

CALENDAR IN ANCIENT IRAN

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Keeping track of days has been of interest from time immemorial. The obvious unit of time has always been the day and night, the determinant of which has been the Sun. In spite of that the moon had captured the imagination of mankind in their endeavour to keep count of days, and for that reason many cultures started their day at sunset. Even today we start our day at midnight. There were of course some who started their day at sunrise and the sun was of great importance to them, to the extent that it was considered as the god that gave life, for they argued that without the sun there would be no life on earth. The fact that other planets in the solar system have the sun but no life form was not a counter argument at that time. What was for sure obvious was that human life, as we know it on earth, would not be possible without the sun.

During the early stages, record was kept by scratching the days on rocks or trees and we have evidence of this method among the archeological findings in Egypt and Mesopotamia. Very soon the moon with its regular waxing and waning made it easier to keep count as against the system of scratching on a rock or on a stick that had to be religiously followed and preserved, if they were to keep a correct and continuous record. On the other hand the moon flawlessly kept its own record and people had to only observe the phase of the moon and tell the day.

But the moon as a means of timekeeping had drawbacks, for the time it kept did not coincide with the seasons and fell short of a solar year, so civilizations that had settled down and were farming found the moon lacking the qualities of an efficient timekeeper and the intelligent among them invented a method to divide the year based on seasons rather than the moon. In other word the Solar system was used to divide the year. The various positions of the earth in relation to the sun were the determinants and most of them were celebrated as festivals.

In ancient Egypt and Babylonia they had the solar year but the months were lunar, and the length of the month were not fixed but were based on observation. Priest-astronomers were assigned the duty of declaring the beginning of the new month, which would start on the physical sighting of the moon by the priest-astronomer. Weather played a roll and sometimes the priest-astronomer would not see the moon due to clouds, as is the case even today among the Muslims while declaring the Eid e Fetr.

The Romans also announced their new month by sighting of the moon by the priest. The priest would observe the skies and announce solemnly (CALARE) to the king the beginning of the new month. They called the first day of each month as KALENDS taken from the word CALARE and the word CALENDAR is derived from this custom.

We know that consecutive period of time was maintained in ancient Iran to measure the reign of various kings or rather various periods. The Shahnameh says that Shah Jamshid reigned for 700 year. We do not know of anyone ever having lived so long. But Ferdowsi has warned us that if the information in his poem does not sound right it's a riddle. There can be two solutions to this riddle. One that the unit of measure was different from what we have at present. Like if the 700 units were in fact 700 moons or months, in which case it would calculate to about 55 solar years. ($700 \times 29/365 = 55.6$), now a reign of 55 years is closer to truth and closer to a life span. The second solution is based on the Avesta rendering of the name Jamshid, in which case the 700 years is a period in history. It is the period in history after the Aryan survival of the ice age, when Jamshid celebrates the first spring after many years of ice and cold.

Other means for keeping track of time were the stars and constellations. The night sky was divided into 12 sections called Zodiac and each section had a group of prominent stars which were connected by imaginary lines forming various shapes, the revolution of the earth placed it in front of a different constellation every month and under this system the year began with Spring Equinox and the constellation Aries happened to be seen in the night skies. Which was followed by Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius and Pisces.

Over the last 2000 years Pisces has gradually replaced Aries as the constellation that appears in the sky in the beginning of spring. This is so because of the solar system is moving ahead on its path at a different speed from that of the stars in the constellation. In spite of this being an evident fact, people all over the world and newspapers and magazines in their horoscope section show Aries as the constellation in the beginning of spring namely 21 March to 20 April. Here is where blind faith defeats Truth.

EGYPTIAN CALENDAR

The original Egyptian calendar was based on the moon's cycles; this lunar calendar did not serve the Egyptians well in their prediction of the time of the most critical event in their lives, namely the annual flooding of the Nile. They very soon noticed the consistency of the appearance of the "Dog Star", which we call "Sirius", in the Canis Major, right before sunrise, which was closely followed by the flooding of the Nile. This solved their problem, now they were able to predict the flood and be ready for it. Their calculations led them to a 365-day calendar and the Egyptians according to Egyptologist J. H. Breasted, recorded the earliest know date of this solar calendar, corresponding to 4236 BCE. After that the Egyptians had two calendars, they still followed the variable lunar calendar for religious purposes, for religion is based on traditions and not facts, while for civil and administrative purposes the solar calendar was in use. With the advent of Islam the superior solar calendar was discarded and the Egyptians adopted the Islamic lunar calendar instead.

