21 and 12.75). Hanumān and other Vānaras requested Tārā, after the death of Vāli, to govern. (Kṛṣṇindha 19.15 & 21.8). Vaśisṭha suggested that Seethā should be coronated in place of Rāma (2.37-24). A lady on a throne was not even dreamt by the Mahabhārata people but it was a tradition during Rāmāyaṇa era because Rāmāyaṇa era is more ancient.

7) Warrior women - The Mahabhārata does not show any woman going to the battle field. Drupadā or Kunti never went to war. But Rāmāyaṇa describes Kaukeyi going to war with Dāṭharatha as his driver and also saved Dāṭharatha on the battle field, for three nights. Ṭṛgveda also narrates women going to wars such as Viśvādī (1-116-15) or Suchī (Ṛṣṭikapī Sūkta 10-86-10). Namuchi sent her female army against Indra (5-30-9). This shows that Rāmāyaṇa people were very close to Ṭṛgveda people.

8) Wine - Seethā was an ideal heroine of the Rāmāyaṇa even then Vālmiki describes that she took wine (Uttarā 8). Aṣṭhūkā 22The Scientific Dating of the Rāmāyaṇa and the Viṣṇu
95) Sete offered one thousand jars of wine to Gangâ and Yamunâ, the Goddesses. The main God of the Ígyeda Indra and the hero of the Râmâyana Râma; both took wine and ate flesh. This indicates that drinking wine was not taken as a bad thing in both the times, suggesting that the Ígyeda and the Râmâyana eras as close together.

Probably in ancient era liquor drinking was common among both the men and women. But as its bad effects were observed in due course, liquor was held as a vice and women refrained from the liquor. In the Mahâbhârata era, men like Kripâ and Arjuna were shown drinking alcohol but Draupadi and Satyabhâmâ were not drinking alcohol. This shows that Râmâyana is much more ancient than the Mahâbhârata.

9) Sati tradition is seen in the Mahâbhârata but not in the Râmâyana. Hence Râmâyana is more ancient. Leave aside Sati tradition because the tradition during Râmâyana era was to remarry with a brother-in-law or any other person. Râma suggested Sete to stay with Bharata (Yuddha 26, 24 to 26), or with any other person (Yuddha 115, 118, 22, 23). Rûmâ and Târâ actually behaved like that. The remarriage tradition is more ancient than the Mahâbhârata. It is a tradition of the Ígyeda (10-40-2). So the Râmâyana is almost contemporary to Ígyeda.

The Ígyeda period stretches from about 6000 B.C. to 24000 years B.C. but we shall deal with it a little later.

9) Râmâyana mentions Taśtrîya śâkhâ at 2-32-15. Taśtrîya śâkhâ originated from Taśtrîya Sambha. Taśtrîya Sambha states that the Wicher Solstice was between Kritikâ and Bharac, while the Summer Solstice was between Anurâdhâ and Vîshākhâ.

Devâ Naksatras turn the Sun from South to North, while

The Data of the Râmâyana n.23
Yama Nakatras turn from North to South. This is a simple translation which shows the Sun between Krttiék and Bharatí on 22ns December. Calculations with the rate of precession of equinoxes as 72 years per degree or 960 years per Nakatra show the exact date of this verse as 8357 years B.C. So Taittiriya Sambíti is of 8357 years B.C. Naturally, as Taittiriya Branch is mentioned in the Rûmîyára, Rûmîyára appears to be later than 8357 years B.C.

Now we have arrived at a conclusion that Rûmîyára is before the Matsabhírata i.e. before 5561 years B.C. and it is after Taittiriya Sambíti i.e. 8357 years B.C. So Rûmîyára period is from 6000 years B.C. to 8000 years B.C. Let us now see the evidences from the Rûmîyára to calculate the exact period.

Internal evidences

(1) Pusya Nakatra is given much prominence in the Rûmîyára. The importance of Pusya Nakatra is seen at 2-4-1, 2-3-41, 2-15, 2-26-9, 3-3-16, 6-126-54. The repeated mention of Pusya though it is not at all a bright constellation suggests that Pusya was highly esteemed then. The probable reason for this importance is that the Vernal Equinox was at Pusya then, the date being 6440 to 7400 years B.C.

(2) Indra Dvhaja and the New Year Day:

It is a tradition in India to hoist flags known as Indra Dvhaja on the New Year Day. Rûmîyára has given similes of Indra Dvhaja on three occasions 46. 47. Indra Dvhaja used to be hoisted on Asvin Full Moon Day 48 (Kiskindhä16-37) Ayodhyä 49. 50 indicate that Indra Dvhaja got spoiled by heat and rain together. 51 Combining the two statements we can conclude that Indra Dvhaja used to be hoisted on Asvin Full Moon Day when there was Summer as well as Rain. 52 This can happen only if the Summer Solstice comes on Asvin Full Moon Day, which shows the Sun in Switti and a period of 7400 years B.C. Today 24th The Scientific Dating of the Rûmîyára and the Vedas
the Sun at the Summer Solstice (21st June) is in Aṣṭā. During Rāmāyana, it was in Śvāti. The procession has an anticlockwise direction, so we have to count in reverse direction from mid-Śvāti 195 to Aṣṭā, 65.5°. It comes to 129.5°. The rate of procession is 72 years per degree. 129.5 X 72 =9324 years. Subtracting 1998 A.D. we get 7326 years B.C. as the date of Rāmāyana. Thus the new year used to start with the Rainy season during Rāmāyana. The Ṛgveda 7:103-49 suggests that the New Year used to start with the rainy season. Hence the year is called as 'Vṛṣṭa' in relation to Vṛṣṭa, the rainy season.

Tamil books Shilappadikāram and Marumekkālai also support this theory of New Year Day in the rainy season. The Tamil literature shows that in ancient times flags were hoisted on the New Year day and prayers offered that sufficient rains be showered with lightning, producing streams of water everywhere. Lightning and showers usually are seen in the beginning of the rainy season at the Summer Solstice (21st June). Thus the Summer Solstice was the New Year Day in the ancient times.

(3) Rainy Season in the Rāmāyana

Kīśkindhā Kūpā states that Śrīvāsa to Kārtika were the four months of the rainy season. 50 This bold statement is controversial to my thought expressed above in (2). But I say that this bold statement is a later correction, interpolation and quite unfit in the stream of Rāmāyana. If we accept that the onset of rainy season was in Śrīvāsa, the period of Rāmāyana will come to about 6000 years B.C. But so many evidences above are not showing that period. So let us see if this bold statement is correct or not.

Kīśkindhā 30 and 33 state that Rāma rested for four months of the rainy season from Śrīvāsa to Kārtika. Kārtika was already over and Sārad was also nearing its end when Rāma got angry. Hanumān also says that Sārad was nearing its end (K.32). Excluding the possible exaggeration we can safely say the onset of the rainy season was in Śrīvāsa. The Date of the Rāmāyana #25
assume that half of Śrāvaka was gone; that means Mārgaśīra was over and in Pausa Vaiśāra marched out to find Sceta. Kīśkindhā Sarga 53, Ślokas 15,17,18,21,22 state that after one month from the departure of Vaiśāra they could see the signs of Spring. How could there be spring in Māgha - only in two months after the cessation of the rainy season? Kīśkindhā 53-21, 22 state that Vaiśāra launched the campaign after the end of Āśvina i.e. in Kṛṣṇa, while Kīśkindhā-32 states that they set out in Pausa. "Hanumāna saw the spring in Lankā," is a statement from Sundar 14/2. From Lankā Hanumāna came back to Kīśkindhā, Rāma went to Lankā and fought the war and then returned to Ayodhyā in the month of Chaitra (6-124-1). If rains started in Śrāvaka, Chaitra should be in the Spring. Thus all the events from Hanumāna's first visit to Lankā to the return of Rāma to Ayodhyā, come in Spring. Is it possible? There is one more serious problem. Sceta was abducted in Hemanta (Aranyā 16) and she was given a time limit of one year only to surrender to Rāvaṇa. (Aranyā, 56/24). Yudha-12/19. After the next Hemanta, Sceta was not likely to live. She had told this fact to Hanumāna to convey to Rāma. So what was the use of Hanumāna and Rāma going to Lankā after Hemanta in the Spring? They would have seen Sceta dead or seduced. But it was not the fact. She was alive and she was pure. So she must have been released in Hemanta.

If Śrāvaka was the beginning of the rainy season, Chaitra should be in Spring, but 7-41 and 42 state that it was cold season, Śītāra in Chaitra when Rāma returned. 7-42-25 states that after one month of return of Rāma i.e. in Vaiśākha, Śītāra was over. How is it that all the seasons from Spring i.e. Vasanta to Śītāra wound up only in one month?

It shows that Śrāvaka was not the beginning of rainy season. If we see briefly Kīśkindhā 36/13 we get the proof of 26 The Scientific Dating of the Rāmāyaṇa and the Vedas
it. Here, it is told that Bhadrapada was the premonsoon month बहुर. अग बाराता। 97

The word "बहुर" is not considered by the scholars and so were misguided. बहुर विश्वविद्यालय: माना: suggests that it was a month वरिष्ठित to the rainy season. This translation of mine is supported by Kiskindhā 28/2, 54, 98 which states that the rainy season started in the month of Bhadrapada. अन्त ना वाला: अन्तमाय: तस्मांतः जवस्करण: 12

Bhadrapada Lunar month was of the beginning of showers and so was of the premonsoon. The proof of this is in the vivid description of the premonsoon that "the hot earth, showered by new water, expels out the vapours" (Kiskindhā 28/7). 99 Alternate sunshine and shade due to clouds is mentioned in Kiskindhā 28/17 as: वरिष्ठित प्रस्ताव: वरिष्ठितप्रभावात् मान: प्रकोपोधारस्वरुपं विमुक्तः।पहृति कु-टि। It is further told that the Kutaj trees were anxious to receive the rainy season: प्रकोपामुखयुक्तप्रकोपायत्त प्रभागः। (Kiskindhā 28/14). Thus all the descriptions point to the premonsoon in the Bhadrapada Lunar month. Premonsoon is the period before 21st June. It is natural that 21st June or the Summer Solstice coincided with Ashina Paurṇimā usually; but due to the shortness of Lunar year than the Solar year by 0.88 days, the Summer Solstice slide back upto Bhadrapada Paurṇimā in three years time when it was adjusted by taking one Ashinī. 100

From all these considerations, it is clear that rainy season did not start in Sravāṇa. Let us now reconsider these riddles using this. We will start with abduction of Sītā in Hemasāla 101 (Aratīya 16). Ramā approached Kiskindhā in Vasanta (K-1-32-32,41,44,47,48). He killed Vīś in Greema. Varṣa, the rainy season was spent by Rāma in Kiskindhā 102. Hanumāna went out and returned in Sarad. Then hurriedly Rāma went to Lankā fought the war and released Sītā in Hemasāla. Immediately

The Date of the Rāmaśānyam 103
after the war, Rāma returned to Ayodhyā in one day by the aircraft Puppsūk, when there was still Hemanta 84 as well as Chaitra Masa.

On his return, Rāma was crowned in Chaitra (7:41-19) and one month later 55 (7:42-25) i.e. in Vaiśākhā, he went to Aśoka Vana with Sceṭa for enjoyment and then Śīra was over.

Rāma had set out for Forest-life (Vanaśāsana) in Chaitra (2:3-4), so he must have returned after completion of fourteen years (Yudh 127-1) in Chaitra. So the statement of 7:41:19 appears to be correct. It was Chaitra but was not the Spring, that is why, Rāma requested Sage Bhrūdravāja to produce inflorescence without the season (Yudh 124 or 127-18). It was the spiritual power of Bhrūdravāja which produced the signs of Spring (Yudh 127). It was Chaitra in Hemanta so trees had shed their leaves (Yudh 127-21). Next month i.e. Vaiśākhā was of Śīra (Uttara 41:18)

When Rāma returned to Ayodhyā in Chaitra Vaiśaras and Raktasas accompanied him. They stayed in Ayodhyā for one month, says Uttara 39:27. The second month of cold also elapsed (Uttara 39:29). These statements show that Chaitra and Vaiśākhā were the months of cold season.

Thus it is seen that Vaiśākhā Masa coincided with Śīra. In Vaiśākhā Masa the full Moon resided in Vishākhā Nakṣatra. Naturally the Sun resides 180° opposite in Aṣvin/ Bhūraṣṭī. During the Rāmāyana era the Sun at the Winter Solstice resided at Aṣvin, Bhūraṣṭī Nakṣatra. At present the Sun at the Winter Solstice resides in Mūla Nakṣatra. From Aṣvin back to Mūla there are ten Nakṣatras. The rate of precession which is anticlockwise is 960 years per Nakṣatra. Therefore for a shift of ten Nakṣatras 9600 years must have been passed. So Rāmāyana must have taken place 9600 years ago, i.e. 7600 years B.C.

See The Scientific Dating of the Vaiśākha and the Vedas
Many scholars hold that Chaitra–Vasānta Māsas compose Vasānta Māsa and so on up to Māgha–Phālguṇa compose Śīra Māsa. But this is an absolutely wrong notion. Lunar months do not constitute the Māsas. Ṛgveda knew that the Sun is responsible for the formation of Māsas. Therefore they formulated solar–seasonal months which are recorded in the Taittiriya Samhitā (4.4.11). Thus Madhu and Mādhava constitute the Vasānta Māsa. Śīra, Śuchi constitute Gṛesma. Nabhā–Nabhāsya constitute Vairāja, Ita–Uṣja constitute Sarad. Saha – Sahāsya constitute Hemanta and Tapaj – Tapajanaya constitute Solāra. Varuṇa – Purāṇa 2.8.70 also states in clear words that two Solar months constitute a Māsa. धर्मविहीन अर्काज़ मार्गम नागर्म b.29 Arka means born of the Sun. Māsas depend on the Sun while the Lunar months depend on the Moon and there is a difference in the number of days of the Solar year and the Lunar year. The Solar year consists of 365.25 63773 days while the Lunar year consists of 354.367 days. So 10.889 days are deficient. Therefore the seasons slide back on the Lunar months. This discrepancy is corrected by taking one Adhimāsa in every third year. This method corrected the discrepancy for a few centuries but when the Sun precesses, the seasons get totally changed as far as the Lunar months are concerned. Thus Chaurā Māsa was consistent with Madhu Māsa about a thousand years ago as told by Sāyana in his commentary on Taittiriya Samhitā, but at present Chaurā Māsa does not coincide with Madhu Māsa. Now–a–days Phālguṇa Lunar Māsa coincides with Madhu Māsa.

Vasānta Māsa has two Māsas, Madhu and Mādhava. Vasānta Sampāta or the Vernal Equinox is fixed at 21st March every year. One month prior to the Vernal Equinox is the Madhu Māsa and one month after the Vernal Equinox is the Mādhava Māsa. The calendar months are the solar months and are therefore fixed just like Arkaja Māsas. Hence Madhu Māsa always coincides with a month extending from 21 February to 21 March.
March. Mādhava Māsa coincides with 22 March to 21 April. Sukra means 22 April to 21 May. Sūri is 22 May to 20 June. 21st June is the Summer Solstice or the Duskīnāyaṇa Kramāṇa. From 21 June to 21 July extends the Māsa Nābha. the first month of Varṣa ṛtu. Nābhāṣaya extends from 22 July to 21 August. Iṣa extends from 22 August to 22 September. 23 September is the Autumnal Equinox, Sarad Śampūṭa. Uṇā extends from 23 September to 22 October. Saha extends from 23 October to 22 November. Sahāṣa 22 November to 21 December. 22 December is the Winter Solstice, 22 Dec. to 21 January come in Tapas, the first month of Śaṅgā ṛtu. Tapasāṣya extends from 22 Jan. to 20 February. This arrangement of Arkajī Māsās and the modern scientific calendar months will never change. If at all some change occurs then the Vernal Equinox will again be adjusted on the 21st March and new calendar will come in vogue.

Now I present a table here to show the seasons, ṛtus according to the modern scientific calendar as well as the Lunar months during the Rāmāyana period. There would have been a sliding back of ten days' period every year till the third year when one Adhimāsa was taken to realign the Lunar months with the ṛtus.

It is natural that 21st June or the Summer Solstice coincided with Aśvinī Pūrtimā usually; but due to the shortness of Lunar year than the Solar year by 10.88 days, the Summer Solstice slid back into Bhadrapadī Pūrtimā in three years' time when it was adjusted by taking one Adhimāsa.

30. The Scientific Dating of the Rāmāyana and the Vedas
1) Vasantā 21st February-21st April
   Jyestha 15 to Sravana 15

2) Gṛcchēma 22nd April-20th June
   Shravana 15 to Asvina 15

3) Varṣa 21st June-21st August
   Aśvina 15 to Mārgaśīra 15

4) Śrādha 22nd Aug-22nd Oct.
   Mārgaśīra 15 to Magha 15

   Magha 15 - Chaitra 15

6) Śīra 22nd Dec.-20th Feb.
   Chaitra 15 - Jyestha 15

(4) Description of the Sky
Rāma has described the sky in Hemanta (Yudha 4) when he mentions Saptarśi (Ursa Major), Trikūru (Crux), Viśākhā, Mūlā, Phalguni, Hasta. Now-a-days all these constellations are seen together in Summer, but Rāma had seen these in winter during Phalguni to Jyestha Māsaas. This change in the sky can occur only in a period of at least one thousand years. So the Rāmāyana must have been written 10000 years ago.

(5) It is recorded in Ṛṣya 16-12 that Laxmana saw Pusya Nakṣatra just after Sunset in winter. Pusya is a faintly visible Nakṣatra and can be recognised only if it comes above the head. If Pusya is above the head Āśvini must be at the western horizon at the sunset suggesting Hemanta in Phalguni and Chaitra Māsaas. This shows the period between 6440 to 7400 years B.C.

The Date of the Rāmāyana: 21
[6] Mars and Aldebaran:

The simile or metaphor of Mars and Rohiśi (Aldebaran) is used by Viśmiki for Rāvaṇa and Sečēl eight times, viz. Sundār 15.17,18,19 and 20. Yuddha 24.92,113,117,121,125. The simile of Yuddha 24.7 is very vivid. Viśmiki writes that Rāvaṇa had imprisoned Sečēl just like Mars imprisons Rohiśi. This simile is very appropriate because the constellation of Aldebaran is V-shaped and it appears like a gate. If Mars comes between the two limbs of V, it appears that Mars is standing like a guard at the gate. This must have been the position of Mars and Aldebaran while Rāma/yaṇa was being written. Astronomical calculations show that this might have happened between 6000 – 8000 years B.C. and never after that time till today.

In Yuddha 92.45 of 93.46, Viśmiki writes that state Rāvaṇa rushed towards Sečēl just like Mars rushed towards Aldebaran. It is possible that in those ancient days around 9000 years ago, such a phenomenon was visible in the sky. Mars being a planet moves fast and it observed daily its movement towards Aldebaran can be seen easily. As Viśmiki has used this simile Viśmiki must have seen this movement, and hence he must have existed at least 9000 years ago.

When Śrītula first saw Sečēl in Lanka, Viśmiki states that poor Sečēl appeared just like Rohiśi harassed by the Mars. 25 (5.15-22)

Sundār Kīrṣṭa 17-24 describes Sečēl as Rohiśi grasped by a cruel planet Mars. 26 Sundār 19-9 describes Sečēl with a simile that she appeared like Rohiśi troubled by a red planet Mars. 20 Yuddha 113 or 116-2 describes that Sečēl appeared like Rohiśi afflicted by a cruel planet Mars. 27 Yuddha 92 or 93-60 describes Sečēl like Rohiśi bound by a planet. (संदर गंगा लीलास)

32a The Scientific Dating of the Rāma/yaṇa and the Vedas
Yuddha 129-25 describes that Rāvana held Śeṣa like Rohīti is held by a planet in the sky.\(^{71}\) वृक्षारो हीरकचुं; समसंहिता!\(^{72}\)

Graha-laghuvai\(^{73}\) and Bhūt-Samhiṣṭa\(^{74}\) state that if Aldebaran gets bisected by Saturn or Mars, it indicates the end of a Yuga. Saturn had bisected Rohiti at 5294 years B.C., or before that for many centuries (Late S. B. Dixit - History of Indian Astronomy). At that time there was end of Dwāpara Yuga. Prior to this was Tretā Yuga which ended with bisection of Aldebaran by Mars. Dwāpara Yuga is of 2480 years (Mahābhārata Vana 188; Srimad Bhāgavata 3:12; Manusmṛti 69:70.) So division of Aldebaran by Mars must have taken place 5294 + 2400 = 7694 yrs B.C. This might be the year of Rāma-Rāvana War and for writing of Rāmāyaṇa.

My friend and astronomer Mr. S. J. Modak has done calculations for me. He states that around 8000 years before Christ in the month of August or September Mars was in Taurus at 14 degrees and 32 minutes. The sun at that time was in Virgo at 25° 10'. Epomlon Tori is at 2° 35' south while Aldebaran is at 5° 28' south. About 8000 years B.C. the Mars was at 3° 49' south. Mars may reach 5° 53'south. Hence the description given by Vālmiki appears true. I request here other astronomers to calculate this and let me know the result.

(7) Generations: Harivantia 15 gives 23 generations from Rāma to Bhradhaulu while Śrīrimad Bhāgavata gives 30 generations. Some names are different so we can say that both have not given the full list. The Rāmāyaṇa Gorakhpur Edition 1-66-8 mentions Devvarita to be the son of Nimi but 1-71-3 to 6 gives five generations between the two. Nimi is actually the twelfth generation of Ikṣuwaku\(^{75}\) but is mentioned as the son. These are the two evidences to show that all generations are not mentioned in the list. Hence a list of 30 kings must be corrected and taken to be of 45 kings. For Indian kings in the past, 40 years was the average span of life. So 40 X 45 = 1800 years must have elapsed between Rāma and Pāūśavas. I have shown The Date of the Rāmāyaṇa \(\#33\).
Pongar's time to be 5560 years B.C. (vide Swayambhu and Vastava Ramayana). Adding these 1400 years to that time Ramayana time comes to be 7360 years B.C.

Actual generation appears to be about 36 years if we take into account known 60 Indian kings from various dynasties who ruled for 2054 years. For example in Pala dynasty of Bengal 10 kings ruled from 750 to 1175 A.D. the average age per king is 42.5 years. In Kalachuri dynasty of Tripuri 6 kings ruled from 875 to 1125 A.D. average age being 41.66 years per king. Mughal dynasty in Delhi ruled for 212 years from Bahur 1495 A.D. to Aurangzeb 1707 A.D. Six kings in 212 years means 35.33 years per king.

Royal dynasties in India have a longer average life because they were peaceful in general and Indian people also were peaceful. A son killing his father to get the throne or a brother killing his older brother-the king never happened in India. In India there were Bhimas and Bharatas who did not ascend the throne, keeping it reserved for the elder brother. Rājārama, the son of Śrīva the great, kept the throne vacant for his nephew Śrīhu. Such noble acts are not seen in the Western or Muslim countries. Yet their average should not be applied in India.

The average age of ordinary generation is about 25 years because when a son is born, a new generation begins. But we should not take 25 years for royal generation because the name of a prince is included in the genealogy only if he ascends to the throne. If a father has a long life his son may not get his throne and the grand son may come in the list of kings. For example, Sagar the 40th king in Ikṣvāku dynasty did not give his throne to his son Asamanja but coronated his grand son Anubhuma. Thus royal dynasties have an average span longer than 25 years.

(8) Janaka Dynasty: According to Purāṇas, Nimi was the first king and Kṛiti the 55th king of Janaka Dynasty. Kṛiti was

34 The Scientific Dating of the Ramayana and the Vedas
contemporary of Yājñavalkya who wrote Satapatha Brāhmaṇa. Both were disciples of Hiranyanātha according to Vīparaparṇa. “Krūkṣṇa do not defect from the East” is a statement in Satapatha by which late Mr. S. B. Dixit has proved its period to be 3000 years B.C. So Kṛṣṇa was at 3000 years B.C. Scecladhya, the father of Sceclabh is the 10th while Kṛṣṇa is 59th in the list. So there are 49 generations between Kṛṣṇa and Scecladhya. Here again it is quite possible that all the kings are not included, so we will take that approximately 100 generations were present between the two kings. Janakas were not aggressive kings and they avoided wars, so their life span should be a little higher. We will take it as 45 years. 45 X 100 = 4500 years earlier than Kṛṣṇa (of 3000 years B.C.) is the time of Scecladhya. So Rāmāyana time comes to 7500 years B.C. Thus all these 25 evidences indicate that the Rāmāyana must have occurred and was written at about 7400 years B.C.

(9) Evolution: Vālmiki states in Sundar 35 that Rāma had four Molar teeth in each jaw. Denial science accepts that due to evolution the jaws of human beings are becoming smaller and the number of Molar teeth is reducing from three to two. So the evidence of four Molars suggests that Rāma would have existed 10,000 years ago.

(10) RĀMĀYANA EIGHT LACS YEARS OLD? Orthodox scholars hold that Rāmāyana is eight lacs years old because Rāmāyana happened in Tretā Yuga. According to Yuga concept Dwāpara Yuga consisted of 8 lacs and 64 thousand years. At the end of Tretā Yuga Rāma was incarnated. Only five thousand and some odd years of Kali Yuga have passed so far. So they think that Rāma was ruling this Earth 8 lacs and 69 thousand years ago. There is no doubt that Rāmāyana is written in Tretā Yuga because it has never altered to Dwāpara Yuga. No event from Dwāpara and Kali Yuga is mentioned in the Rāmāyana. Kṛṣṇa Yuga is often mentioned e.g. at 1-45-15, 79-7-2-4, 7-61-3, 7-77-1, 7-97-13. It is held The Date of the Rāmāyana #35
that in the past in the Kṛta Yuga such event happened. So it is
certain that the Rāmāyaṇa is written after Kṛta Yuga and before
Dvārapala Yuga i.e. in Trīśūl Yuga.

Modern thinkers always indulge this idea of 8 lacs
years antiquity. Personally I also do not approve of this much
antiquity. But in my deep study I found one evidence which
shows that much antiquity. It is presented here.

Bhāṣa Kṛśna, Sarga 5, Śloka 39, states “Himālaya and
Vindhya are the two mountains almost equal in height and are
looking towards each other” Thus it is true that they can see each
other because there is no taller mountain between them to
obstruct the sight. But how is it that they were equal in height?
Today the height of Himālaya is 29029 feet while that of
Vindhya is only 5000 feet. So there is no match at all. Then why
the wise author Vālmīki said so? The modern geologists say that
the Himālaya is increasing in height at the rate of 3 feet in
hundred years, because the upper crust of the earth is moving
northwards from Bengal. In the remote past there was sea at the
site of the Himālaya as is proved by the modern science by
examination of fossils. If this is true, then in the remote past the
Himālaya must have been much smaller. We can calculate when
the Himālaya would have been only 5000 feet in height. The
difference is 29029 – 5000 = 24029 ft. At the rate of 3 ft in 100
years we get that 8 lacs and one thousand years ago the
Himālaya would have been only 5000 ft, in height like Vindhya.
So Vālmīki must have written this statement 8 lacs and one
thousand years ago. But we have seen above that other evidences
do not support this date. Even then I have stated this for future
scholars to work on.

Now we have considered so many evidences and from
them it appears that the Rāmāyaṇa must have taken place at
7400 years B.C. Now in the next two essays I shall pin-point the
exact date of Rāma’s birth and marriage.

— The Scientific Dating of the Rāmāyaṇa and the Vedas
THE DATE OF RĀMA'S MARRIAGE

It is usually held that Puyia is not a good Nāskātra for marriages because it is a general belief that Rāma married Sceś on Puyia and had to face all sorts of troubles throughout his life. But this is a misbelief. Vālmiki has stated that Rāma married Sceś on Uṣarak Phalguni 10 in Bhādapada ŚuddhaTriyāśa day. Vālmiki has given all the details which we do not understand. This is our fault but we blame Vālmiki. Let us see how nicely Vālmiki has given the time-table or diary of a certain period of Rāma's life.

Demons were destroying the Yajnas of Viśvāmitra. So he approached Daśaratha to seek Rāma's help. He said: "Give me your Rāma for only ten days. He will protect my Yajnas and I will teach him weaponry." (B Śi. 19/18)

Rāma and Laxmana went with Viśvāmitra. On the first night they stayed on the Southern bank of the river Sarayu. (B Śi. 22/23). On the second night they stayed at the costline of Bhāgirathi and Sarayu. On the third day they crossed Gangā and entered Tātāki Forest. This forest was crowded with big trees. (B Śi. 24/0.0a.13,15; Sarga. 25/0.2). Inspite of this fact when Tātāki came on the scene, there was a dust storm, producing a cloud of dust. (B Śi. 26/15)

This dust storm indicates that it was Spring or Summer. Yajnas were usually performed in Spring - Vasanta Pi. Daśaratha had done his Aśvamedha in Spring (B Śi.12/1) 36 (13/1) 37. It is possible only in Spring or Summer to have a dust-storm. So it is quite clear that Rāma killed Tātāki in the Spring.

Viśvāmitra had performed a Yajna once but it was destroyed by demons so he thought of another Yajna. This indicates that the first Yajna was at the beginning of the Spring.

The Date of the Rāmāyana 37
while the second Yajna was at least a fortnight later. Vasistha is always from 21st February to 21st April. As the first fortnight was over, the second Yajna must have been arranged elsewhere in early March.

After the death of Tātakrṣa on the fourth day of Rāma’s departure from his house, Visvāmitra taught him the use of weapons and entered Siddhārāma (Bāl. 26/29). In this Siddhārāma, Visvāmitra conducted his Yajna for six days. (Bāl. 30/4). Rāma also professed this Yajna for six days and nights, without sleep. (Bāl. 30/5.)

Anidram Sadāhorāram Tapovanam Arakāntīm.15/1 (Bāl.30/5). [The sixth day was the last and was very important. On this sixth day Rāma killed Subhhu when Mārgha ran away and the Yajna was completed.] (Bāl. 30/25)

It was a custom to complete the Yajna on Full-Moon day or New-Moon day of a day later on Pratipāda (Katavya) Gṛhya Sūkta. We will take the end of Visvāmitra’s Yajna on Pratipāda because there was an attack by demons and some time must have been wasted in that tension. Let us now see which was this Pratipāda on Subhhu or Kṛṣṇa?

After the completion of the Yajna night fell. (Bāl. 30/27. 31/12) The next morning, that is on Dwitiya, Rāma went to Visvāmitra who told Rāma about Janaka’s Yajna and requested him to accompany him to Janaka. They loaded the luggage in one hundred carts and left for meeting Janaka. This was Triyā.

On Triyā in the evening they halted at Shora Shire. After completing the evening rituals, Rāma went to Visvāmitra.

Visvāmitra told many historic events to Rāma till midnight. At midnight when the Moon rose, they went to bed. At that time there was no movement of even the tree-leaves. All the birds and beasts were fast asleep. (Bāl. 34/14 to 17)
As the Moon rose at midnight, it must have been Kṛṣṇa Tritiya. We have seen that it was a later part of Vasanta and naturally it was March-April. It is evident even today that in March-April, on Śaṅkāṭi Chaturthi the Moon always rises late at night around 10 p.m. Thus it is confirmed that it was Kṛṣṇa Tritiya of March-April.

Next day morning they proceeded further (Bāl. 35/1). This was Chaturthi day. In the afternoon they reached Jāhnavi Shore and halted there. (Bāl. 44/20) The night passed and the Sun rose. (Bāl. 45/4.5) Naturally Panchamī started. They crossed Gangā and entered Viśañē to take rest at night. (Bāl. 48/9). Next morning on Śaṅkīti, they moved towards Mithilā. On the way they met Ahalyā and without a halt they proceeded onwards to reach Mithilā at evening. This was the Śaṅkīti day. King Janaka visited them for a while, when he said that only twelve days were remaining to complete his Yajna. (Bāl. 50/15). Janaka promised to meet them the next day and retired. (Bālā 63/36).

On Śaṃstami morning Janaka met them again. (Bāl. 66/1). Rāma broke the Śiva-bow and won Seethā. Janaka promised to offer Seetha in marriage to Rāma and sent a message to Dāsāratha accordingly.

The messengers took three night halts on their way and reached Ayodhya. (Bāl. 68/1). Naturally this was Dāsātī. Dāsāratha was very glad to hear the news and ordered to arrange to leave for Mithilā the very next morning. (Bāl. 68/18.21). The next morning i.e. on Kṛṣṇa Ekadasi Dāsāratha marched out. (Bāl. 69/1). He spent four nights on the way. (Bāl. 69/7). On the fifth day. This was Amśvāsyā, Janaka met Dāsāratha and said, “Tomorrow I shall The Date of the Rāmīyana.”
complete my Yajna and then we shall settle the marriage'. This statement clearly shows that Buddha Pratipadā was the end of his Yajna. Mention of the remaining twelve days by Janaka on Kṛṣṇa Sūthi appears to be true in this context. The tradition of Kṛṣṇa Kavya Gīyā Sūkta to finish the Yajna on the Pratipadā day appears to be correct. Hence our line of thinking is also correct.

Hearing the talk between Janaka and Dularatha all of them became happy and they spent that night merrily. (Bāl. 69/16 to 18) This was Amāvāsyā night. When that night was over, (Bāl. 70/1) early in the morning on Buddha Pratipadā, Janaka told his Purohita Sāsthana to invite Kuṭalādhvaja, the brother of Janaka. Kuṭalādhvaja came on the same day because his city was nearby.

On the same day of Pratipadā, Janaka invited Dāsaratha, who was already in Mihitā. In their meeting King Janaka said, 'Today is Maghā Nakṣatra. On the third day, on Uttarā Phalguni, we shall perform the marriage.' (Bāl. 71/23, 24)

This is the talk of Buddha Pratipadā with Maghā Nakṣatra. So that was the lunar month of Bhādrapada. On the third day of Bhādrapada Buddha Tīrīyā, on Uttarā Phalguni Nakṣatra Rāma married Sītā and his brothers married Sītā's sisters.

Please note that there was no tradition then to avoid marriages in Bhādrapada. Dharmaśāstra has not prohibited marriages in Bhādrapada anywhere. This tradition is of recent origin and is limited to a certain part of India in Bōtīshī. Hence Rāma's marriage in Bhādrapada shows remote antiquity of both Rāma and the composition of the Rāmāyaṇa by Vālmiki.

This antiquity reaches the Vedic age because Sūrya's marriage with Asvina is narrated in the Śrīveda 10-85-13 where it is told that on Aghā (Maghā) Nakṣatra the promise was given and on Phalguni Nakṣatra the actual marriage took place. Thus it appears that the Rāmāyaṇa age is concurrent with the Vedic age.

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The marriage ceremony was performed in the morning of Bhadrapada Sudhā Tritiya. The very next day, Rāma started towards Ayodhyā with Dararatha and family. On their way, suddenly, there occurred a fierce storm of dust. Such dust storms do occur in April. As this was the end of the Spring, we have to take this as April.

We have already seen from Kṛṣṇa Tritiya with late-night Moon-rise, that it was the month of April. Here it is confirmed again. It is also clear that it was the Lunar month of Bhadrapada and the Sun was on Maghā, from Janaka’s statement from Rāmāyaṇa. So in Rāmāyaṇa Era in April, the Sun was in Maghā. In the modern era in April, the Sun is seen in Revati. Thus it is evident that the Sun has shifted backwards by ten Nakṣatras. This shift is due to the Precession of Equinoxes which has a rate of 960 years per Nakṣatra. So a shift of ten Nakṣatras indicates that Rāmāyaṇa era must have occurred about 9600 years ago.

I have shown in my Marathi book ‘Vivāta Rāmāyaṇa’ and have shown earlier that at the time of Rāmāyaṇa Āsina was the month of the beginning of the Rainy season and Āsina Pournimā coincided with June 21st or the Summer Solstice. This date also gives the same period of 9600 years ago. The season shift by one month in two thousand years. Today, the rainy season starts in Jyesṭha. Kāliḍāsa has mentioned Jyesṭha as the beginning of rainy season. One month’s shift is evident so Kāliḍāsa is two thousand years old. This is accepted by all the historians. So the Astronomical evidence is correct. It may please be noted that 21st June is the beginning of rainy season for the whole of India as seen by the recent reports of observatories and Meteorological office. Vālimki mentions rainy season in Āsina. So the shift is by five months from Jyesṭha to Āsina and therefore Vālimki must have existed about 10,000 years back.
Daśaratha performed 'Pitra-Kāmeṣṭi' 105 (BBL 13/1) in Vasanta ṭhu and gave its 'Pāyuṭa' to the queens. Rāma and his brothers were born 106 in Chaitra (BBL 18/8). Nine months is the period of pregnancy in human beings. So Chaitra must be in Ḫemanta while Vasanta must be in Ḫuddha. Here we must discard the idea of twelve months pregnancy period, 107 which is an impossibility in case of all the three ladies. It is a later insertion by a person who got confused to see Chaitra in Ḫemanta ṭhu. The same person inserted Śvavana as rainy season. But all other evidences show that it is not the original work of Vālmiki. It is calculated that this insertion was made about 4000 years ago, when the rainy season used to start in the month of Śvavana. From Vālmiki's statements and data, we can clearly see that both Vālmiki and Rāma existed around 7000 to 7500 years B.C.

Even after completion of this article, in May 1981, I was doing research in this field continuously. As its outcome I proved, by Astronomical calculations the exact Birth date of Rāma as 4th December, 7323 years B.C. I also proved that Rāma was to be coronated on 26th November 7306 B.C., but unfortunately he had to depart to the forest on the same day. I have proved that it was Thursday as is said by Seeta and recorded by Vālmiki in his famous Rāmāyana. I have proved that he had completed 17 years of age then. (Vide infra) All these points are fully considered in my next article, titled as 'The Exact Birth Date of Rāma'. 4th December 7323 B.C.

By other evidences I have proved that Seeta was in Rāma's house for ' Dwādha Māhī' Apparently it is taken as twelve months, but that is a mistake. If Seeta lived in Rāma's house for twelve months and left the house in Chaitra, she should have been married in Chaitra month. But we have seen that she married in Bhadrapada on Śvavha Trīṭya day. So we have to fix 42 The Scientific Dating of the Rāmāyana and the Vedas
the exact period of her stay in Rāmā's house after wedding.

Date of exile of Seetā in the forest is fixed as 29th November 7306 B.C.( Vide infra). One year was definitely completed. So the date of wedding must be prior to 29th November 7307 B.C., in Bhadrāpada. Let us go systematically on Astronomical basis.

19th November 7306 B.C. was Phālguna Amāvāsyā which took place at 345°. Every year the Amāvāsyā comes 10.883 days earlier and 10.883 degrees earlier. Hence, on 29th November, 7307 B.C. there was Phālguna Amāvāsyā at 355°. From this point if we plot backwards we find that 4th April 7307 B.C. was Amāvāsyā. This Amāvāsyā took place at 119° or in Asleha Nakṣatra. Hence 4th April 7307 B.C. was Śrāvaṇa Amāvāsyā with Asleha Nakṣatra.

The next day 5th April 7307 B.C. was of Maghā Nakṣatra and Bhadrāpada Suddha Pratipada. On this day Janaka decided to celebrate the marriage 'on the third day on Uttar Phalguni. 7th April 7307 B.C. was the third day when there was Uttar Phalguni Nakṣatra. On further calculations it seems to be Friday. Thus, the date of Rāma - Seetā - marriage is fixed as 3rd April 7307 B.C.

Let us tally the date by another method. 4th April 7307 B.C. was Amāvāsyā with the Sun at 119°. On 4th April 1981 the Sun was at 550°. So the Sun has advanced back by 129° '(Please note that from 119°, the Sun travelled backwards to zero and then to 350°; so the difference is of 129°.) It is well known that Equinoxes slide back at the rate of 1° in 72 years. Hence for a shift of 129°, it must have taken 9288 years. We have calculated from 1981, so subtracting 9288 - 1981 = 7307 years B.C. is the year of Rāma's wedding. The Sun was in Aśleha on 4th April 7307 B.C. with the Moon as it was Amāvāsyā. The Moon travelled in three days from Aśleha to Uttar Phalguni. Hence

The Date of the Rāmāyanu #43
Rama's marriage took place on 7th April 7307 B.C. From 7th April, 7307 B.C. the wedding day, to 29th November 7308 B.C., the departure day Sreet lived with Rama for twenty months. In Ramayana Dwadda Sanya 141 is the period given. But I think that originally there was "Hara Bavaa." From this Garedic edition interpreted one year Sankar, while the other editions, by slip of hand, wrote Sama instead of Bavaa; or in the period of child marriages somebody changed the word Bavaa to Sama deliberately.

Usually Dwadda is taken as twelve, but it can mean twenty as well. 'Dw' means two and 'Dadaa' means Ten. Two tens means twenty. Even today ladies from the rural areas use the word 'two tens' for twenty. Rambhaya quotes Vedic Detties all over. So its period is the same as fedges. In fedges (1:164-20), there is a verse "Da purum sahuta sasvati." (Dwai Supann Sausujit Sakhya). Here Dw means two. The same meaning is taken in the Rambhaya too. Moreover, Pancha Ritiyame Poushara Sanshita 307 (5-128) gives Dwadda multiplied by Dwadda as equal to four hundred. Hence it is clear that Dwadda means twenty in the ancient era. We have found out by the most modern Astramathematics that Sreet lived in Rama's house for twenty months. So we have to accept it.