SUMERIAN & BABYLONIAN CALENDARS

Five thousand years ago the Sumerians are know to have had a calendar with 30-day months. Their days were divided into 12 periods (2hours each) and each period was divided into 30 parts (4 minutes each).

The ancient Babylonians used a calendar with alternating 29 and 30-day months, which kept them roughly in step with the lunar year. To keep them in tune with the solar year for purposes of agriculture and the resulting taxation they added a month every third year. But this system still did not accurately make up for the accumulated differences between the solar year and the lunar year. So whenever the king felt that the

calendar had slipped too far out of step with the seasons, he ordered another extra month.

The Babylonian months were named Nisanu, Ayaru, Simanu, Du'uzu, Abu, Ululu, Tashritu, Arakhsamna, Kislimu, Tebetu, Shabatu, Adaru. The month Adaru II was intercalated six times within the 19-year cycle but never in the year that was 17th of the cycle, when Ululu II was inserted. The Babylonian month remained lunar each month beginning with the sighting of the new moon in the evening. Their day began at sunset. They kept hours with the help of the sundials.

CHINESE CALENDAR

The Chinese maintained a lunar calendar and they still go by the lunar calendar. They group their years into cycles of twelve years and each year is named after an animal. According to Chinese legend, the twelve animals had a quarrel over who was to head the cycle of years. The gods had to intervene, and to solve the problem they arranged a contest. The animals were to race across the river and according to the rank they obtained at the finishing line, they would have the years named after them.

All the twelve animals gathered at the riverbank and on the word go, jumped into the river. Very soon the Ox was leading the race but at the finishing line the rat who had, unknown to the Ox climbed upon his back, jumped ashore ahead of the Ox and won the race thereby having the honour to lead the cycle, the Ox came in second followed by the tiger, rabbit, dragon, snake, horse, sheep, monkey, rooster, dog and pig.

Socially among the Chinese these signs serve to recognize their seniority in a group, and also to find a person age. By asking the animal sign under which a person is born rather than the age, which would be considered impolite, and with a little imagination the twelve-year cycle would reveal the age of the person.

PERSIAN CALENDAR

The ancient Iranians according to the Avesta followed the solar year. 'Haptan Yasht' (Ha-3), says about: "the coming of the season at the proper time of the solar year." Their year began in spring and they further

divided the year into six parts and had five days of celebration at the beginning of each part, which they called Gahambar.

In the Avesta we find information about the Gahambars in the "Visparad", which has 23 Karda (Chapters) and among other things it specifies the time and the significance of each of the six Gahambars.

As recorded in the Visparad Karda 1.2 the year is divided into six irregular parts each specified with a celebration called 'Gahambars', namely.

Maidh-yo-zarem - mid spring - when fresh vegetables are in plenty. April 30 to May 4.

Maidh-yo-shema midsummer the time for harvesting corns. June 29 to July 3.

Paiti-shahem -time for harvesting of fruits. Sept. 12 to 16.

Aya-threm -sowing of winter crops and that closes the summer season. Oct. 13 to 17.

Maidh-ya-rem - the period of perfect rest - is directed towards animals. January 1 to 5.

Hamas-path-maedem - equality of heat and cold - is in preparation for the revival in Nature. March 16 to 20.

The fact that these Gahambars were tied in to various activities in nature required the calendar to be solar otherwise they would not coincide with the events in nature.

They further divided the solar year equally into 12 months of 30 days each, that gave them a total of 360 days, to which they added five days at the end of the year. They started their year on the day of the vernal equinox in spring. Spring being the time of the revival of life in nature was a natural choice to start a new year.

The ancient Iranians who were great mathematicians and astronomers went a step further in their calculations. While they started their year on the vernal equinox, which happened at different hours every year, their

calculations showed them that the earth returned to the same position not in whole numbers but in fractions.

The tropical year as we know it today is made up of 365.242190 days. Around the 1900 its length was 365.242196 days and in 2100 it will be 365.242184 days. So naturally in those ancient days it must have also been slightly different from what it is today. In any case they tried to reduce this difference to the minimum by having a leap year, knowing very well that the leap year did not and does not zero the difference, because the total of the fraction .242190 or .242196 does not ever make a whole number plus there are other natural factors which vary from year to year such as the gravitational pull of other planets whose closeness to the earth varies every year and causes fractional variation in the time of the equinox.ⁱ

The ancient Iranians came up with a solution. Based on observations and calculations they knew that, every year at the time of the vernal equinox the sun would rise at a different longitude on the planet, and upon calculations they realized that after a period of centuries it would once again return to the same locationⁱⁱ. This they considered to be a great natural phenomenon and used it to zero the difference in the calculations of their calendar. Thus whenever this natural phenomenon, namely the coinciding of the sunrise with the vernal equinox, took place in their country they celebrated it as a **NOU ROUZ**, which means **NEW DAY** and they started their calendar with zero difference. While every other year that the Vernal Equinox did not coincide with the sunrise in their country, they celebrated it by simply calling it "**SUOL E NOO**" or "**SAAL E NOU**" the **NEW YEAR**.