Thus it is seen that Valmiki has written correct data, as if a diary is written. From this account we can calculate the dates and days precisely as shown in the chart on the next page.

This proves that whatever Valmiki wrote is true to the facts. It also proves that Valmiki was a contemporary of Rama. Astronomy was well advanced then and Yajnas were based on Astronomy. So all the Brahmins knew it very well. That is why Valmiki could give all the details of Vishvamitra's Yajna. Whenever Brhamins came into picture, time factor was established nicely. Other events from Rama's life cannot be pinpointed because Rama was not well versed with Astronomy as Valmiki or Vishvamitra. I hope now, considering all these

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<table>
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<th>Event</th>
<th>Date in B.C.</th>
<th>Titthi</th>
<th>NakAatra</th>
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</thead>
<tbody>
<tr>
<td>Rāma's birth</td>
<td>4 Dec. 7323 B.C. Tuesday</td>
<td>Chaitra Śuddha 9</td>
<td>Punarvasu</td>
</tr>
<tr>
<td>Vishvamitra demands Rāma</td>
<td>10 March 7307 B.C. Friday</td>
<td>Śrīvāna Śuddha 5</td>
<td></td>
</tr>
<tr>
<td>Tīrīsakī killed</td>
<td>13 March 7307 B.C. Monday</td>
<td>Śrīvāna Śuddha 8</td>
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</tr>
<tr>
<td>Suddhāśrama entry</td>
<td>14 March 7307 B.C. Tuesday</td>
<td>Śrīvāna Śuddha 9</td>
<td></td>
</tr>
<tr>
<td>Vishvamitra's Yajna begins</td>
<td>15 March 7307 B.C. Wednesday</td>
<td>Śrīvāna Śuddha 10</td>
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</tr>
<tr>
<td>Vishvamitra's Yajna ends</td>
<td>20 March 7307 B.C. Monday</td>
<td>Śrīvāna Kṛṣṇa 1</td>
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</tr>
<tr>
<td>Rāma meets Ahalyā</td>
<td>25 March 7307 B.C. Saturday</td>
<td>Śrīvāna Kṛṣṇa 6</td>
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<tr>
<td>Śiva bow broken</td>
<td>26 March 7307 B.C. Sunday</td>
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<tr>
<td>Jānaka Yajna ends</td>
<td>5 April 7307 B.C. Wednesday</td>
<td>Bhūṛūpada Śuddha 1</td>
<td>Maghā</td>
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<tr>
<td>Kṛṣṇa- Seeta marriage</td>
<td>7 April 7307 B.C. Friday</td>
<td>Bhūṛūpada Śuddha 3</td>
<td>U. Phalguna</td>
</tr>
<tr>
<td>Proposed Coronation</td>
<td>29 Nov. 7306 B.C. Thursday</td>
<td>Chaitra Śuddha 9</td>
<td>Pūrva</td>
</tr>
</tbody>
</table>
Exact Birth Date of Rāma-4th December 7323 B.C.

Taking the base of 16 th October 5561 B.C., the date of the Mahabharata war and taking the planetary positions on this date as the base, I calculated backwards to find the birth-date of Rāma. Astronomical positions on Rāma's birth-day as given in the Rāmāyana are as follows: Chaitra Sudha, Navami, Puraravastu Nakṣatra (i.e. Geminorum) and five planets were in exalted positions. (Bhāskara 18/8, 9) 198.

Vālmiki has not mentioned the names of the planets, but we can assume that these are the usual planets as Jupiter, Saturn, Mars, Sun and Venus. The exalted positions of these are as follows: Sun in Aries at 10°, Jupiter in Cancer at 95°, Saturn in Libra at 200°, Mars in Capricorn at 298°, Venus in Pisces at 357°. Our job is to find out the date when these planets were in the said positions or near about.

Sun, Mars and Venus are fast moving planets and are therefore not useful in calculations of thousands of years. However they are useful to finalise the month and the date. Jupiter, Saturn and Rāhu (Dragon's Head) are very useful. Out of these two are mentioned with positions by Vālmiki, but he has not given the position of Rāhu. It is difficult to fix the date with only two planets. We need at least three. So we have to find out Rāhu's position.

When Rāma's coronation was proposed, Dādatrātha says "Sun, Mars and Rāhu are in my Nakṣatra" 199 (2-4-18). This talk was in the month of Chaitra, so the Sun was in Aries. So Dādatrātha's Nakṣatra was in Aries. Rāma had completed 17 years 120 when his coronation was proposed. Rāhu takes 18,592 years for its one rotation. So after 17 years Rāhu must have been...
near its original position as on Rāma’s birthday. In Chaitra, Sun is always in Aries. so Rāhu must have been either in Aries or 180° away in Libra, to affect malefically Daśaratha’s Nakṣatra which was in Aries, Mēṣa.

By various calculations I have found out that at 7323 B.C., all the planets were in the said positions. We have to go back from 16th October 5561 B.C. unto 7323 B.C. 7323 – 5561 = 1762. We have to find out planetary positions 1762 years before 5561 B.C. i.e. the Mahabharata war.

**Saturn:** Saturn takes 29.454483 years for its rotation. In 1762 years it completes 59.82114 rotations. 0.82114 round means 295.60104°. Saturn has gone 295.6° behind its original position of 141° of 16th October 5561 B.C. So Saturn must have been at 141° – 295.6° = –154.6°. This means 360° – 154.6° = 205.4°. So Saturn was at 205.4° in Libra, very close to its exalted position of 200°.

**Jupiter:** Jupiter takes 11.863017 years for one rotation. During 1762 years it will complete 148.52887 turns. 0.52887 turn means 190.39° from its original position of 283° where it was on 16th October 5561 B.C. This comes to 92.6°. This is the position of exaltation in Cancer. **Mars:** Mars takes 1.88090 years for one round. In 1762 years it will complete 936.79056 rotations. 0.79056 rotation means 284.6°. So Mars was 284.6° behind its original place at 205° of 16th October 5561 B.C. 208° – 284.6° comes to –76 i.e. +283°. This is near the exalted position of 283° in Capricorn.

**Rāhu:** Rāhu completes one rotation in 18.5992 years. In 1762 years it will complete 94.735257 rotations. 0.735257 turn means 264.69°. Rāhu was at 277° on 16th October, 5561 B.C. Rāhu always travels in the reverse direction. As we have to go in the past, we have to add 264.69° to 277° which gives 181.69°. This is the place of Rāhu in Chitrā Nakṣatra (Spica) in Libra.

Thus out of these four planets, three are in exalted state.

*The Date of the Rāmayana* #47
Let us now set the position of the Sun. It was Chaitra month so the Sun was in Aries. Though Chaitra Lunar month was present, it was not Spring but it was Hemanta (Winter). When Rāma left for forest life in the month of Chaitra, on Śuddha 9th day, Vālmīki has described the sky with constellations like Triśanku, Saptarṣi, Jātaka, Chitrā Viśākhā etc. (Ayodhya 4.110, 111). In Yudh. Sarga 3 & 4, Vālmīki has clearly said that it was Hemanta the Winter season. Here he has described the night sky of Hemanta vividly 66, where he mentions again that Triśanku, Saptarṣi, Jātaka, Chitrā Viśākhā, Mīla (Crux, Cepheus Bear, Corvus, Spica, Librae, respectively) were distinctly seen. (Yudh 4.50-53). This is a clear picture of the sky of Lunar month Chaitra. Hence in that era Chaitra coincided with Hemanta or Winter season. Today this sky is seen in summer in the month of April-May. This change is due to the precession of Equinoxes. The Mathematics behind it shows that the writer of this description must have been living at least ten thousand years ago.

We will support this by other method. We take 22nd December as the end of Hemanta. Today the Sun is at 246° on 22nd December. The Equinoxes move back by 50.2 seconds per year. 7323 + 1979 = 9302, 9302 X 50.2 = 129,7122°. 246 + 129 = 375. 375 – 360 = 15°. So 15° was the position of the Sun on 22nd December 7323 year B.C. This comes in Aries and near the exalted place of Sun 10°. So whatever Vālmīki has written is absolutely correct.

If the Sun was in Aries, Venus which is always within 48° from the Sun, might have been in Pisces. It is quite natural. So we have five planets in the exalted sign in December 7323 B.C. Above we have seen October positions. In December they will be thus - Jupiter 94° 6', Saturn 204°. It was retrograde, Mars 290°, Rāhu 179° in Chitrā, Sun in Meṣa (Aries) and Venus in Pisces. As this is in line with Vālmīki's description, Rāma must have been born in December, 7353 B.C.

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Let us now test the positions of planets, 17 years later at the time of the proposed environment of Rāma. When Rāma told Kaushalyā that he has been ordered to go to the forest for fourteen years, Kaushalyā said: ‘You have just completed 17 years since birth’ (2-20-45). Some scholars try to twist this statement and try to establish that Rāma was 27 years old when he left for the forest. This is because Seethā says to Rāvana (3-47-4) that she spent twelve years in Rāma’s house before entering the forest. She further says that she was only 18 years old then; and Rāma was 25 years old at the time of exile. In Sundar Kanda, Sarga 33, Shloka 17, it is told that Seethā enjoyed all the pleasures at Rāma’s house for twelve years and then in the thirteenth year the King thought of coronating Rāma.

According to Sundar 33/17, quoted above, he was married twelve years earlier, and in the thirteenth year he was to be coronated. So it appears that Rāma got married at the age of five years only and was to be coronated at the age of six years only. Is it possible? If it was so, what was the age of Seethā? Definitely five years or less and if she was really seven years younger than Rāma, as she told to Rāvana, then she was minus two years old, which means she was not only unborn, but was not even in the womb when married. Then how could she enjoy all the pleasures? As there is contradiction in the statements we must examine the text, test it and see which is correct. If Seethā was 18 years old when she left for forest after 12 years of married life, she must have been only six years old at the time of

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her marriage. This is impossible because she herself tells (2.18.34) that her father was very anxious about her marriage as she had entered the age for contact with the husband, and she was not getting good proposals. Further, it is stated that before Rāma married Sīth, many kings had campaigned against Janaka to take Sīth away. Cott autoc is not over for a six year old daughter? Impossible. So Sīth must have attained puberty when she got married. Therefore, that marriage is called as 'Swayamvara.' (2.18.38) She was in her full youth, so after marriage she enjoyed all the pleasures with her husband in a separate room in privacy. (Rahā - 1.77-13 to 15). Before the marriage of Rāma he was invited by Vayādmitra to protect his Yajña. At that time Vālorahā said that his Rāma was only a quarter to sixteen years old. (1.20-7). About a month later Rāma married Sīth. Hence it is impossible to accept that Rāma married at the age of five years.

Considering all these evidences I think that twelve years marriage life is an interpolation and we should not believe in it.

Gazette edition of the Rāmāyaṇa states that Rāma was eighteen years old at the time of exile.

अन्य जानन्तर सम्यक्ष हेमा च अन्यजन्त्र च दे अनाया 2/17/15

Age of 17 or 18 is immaterial because 17 complete means 18 running.

If Sīth was an adult at the time of marriage and she had stayed with Rāma and enjoyed the married life for 12 years why did she not have any child during 12 years? It is quite probable that one couple may not get a child in 12 years of married life. But along with Sīth her three sisters married the three brothers of Rāma and they, too, enjoyed marital bliss for 12 years. Then why did none of these four couples have a child in the span of 12 years? All the four couples remaining childless for 13 years of married life is an impossibility.

So the only alternative is that Sīth must have enjoyed married life only for one year or so as is stated in Gazette edition of "The Scientific Dating of the Rāmāyaṇa and the Vedas".
of the Rāmdāyana 111 (36:330, 3.4). So we hold that after 17th year of his age Rāma had to quit Ayodhya.

Let us see the map of the sky when Rāma left Ayodhya. Vālmiki writes (2.4:11, 12) that Triāṅku (Crux), Mars, Jupiter, Mercury and Viśākhī (Librae) with the Milky-way, all cornered the Moon. The Moon was in Purya (Praecipe) at the dawn of that day but after Sun-seit it might have gone to Asleṣ (Hydrae). There is no problem about the stars, but we have to calculate the positions of Mars and Jupiter. We have to see how much they travelled in 17 years after Rāma’s birth.

Jupiter completes its one round in 11,830,313 years. So in 17 years it must have completed 1,8330254 rounds. 0,8330254 turn means 155.88°. Thus Jupiter was 155.88° ahead of its original position of 95°. So Jupiter was at 250.88° or in Pūrvā Āṣādhā (Sagittarius).

Mars takes 1,88089 years per rotation. In 17 years it will travel 9.0382744 turns. 0.0382744 turn means 13.737878°. So Mars was 13.77° ahead of original 283°, that means it was at 296° in Dhanuṣṭhā (Delphinium).

Here, Dāśaratha says that Mars was in his Nakṣatra along with Sun and Rṛṣu and that is why he was in a hurry to coronate Rāma. The Sun was in Aries as the month was Chaitra. So Dāśaratha’s Nakṣatra must be in Aries. Mars from Dhanuṣṭhā casts its fourth aspect on Aries malefactorily. So our position of Mars is correct according to Dāśaratha’s statement.

Now we shall again see the map of the sky. The Moon was beyond Purya in Asleṣ (Hydrae) and at midnight it was at the western horizon. If you stand facing the South, you will see the setting Moon behind your right shoulder. In front, to the right hand you will see Crux or Triāṅku. On your head in the line of Triāṅku, you will see Hasta (Corvus) and Chitirā (Spica). To their east you will see Viśākhī (Librae) and Mṛṣa (Scorpius) and the Milky-way. Still to the east you will find Jupiter in Pūrvā Āṣādhā (Sagittarius) and to its east there will be the rising Mars in

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Dhanisthā (Delphinaceae). If these stars and planets are plotted on a map you will see that these are really cornering the Moon at the northern limit of the Wei. So Vālmiki's description is marvellously correct, and our estimated year 7306 B.C. for Rāma's departure to forest (17 years from Rāma's birth in 7323 B.C.) is also correct because we get accurate planetary positions.

Let us see now, if Vālmiki's statement about Rāhu is correct. With the rate of 18.5992 years per rotation, Rāhu in 17 years will complete 0.0140178 turn. That means Rāhu had gone back by 329.046° from its position at Rāma's birth of 181° 329° = 181° 329° = 147° 212. So Rāhu was at 212° in Viśākhā or Librae. From Viśākhā, Rāhu casts its seventh sight on Aries which contained Daśarātha's Nakṣatra.

**Mars imprisoned Rohini**

Thus astronomically as well as astrologically Vālmiki has given accurate positions. The height of Vālmiki's accuracy is seen when he mentions the position of Mars after 14 years' period of forest-life. Vālmiki has given similar of Mars and Rohini (Adheban) to Rāvana and Sessh respectively. For example, Rāvana charged with rage towards Sessh just like Mars charges towards Rohini. For example, Rāvana charged with rage towards Sessh, just like Mars charges towards Rohini. Rāvana imprisoned Sessh just as Mars imprisoned Rohini.

These similes show that Vālmiki had seen Mars marching towards Rohini and then occupying a place between the two limbs of Rohini, as if a guard is posted at the gate. (Rohini Śākata Bheda). On calculation it is seen that two months before completion of 14 years period, Mars was in Mega (Orion) just beyond Rohini and Mars was retrograde then. So Vālmiki must have seen Mars marching towards Rohini. This Rohini Śākata Bheda was in reality about 10000 to 9000 years ago and has never happened again to this date.

The description with the above similes relates to the period of Sarad and Hemantra, two months prior to the end of 14

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years' transportation period. So we will have to calculate the movement of Mars during 13 years and 10 months or 13.83333 years. Mars takes 1.88089 years per revolution, so in 13.83333 years it will complete 7.354674 revolutions. 0.354674 turn means 127°. Mars had travelled 127° ahead of its original position of 296°. 296° + 127° = 423°, 423° - 360° = 63°. Thus Mars was at 63° in Mrga, or just beyond Rohiti. Therefore a month earlier, Valmiki must have seen Mars marching towards Rohiti, crossing it and staying in between the two arms of Rohiti. Being retrograde, Mars was showing to and fro movements just like a sentry. Thus a poetic simile of Valmiki has got a great scientific value, because it is based on the pure Truth, the Reality.

Now, let us test if Valmiki is correct in showing the Mars retrograde. We have seen that the Mars was near Rohiti, in Mrga Nakatra, at 63°. Two months before the beginning of Chaitra Lunar month the Sun must have been in Makara Rashi. Hence it is clear that Mars had become retrograde in Mrga Nakatra and therefore it was seen marching towards Rohiti. It is well known in Astronomy that if Mars is 144° ahead or behind the Sun, it becomes retrograde.

We have seen that the planetary positions of Rama's birthday, in 7323 B.C., 17 years later in 7306 B.C. and 14 years later in 7292 B.C., tally with the descriptions of Valmiki. So it is not a mere chance. These must be the real dates of Rama's birth and other incidents.

Let us, now, try to fix the exact dates of various events. Valmiki tells that Rama was born on Punarvasu Nakatra (Geminorum), and Chaitra Sudha, Navami. This means the 9th day after New-Moon-day or Amavasya. The Solar year consists of 365.25 days while the Lunar year consists of 354.367 days. So every Solar year the Amavasya comes 10.883 days earlier. As the Sun travels one degree per day, the place of Amavasya or conjunction of Sun and Moon, slides 10.883 degrees earlier. For example, if in 1997 Amavasya is on 29th December at 253°, then the The Date of the Ramayana is 53
the Amāvāsyā of 1998 will be on 10th December and at 242° and the Amāvāsyā of 1999/97 would have been on 9th January 1997 at 26°.

On 16th October 5561 B.C., when the Mahābhārata War started, it was Amāvāsyā. From here, let us go back to 7323 B.C. 7323 - 5561 = 1762. Amāvāsyā slides back by 10,883 days per year, so in 1762 years it will slide back by 19,175,846 days. Please note that we are going back in the past so the Amāvāsyā will slide forwards by 19,175,846 days. This is to be divided by 354.367 days of the Lunar year. That gives 54.11256. This means 54 Lunar years were completed and 0.11256 Lunar year i.e. 40.02 days remained. This shows that the Amāvāsyā had come 40 days later than 16th October. So on 25th November 7323 B.C., there was Amāvāsyā.

Where was this Amāvāsyā? Let us find out. We have seen that Amāvāsyā slides by 10,883° per year. On 16th October 5561 B.C. Amāvāsyā took place at 258° in Uttarāsādū. In 1762 years, it shifted by 19,175,846°. This is to be divided by 360°. That gives 53.266238. This means that 53 cycles were completed and 0.266238 cycle or 95° remained. We are going into the past, so we add 95° and 258° and get 353° as the age of Amāvāsyā of 25th November 7323 B.C. 353° is the zone of Revati (Zeeta Piscium) where Amāvāsyā took place. Hence the next month was Chaitra and on its 9th day there could have been Purandarav Naksatra, the date being 4th December 7323 B.C. The Moon travels 12 degrees in one Tithi. When eight Tithis were completed, the Moon must have gone 96° ahead of 353° which means it was at 89° i.e. in Purandarav Naksatra on the Navami Tithi. Hence Rāma's birthdate is fixed as 4th December 7323 B.C.

Vālmiki states that after Rāma's birth on Purandarav Bharata was born on Pusya Naksatra. Naturally the birth date of Bharata is 5th December 7323 B.C. The Tithi is Chaitra Suddha 54° The Scientific Dating of the Rāmāyana and the Vedas
Dadami and lagna Meena, so the time of Bharatā’s birth is between 6 and 7 a.m. Laxmana and Sarrutha were born on Srīpa Naksatra (i.e. Asādha) and Kūla lagna. This shows it was Chaithra Suddha 11\(^{10}\), the 6\(^{th}\) December, between 1.30 to 3 p.m. Rāma was born on the Kurkata lagna\(^{10}\) so his time of birth was between 1.30 and 3 p.m.

At the end of 14 years, when Rāma fought his final battle with Rāvanu, Vālmiki states that the Mars was aspecting Viśākhā, the family Naksatra of Rāma (Śāvāka)\(^{19}\) (6-102-57). Let us test this statement. At the rate of one rotation of 360° in 1.88089 years, Mars would have completed (14 divided by 1.88089 =) 7.4432848 rotations. 0.44 rotation means 159.58 degrees. Thus the Mars was 160° ahead of 296° which was the position of Mars at the time of exile. It means that at the end of 14 years Mars was at 96° or in Pusuṣya and had cast its fourth sight on Viśākhā. Thus again, Vālmiki has proved himself to be fantastically accurate in Astronomy.

Now, we will find out the day of departure of Rāma for forest-life. The month was Chaithra and Naksatra was Pusuṣya. Moreover, Śrīsa says that it was the day of Jupiter combined with Pusuṣya\(^{129}\). Due to this reference many scholars bring the date of Rāmahya to A.D. era, because they hold that the week-days are invented and named by Chaldéans. But it is not true. The week days are conceived and named by Indian sages for their Jāyas in which they sacrificed something to the planets every day, since the time of Taittirīya Brāhmaṇa around 9000 B.C. Leaving aside this controversial point, let us fix the date and day of Rāma’s exile.

Rāma had completed 17 years of age, so the year was 7306 B.C. when it was proposed to coronate him. It was the month of Chaithra, so Phāglūṇa Amāvāṣyā had taken place. At the rate of 10.883 days per year, the Amāvāṣyā would come 185.011 days earlier in 17 years. The Lunar month contains The Date of the Rāmahya 55
29.53058 days. So dividing 185.011 by 29.53058 we get six Amāvāsyās complete and 7.8275 days more. That means the Amāvāsyā was 7 days earlier. We have seen 25th November 7323 B.C. was Amāvāsyā (Pāgumi). 7 days earlier means 19th November 7306 B.C. was Amāvāsyā. Where did it occur? Of course 7.8275 earlier than the original at 355. Naturally this Amāvāsyā occurred at 345.17249 in Uttar Bādhaḥpadi. Hence, the next month was Chaitra.

When the Moon goes 12° ahead of the Sun, one Tithi is completed. Vālmiki tells that it was Pusya Nakatra. Pusya is at 104°. The Moon travelled from 345 to 104° i.e. 120° in ten days. Hence 29th November 7306 B.C. was the day with Pusya Nakatra when Rāma quitted Ayodhya.

Let us fix the day also. The experts say that in Julian method on 1st January 4713 B.C., there was Monday. 7306 - 4713 = 2593 years. Multiplying 2593 by 365.25 we get the number of days which is divisible completely by seven, leaving 0 as the remainder. Hence, 1st January 7306 B.C. was Monday. We want 29th November 7306 B.C. These are 333 days because this is not a Leap year. If we divide the year in B.C. era by 4 and the remainder is 1 then the year is a leap one. 333 divided by 7 gives 3 as remainder. That means 3 days are left after completing Monday. So it was Thursday on 29th November 7306 B.C. By other method also we get the same result confirming Thursday on 29th November 7306 B.C. Here we need not consider the corrections or omissions done by westerners in the past. They did not adjust with Indians who have this tradition of week days since 9000 B.C., from Taittiriya Samhitā.

The week days

The concept of the seven days of the week has not been imported from western countries to India. That concept is seen even in the Ṛgveda. In Taittiriya Samhitā 7:4:7 a Yajña of forty Sva. The Scientific Dating of the Rāmāyaṇa and the Vedas
nine nights is mentioned. That 49 nights’ Yajna was performed by the sage Vasistha to defeat Suđisa. It is said that a man performing 49 nights’ Yajna geis Vriji. 49 nights fit in the multiples of seven only. It does not fit in any other system say of Mśa, Pāka, Nakṣatra cycle etc. Therefore it is confirmed that in the Vedic era, a unit of seven days was in use.

Taittiriya Samhitā states at 5-6-7 that one should be consecrated for six days because there are six Rūs in a Samvatsara. Further at 7-5-6 it states that after six days rites they leave out one day (as holiday), this way they achieved one Mśa. Some scholars translate this verse as: “They made up a month of Śadahās i.e. five periods of six days each and left out one day.” But this is wrong because in that case the month would have 31 days. Twelve such months of 31 days each would give 372 days in a year and would miss the places of the Sun and the Moon. So I think that they made up their month with Śadahās leaving one day after each Śadaha. The month consisted of four Śadahās and four off days completing 28 days. For this purpose they took 28 Nakṣatras. Nakṣatra Mśa consisted of 28 days.

From these statements it is clear that the sages used to perform a Yajna daily for six days and then they took one day off. Thus seven days’ week came into existence. Four such cycles used to complete one month. This system was in relation to one Solar seasonal year because that seasonal year Samvatsara consisted of six Rūs. Six different Rūs e.g. Vasanta, Griñjā, Varṣa, Śarad, Hemanta and Śīrā are seen only in India, not in Europe or Western countries. Therefore I can say that the week day system arose in India out of the Yajna custom.

The week day system has probably some relation to Nakṣatra cycle too. In ancient India days were named or counted after Nakṣatras. The moon resides in one Nakṣatra for one day. Next day it goes to the next Nakṣatra. The moon moves on the path composed of 28 Nakṣatras. Therefore four cycles of seven

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days comprised a Nakaṣṭra-Māsa which was used by the ancient Indians. Here, we have seen how a week system arose. The names attributed to the week days have their origin in the same Yajna System. In ancient India the sages used to offer oblations to Nakṣatras as well as planets. Jupiters, Mercury, Venus, Saturn and Mars were the five known planets which were honoured as the five Gods. Rgveda: 1-105-10 and 10-55-3) Naturally they were offered oblations. e.g. भुजयानवे गनाहि निन्द्या गनाहि ति. भा. 3-1-4-6. Thus all the five planets were given offerings. The Moon was held with high esteem and was supposed to be the Mind. Therefore the Moon was offered oblations. Chandrāyā Svaḥ Śāyā शायां यात्रा। (विजयानया संबुधाः 22-30) Thus six days were allotted to planets. The seventh day was taken as an off day, even then as a routine daily custom they used to offer oblations to the Sun which was honoured as Atman. In this way the seventh day was supposed to be the day of the Sun. The next day and the first day of the consecration was allotted to the Moon. Later five planets were then given the remaining days of consecration.

This may be my conjecture but it has the support of Rgveda 1-164-15 which states "out of the seven which arose simultaneously, Śādiya (the Sun) came into existence independently, others came into being later." This Śāh is very meaningful, as far as Astronomy and the time measuring science is concerned. Modern Astronomy says that the Sun came into existence first and immediately it broke up into pieces to give birth to the planets. The Sun was already being worshipped and then the Moon's worship began. Still later the five planets were discovered and they were also worshipped by the people.

When the week system came into existence first the off day was named after the Sun and then other days were named. Hence it is stated that the Sun was born first, independently.

This week system was utilised in Rgveda era, its evidences are here - Rgveda 1-164-2, 3 describe seven horses

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and seven cows harnessed to the chariot of the Sun. Here the seven horses are the seven week days and seven cows are the seven nights of a week. The Veda 1-164-5 describes seven fibres of a garment of a year. Clearly the seven fibres refer to the seven week days. The Veda 1-164-5 describes seven wheels and six spokes. These are evidently seven week days and six Saturn. 

Pradna Upanishad 1-11 also states the same fact. The Veda is the most ancient literature of the world which belongs to India and it mentions seven days of a week so it is beyond doubt that the week system is a gift of India to the world.

Now let me explain how they arranged the order of the days. We have seen that the five planets were discovered by the Vedic people. The names given to the planets show how much advanced they were scientifically. Jupiter is called as Bhaskari which means the biggest. Its other name Guru also means the biggest. Actually if we see the sky we see Venus as the biggest but the Vedic sages did not ascribe the name Bhaskari to Venus because they knew that it is not the biggest. Venus is the brightest so they named it Sukra meaning bright. Saturn was named as Sani or Manda because it moves slowly. Thus the Vedic people were really advanced in science. Therefore they knew that the Sun was born first and then immediately it burst to give rise to the planets. The Veda also has considered how the Universe came into existence in the famous 

The concepts therein are really similar to the modern science of the late twentieth century. The Vedic sages were so advanced in science that they knew the distances of the planets from the Sun. They knew that distance-wise the planets are in order viz Mercury (Budha), Venus (Sukra), the Earth with its Moon, Mars (Mangala), Jupiter (Bhaskari), Saturn (Sani). The Planets situated inside the earth's orbit are known as the Internal planets (namely, Mercury and Venus) while the Planets situated outside the Earth's orbit are called as the external planets (namely, Mars, Jupiter, Saturn). As I have shown above that the Sun was held as Atman while the

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Moon was held as the Maana, the first name given to a week-day was from the Sun eg. Aditya. The next day was named after the Moon eg. Soma. Then they gave the alternate names once from the Moon and once from the Sun. This means they selected planets alternately from the external and the internal group. After Monday they took Mangala from the external group, then Buda from the internal, then Guru from the external, then Sqiitä from internal, then Sani from the external group. Thus all the seven names arose. According to the names they were giving offerings to the planets on particular week days. This was an easy method to count and know the day.

Thus from the ancient times of Taititiya Sambitá around $500$ years B.C. and even from the Ídēyada era the week days were in vogue in India. Therefore Thursday is mentioned by Seeth and is written by Válmiki in his Rámáyana, around 7300 years B.C.

As Thursday is confirmed on 29th November 7306 B.C. when Ráma left Ayodhyá it is proved beyond doubt that week days have been in use in India for at least 9306 years and India is the founder - inventor of weekly days. Up to now, before me nobody has found out the exact date of Ráma’s exile, so it is impossible that somebody inserted Thursday in the Rámáyana some time after the Chaldaeans in the Christian era. If somebody writes by imagination, it will not fit in mathematics. Only one event may fit in mathematics, but here I have shown that all events can be calculated mathematically and their dates and planetary positions can be fixed. So there is no other alternative than to accept Thursday, the day of Ráma’s exile as a true fact.

Here I shall give one more supporting evidence to show that the week days were in use since Atharva Veda. Atharva Sýótiéa Sóka 93 states thus

अथिदितः संन्धी भिन्नतम स्वासुगत्तमि।

In Yajurveda Smriti, in Gruha Yajna, the names of 60 The Scientific Dating of the Rámáyana and the Vedas
The planets are given in the order of the week - days, showing this tradition in India since ancient times.

The Mahabharata 4:16:21 also has mentioned weekdays. Kasyaya also mentioned weekdays.

During the Susrusakas, the Soma devotees divided the day by 10-12 days. This practice was followed by every 29.53058 days. The mean Amavasya was complete and 0.1594 lunar month remained, or 4.7 days remained. Amavasya was four days earlier. November 7306 B.C., Amavasya. 4 days earlier means on 15th November 7292 B.C. there was Amavasya. Former Amavasya was 345°. So this Amavasya was 4°7 earlier at 340°. 340° is the site of Uttar Bhikrampati, so the next month was Chaitra. Ravana fought his last battle on Amavasya 12 (6 - 92 - 66). It was this Amavasya on 15th November 7292 B.C., when Ravana was killed on the battlefield.

Rama won the war on 15th November 7292 B.C. in the evening of Phalguni Amavasya day. The next morning Rama may have celebrated the victory. This may be the reason why Indian people hold the flags and enjoy the ceremonies on the very next day - Chaitra Sudha Pratipada.

Rama had left Ayodhya for forest life on Chaitra Sudha 9th day. He may have started counting the days from Chaitra Full. The Date of the Ramayana 861
- Moon - day. So he waited for a few days more and entered Bhuradwaja Arama on Chaitra Vadi 5th day (6-127-35)24 (6-128-22). This was Saturday the 5th December 7292 B.C. Rama spent that night in Bhuradwaja Arama according to the wish of sage Bhuradwaja17 (6-127-17) (6-128-24) and on Sunday the 6th December 7292 B.C. Rama entered Ayodhya.24 (6-128-23).

Thus we can find the exact dates and days from Valmiki Ramayana as tabulated on the next page.

After finding out all the above dates, naturally, a question arises in our mind about the death of Sri Rama. Valmiki has not given the planetary positions at the time of Rama's death but states that Rama reigned for eleven thousand years (1-1-97, 6-131-106) or ten thousand Years (6-131-95, 7-78-6, 7-102-16). It is utterly impossible even for Sri Rama to live for 11000 years, so there must be some other meaning. It is a well known saying "अद्यतन संसारस" in the Mahabharata, Yana Parva, chapter 52. Bhemasena says, "According to the Dharmasastras as well as the Vedas one day and night is equal to one year." Following this equation we can calculate that 11000 days means 31 lunar years or 30.11 solar years.

We have seen above that Sri Rama started his reign in December 7292 B.C., 31 years hence i.e. during December 7261 B.C. Sri Rama might have ascended to the Heaven at the age of 62 years.

Perfect Dating of Rama - Ravana War by Astronomical Method

So far not a single person has been able to fix the date of the Ramayana and everybody opined that there are no details about time measurement in the Ramayana so its date cannot be fixed. In fact Valmiki has recorded all the details in the ancient 62 The Scientific Dating of the Ramayana and the Vedas
<table>
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<th>Date and Details</th>
<th>Notes</th>
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<tr>
<td>Mahabharata war begins</td>
<td>Sunday, 16th October 5561 B.C.</td>
<td>Margasira Amavasya, Untari Ashadh</td>
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<tr>
<td>Rama's Birth</td>
<td>Tuesday, 4th December 7323 B.C.</td>
<td>Chaitra Sudha 9th, Punarvasu</td>
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<td>Bharata's Birth</td>
<td>Wednesday, 5th December 7323 B.C.</td>
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<td>Laxmana-Satrukhna born</td>
<td>Thursday, 6th December 7323 B.C.</td>
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<td>Bhadrapada Sudha 3 U.Phalguni</td>
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<td>Exile to forest</td>
<td>Thursday, 29th November 7306 B.C.</td>
<td>Chaitra Sudha 9th, Putya</td>
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<td>Dataratha dies</td>
<td>Wednesday, 5th December 7306 B.C.</td>
<td>Chaitra Poorimash</td>
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<td>Ravana's Death</td>
<td>Sunday, 15th November 7292 B.C.</td>
<td>Phalguni Amavasya</td>
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<td>Rama's return to Bhurivadha Akasam</td>
<td>Saturday, 5th December 7292 B.C.</td>
<td>Chaitra Vadya 5th</td>
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<tr>
<td>Rama's entry in Ayodhya</td>
<td>Sunday, 6th December 7292 B.C.</td>
<td>Chaitra Vadya 6th</td>
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</table>
When did Hanumān return from Lanka? 

On the mission to search Sceṭi, Hanumān went to Lanka alone, at night." (Sundara 53.15, 4.7, 58.50, 51.) He searched for Sceṭi in the Moonlight and found her early in the morning. Then he fought with Gāyūpas, talked with Rāvaṇa, burnt Lanka and returned to Inda early the next morning. While describing Hanumān’s return in Sundara Kāṇḍa 8-57 (or 56) in ślokas 1.2, Valmiki giving simile of sea to the sky, states thus:

विष्णु विधिक दारुणाय प्रवृत्ति ।
रघुवंशास्तिः संहितास्तिः महताः ।

Even though it is a poetic simile we should not neglect it and should not overlook the description of the sky. Valmiki gives the plan of the sky here, plotting the Nakstrās from the west to the east. When Hanumān started from Lanka it was early morning, because Sceṭi tells him to take rest for a day in some hiding place and to go the next day. (Sundara 56.3, 11; 57.5) So the Sun was rising. Valmiki tells that the Sun appeared like a crane and the Moon like a lotus. As both the Moon and the Sun were seen at a time in the sky, it was probably Pournimā with the full Moon on the western horizon and the rising Sun on the eastern horizon. The span of Nakstrās stretched from Pusya to 16 The Scientific Dating of the Ramayana and the Vedas.
Svayamra i.e. from 104 to 281. Pururavas was also seen. Airavana means an Elephant, so I think it is the Scorpion showing a shape of a trunk of an elephant. This span of Nakṣatras seem Pururavas to Airavana is seen at the dawn of Kṛṣṇa Pākṣa of Puṣṭa Lunar month. The rising Sun and the setting Moon could also be seen. Hence most probably Hanumāṇa returned from Lankā on Puṣṭa Puṣṭiṃśa or Puṣṭa Vyāšrya Pratipadī.

Hanumāṇa had set out for Seetā’s search in Aśvina Mās as he himself says 61 in Kīśkindhā 53.21.22. So he must have started the campaign in Kārtika. One month was spent in the cave of Śvayamprabha. So Mārgāśīra was over. Some more time was spent in the search upo the South Sea, and then he entered Lankā probably on Puṣṭa Sudha 62. Thus it is quite possible that he successfully returned on Puṣṭa Puṣṭiṃśa or Puṣṭa Kṛṣṇa 1st.

Sundara 58/106 or 108 states that Seetā told Hanumāṇa that her life was only for two months, 63 after two months she was going to die. Rāvana had abducted Seetā in Hemanta (Aśvina 16/1) 64 and had given a period of one full year i.e. upto the next Hemanta to think of the marriage with Rāvana 65 (Aśvina 56/24, Youth 12/19). 66 Had Seetā not accepted this condition Rāvana would have killed her at the end of one year in Hemanta. Hanumāṇa is composed of two months. That is why Seetā tells that her life was only two months. 67 (Sundara 22/8, 26/7, 37/6, 58/106). This indicates that Seetā told this to Hanumāṇa before Hemanta began, i.e. in Purad Rūḍu. Thus Puṣṭa lunar month coincided with Purad Rūḍu. Rāvana also threatened Seetā, when Hanumāṇa was hiding in a tree, that only two months are remaining, after which she should shave his bed or die. 68 (Sundara 22/8).

According to the above description Mars was near Pururavas and Puṣṭa. We have seen that during the war the The Date of the Hemantya 69

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Mars was at 10\degree in Ushya. Naturally two months earlier Mars would have been near Parvati and Ushya, because many times Mars becomes stagnant.

From Kiskindha (Vijaynagar or Hospet) to the centre of Lanka (Ceylon) there is a distance of about 600 miles. Army can walk over a distance of 20 miles per day on an average. So the army of Rama would have taken about one month to reach Lanka. Hanuman could have travelled this distance only in 20 days because he was in a hurry. A speed of 30 miles per day is quite possible. Vānaras might have taken two months to go to Lanka because they were searching and not marching. They had stayed in search of Sucta in Kīrṇa Kīna. Traveling for two months they reached Lanka in Mid-Pushya. So our conjecture above that it was Pousa Pournima when Māruti returned from Lanka appears reasonable. Vānara took 20 days to return to Kiskindha hurriedly. Naturally they reached on Māgha Sudha 5\degree. The army of Rāma marched to Lanka in one month and reached the sea-shore on Phalguna Sudha 5\degree. According to Yudhī Śat. Rāma marched with army on Hasta Nakatra. He says, "Today it is Uttarī Phalguna, tomorrow when the Moon will go to Hasta we will proceed to Lanka." Probably on Māgha Kīra 1\degree Rāma started and in twenty days reached the sea-shore on Phalguna Sudha 5th. Thereafter three days were wasted by Rāma because he could not cross the sea. Thus Phalguna Sudha 8\degree was over. Then Nala the famous Vānara engineer built the Śeṭu or a temporary bridge on the sea in five days from Phalguna Sudha 9\degree to 13\degree. On Phalguna Sudha 14\degree Rāma's army crossed over the bridge. On Phalguna Sudha 15\degree, the full Moon day Rāma deployed his army at strategic points, and observed from Suvela Mountain. Full Moon is described 16 by Vēmākī in Yudhī 38/19. He took rest on that night on Suvela Mountain. Rāvaṇa also observed from a tower.

66The Scientific Dating of the Rāmāyana and the Vedas
be held a meeting of his ministers and then deployed his army. On Phalguna Karwa 1st, an army was rearranged strategically by Rama. On Phalguna Karwa 2nd Rama's army sieged the gates of Lanka. Angada was sent by Rama for negotiation or a peace mission on that day, but Ravana rejected the peace talks. Therefore on the next day on Phalguna Karwa 3rd the great war started. It ended on Phalguna Karwa Amavasya, so it continued for thirteen days. On Phalguna Amavasya Ravana was killed and Rama won the war. The very next day, Chaitra Sudha 1st was celebrated as the victory day; this tradition still continues as the New year - day by hoisting flags. We have already seen that Ravana was killed on 15th November 7292 B.C. on the Phalguna Amavasya. Accordingly we shall tabulate the various incidents from the great Rama - Ravana war as on pages 68, 69.

Rama killed Ravana on 15th November 7292 B.C. on Phalguna Amavasya as is stated by Valmiki in Yuddha 92 or 93:65:66. Therefore it is absolutely wrong to celebrate the death of Ravana on Phalguna Sudha 10th i.e. Vijaya Dasami.The next day on Chaitra Sudha Pratipada Rama celebrated his victory day on 16 Nov. 7292 B.C. One month later, in Vaishakha he went to Asoke Vana where Sita Rua ended. Sita Rua ends on 21st February. Rama abandoned Sita after 21st February 7292 B.C., say in March. At this time Sita was pregnant. It was known to her and she told it to Lukmana who noticed the pregnancy with his own eyes, therefore she must have been carried for two months. With two months pregnancy Sita entered Valmiki's Ramayana and lived there till the delivery of the twins-Lava and Kusa. Assuming the delivery after nine months, the month of delivery comes as October 7291 B.C. Valmiki states (Utara 66:33) that it was "Vasuki Rati Sravani." This means that the night was of Sravani Makarata. It was Vasuki. It was raining at night when the twins were delivered. There is every possibility of rains in the first half of October, in India.