We know that one such **NOU ROUZ** was in 1725 BCE and was pre-calculated by Zarathushtra himself. The other one with archeological evidence was in 487 BCE. The event was celebrated at Takth E Jamshid, when on the vernal equinox the first rays of the rising sun coinciding with the equinox fell on a square block of stone which had been placed, based on calculation, in the central hall of the palace. By this method they solved a great mathematical dilemma.

The Persians kept time with the help of a sundial and they also had a date line to unify the date and time among the know civilizations of their days. The calculation of the date line is attribute to Zarathushtra and it passed thru Sistan in Iran (33.5degrees latitude), it was called "Nimrouz"

meaning 'Midday'. This is a geographical and astronomical Truth (Asha), namely that when it is "Nimrouz" or midday at Sistan in Iran, it is sunrise in the eastern most corner of the eastern hemisphere namely Japan, which is also called the land of the rising sun, and at the same time it is sunset at the western most corner of the hemisphere in Africa.

In spite of all these knowledge the Iranian people have time and again been influenced by those with primitive methods of keeping time and there have been other times when a primitive system has been forced upon them by their conquerors in their long history. A good example is the calendar of the present day Zarathushties, the true heirs of this ancient land and culture. One would expect that at least these people would be following their ancient traditional solar calendar but surprisingly enough not only do they follow the lunar calendar but have even forgotten to intercalate their lunar calendar. A group of Zarathushties especially those from Iran have in the last couple of decades reverted to the solar calendar.

NAMES OF DAYS

The days of the Persian month were named and the names that exist today are mostly from the time of the Sassanian dynasty that reigned over the Persian Empire between 250 to 640 CE. The days are grouped into two groups of 7 days and two of eight days each, making a total of 30 days. The first day of each month starts with the name of God "Ormazd" or 'Ahura Mazda' followed by the Amshaspantas the Eternal laws. The second group consists of the names elements namely - Fire, Water, Sun, Moon, Star and Life. The third group bears the names of qualities namely Friendship, Obedience, Justice, Progress, Victory, Joy, the fourth group is a mixture such as Conscious, Happiness, Truth, Sky, Earth, Good words, Everlasting Light. None of them represents any angle or petty gods or Izad as claimed by some. Instead the names are positive and optimistic and meant to boost the moral.

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| 1- Ahura Mazda | Ourmazd |
| 2- Good mind | Bahaman |
| 3- Truth -Nature | Ardibehesht |
| 4- Good Rules | Shahrivar |
| 5- Righteousness | Spandarmazd |
| 6- Perfection | Khordad |

7- Immortality	Amordad
8- Creation *	Day be Azar
9- Fire	Azar
10- Water	Aban
11- Sun	Khor
12- Moon	Mah
13- Star	Tir
14- Life	Gush
15- Creation *	Day be Mehr
16- Friendship, love	Mehr
17- Obedience	Sroush
18- Justice	Rashn
19- Progress	Farvardin
20- Victory	Verahram
21- Joy	Ram
22- Wind	Bad
23- Creation *	Day be din
24- Conscious	Din
25- Happiness	Erd
26- Truth	Ashtad
27- Sky	Assman
28- Earth	Zamyad
29- Pure Words	Mantraspand
30- Everlasting Light	Anaram

At the end of the year five days are added and called PANJEH, (panj meaning five) they bear the names of the Gathas namely:

- 1- Ahunavad
- 2- Oushtavad
- 3- Spentahmad
- 4- Vohu Khashatr
- 5- Vahista Isht

Every four years an extra day is added for a leap year and called - "Avardad" which is a Pahlavi word meaning Extra day.

Twelve names from among the days of the month also happen to be the names of the month and when the name of the day and the month match that day is a day of festivity. For the ancient Iranians any reason was good reason to enjoy life and we have many days in a year set aside for festivity. They had a positive outlook towards life and believed in happiness and enjoyment and making the best use of their life.

The **names of the months** are

Farvardin - Ordibehesht - Khordad - Tir - Amرداد - Shahrivar - Mehr -
Aban - Azar - Dey - Bahman - Esfand (or Spandarmazd)

Along with Islam the inferior system of keeping days was force upon the Iranians by the Arabs conquerors. In the 11th century the Iranians reverted back to the solar calendar based on calculations by a group of Iranian astronomers, among whom was the Persian poet astronomer Omar Khayam. The calendar was called Jalaali calendar and the present day national calendar of the Iranians is based on this Jalaali calendar.