The Date of the Ramayana #67
<table>
<thead>
<tr>
<th>The Date</th>
<th>The Tihi</th>
<th>Incident</th>
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<tr>
<td>11° Dec. 723 B.C.</td>
<td>Chaitra Sada 9</td>
<td>Rama’s birth, Punarvasu Nakshatra</td>
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<td>2° Apr. 723 B.C.</td>
<td>Chaitra Sada 9</td>
<td>Rama’s rule, Puru Nakshatra</td>
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<tr>
<td>3° May 723 B.C.</td>
<td>Poosi Sada 14</td>
<td>HImanisha enters Lanka at night</td>
</tr>
<tr>
<td>4° June 723 B.C.</td>
<td>Poosi Sada 15</td>
<td>HImanisha meets Srey and burns Lanka</td>
</tr>
<tr>
<td>5° July 723 B.C.</td>
<td>Poosi K 1</td>
<td>HImanisha crosses the island</td>
</tr>
<tr>
<td>6° July 723 B.C.</td>
<td>Magha S 5</td>
<td>Rama leaves the Kirtirudra for Lanka with his army</td>
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<tr>
<td>7° Aug. 723 B.C.</td>
<td>Magha K 1</td>
<td>Rama approaches the seashore</td>
</tr>
<tr>
<td>8° Aug. 723 B.C.</td>
<td>P谤aga S 5</td>
<td>Received by sea</td>
</tr>
<tr>
<td>9° Aug. 723 B.C.</td>
<td>P谤aga S 6</td>
<td>Building at Sura (Budige)</td>
</tr>
<tr>
<td>10° Aug. 723 B.C.</td>
<td>P谤aga S 14</td>
<td>Army crosses over the sea</td>
</tr>
<tr>
<td>11° Aug. 723 B.C.</td>
<td>P谤aga S 15</td>
<td>Rama departs from Sura, Suppiga attacks Ravana</td>
</tr>
<tr>
<td>13° Sept. 723 B.C.</td>
<td>P谤aga K 1</td>
<td>Arrangement of army, besieging of Lanka gates</td>
</tr>
<tr>
<td>14° Sept. 723 B.C.</td>
<td>P谤aga K 1</td>
<td>Force mission of Aristeia rejected by Ravana</td>
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<tr>
<td>Date</td>
<td>Event</td>
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<tr>
<td>14th Nov. 729 B.C.</td>
<td>Philigama K.3</td>
<td></td>
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<tr>
<td>15th Nov. 729 B.C.</td>
<td>Rama-Lakshmana in Naga Pala.</td>
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<tr>
<td>16th Nov. 729 B.C.</td>
<td>War started Indrajit ties Rama-Lakshmana in Naga Pala.</td>
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<tr>
<td>16th Nov. 729 B.C.</td>
<td>Philigama K.4</td>
<td></td>
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<tr>
<td>16th Nov. 729 B.C.</td>
<td>Dhanushkya Vijayaditya and Akampaana killed.</td>
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<td>16th Nov. 729 B.C.</td>
<td>Philigama K.5</td>
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<tr>
<td>16th Nov. 729 B.C.</td>
<td>Ravana in the battle field General</td>
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<td>16th Nov. 729 B.C.</td>
<td>Philigama K.6</td>
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<tr>
<td>17th Nov. 729 B.C.</td>
<td>Defeated by Rama-Putra's army</td>
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<td>20th Nov. 729 B.C.</td>
<td>Philigama K.7</td>
<td></td>
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<td>20th Nov. 729 B.C.</td>
<td>Philigama K.8</td>
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<td>20th Nov. 729 B.C.</td>
<td>Philigama K.9</td>
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<td>20th Nov. 729 B.C.</td>
<td>Philigama K.10</td>
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<td>21st Nov. 729 B.C.</td>
<td>Philigama K.10</td>
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<td>21st Nov. 729 B.C.</td>
<td>Philigama K.11</td>
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<td>21st Nov. 729 B.C.</td>
<td>Philigama K.12</td>
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<td>21st Nov. 729 B.C.</td>
<td>Philigama K.13</td>
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<tr>
<td>21st Nov. 729 B.C.</td>
<td>White army captured by Dhanusayaka but his minister</td>
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<tr>
<td>22nd Nov. 729 B.C.</td>
<td>Philigama K.14</td>
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<td>22nd Nov. 729 B.C.</td>
<td>Philigama K.15</td>
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<td>22nd Nov. 729 B.C.</td>
<td>Philigama K.16</td>
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<td>22nd Nov. 729 B.C.</td>
<td>Philigama K.17</td>
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<td>22nd Nov. 729 B.C.</td>
<td>Philigama K.18</td>
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<td>23rd Nov. 729 B.C.</td>
<td>Philigama K.19</td>
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<td>23rd Nov. 729 B.C.</td>
<td>Philigama K.20</td>
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<td>24th Nov. 729 B.C.</td>
<td>Philigama K.21</td>
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<td>24th Nov. 729 B.C.</td>
<td>Philigama K.22</td>
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<td>24th Nov. 729 B.C.</td>
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<td>24th Nov. 729 B.C.</td>
<td>Philigama K.24</td>
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<td>24th Nov. 729 B.C.</td>
<td>Philigama K.25</td>
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<td>25th Nov. 729 B.C.</td>
<td>Philigama K.26</td>
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<td>25th Nov. 729 B.C.</td>
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<td>25th Nov. 729 B.C.</td>
<td>Philigama K.29</td>
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<tr>
<td>25th Nov. 729 B.C.</td>
<td>Philigama K.30</td>
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Possibly it was Prusiśa Amāvāsyā or Māgha Kṛṣṇa 13 with Śravasya Nakṣatra. Before this time Vālmiki had begun composing his epic "Pradasya - Vadhān". But on getting first hand information from Sēctā he made some additions and changes, composed Uttara Kṛṣṇa and began teaching the epic Rāmāyaṇa, to Lava- Kula, along with other disciples. When the twins became 12 years old he made them sing his Rāmāyaṇa before Rāma. This programme might have taken place 12 years later in 7279 B.C. in the month of October. But October was in the 8th of Sārad. Rāma was performing śivamadha when he heard the song of the Rāmāyaṇa. Alavamedha or any Yajña was being performed in Vaṣanta 9th only. Therefore the programme must have taken place in March 7278 B.C., when the Rāmāyaṇa was officially published.

Thus we have fixed the dates of Rāma-śravasya war, Vālmiki and his Rāmāyaṇa. Astronomically we have corroborated the days and dates of all the important events in Rāma's life. We have seen the correct planetary positions, calculating from the Mahābhārata war. So both the Rāmāyaṇa and the Mahābhārata are to be accepted as true history. Any sensible person having some knowledge of Mathematics, Astronomy and Science will agree with these dates.

Somebody may ask why all this labour to fix the dates according to the modern calendar; was there such a calendar existing then? The reply is plain that the modern scientific calendar was not at all existing then, but for a modern man depending on the modern scientific calendar this labour is done so that he can understand the history well.
Now I have fixed the dates of two important landmarks in the past history of India namely the Mahabharata war on 16th October 5561 years B.C. and birth date of Rama as 4th December 7323 B.C. From this base we can now proceed forwards and backwards to fix the periods of various ancient literatures. For this purpose we will use the same method. We know that the rate of precession of equinoxes is 72 years for one degree or 960 years for one Nakṣatra. Due to the precession the Sun moves backwards through Nakṣatra cycle. For example on Winter Solstice i.e. 22nd December (नवरात्र) if the Sun is at 246 degrees in 1979 AD it will be at 245 degrees 72 years hence in 2051 AD and it would have been at 247 degrees 72 years ago during the year 1907 AD. In other words the rate of precession is 50.2 seconds per year. According to some experts the rate is 50.17 seconds per year but the difference is negligible. One Nakṣatra span is of 13 degrees and 20 minutes and the Sun takes 960 years to shift one Nakṣatra back. 30 degrees make one Rāsi and contains two and a quarter Nakṣatras. So the Sun recedes back by one Rāsi in 2160 years. The ancient Indians had discovered the backward motion of the Sun on Vrijüva Dina (i.e. Vernal or Autumnal equinox) and the Winter or Summer Solstices. i.e. जनवरिष्ठवहन and वीर्यवहन respectively. The ancient Indians have carefully recorded these facts. If we use them we can fix the various dates.

Now we will consider the Vedas. It is stated in Taittirīya Samhitā 7.4.8 and other places that the night of Purva Phalguni is the last night of the year while 125-126 that of Uttarā Phalguni is the first night of the new year and Vasanta i.e. spring is the mouth of the year. 128, 127, 129 Please note that there were
two schools - one began the new year, Varṣa with Mounson and other started the new year, Śamvāvara with spring. It is for this reason that Taittirīya Sāṁhitā 6.5.3 says, 'The use of Rūṣas has two mouths, who knows exactly that mouth of Rūṣas?' 'Then the two mouths, the second mouth is not single. There were two mouths, Vasanta as well as Varṣa. It is for this reason that Taittirīya Brāhmaṇa 3.10.4.1 shows Varṣa as the tail while Vasanta as the head.

This statement discloses the fact that the mouth of Rūṣas was not single. There were two mouths, Vasanta as well as Varṣa. It is for this reason that Taittirīya Brāhmaṇa 3.10.4.1 shows Varṣa as the tail while Vasanta as the head.

Anyhow the above statement of Taittirīya Sāṁhitā proves that the Vernal Equinox was in Phālgunī Māsa. This is the fact of the present era, but nobody will dare to say that the Vedas are written in the present era. Then a question arises when could they have been written? Of course one rotation of the precession must have been completed between the writing of this Mandala and the present era. In other words 25000 years must have elapsed. My conclusion that the Vedas might have been written 25000 years ago may shock you but it has the support of many other evidences.

Here you may question the veracity of my thought because the Late Lōkāmītīya B.G. Tiṣṭha has fixed the date of the Šigyava as 5000 to 6000 B.C. depending on the Astronomy. Late Tiṣṭha’s date of the Šigyava is correct but it is the date of the last phase of the Šigyava. I say so because Šigyava 10.98-7 mentions Śantana and Devāpī who were the great grand fathers of Pāndava. Thus the last phase of the Šigyava was only three generations earlier than Pāndava. I have already fixed the date of the Mahabharata war as 16th October 5561 B.C. Three generations earlier means about 120 years earlier i.e. during 72 The Scientific Dating of the Rāmāyana and the Vedas
5681 B.C., Santana and Deväpi might have been living. At this
time the last hymns of the ÍgVeda were composed. This date is in
accordance with that of LokasåyÇa and Tisaka.

Tisaka held that the Vedas he read were the ancient ones.
He did not notice the fact that the ancient Vedas were scattered
and many stanzas were being lost in the stream of time. Observing
that loss, sage Vyåsa collected the hymns and rearranged them.
Because of that great work he was honoured with a degree of
"Vyåsa". In this great task sage Vyåsa corrected some stanzas
considering the then circumstances and noticing the change in the
era. It is stated in the Mahåbhårata -- Adv Purva 62, thus

Looking at the conditions of the Yaga or the then era
Vyåsa corrected the Vedas. Naturally it is clear that he observed
the climate, seasons, weather, Nakshatras around him and made
the necessary changes, in the stanzas. Evidently the astronomical
and meteorological statements might have been changed by Vyåsa
to suit his period. If Tisaka has worked on that data, he might have
come to the date of Vyåsa and not the date of ÍgVeda. This is not
written to condemn or insult Tisaka but to discover the chances of
his mistakes. We must always find out the errors of our
ancestors so that we may correct those and improve ourselves.

Einstein found out the mistakes of Newton so the world
progressed and reached the Moon and the extraterrestrial. Did Tisaka
see my work on the dating of the Mahåbhårata, the Råmâyana,
the Purånas and the Vedas, he not only would have pardoned me
but would have honoured me.

Not only Taittiriya Samhita but Taittiriya Bråhmaṇa, Satapatha
Bråhmaṇa, Gopatha Bråhmaṇa, Såkyayâna Bråhmaṇa and Pancharatra Bråhmaṇa
also state the same

The Date of the Vedas?
fact. Therefore there remains no shadow of any doubt about the fact that Vasanta Ritu began in Pushguna Marga, the date being 25000 years ago.

Rigveda 1-161-13 is translated like this, "Who awakened the Rahu? The Sun replied, 'The dog awakened because today is the end of year.'" The dog means Canis Major or Mgra Nakshatra. Rigveda 1-161-11, 12 and 4-33-7 indicate that Rahu means the clouds. "Clouds are awakened by Mgra" means rains were started by clouds on Mgra Nakshatra. Again this is the present day fact and nobody has written this verse today. So it must have been written before one rotation of the precession i.e. 25000 years ago. Nakshatra 27° x 960 = 25920 years. To be exact it shows the period of 23720 years B.C.

This is considered by Lokamanya Tilak but he held that Rahu means सूर्य and Ritu means Vasanta Ritu. Therefore he supposed that the vernal equinox was at Mgra Nakshatra and calculated the date as 5000 years B.C. But to mean Rahu as सूर्य and more particularly Vasanta Ritu is not correct.

Again this is not to blame Shri Tilak but to show the truth, the fact. I say Rahu means clouds. The root रहूँ shows motion - 'Rahu' means to generate. Clouds are generated due to the motion of winds. Moreover Rigveda 1-161-11 and 4-33-7 clearly show the meaning of Rahu as clouds.

Rigveda 1-161-11 states that Rahu produced आकृत्यन्त वर्षः अवर्त्तित हिरण तारामणि, विभ्रम इति. The new year began with rainy season.

The rig 4-33-7 गार्दिकः भूतः यो वर्षाहवत अविभाज्यं रात्रिकं ज्ञाताः ।

For twelve sections of the sky or constellations, the 74th The Scientific Dating of the Ramayana and the Vedas
Rishus rested enjoying hospitality of that unsecret (अनंतस्य) Sun and then moved producing sound (रननम्) to make the barren lands (त्वं) fertile (सुभवेत) producing herbs and plants (अचली), bringing down (रिम्न) water (अप्रा) and rivets (परिमण्डु) on the ground.

All the scholars take सूर्य as twelve days, but सूर्य also means the sky or heaven. The sky cannot be twelve in number, it is single. Therefore we have to take the meaning of twelve Dvāpara as twelve portions of the sky. The foot सूर्य means to shine. Therefore सूर्य means shining Naksatras or Rājas present in the sky, according to which the sky was divided into twelve parts in the ancient era. सूर्य 1-164-12 and Pratimāpaṇiśad 1-11 supports this view because both say -

गनेश विश्व दारमीकुली विवा अदुष्यणा, जस अनो मुद्यकुम्पु.

तोमा अन्य व वेदाविषयान्यां लब्ध हो को भव आनुतिकान्तमति।।

What the Pratimāpaṇiśad means by आनुतिकान्तमति is the same as सूर्य 1-164-12. There are twelve figures in the sky and they are nothing else but Rājas, the twelve signs of zodiac. Hence Dvāpara the sky means twelve sections of the sky. In this twelve sectioned sky the Rishus sleep silently enjoying the hospitality of the Sun. It means that they remain silent for twelve months. The Sun resides in one Rāja or one section of the sky for one month so that the Rāja becomes the home of the Sun for that month. In such twelve homes of the Sun the Rishus rest as guests. It means that the Rishus rest for twelve months and then begin movements with thunderous sounds रंगुणम्. They pour water from the sky down on the Earth. This water fills up the rivers which flood out on the farms and barren lands. It produces herbs and plants all over. All these things happen in the rainy season which is induced by the clouds. Hence Rishus means clouds. These sleeping Rishus are awakened by the Dug or Mrīga Nakṣatra. This means that with the Sun in Mrīga Nakṣatra the rainy season began, the period being around 23920 B.C.

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स्वातातिशीत रमाय नृपेशा यदि सिद्ध सम्भवे यह।
Here Śūnsāra are offered prayers to shower the water they produced in the sky. It clearly means that Śūns Śirau are requested to produce rains on the Earth. Śūna means dog. Sirau means two heads. Thus Śūnsāra means two heads of dogs, which means the two stars named as Canis major and Canis minor. These two stars are in the constellation of Mēgā. Therefore it is evident that the Mēgā Nākṣatra is prayed for production of rainy season, because in those ancient times the Summer Solstice (or the position of the Sun on 21 June) was at Mēgā Nākṣatra. At present it is the condition in India. Hence one cycle of 27 Nākṣatras has been completed since Ṛgveda suggesting a lapse of 27 x 960 = 25920 years.

Thus the Ṛgveda (1.161, 4.33.7 and 4.57.5) shows its date as 23920 B.C. which is the same as that derived from the Taittirīya Samhītā which belongs to the Kaṭāya Jāurveda. Therefore the Kaṭāya Jāurveda and the Ṛgveda appear to be contemporary.

Ṛgveda 2.24.5 states, "the ancient prayers of Brahmāsūpa may open the doors of the future waters for months and years. Heaven and Earth enjoy their waters by sharing each other without any efforts." This Śīchī exhibits the knowledge of the cycle of water well known in the modern science. It suggests that their new year started with the rainy season.

Ṛgveda 7.103.1 states, "The frogs who were asleep for the whole year started croaking to please the rain consecrated Brahmāsūpa (Vṛatāchārīrāh Brahmāsūpāh) [व्रताचारीराह ब्राह्मासूपा]. This also suggests the end of the previous year and beginning of the new year with the rainy season.

Ṛgveda 7.103.7 states, "when the rainy season comes, on that first day of the year, frogs are generated everywhere."

Ṛgveda 7.103.8 states, "Frogs are singing like a Brahmāsūpa chanting the Vṛtika Sūtra. Like Adhvaryuvah Pūrvaśāstra (अध्वर्युवह पूर्वशास्त्र) the frogs singing profusely "

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come out with the rain. "The Vṛṣṭika Stotra was chanted at the beginning of the new year when the chanter used to sweat profusely. At the Summer Solstice or on 21st June there is maximum heat and humidity in the atmosphere causing perspiration. So the new year might have begun at the Summer Solstice with the commencement of the Rainy season. During Vasanta or Spring there is no such perspiration.

Vṛṣṭika 7:103-9 states, "Frogs follow the orders of the Gods and the rules of the seasons for the twelve months. At the end of the year, being troubled by the heat and sweat, they come out of their dwelling as soon as the rainy season begins."

From these Verses it seems that their new year began with the commencement of the rainy season during the Vṛṣṭika period. But this method was not accepted by all. Therefore some other people were beginning their new year from the Vernal Equinox. Taittirīya Samhitā refers to this method. Please note that when the Summer Solstice was at Mrga Nakṣatra the Vernal Equinox was at Uttar Būdrānapūṣṭ, and therefore the period of both the incidents is 23702 B.C.

At present, in 1988 the Summer Solstice is as 66 degrees between Mrga and Āridh. The same was the condition when the thriyā 1:161-13 and 4:57-5 were composed. It shows that one cycle of the Precession is completed. At the rate of 4900 years per Nakṣatra, one cycle of 27 Nakṣatras is completed. So 960 x 27 = 25920 years have passed since the writing of these śrātras. Considering the span of Mrga Nakṣatra of 960 years we can fix the period of these Verses as between 23932 to 22972 years B.C.

At present the Vernal Equinox is in the middle of the Uttar Būdrānapūṣṭ at 336 degrees. Taittirīya Samhitā states that it was between the night of Pūrva and Uttar Phalguna as far as the Lunar position is considered. It gives the Lunar position as 147°. The Sun was diagonally opposite to the full Moon, at 327° at the Vernal Equinox. From 327°, the Sue at the Vernal Equinox has receded back to 336°, during the time span from the

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Vedas to 1988 AD. Thus the shift is of 351° due to the procession at the rate of 72 years per degree. So, 351 x 72 = 25572 years have elapsed since the Vedas. In other words the rāhû is composed at 25272 - 1988 = 23284 years B.C. approximately. Thus both the methods show the same period.

The Equinoxes rotate in reverse direction through signs, so from Mrga the Saturnine Sign must have gone to Krittikā. This fact is also noted by the Vedic people. Krittikā is a faint constellation of seven minute stars. Out of these, three minute stars are named by the Vedic sages as Abhayānti, Meghāyanī, Varaṇīyanī. These names indicate the stages of progress of the Monsoon. Abhayānti means bringing Abhūt i.e. the white clouds not loaded with water. Meghaṇī means bringing Megha i.e. the black clouds loaded with water. Varāṇī means bringing Varāṇi, the shower of rains. Actually, the minute stars of the faintly visible constellation not have been named, but they are named and the names are related to the rains. So it is evident that these names must have been given when the Monsoon used to start on Krittikā. This period is 21800 years B.C. The Monsoon has never started on Krittikā for the last 23000 years, so the names could not have been given during these 25000 years. Rainy season will start on Krittikā 1900 years hence i.e. in 3800 A.D.

This may be my conjecture about the three names of the stars of Krittikā. The remaining four names also have some connection with water and rain. Ambā Śiva may have been derived from Śiva which means water. Dula पुँजा appears to have been derived from the root Dula पुँजा to throw. Hence Dula पुँजा may mean water throwing.

The word Niṣṭha निष्टा is not found in any dictionary. It may have been derived from the roots (1) निष्ठा to wash, sprinkle water. (2) निष्ठा to sound and (3) पुँजा to cover extensively, to grow, to generate. In the rainy season there is washing of the earth by the sprinkling of water, there is sound production by thunder.

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and the sky is covered extensively by the clouds. Plants grow and the new generation comes into existence in the rainy season. Thus Agni has relation to the rainy season.

Agni may have the root पुष्व which means to move slowly. In the rainy season clouds move slowly, days also appear to move slowly, so this name. It may also have the root पुष्व पुष्व which means pure, favourable, pleasing, and also a trough for keeping water for the cattle. So again a relation with water is seen. Thus all the seven names of the stars in क्रीतिक are related to the rainy season. This establishes that the names must have been given at the time when the rainy season used to start with the Sun in क्रीतिक, on 21 June on the eve of the Summer Solstice.

Now I will substantiate more evidences as follows:

Taittiriya Brāhmaṇa states in 3.5.7 that "This fire is the head of the sky. It is the support of this earth. So it invites the rains, because this important place of the sky holds good rains. Agni means क्रीति, because - अग्नि: क्रीतिकुमारिना । भविष्यमात्र दिवितीय वस्तुर्वकार्य ।। २१२१ रजितिर व्याहत ।।

Agni means क्रीति, because - अग्नि: क्रीतिकुमारिना । भविष्यमात्र दिवितीय वस्तुर्वकार्य ।। २१२१ रजितिर व्याहत ।। The fire अग्नि means क्रीति according to Śatapatha Brāhmaṇa also.

As अग्नि नामवर युक्तहिती: तदं सर्वनाम सत्तता नवक्रमार्गी अद्ययनयात । विष्णुमूले नराच्छलदेव । १५१। सत्तता ब्रह्म २१२१ तदुद्ययात ।

Thus, this verse points to क्रीति as the rain inducing constellation.

Taittiriya Brāhmaṇa further states. "These stars are hairless (अग्निमय) but by producing the plants and trees they become hairy (हरिमय)."

क्रीति वा भयुष्मानीपर । शतो वा भुत्तमोधिविद्यापिताम्बामी। शतसमुद्रं नवक्रमार्गी । दिबितिर व्याहत ।२१२१ ।

It is well known that plants are called as the hair (लोण) of the Earth according to Mundaka Upanishad 1.7 and Aitareya

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Kritikā is called as Saloma śīlātī. That means it produces plants on the Earth. Plants grow in the rainy season. So this suggests that Kritkā induced rains. The date of this fact is 21800 years before Christ, because it's a span of two Naksatras is crossed by the precession and 960 x 2 = 1920 years had passed, since the rainy season on Mriga Naksatra.

I have shown the beginning of the rainy season on Mriga as well as Kritikā. Between these two lies Rohiṇī. So there must have been a period inducing the rainy season on Rohiṇī. And there was 2x as suggested by the verse 1-5-1 of Tattvartha Brāhmaṇa.

Rohiṇī is the supporter of life. It produces water above and plants below. This verse suggests Rohiṇī as inducer of rainy season.

In the Mahābhārata, Vaṣu parva. A 230 sloka 10 states that Rohiṇī was given the first place in the past. The statement is recorded at the place where importance of Kritikā is described showing that the Kritikā induced the rains. Hence this must be the reference to the fact that before Kritikā it was Rohiṇī at the Summer Solstice to produce rains around 22760 B.C.

At the time when Kritikā went to the Summer Solstice and induced rains, the sages observed slipping of the Star Vega (Ahbhijit), some time between 21800 to 20840 BC. This phenomenon is recorded in the Mahābhārata Vana Parva 2305:11.

For the fall of Ahbhijit, Kritikās were held responsible and is told that because Kritikās went to the Summer Solstice, Ahbhijit fell to the horizon. The fall of Vega was complete as about 13000 B.C. when the Star became the Celestial Pole. (Newcomb's Popular Astronomy) Probably from this time Kritikās were given the prime position in Naksatras.

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After Krittikā the Summer Solstice must have slipped back to Bharani. Bharani is named in the Veda as "Apabharani." Filling of water is indicated by this name. How can a star fill water on the Earth? Of course by inducing rain. Thus the name indicates that when the rains used to start on Bharani, the date being 20840 years B.C. Rains on Bharani will take place again at about 4700 A.D.

At present, the Summer Solstice is at 65.5°. In the Vedic era it was at Bharani at 13.5°. From 13.5° it slipped back to 360° and thence to 65.5°. Therefore the total shift is 308°. Multiplying it by 72 we get 22176 years. Deducting 1998 we get 20178 B.C. as the date.

Because the Vedic new year started with the Monsoon, from Summer solstice, the sages were keen to observe and establish the Sun's position on solstices. This is reflected in a Mantra of Taittiriya Brāhmaṇa 1.5.2.6.7.

Krittikā Prathamam, Viśākhā Uttamam. Tāni Deva Nakṣatrasaṃ
Anurādhā Prathamam, Apabharani Uttamam. Tāni Yama Nakṣatrasaṃ.

Yāni Deva Nakṣatráṇi Tāni Daksīṇa Pariyanti,
Yāni Yama Nakṣatráṇi Tāni Uttarāṇa Pariyanti.

This verse clearly indicates that the Summer Solstice was between Viśākhā and Anurādhā at 213° 20', while the Winter Solstice was between Bharani and Krittikā at 256° 40'. This was the position at 8357 B.C., when the Monsoon started in Krittikā Māsa. The Late S. B. De, a great astronomer, arrived at this date but did not assert it.

Some experts have twisted the statement to show that the Vernal Equinox was at Krittikā. They are wrong because in that case the next position given in the verse that Deva Nakṣatráṇi Daksīṇa Pariyanti, becomes meaningless. The clear meaning is Deva Nakṣatras turn the Sun from the South, while Yama Nakṣatras turn the Sun from the North. How can a constellation be so small?

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situated in the middle of the east, at the Equator, be said to turn the Sun from the South to the North or North ? The sage could have written Vituveta Pariyanti निष्पृष्ठ परियन्ति, had there been Kritikā at the equator, but he has not written so, because there is no sense of ‘turning’, as is shown by the word Pariyanti, at the mid-position of the Equator. The sage could not have written such a meaningless sentence. So I uphold that by Devi Nakṣatrāni, the sage meant the passage of the Sun from the Winter Solstice, 22\textdegree December to the Summer Solstice, 21\textdegree June. Only the star at the Winter Solstice can be said to have turned the Sun from the South. So this Mantra must have been written in 8357 years B.C.

The verb used by the sage is Pariyanti which contains the root परिन् (परिन) which means to turn, to go round. It is also used as a causative. Purnālī writes thus- (1) इवमण्डिता (अभित्व रण परिन्दै) एविं हि। इस्त्रास्। (च.अ.०-२-९) अक्षति मन्त्रेषु को इवस्थापै। परिन्दै। इस्त्रास् = परिन्दै।

(2) श्रीमण्डिता (प्राप्तिन्न सो। परिन्दै) यथ। बलिः लक्षणकविनेत्रसूत्र (च.अ.०-२००२) अभावम् परिश्रम नरे । रणः यथा। परिन्दै (अभित्व परिन्दै) सत्यः। यथा। परिन्दै। यथा। अक्षति। अक्षति। अक्षति। यथा।

Even if the verb is परिन्दै, it means to go round, turn or return.

Therefore परिन्दै भिन्न means that the Deva Nakṣatras after the southward direction of the Sun turn it towards the North. The Sun was going towards the South till Kritikā which turned it and made the Sun move towards the North. From Kritikā to Viśākhā the Sun moved towards the north. Yama Nakṣatras changed this northern direction of the Sun, turned it and made it move towards the South. Therefore they are told to turn the Sun from the North युक्ति परिन्दै। From Akṣatikā to Apabhraṣṭi the Sun move towards the South from the North.

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This shows that the Winter Solstice was between Kritikā and Añj̣hārāṇā while the Summer Solstice was between Vīśottīhī and Anuśāhōthī. Let us now calculate on this data.

Kritika extends from 26° 40' to 40', the main star being at 40° 7'. Between Añj̣hārāṇā and Kritika or at 26° 40' there was the Winter Solstice, then. At present the Winter Solstice is at 246° 4' 39" say 246.075 degrees. The Solstices have anticlockwise motion. Therefore the Winter Solstice from 26° 40' were back to 360° and then to 246. Hence the total regression is 360° - 246° = 114° 26.66" = 140.66°. This is to be multiplied by 72 because the rate of precession is 72 years per degree. The result is 10127 years. Subtracting 1998 we get 8129 years B.C. as the date of Taittirīya Brāhmaṇa.

The Summer Solstice was between Vīśottīhī and Anuśāhōthī i.e. at 213.3°. At present the Summer Solstice i.e. the Sun's position on 21st June is 65.5°. The solstice has shifted from 213.3° to 65.5°. This means the Sun in the Solstice has receded by 147.8°, 147.8 X 72 = 10641 years ago, that means 8643 years B.C. is the date of Taittirīya Brāhmaṇa.

Here we got two dates 8643 B.C. and 8118 B.C. Their mean 8580 B.C. may be taken as the date of Taittirīya Brāhmaṇa.

Bucking the experts one may question how my interpretation is correct? In my support stand the statements of Rigveda 6.35.5 and Vīśottīhī Ṛāmāyaṇa 2.65.15 'which state the onset of monsoon from Dākṣīṇāyaṇa Ḳraṭ̣ḥa. Moreover Taittirīya Samhitā itself states that 'ie if one consecrates on Śṛavasya Puṣṭracārṇi, the Vīśvaṇ̣a i.e. the mid-day falls on Śṛavasya Navami when there is obstacle by rains. To avoid this Niya or obstacle by rains one should consecrate on Chaitrā full Moon when Vīśvaṇ̣a comes on Ḳraṭ̣ḥa Śṛavasya Navami. According to my version the rains in Śṛavasya rally.

There is one feeble support to hold that the The Date of the Veda is 853.
Vernal Equinox was at Krittikā. Saṃyātra Brahmáru states that Vasanta, Greema and Varṣā are Divine seasons while Sarad, Hemanta and Śītra are of Pittī. When it is Northward journey it is. Divine, when Southward journey, it is the Pittī. This tells Utáraśyāvamihā in Vasanta and Dakṣiṇāyanaśrīnaka in Sarad. Hence Deva path corresponds with a period of 21st March to 23rd September or in other words, the Sun's course in the Northern Hemisphere of the Earth. If it is assumed that at the Vernal Equinox the Sun was at Krittikā, the date will be between 1640 to 2600 years B.C. In this period the rainy season occupied Śrāvaṇa and Bhādrapada lunar months. Hence there was no chance of Niyā due to the rains on Śvina śuddha 9th day. Why do I say that Śvāna and Bhādrapada Māsa composed Varṣā ṛtu at that time? The calculation is like this - The Summer Solstice is 90° ahead of the Vernal Equinox. If the Vernal Equinox was at Krittikā i.e. between 26° 48' to 40°, the Summer Solstice must have been between 116° 40' to 130°, where the Sun was situated. The full Moon is always 180° degrees away from the Sun. Therefore the full moon must have been between 236° 40' and 310° i.e. Śrāvaṇa to Śatātrikā. Naturally the names of the lunar months would be Śvāna and Bhādrapada. Hence śvāna and bhādrapada were the months of the rainy season during Saṃyātra Brahmāru.

I think that originally at Šāttirīya Šunchī there was Vasanta Ṛg Pāśūna and Dvijīra Māsas. Vajādīka - Āṣṭādī ṛtu composed Greema, Śvāna - śūvāna made Varṣa, Bhādrapada. Śvīna formed Sarad ṛtu, Kārīka- Mārgajīva composed Hemanta and Pousha-Māgha composed Śītra. Therefore śvīna śuddha Naviṃ might have been causing Niyā or obstacle due to showers of rain because in Sarad ṛtu during September there are rains in India. In Kārīka Māsa there were no rains, because ṛtu was Hemanta. This was the condition around 23920 B.C. Gradually the Sun receded back so that Vernal Equinox which ←The Scientific Dating of the Rāmacāna and the Vedas
was between Pürva and Uttarā Bhidrapaṇi at Taiririyā Śambhitī period receded back through 22 Naksatras to reside in Kṛiṣṇā at the time of Śatapatha Brähmana. 22 Naksatras x 900 years = 21,000 years passed from 23930 B.C. Therefore Śatapatha period comes top 2800 B.C. At this time Kritikā was at the Vernal equinox causing Vāsāța and Jyeṣṭha Māvasa in Vasanta Ritu. Therefore Yajnavalkya was misguided and held Uttarāyāna Āragīthā in the Vasanta Ritu. He was not careful enough to see Niṣada 6-32-8 and Viśvāmi Kṛtaṇāya 2-63-15 where it is clearly stated that the rainy season begins with Daśāṃśāyāna. Moreover, Taiririyā Śambhitī was from the original Yajurveda which was learnt by Yajnavalkya from his maternal uncle Vaitihampāyana but then there was some quarrel between the two so that Yajnavalkya vomited out the original Yajurveda and composed a new Yajurveda called as Śukla Yajurveda. It is probably for this enmity that Yajnavalkya deviated from the original or Black Yajurveda and changed the concept of Devayāna and Pāśyāna. We should not rely entirely on the later literature to give meaning to a much earlier literature, at least when the earlier literature is clear in statement. Later books like Viśvā and other Purāṇas, Vedanga Jyotisa, Koushātha Arthaśāstra, Garga, Parāṣada, Sutrata all tell Uttarāyāna with Śitrīra.

There is one more mistake in Śatapatha Brähmana. It says at 6-2-2-18 that the night of Phalguni Pūrṇimāi is the first night of the year. If Uttarāyāna began with Kritikā at Vernal equinox in Vasanta Ritu, that month should be Vaiśākhā or Jyeṣṭha. Then why did Yajnavalkya write Phalguni Pūrṇimāi as the first night? Evidently he took the sentence as it was in the Taiririyā Śambhitī or Taiririyā Brāhmaṇa or other Brāhmaṇas like Gopātha, Śāṅkhāyāna, Panchavindu. The tradition was rightly recorded by other Brāhmaṇas but Śatapatha deflected from the tradition by observing Nature partially. Neglecting this fact many scholars give undue importance to Śatapatha and try to give meaning to ancient verses relying more on Śatapatha than The Date of the Vedas #55
Taittiriya Brähmana.

Taittiriya Brähmana did not differ from the original custom of Taittiriya Samhith. Taittiriya Brähmana is definitely more ancient than Satapatha. The date of Taittiriya Brähmana is fixed by a great scholar, astronomer the Late Sri V.B. Kerkar as 4650 year B.C. relying on a statement Shankaracharya. *)

**Note:** The year 4650 B.C. is derived from the date of the text, which is considered to be a significant period in the development of Hindu texts.

The text mentions that the Brähmana is based on the Satapatha Brähmana and supplementing it, particularly in the areas of astrology and astronomy.

From the story of the Mahabhārata it is evident that the text is based on the Satapatha Brähmana, which is one of the oldest Vedic scriptures. The date of the Satapatha Brähmana is given as 3000 B.C., and it is considered to be a significant period in the development of Hindu texts.

The text also mentions that the Brähmana is based on the Satapatha Brähmana and supplementing it, particularly in the areas of astrology and astronomy.

In the Taittiriya Samhith, Mira is selected as the Deity of Anuradha. Mira and Varuna are the twin Gods of rains. Mira means a friend who brings rains and produces crops. Varuna stops the rain at the proper time. The Sun enters Anuradha in Kritika Mīsa and produces rains. It enters Varuna Naksatra. The Scientific Dating of the Rāmāyana and the Vedas.
Sataśrākṣa in Māgha Māsa and stops the rain.

Thus the rainy season extended from Kārtika to Māgha for full three months. Thus the Deities too indicate the same period of 9400 B.C.

My conjecture from Deity of Anurādhā has one supporting evidence. It is said in Taśirīyā Bṛhadā 1.8.4 that from Anurādhā ploughing of the farms begin. ॥ ॥ ॥ त्र्योग्यताः तिथिः. It is true that in India the farmers start ploughing their fields in the Premonsoon days. So the Anurādhā must be in Premonsoon when this verse was composed.

Viśākhā has a joint Deity Indra - Agni ॥ ॥ ॥ ॥ ॥ चक्रयोग्यताः तिथिः. Indra stands for rains. Agni stands for heat. So it indicates premonsoon of early June with the Sun in Viśākhā in Āsina Māsa where heat and rain both prevailed. During Rāmaṇya this was the condition in Bhārapada Māsa so the Rāmaṇya texts written later than Taśirīyā Śaṁbhū, at least 1000 years later.

Rgveda 3.57-2 states “Indra and Puruśa milch the clouds” This means that the monsoon started on Jyeṣṭhā whose Deity is Indra and ended with Revati, whose Deity is Puruś. This points to a period of 9360 to 10280 years B.C. with the Summer Solstice on Jyeṣṭhā. This view is supported by Rgveda 1.164-19 which states: “O Indra and Soma, you two, rotating like yoked horses, are supporting this world.” These two are rotating so they appear to be the Equinoxes. Indra is the Deity of Jyeṣṭhā, while Soma, the Moon is the Deity of Mrga Nakṣatra, Indra is the master of the monsoon. So the Summer Solstice was at Jyeṣṭhā and Winter Solstice was at Mrga when this verse is written. Mathematically this position seems to show 10280 years B.C.

Let us calculate here. The Winter Solstice was at Mrga at 64°. Today it is at 246°. The Solstice shifted backwards from 64° to 360° (64°) and from 360° to 246° that means (114°). Thus it has receded by 114 + 64 = 178°. Multiplying this by 72 years (the rate of precession per degree) we get 12816 years. Subtracting

The Date of the Vedas #87
1998 A.D. we get 10818 years B.C.

The Summer Solstice was on Jyestha at 230° from where it has receded to 65°5' until 1998 A.D. Thus 164.5° regression has taken place in 11844 years at the rate of 72 years per degree. It comes to 9846 B.C. The mean of 10818 B.C. and 9846 B.C. is 10332 B.C. which is the time of writing this verse.

Once the Summer Solstice was at Mula Nakatra whose deity is Nriti who is honoured as the Goddess of the South - West direction. We know that the monsoon in India brings rains from South - West winds from 21° June onwards. This fact was discovered by the ancient Indian sages, when this defying was done. The main star of the Mula Nakatra is at 245°. From here the Summer Solstice has receded back to 65.5° in 1998 A.D. The total shift is 177.5°. It is multiplied by 72 years, the rate of precession, when we get 12780 years. Deducing 1998 we get 10782 years B.C. as the date of this definition.

The fact that the South - Western winds brought rains to India was known to Sage Vyasa. Therefore he has mentioned the fact in Udyoga Parva 82/10. प्राक्ष्यतदेशगुरु कोटी दिशाप्रविभित्तः 10 A.82 Udyoga, Mahabhārata. On Mārgasirṣa 9° or 10°, on Revati Nakatra Lord Kṛṣṇa left for Hastinapura. At that time there was a heavy shower of rain with storm, lightning, thunder due to the winds from Daśāyuta - Pachima i.e. South - West. Modern science agrees that at the end of the rainy season in the second half of Ṣaraṇthusu, in the first week of October such heavy stormy rains occurred due to the South - West winds. This is not a modern discovery but an ancient discovery of 10800 B.C.

Earlier to this date, the Summer Solstice was at Pūrvādīkhah when the rainy season began, the time being 960 years earlier. The star of Pūrvādīkhah is at 254° 42', say 255° where the Summer Solstice then resided. At present it is at 65.5°, 255-65.5 = 189.5 x 72 = 13644 years ago it was the condition, the date being 11646 B.C.

The Mahabhārata is written later than the Rāmāyana and is consistent with the time sequence. Mahabhārata describes 88a The Scientific Dating of the Rāmāyana and the Vedas
Mārgāśīra as the best month (Śaṅkī A.1/50/6,10; Geeta A.10/35). There was ample food, grains and grass, the climate was neither too hot, nor too cold, the rains had stopped much earlier so that slash was absent and the grounds had dried up though plenty of water was present. Thus it indicates Śardha in Mārgaśīra Mīsā.

Bhādrapada and Āśvina were the months of monsoon while Kṛttika and Mārgaśīra were of Śāradā in the Mahābhārata era. Harivāna clearly shows that Śrīvāsa was the month of summer, because just after the birth of Kṛṣṇa, there was dry cow dung spread all over the ground 142. Rain and flooding of Yamunā are not at all mentioned in Harivāna, at the time of birth of Kṛṣṇa. All those climatic conditions show that Mahābhārata happened and was written around 5500 B.C. From the planetary positions I have fixed the date of the Mahābhārata war as 16th October 5561 B.C. The Mahābhārata is written 80 years later in 5480 B.C.

Thus a chronological order consistent with climatic changes is seen in the literature from the Vedas to the Mahābhārata. I have shown all the steps of the monsoon and the constellations eg 23720 B.C.—Mṛga, 21600 B.C.—Vṛūkṣa, 20840 B.C.—Bharani, 12200 B.C.—Pūrvādhā, 11240 B.C.—Mūla, 10000 B.C.—Jyestha, 8400 B.C.—Anurādhā, 7300 B.C.—Rāṣṭrā with monsoon in Āśvina, 5500 B.C.—Mahābhārata with monsoon in Bhādrapada. To this we can add monsoon in Śrīvāsa as mentioned in Bhāgavata, its date being about 2000 to 4000 B.C.

There is a gap between 20600 B.C. to 12000 B.C. because the records of the monsoon or Śolsīces are not available. But other records fill up the gap. Mahābhārata (Vana 230) records slipping down of Abhijit (Vega) in the sky 143. This story points to the fact which did happen when the Earth's axis pointed towards, Vega at about 13900 B.C. (The story of Astronomy by Patrick Moore). Since then Abhijit is excluded from Nakṣatra-list.
There are billions of stars in the sky, but Vyāsa has written about only one star that the star Abhijit slipped down in the sky and in later half of tenth century modern astronomy has proved that star Vega i.e. Abhijit did slip down to become a celestial pole around 15000 B.C. This fact cannot be neglected as a chance happening. It proves that the Indian sages were observing the stars minutely and were recording their positions for thousands of years before 15000 B.C. that is why they noticed the fall of Vega. This one fact is sufficient to assume that ancient India was scientifically advanced 25000 years ago.

In the Rāmāyaṇa Rāma says proudly that his dynastic constellation is Viśākhā (Vṛddha 4). ⁴⁷ though it is held as poisonous Nakṣatra. It means that the Vernal Equinox was at Viśākhā, when Rāma’s dynasty started. His dynasty started with Iksvāku whose father was Manu. The Vernal Equinox was on Viśākhā between 14120 to 15080 years B.C. So Manu might have lived in about 15090 B.C. This appears true because during Manu’s time there was a great deluge and the geologists say that around 15000 B.C. a great deluge did occur when the sea level rose by 200 feet.

The Rāmāyaṇa Yudhādēś tells that Daitya dynasty had Mūla as their Kulā Nakṣatra ⁴⁸. The Vernal Equinox was on Mūla at about 17000 B.C. when Bili, the great demon King ruled the earth.

Upaniṣad Period

Upaniṣads are the last phase of the Vedic literature. Therefore, here we have to consider the dates of various Upaniṣads.

We have already discussed above the period of Taittirīya Brāhmaṇa and fixed its date as between 8000 B.C. to 4650 B.C. Upaniṣads are said to be written after Brāhmaṇas. Therefore the date of Taittirīya Upaniṣad has to be taken around 4650 B.C. minimum, extending upto 8000 B.C.

In the Vālmiki Rāmāyaṇa there is a reference to ⁹⁰ The Scientific Dating of the Rāmāyaṇa and the Vedas
Taittiriya Sākhā. The date of Vīśnuki Rāmāyana is now fixed. Sṛi Rāma ascended to the heaven during 7261 B.C. Earlier he had killed Rāvarasa on 15 November, 7292 B.C. and released Srotā. Then the twins Lava and Kuśa were born. When they became twelve years old they sang the Rāmāyana before Rāma. So 7280 B.C. must be the date of Vīśnuki Rāmāyana. Therefore Taittiriya Sākhā must be prior to 7280 B.C. This may have produced Taittiriya Brāhmaṇa as well as Upaniṣad.

The Late Mr. V. B. Ketkar too, fixed the date of Taittiriya Brāhmaṇa as 4650 B.C. depending on the fact that Jupiter then was in the close proximity with Tiśya Nakṣatra. Mr. Ketkar may be correct in his mathematics but it is quite possible that the phenomenon might have repeated. Thus the same phenomenon might have been seen between 6000 to 10000 years B.C. and therefore recorded in Taittiriya Brāhmaṇa.

Let me explain here that 'Taittiriya' means of 'Tittiri'. Tittiri was the name of one sage living around 9000 B.C. whose dynasty continued upto the Mahābhārata age. He belonged to the Black Yajurveda which was the original Yajurveda which is mentioned even in the Rigveda.

Aitareya Upaniṣad

Sākala Sākhā of Rigveda has produced Aitareya Brāhmaṇa and Krṣṇyaka. Their author is Mahādīsa. He lived for 116 years according to Chhāndogya Upaniṣad (3-16-7). Therefore it is clear that Aitareya Upaniṣad is earlier than Chhāndogya. There is no evidence in this Upaniṣad to fix its date exactly.

Mṛdakopanisad refers Karmas of Treta Yuga only, as a past history. It has not at all mentioned Kali Yuga. It is therefore clear that it is written earlier than Kaliyuga and after Treta Yuga. Naturally it must have been composed in Dwipara Yuga. It is a well known and accepted fact that Kaliyuga began in 3101 B.C. Mṛdakas Upaniṣad must be prior to 3101 B.C.

Prasūnipanisad belongs to Atharva Veda. This appears to be later than Mṛdakopanisad because it gives explanation of the Mantras of Mṛdaka. In Prasūna 6 in this The Date of the Vedas no 1
Upasied it is informed that a prince of Kosal D. a
Hiranyanghabha met Sukela Bhadravaja and asked him some
questions. It shows that when some member of Kosal dynasty
named as Hiranyanghabha was living this Upasied was written.
On examination I found one descendent of Rama named as
Hiranyanghabha. He is the sixteenth descendent of Rama. This is
recorded in Simad Bhagavata, Skandha 9th, Adhyaya 123:4.
This Hiranyanghabha was a disciple of Jaimini and was
Yogicarya. One Kosal resident Yijnavalkya was his disciple.
I have proved that Sri Rama was born on 4th December 7323
B.C. and expired in the year 7261 B.C. Fifteen generations later,
that means about 1500 years later, in 5761 B.C. this
Hiranyanghabha was living. At this time of 5761 B.C. this
Praistopanisad must have been composed.
Between Sri Rama and Sri Krishna there existed the
Dvapara Yuga, so 5761 B.C. comes in Dvapara Yuga when
both the Marutaka and Praistopanisad are written. The list of
descendants of Rama is thus: — Rama— Kula— Aitihila—
Nijha—Nabha—Punatikha—Ksmadhasya—Dveshika—
Asaha—Pariyakha—Balsalaha—Vajaranhabha—Khagara—
Vidhrti— Hiranyanghabha.

Katha Upasied

When I studied Geetls as well as Katha Upasied, I
noticed clearly that Lord Sri Kasya has referred to and cited
many Mantras of Kathopanisad. Threfore Katha Upasied is
definitely before the Geetls which was told on Sunday the 16th
October 5561 B.C. on the battle field of Kuruksetra. Please refer
to "The Scientific Dating of the Mahabharata War" in English
or "Swayamabha" a Marutaka book ashorred by myself for details
of this dating with about 30 evidences. Thus Kathopanisad is
also from Dvapara Yuga, earlier than 5561 BC and later than
7280 B.C.

Isavasya Upasied was written by Yijnavalkya who
was a disciple of Vaisampayana who was a disciple of sage
92e The Scientific Dating of the Ramayana and the Vedas
Vyása, the author of the epic Mahábhárata. Mahábhárata war began on 16th October 5561 B.C. and ended on 2nd November 5561 B.C. Parikṣit was born on 28th January 5560 B.C. Parikṣit lived for 60 years. Then his son Janamejaya ascended to the throne, in 5501 B.C. When Janamejaya became an adult he established Vájasañjaya Bishma. Therefore his age must be about 20 years then. At this time Īśa Upaniṣad is written. Hence the date of Upaniṣad comes to 5480 B.C.

Please note that this Vájañavalkya was different from that referred to in Páṣanopaniṣad because they had different Gurus, teachers.

Remaining Upaniṣads eg. Kena and Māṇḍukyā have no clue at all to derive the date of composition.

These eight are the most important Upaniṣads.

Chhándogya Upaniṣad as 3: 17-6 tells about Devaki’s son Kṛṣṇa. Therefore it is later than 5500 B.C. Kṛṣṇa expired in September - October 5525 B.C. because in the Mousala Parva, Adhyāya 1 of the Mahábhárata it is reported that 36 years after coronation of Yudhishthira, Kṛṣṇa expired.

Pitajñala Yoga Darśana

Pitajñala Yoga Darśana is a great work but when Pitajñala existed is unknown so far. Nobody has fixed his date because there are no internal evidences at all. However I found one evidence in Brahmákyaya 3 : 7-1. It is stated here that there was one man named Panchala was born in Kāyī Gotra and in the Madra Desha. The wife of this Panchala got possessed by a Gandharva. That Gandharva asked Panchala and his Yajnikas whether they know a Sutra which controls the Universe and the objects and whether they know the controller residing within everything. Panchala admitted his ignorance. Then Gandharva explained him that.

Here the name is ‘Pancala’ while in Yogasutras we see ‘Pitajñala’. The difference is only in one syllable ‘Ch’ and ‘J’, such changes do occur in any language.

The Date of the Vedas #93
The root 'Pat' means to fall. 'Anchala' means eye 'ids'. Hence Patanchala means a person having fallen or drooping eyelids. At the time of Dhyāna eyes remain half closed with drooping eyelids. The person used to perform Dhyāna and was seen often with half closed eyelids, hence the name Patanchala.

The root 'Pat' means to go. Anjali means two hands close together, a cavity formed by joining the open hands together, folding hands in salutation or the hollow of the hands.

In Dhyāna - posture the hollow of both the hands are exhibited, or the hands are joined together in salutation. A person walking with hand is salutation to the Omnipresent may be termed as Patanjali.

Anyway both the names point to the same person doing Dhyāna all the time. The Sutra which controls everything is 'Ātman' which was attained by that person. Therefore that person was named as either Patanchala or Patanjala. He lived earlier than Bhāgavata, Xvani Uddalaka - who is mentioned in the epic Mahabhārata and who was contemporary to the epic has reported about this Patanchala, so both were contemporaries at the time of writing of the epic Mahabhārata. Bhāgavata is written by Vyāsa who was in the third generation from Vyāsa, the author of the Mahabhārata.

Therefore Patanchala or Patanjali appears to be around 5480 B.C. (Patanjala Yoga Sūtras are not mentioned in the epic Mahabhārata.)

In Kṛṣṇa's time Rama was not deified. Patanjali has not deified Rama and Kṛṣṇa both. Hence my date of Patanjali appears true because deification takes thousands of years.

We can extend the same line of time sequence towards Christian era. Vīśṇu Purāṇa 11/8/76,77 mentions that the day and night become equal when the Sun is in the first part of Kṛttikā and the Moon in the fourth part of Viśākhā. It also happens when the Sun is in the third part of Viśākhā and the Moon at the head of the Kṛttikā. Evidently these are the Vernal and the Vēda.
and the Antumal Equinoxes and they were at 26° 40' and 206° 40' respectively. Here I have taken the first part of Kritikā as 26 because the earlier verse states 'Megadat'. In 1982 the Vernal Equinox was at 336° 11' and the Antumal Equinox at 156° 1'. So the shift of 50° 29' has taken place. The rate of precession is 72 years per degree. 50.48 x 72 = 3634. Hence this statement is 3634 years old i.e. of 1652 B.C. Because Visnupurāṇa mentions the quarter of a Nakṣatra, the sages must have been observing for at least 240 years before making this statement i.e. from 1901 B.C. they were working. Precession takes 960 years per Nakṣatra so that quarter of a Nakṣatra takes 240 years. If we take Megadat as 30° and calculate from 1998 A.D., the date of Viṣṇu Purāṇa comes to 1906 years B.C.

Maitreyārjuna Upaniṣad

Mantra 14th in the 6th Prapūthaka of Maitreyārjuna Upaniṣad states thus - "Of the year one half belongs to Agni and the other half belongs to Varuṇa. Again, the half commencing with the beginning of Magha and ending with half of Śrāvaṇa belongs to Agni, when the Sun performs its southern journey. The half beginning with Aśvina (Śāhu) and ending with the other half of Śrāvaṇa belongs to the Moon when the Sun performs its Northern journey."

The southern journey of the sun starts on 21st June according to the modern scientific English calendar. In 1856 A.D., on 21st June, the Sun was at 65° 40' 42". At the time of Maitreyārjuna Upaniṣad, it was at 120°. So the difference is 54° 19' 18". This comes to 195558 seconds. Dividing it by 50.2 seconds, The Date of the Vedas #95
the rate of precession per year is 3895.57 years. Deducting 1986 we get 1909 B.C. as the date of Maitriyana Upanissad.

Please note that Sarpdaya be taken as 120° and not 105° 45' 13" because in that case, the Northern horizon of the sun comes to 197° degrees until 10th July 1993 (3° 7'). The northern and southern courses should be of 181° and 184° respectively. Hence Sarpdaya should be taken as 120°. Moreover the precession has an anticlockwise motion, hence Sarpdaya should be taken as 120°.

Thus the date of Maitriyana Upanissad appears to be 1909 years B.C.

Kausitaki Brâhmaṇa (another name is Sâmkhya-yana Brâhmaṇa.) Kausitaki Brâhmaṇa 1-3 states thus: “One should make the offering in the middle of the rainy season by looking at Punarvasu constellation. But in this period the Moon is not united with Punarvasu, in the first fortnight of the month. So one should make the offering on the dark night (Amâvâsyâ) which comes after Asâgha Mîna, because Asâgha Amâvâsyâ is accompanied by Punarvasu. The combination of Amâvâsyâ, the rainy season and Punarvasu leads to the fulfillment of desires.”

Amongst the kṣatrams, the Pratyâhâra, Śaṃskāra, Śaṅkhâyana and Sâmkhya-yana exist. Kausitaki Brâhmaṇa states that the moon’s movement is Sādhanâdharma. The meaning of Sâdhanâdharma is that the moon’s movement is Sādhanâdharma. The meaning of Sâdhanâdharma is that the moon’s movement is Sādhanâdharma.
Amavasyā was regarded as falling in the rainy season. Hence it must have been occupying the beginning of the rainy season. In the present era the rainy season starts at Jyeṣṭha Śuddha Pratipadā. At the time of Kaushitaki Brāhmaṇa it used to start at Asāḍha Amavasyā. This means that there is a shift of clear two months in the seasons. In other words Solstices have receded by 60 degrees. The rate of precession is 72 years for one degree. So 60 degrees shift must have taken 4320 years. Thus Kaushitaki Brāhmaṇa is 4320 years old or of 2320 B.C.

This passage suggests that prior to 2000 B.C., Punarvasu was used to occur in the first fortnight of a month of mid-rainy season. This may be in Pouta Māsā. Hence the rainy season might have been starting on Mārgazhiśṭha Śuddha Pratipadā. At present rainy season begins in Jyeṣṭha Māsā. So there is a shift of six months. So it might have been the tradition of twelve thousand (12000) years back or 10000 years B.C. Please note that the seasons shift back by one lunar Māsā in 2000 years approximately.

Susruta Samhitā:— A 6, śloka 5 states

This indicates that Ṣūkla and Śrāvaṇa make one Māsā and Ṣūkla is the first Pāka. The next verse states.

This indicates that the beginning of Mārga Māsā coincided with the beginning of Śādrī Rūṭ i.e. 22° December. At the beginning of Mārga Māsā, the Sun usually stays in Dhanisṛṣṭha Nakṣatra. Dhanisṛṣṭha star is at 297° 31' where the Winter Solstice was situated then. In 1998 the winter solstice is at 246°. It means that the Solstice has slid back by 51.5°. Multiply by 72 years and we get 3708 years ago or 1710 years

The Date of the Vedas #97
Sutrata Samhita

Sutrata Samhita A 6/10 further states नापतावाकुषी वारत:।

This indicates 21 June or the Summer Solstice at the beginning of Bhadrapada Maas. Kalsiha indicates Āśvāsa's beginning as the start of rainy season. So the shift is by two months, indicating Sutrata as 4000 years older than Kalsiha or in other words about 4000 years B.C.

Sutrata Samhita 6/10 shows अनात भारतीय प्रायोजनिकी Sutrata differentiates यहुद्रत from यहुद्रत (प्रायोजनिकी वारत:) Naturally it is clear that Sutrata tells of Pre-monsoon by using the word यहुद्रत In 6/31, he describes अनात as having the sky covered by clouds driven by western winds, having flashes of lightning and deafening thunder. This is the description of westerlies of the modern Meteorology which occur during April, May and June.

प्रायोजनिकीमात्रायोजनिकी भारतीयः। अनातिबिन्दा वातः पुस्तकान्तः। अनातिबिन्दा वातः। अनातिबिन्दा वातः। अनातिबिन्दा वातः।

In Vārṣī clouds shower rain without thunder but they totally cover the Sun, the Planets and the sky. There is plenty of grass. The ditches in the ground are invisible because they are full of water. Overflowing rivers are digging the banks and uprooting the trees. This is description of Monsoon of June-July -August. Thus we get two periods of Sutrata Samhita viz. 1710 years B.C. and 6000 years B.C. Probably 4000 years B.C. is the period of the original Sutrata Samhita, corrected and edited by some expert during 1710 B.C.

98 The Scientific Dating of the Rāmāyaṇa and the Vēlas
Matsya Purana A 204-5b.5 states,

... and the Unman-Gangotri region. The Maha-Nakatra on 13th day comes usually in Sravya and Bhadrada and Bhadrapada. So in turn Matsya Purana shows rainy season in the months of Sravya and Bhadrada. This is one month earlier than Sritra Samhita and one month later than Khiladha. So the period of Matsya Purana comes to about 2000 years B.C. to 1600 B.C.

Srimad Bhagavata also mentions that the day and night becomes equal when the Sun comes in Mesha or Tuls Rasi. Bhagavata also describes rainy season in full form during Sravya Maha. Hence its period is the same as Vaishu or Matsya Purana, 1600 to 2000 years B.C.

Vedanga Jyotisha tells the Winter Solstice on Dhanistha so it cannot be stretched later than 1640 B.C. Hence, the period of Matsya Purana is 1600 to 2000 years B.C.

Yajyu-Palha tells that Utarayani begins with the Sun at the beginning of Shravistha i.e. at 306° 40'. At present it begins with the Sun at 246° 20'. Thus it has receded by 60° 20'.

Yajyu-Palha tells us how to calculate the date of Vedanga Jyotisha. If we take Shravistha i.e. 235° 20' we get a shift of 77° and the date comes as 138° 27°. The mean of 2343 B.C. is 1856 B.C.

Yajyu-Palha tells the Summer Solstice at Slepshita i.e. at 113°. At present it is at 65°. The difference is 48°. Multiplying by 72 years we get 3456 years. Subtracting 1998 we get 1458 B.C. as the date of Yajyu-Palha.

In any case the date of Vedanga Jyotisha -Yajyu-Palha cannot come later than 1387 B.C.

Garga tells the Summer Solstice at Slepshita i.e. at 120° (end of Adhik) in 1982 it was at 69° 41° 2'' so the shift is 108°.
50° 18’ 58” Multiplying by 72 years we get 1640 B.C. as Garga’s time. 114

Parāśara states 115 the Summer Solstice at ‘Adhārthā’ i.e. 115° 20’. In 1982 it was at 69° 41’. So the shift is 43° 38’. Multiplying by 72 years we get the date of Parāśara as 1150 B.C. Pāṇini is at about the same time as he mentions Dhanishtādi Gṛagha.

Chāṭuka writes in Kautiliya Arthasastra that day and night become equal in Chaitra as well as in Šāvina Māsa. (2.20-37). The statement is the same as Viṣṇu Purāṇa. In 2-20-41 he tells that in Āśṭha Māsa a Pole does not cast a shadow at noon. Chāṭuka was in the North India from where the Tropic of Cancer passes. The Sun comes on the Tropic of Cancer on 21 June every year when, because it is right on the head, a Pole or even a man will not cast a shadow beyond its base or feet. Therefore it is evident that 21 June was falling in Āśṭha Māsa. At present it comes in Jyeṣṭha Māsa. One month’s difference shows that Chāṭuka must be 2160 years ago. At 2-20-55 he tells that Śrāvaṇa and Ṣruṣṭhapada made Varsā Māsa, while Maheśa-Polligna composed Śiśira Māsa. It shows that on 21 June the Sun resided in Viṣṇu and on 22 December in Dhanishtā. At present it resides in Ṛṣiṇi and Mōṣa respectively. The difference is of minimum three Nakṣatras. Therefore 2880 years ago Chāṭuka was living. His date would be 880 B.C. Winter Solstice in Dhanishtā is a statement just like Vedānga Sūtra the date of which is seen above as 1640 B.C. Therefore Chāṭuka must have lived in a period from 1640 B.C. to 880 B.C. If he has taken the data from ancient works like Vedānga Sūtra or Viṣṇu Purāṇa then we may say that his accepted date of 330 B.C. is correct.

100w The Scientific Dating of the Kāṇḍyaka and the Vedas
Kālidāsa - We know that during the current period the rainy season starts in the month of Jyestha. Kālidāsa has described the onset of rainy season in Ṛṣṭhā. The difference is of one month so Kālidāsa must have lived about 2000 years ago. This is accepted by all the historians.

Kālidāsa has written a drama named 'Vikārānāvīśa.' Scholars hold Mālāvikā as the heroine and Agnimitra as the hero. But understanding the skill of Kālidāsa in the use of Prāns, I say that he has given the year of writing the drama in the title. He says that he wrote the drama in a number 'Agni Mītra' of years according to the Mālāvikāa counting method. Agni means three. Mītra means twelve. Numbers are to be written towards the left. Therefore the number is 123. It shows 123 years of Mālāva counting. It is the same as Vikrama Samvat. Hence adding 56 to 123 we get 179 A.D. as the date of composing Mālavikāṇi - Mītra. Of course it is the date of Kālidāsa.

Bhavīṣyottarā Parāṇa tells Haritāllika Vrata where in Hara - Gouri dialogue it is stated that Gouri was sitting inside water in Māgha Māsā, she ended five Agnis in Vaisākha Māsā and she was sitting in the open ground in Śrāvāṇa Māsā. Here all the hardships and difficult things are cold. It suggests that Māgha Māsā coincided with Hemanta or modern December month, Vaisākha coincided with extreme heat of May and Śrāvāṇa poured heavy rains. At present heavy rains come in Ṛṣṭhā and extreme cold comes in Pousa Māsā. Thus it is seen that the seasons have receded by one Māsā. It means that 2000 years have elapsed. Therefore it seems that Bhavīṣyottara Purāṇa is written at the beginning of Christian era. It is for this reason that the Bhāvīṣya Mahā Purāṇa in the Pratishñag Purva, Śālīvahana Kūle, in the second Adhyāya mentions the stay of Jesus the Christ in Kaśmira where king Śālīvahana had met him. The words used here in connection with Jesus are Māṣeṣa, born of The Date of the Vedas 101.
Varahmihira states that at his time the Summer Solstice was at Karkidaka i.e. at 90° and the Winter Solstice was at Makaradyam i.e. at 270°. In 1982 A.D. Summer Solstice was at 69° 41'. So the difference is of 20° 19'. Multiplying by 72 years we get 1462.8 years ago i.e. 520 A.D. as the date of Varahmihira.

Thus there is a considerable link from the known history to that of the remote past, as is seen from the evidences based on Chronology and Astronomy. If we really consider all these Meteorological records of our heritage we feel proud that our culture is at least 25000 years old and was well advanced in science. If the modern scientists examine and study our ancient literature to unearth the scientific data buried in it, we will be greatly benefited.

THE END, but open for RECONSIDERATION.

102. The Scientific Dating of the Rigveda and the Vedas
Extract of The Scientific Dating of the Mahabharata War

Mainly Astronomical evidences from within the epic are considered in addition to external evidences like inscriptions, Strnad Bhagavata, Greek records etc. Many riddles in the Mahabharata are solved systematically. The planetary positions at the beginning of the war were like this: Venus in Purvā Proshapadā, Sun in Jyeṣṭha, Uтраrā Asadhiḥ, Rāhu between Chitra and Suva (Utra Asadhiḥ), Saturn in Purvā (Rośini), Jupiter in Sravana (Swāhī), Mars in Anuradha (Magha), Uranus (Saturn in Chitra, Neptune (Svāhī) in Purvā Bhadrapadā, Pluto (Tecura) in Kṛittī). Śiva and Nīrayana positions are confirmed. Adhimāvar, Kṣaya Pāksa, Amāvāsyās, eclipses, comets etc are considered.

The war began on Mārgaśīrsha Amāvāsyā and not on Kārtika as supposed. The month's name was mistaken because instead of four Adhimāvas five were taken. Śakra Amāvāsyā means that on 14th Nakṣatra from Purvaṇavasu as zero where the Vernal Equinox resided then. Dates fixed are as follows:

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates in B.C. era</th>
<th>Tithi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exile</td>
<td>4th September 5574</td>
<td>Kārtika V.2 or 14</td>
</tr>
<tr>
<td>Kṁatra Killed</td>
<td>7th September 5574</td>
<td></td>
</tr>
<tr>
<td>Going underground</td>
<td>19th May 5562 B.C.</td>
<td>Jyeṣṭha Vādyā 2</td>
</tr>
<tr>
<td>Kṛeechaka Killed</td>
<td>1st April 5561</td>
<td>Jyeṣṭha Sudhaḥ 9</td>
</tr>
<tr>
<td>End of Secret Life</td>
<td>9th April 5561</td>
<td>Jyeṣṭha V.2</td>
</tr>
<tr>
<td>Arjuna exposed</td>
<td>16th April 5561</td>
<td>Jyeṣṭha V.8</td>
</tr>
<tr>
<td>Marriage of Uṭrārā</td>
<td>4th May</td>
<td>Asadhiḥ S.12</td>
</tr>
<tr>
<td>Kṛṣṇa goes for treaty</td>
<td>27th Sept</td>
<td></td>
</tr>
<tr>
<td>Viśarocapa</td>
<td>7th Oct.</td>
<td></td>
</tr>
<tr>
<td>Mahābhārata war began</td>
<td>16th Oct.</td>
<td>Mārgaśīrsha S.9</td>
</tr>
<tr>
<td>Ahbhumanyu Killed</td>
<td>28th Oct.</td>
<td>Mārgaśīrsha V.5</td>
</tr>
<tr>
<td>War ends</td>
<td>2nd Nov.</td>
<td>Mārgaśīrsha 30</td>
</tr>
<tr>
<td>Yudhishthira crownced</td>
<td>10th Nov.</td>
<td>Pousa S.12</td>
</tr>
<tr>
<td>Bhima expired</td>
<td>22nd Dec.</td>
<td>Paśu V.2</td>
</tr>
<tr>
<td>Pāḍavaśa for wealth</td>
<td>16th Jan. 5560 B.C.</td>
<td>Māgha S.1</td>
</tr>
<tr>
<td>Pārśuša born</td>
<td>28th Jan. 5560</td>
<td>Paśuṇa S.8</td>
</tr>
<tr>
<td>Awarmeda Yajna</td>
<td>22nd Feb 5560</td>
<td>Chitra S.1</td>
</tr>
<tr>
<td>Yādavī</td>
<td>5525 B.C.</td>
<td>Chitra S.14</td>
</tr>
<tr>
<td>Pārśuša dead</td>
<td>5500 B.C.</td>
<td>Vaiśākha 15</td>
</tr>
</tbody>
</table>

Dates of about 40 important incidents are fixed in addition to 27 incidents from the forest life and underground, life corroborating the seasons.

103
<table>
<thead>
<tr>
<th>Season</th>
<th>Winter Solstice at ( \text{Nakazama} )</th>
<th>Summer Solstice at Summer Solstice at 120 A.D</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>1st November</td>
<td>1st November</td>
<td>1100 A.D.</td>
</tr>
<tr>
<td>Winter</td>
<td>21st December</td>
<td>21st December</td>
<td>1100 B.C.</td>
</tr>
<tr>
<td>Spring</td>
<td>24th March</td>
<td>24th March</td>
<td>1100 B.C.</td>
</tr>
<tr>
<td>Summer</td>
<td>20th March</td>
<td>20th March</td>
<td>1100 B.C.</td>
</tr>
</tbody>
</table>

For dating the ancient incidents, the Equinoxes, the Solstices and Nakazama are very useful. The Equinoxes always return backwards on the Nakazama path by the rate of 900 years per Nakazama. Accordingly I have prepared a table for easy recognition.
<table>
<thead>
<tr>
<th>Punarvasu</th>
<th>Chitrā</th>
<th>12200 B.C.</th>
<th>Summer Solstice at 21 June</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pusya</td>
<td>Śvātī</td>
<td>13160 B.C.</td>
<td>Pūrvāśāhāḥ</td>
</tr>
<tr>
<td>Assiṣa</td>
<td>Viśākhā</td>
<td>14120 B.C.</td>
<td>Uttarāśāhāḥ</td>
</tr>
<tr>
<td>Magha</td>
<td>Amṛṭāṭha</td>
<td>15080 B.C.</td>
<td>Dhanisthāḥ</td>
</tr>
<tr>
<td>Pūrvā Phalguni</td>
<td>Jyeṣṭhā</td>
<td>16040 B.C.</td>
<td>Satastrakāḥ</td>
</tr>
<tr>
<td>Uttarā Phalguni</td>
<td>Māla</td>
<td>17000 B.C.</td>
<td>Pūrvā Bhādra-padāḥ</td>
</tr>
<tr>
<td>Hastā</td>
<td>Pūrvāśāhāḥ</td>
<td>17960 B.C.</td>
<td>Uttarā Bhādra-padāḥ</td>
</tr>
<tr>
<td>Chitrā</td>
<td>Uttarāśāhāḥ</td>
<td>18920 B.C.</td>
<td>Reviṣi</td>
</tr>
<tr>
<td>Śvātī</td>
<td>Śravana</td>
<td>19880 B.C.</td>
<td>Āśvini</td>
</tr>
<tr>
<td>Viśākhā</td>
<td>Dhanisthāḥ</td>
<td>20840 B.C.</td>
<td>Āgghorani</td>
</tr>
<tr>
<td>Amṛṭāṭha</td>
<td>Śatastrakāḥ</td>
<td>21800 B.C.</td>
<td>Kṛttikāḥ</td>
</tr>
<tr>
<td>Jyeṣṭhā</td>
<td>Pūrvā Bhādra-padāḥ</td>
<td>22760 B.C.</td>
<td>Rohiṇi</td>
</tr>
<tr>
<td>Māla</td>
<td>Uttarā Bhādra-padāḥ</td>
<td>23720 B.C.</td>
<td>Mrga</td>
</tr>
</tbody>
</table>
Table of the positions of the Nakshatras and their main stars.

<table>
<thead>
<tr>
<th>Span of Nakshatra</th>
<th>Name of Nakshatra</th>
<th>Deity</th>
<th>Main Star</th>
<th>European Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1°-2°</td>
<td>Phalguni</td>
<td>Soma</td>
<td>Arvind</td>
<td>Aries</td>
</tr>
<tr>
<td>2°-3°</td>
<td>Bhadrapada</td>
<td>Datta</td>
<td>Indra</td>
<td>Taurus</td>
</tr>
<tr>
<td>3°-4°</td>
<td>Chaitra</td>
<td>Bhumi</td>
<td>Vishnu</td>
<td>Gemini</td>
</tr>
<tr>
<td>4°-5°</td>
<td>Ashvini</td>
<td>Bhumi</td>
<td>Jina</td>
<td>Cancer</td>
</tr>
<tr>
<td>5°-6°</td>
<td>Krittika</td>
<td>Soma</td>
<td>Bhargava</td>
<td>Leo</td>
</tr>
<tr>
<td>6°-7°</td>
<td>Mithuna</td>
<td>Soma</td>
<td>Brihaspati</td>
<td>Virgo</td>
</tr>
<tr>
<td>7°-8°</td>
<td>Krittika</td>
<td>Soma</td>
<td>Brhaspati</td>
<td>Libra</td>
</tr>
<tr>
<td>8°-9°</td>
<td>Mithuna</td>
<td>Soma</td>
<td>Rishi</td>
<td>Scorpio</td>
</tr>
<tr>
<td>9°-10°</td>
<td>Krittika</td>
<td>Soma</td>
<td>Bhraspati</td>
<td>Sagittarius</td>
</tr>
<tr>
<td>10°-11°</td>
<td>Mithuna</td>
<td>Soma</td>
<td>Rishi</td>
<td>Capricorn</td>
</tr>
<tr>
<td>11°-12°</td>
<td>Krittika</td>
<td>Soma</td>
<td>Bhraspati</td>
<td>Aquarius</td>
</tr>
<tr>
<td>12°-13°</td>
<td>Mithuna</td>
<td>Soma</td>
<td>Rishi</td>
<td>Pisces</td>
</tr>
</tbody>
</table>

I have repeatedly used the names of the Nakshatras in this essay. For the benefit of the reader, I am giving here the span of all the 27 Nakshatras in degrees and minutes from the zero degree. The position of the main star in the Nakshatra is given in the next column. For my calculations, I have used these positions.
<table>
<thead>
<tr>
<th>Loan of Naksatra</th>
<th>Main star</th>
<th>Name of Naksatra</th>
<th>Deity</th>
<th>European Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>186° 40'</td>
<td>183° 58'</td>
<td>Chirān</td>
<td>Tvasṭa</td>
<td>Spica</td>
</tr>
<tr>
<td>200° 0'</td>
<td>184° 22'</td>
<td>Śwāti</td>
<td>Viṣṇu</td>
<td>Arcturus</td>
</tr>
<tr>
<td>213° 20'</td>
<td>211° 5'</td>
<td>Viniśkaḥ</td>
<td>Inderāgni</td>
<td>Libra</td>
</tr>
<tr>
<td>226° 40'</td>
<td>222° 42'</td>
<td>Anarādhā</td>
<td>Mitra</td>
<td>Scorpii</td>
</tr>
<tr>
<td>240° 7'</td>
<td>229° 54'</td>
<td>Jyesṭaḥ</td>
<td>Indra</td>
<td>Antares</td>
</tr>
<tr>
<td>253° 30'</td>
<td>243° 40'</td>
<td>Mūla</td>
<td>Nīrti</td>
<td>Scorpii</td>
</tr>
<tr>
<td>266° 40'</td>
<td>254° 42'</td>
<td>Pitrānāpīṣṭhā</td>
<td>Āpta</td>
<td>Scutantia</td>
</tr>
<tr>
<td>280° 0'</td>
<td>262° 47'</td>
<td>Udeśaṃścītha</td>
<td>Viśvedēva</td>
<td>Sagittarius</td>
</tr>
<tr>
<td>293° 20'</td>
<td>281° 53'</td>
<td>Scavara</td>
<td>Vīṣṇu</td>
<td>Ailur</td>
</tr>
<tr>
<td>306° 40'</td>
<td>297° 31'</td>
<td>Dhananjayāḥ</td>
<td>Vāsūra</td>
<td>Delphinian</td>
</tr>
<tr>
<td>320° 0'</td>
<td>321° 42'</td>
<td>Bārsākaraḥ</td>
<td>Varuṇa</td>
<td>Aquarius</td>
</tr>
<tr>
<td>333° 20'</td>
<td>334° 40'</td>
<td>Pūrvā Bhadrapādh</td>
<td>Ajākapūrda</td>
<td>Pegasii</td>
</tr>
<tr>
<td>346° 40'</td>
<td>354° 26'</td>
<td>Uttarā Bhadrapada</td>
<td>Ahīrbudhaya</td>
<td>Pegasii</td>
</tr>
<tr>
<td>360° 0'</td>
<td>360° 0'</td>
<td>Revata</td>
<td>Pūṣa</td>
<td>Z Piscium</td>
</tr>
</tbody>
</table>
1) कृपया मोजणी करा किंमतीरुमाय आयंत्या गांगादरस्थीला खुलविहूँ. 
लहँ वाद्यप्रदर्शनादित किंवा ध्वनिकांत आयंत्या विशेषतः गांगादरस्थीला खुलविहूँ. ।

2) गीतसंगीत:
हवा वाद्यप्रदर्शनादित किंवा ध्वनिकांत आयंत्या विशेषतः गांगादरस्थीला खुलविहूँ. ।

3) पातक -
नवाशील विद्यार्थीपतीही विद्यार्थ्यांमध्ये विशेषतः महाराष्ट्रात. ।

4) हवो ध्वनी 2-8-86
वेळीची च उत्तमी च वेगवेगळे विशेषतः. ।
तर हवो ध्वनीही दूरीते विशेषतः. ।

5) या संस्कृती उसे व १०८
सांस्कृतिकता नामाने ना कुठे होया प्रतिलक ।।
सांस्कृतिकता पूर्ण व्याख्यान च क्षमता च ।।
असेचांना तिने म्हणून आशा केलेला अन्तर्गत. ।।

6) विद्वान - गांगादरस्थीला रू.२१३
कोणतेच वाद्यप्रदर्शन वाढवायले ।।

7) गांगादरस्थीला आयंत्या

8) वातावरण ६८/८
म्हणजेच हवाची प्रदर्शनात ६८/८, ६८/८.

9) आयंत्या ४/२
हवाची प्रदर्शनात ४/२, विशेषतः, अभ्यासिन्यांत ४/२, अभ्यासिन्यांत.

10) अभ्यासिन्यांत ४/२, ४/२
हवाची प्रदर्शनात ४/२, ४/२.
33) चार. अराध्यक्ष  श्री  25
साप्ताहिक  समाचार  अथवा  साप्ताहिक  समाचार  कृपया  पढ़ें ।

34) चार.  श्री  अराध्यक्ष  25
साप्ताहिक  समाचार  अथवा  साप्ताहिक  समाचार  कृपया  पढ़ें ।

35) चार.  श्री  अराध्यक्ष  25
साप्ताहिक  समाचार  अथवा  साप्ताहिक  समाचार  कृपया  पढ़ें ।

36) चार.  श्री  अराध्यक्ष  25
साप्ताहिक  समाचार  अथवा  साप्ताहिक  समाचार  कृपया  पढ़ें ।

37) चार.  अराध्यक्ष  35
मात्र समाधान करें दस्तावेज संबंधी ।

38) चार.  श्री  अराध्यक्ष  30
आपका  इसलिए  है  देखें,  संयोगी  दस्तावेज  संबंधी ।

39) चार.  श्री  अराध्यक्ष  35
स्थानीय  दस्तावेज  संबंधी ।

40) चार.  अराध्यक्ष  35
स्थानीय  कृपया  पढ़ें ।

41) चार.  अराध्यक्ष  35
स्थानीय  कृपया  पढ़ें ।

आपको  अपने  साथ  हेतु  हमसे  संपर्क  करें ।

111.
51) न.अ.म.चिकित्सक 32
स.प्रशासन के भरोसे, यूनान द्वारा अल्मोरा-काल के लिये भरी रंजदायक संरचनाओं के लिये होने का बादशाही के लिये प्रदत्त नाच जैसा है।

52) न.अ.म.चिकित्सक 36
पूर्वी उत्तर प्रदेश के भरोसे, यूनान द्वारा अल्मोरा-काल के लिये होने का बादशाही के लिये प्रदत्त नाच जैसा है।

53) न.अ.म.चिकित्सक 53
लेखन के लिये, अल्मोरा के लिये होने का बादशाही के लिये प्रदत्त नाच जैसा है।

54) चिकित्सक 53
हाँ, उनका भरोसे, यूनान द्वारा अल्मोरा-काल के लिये होने का बादशाही के लिये प्रदत्त नाच जैसा है।

54A) चिकित्सक 54
सालाना समर्पित सूत्र 29

55) क.अ.म.गृह 125 (125)
पूर्वी चुनाव के लिये चलने वाले लुकामास्क के लिये होने का बादशाही के लिये प्रदत्त नाच जैसा है।

56) क.अ.म.र.स 16
पालतावर यूनान द्वारा अल्मोरा-काल के लिये होने का बादशाही के लिये प्रदत्त नाच जैसा है।

57) क.अ.जटा स.11
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58) क.अ.जटा स.25
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58A) जल र. 59
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60) सिद्धभाषा 1

61) आयु 56

62) कांग्रेसको समायोग युद्ध 12

63) अफगानिस्तान 3

64) = 55

65) गुजरात 127

66) गुजरात सरकार 3

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एक ऐसा समय में, जब आपके पक्षी से काम करना पड़ता है, तो अपने समय का उपयोग करें।

मध्यम स्तरों के संगठनों के प्रति ध्यान प्रदान करें।

राजनीतिक बातें हो जाती हैं, कितनी भी ध्यान लेने की जरूरत हो।

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74) भिक्षु, मालक संख्या 3 और १२ कूट अंत भाग च वणिकों च चालीतु ।

75) महात्मा वनवर्ष अर्ध-राज

76) कालकाल सत्य-सत्य

77) एकहर १४

78) सुधे ३५

79) कान ४५

80) वर २

81) वर ६१

82) तल ३०

83) वर २०

84) महाभारत नाम अभिनवसमन ।
85) भाषा २५
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87) भाषा २६
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88) भाषाविद्या तथापि भाषा २०
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90) भाषा २६
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111)प्राचीन राजवंश ।
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