The names of the months of the present day Iranian national calendar are the same as those of Zarathushti calendar except for a mistake in the fifth month, where Amرداد (Immortality) has for some reason been misspelled as Mordad (Death - Mortality). The days of the month do not bear the Zarathushti names instead they have been divided into the Semitic 7 day week and the uniform 30-day month plus the end of the year five or six days in a leap year have been replaced by the first six months having 31 days the next 5 months 30 days and the last month 29 or 30 in a leap year.

The present day Zarathushties follow a number of calendars and all, except one, are lunar. This is in spite of the Iranian nations long history of the use of the solar calendar and the mention of the Solar Year in the Haptan Yasht of the Avesta and the division of the year on seasonally events such as the Gahambars.

The reason for the change was the isolation of Zarathushties in far-flung pockets after the destruction of the Empire at the hands of the Arabs and being without a central unifying religious or political authority and the influence of Islam as the governing authority who used the lunar calendar for all national matters especially for calculation of the dreaded Jaziya tax which the Zarathushties had to pay as infidels, to their Islamic rulers.

With the Iranian nation once again adopting the solar calendar the Zarathushties of Iran realized their mistake and they too reverted to their ancient solar calendar. Let us hope that one day the Iranian Nation and all the Zarathushties understand the difference between NOU ROUZ (New Day) and SAAL E NOU (New Year) and also understand the real meaning of HAFT SEENⁱⁱⁱ the symbolic seven items that are laid down on

the New Year table in every Iranian home. Such enlightenment will bring the nation closer to their roots for the people will realize the reason why the messages were hidden by their forefathers, hidden due to fear from the invaders who were out to destroy them, who had forced them to give up all that was good. So they hid the ancient wisdom in the customs and handed it down sincerely from generation to generation in the hope that one day the people will be wise enough to realize their message and bold enough to revert to their roots, like a lost child that returns to peaceful arms of the mother, and give themselves the right to happiness, a chance to progress and achieve Perfection (Khordad). A right to create heaven on earth by following and spreading the hidden message in the HAFT SEENE and following in the footsteps of their ancestors and being an example for the rest of the world to follow.

The ancient Iranians had made use of the customs and the calendar as a reminder and a guide to keep their activities in tune with nature and follow the laws of nature so as to achieve the purpose of life, which is a continuous process of progressing towards perfection while at the same time enjoying life and spreading happiness and creating heavenly bliss, which in turn would result in immortality^{iv} once the mortal body is no more.

ⁱ Note that these numbers are averages. The actual length of a particular year may vary by several minutes due to the influence of the gravitational force from other planets. Similarly, the time between two new moons may vary by several hours due to a number of factors, including changes in the gravitational force from the sun, and the moon's orbital inclination. The time from one new moon to the next is called a *synodic month*, and its length is currently 29.5305889 days, but it varies. Around 1900 its

length was 29.5305886 days, and around 2100 it will be 29.5305891 days.

ⁱⁱ If anyone is aware of the calculation of the coinciding of the sunrise with the vernal equinox, returning to the same location please write and inform Iran Zamin for publication.

ⁱⁱⁱ For REAL MEANING OF HAFT SEEN in detail see IRAN ZAMIN Volume 1 number 2 February 2001 at <http://www.ancientiran.com> "What we are never told about NOU ROUZ & HAFT SEENE". Below please find in summary form the ancient meaning of the "**SEVEN ETERNAL LAWS**" disguised in the HAFT (7) SEEN

1- **VOHU MANA -Good Mind-** The human mind, wisdom, should be used in a Good way and each one to their maximum capacity.

2- **ASHA VAHISTA -The Ultimate Truth-**The Laws of nature - Using the mind in a **Good** way and to its maximum, results in the understanding of Nature and the laws of nature and we end up with good knowledge.

3- **KHASH ATRA VAIRYA- Good Guidance-** The information, the truth, the good knowledge, what do we do with them? We have to use them to make life better, by giving Good Guidance, making Good Rules and Good Laws. That would also lead to Good Products and Good Services.

4- **SPENTA ARMAITI - Lawful Desire-**The result of Khash atra vairya is Righteousness, a Righteous Society, a Righteous Nation, a Paradise where people live in harmony with each other and with nature. Where there is No war, No pollution, No sickness, No lies, No thefts, and No fear. Where all **DESIREs are LAWFUL**.

5- **HAURVATATA - Perfection-** In such a Righteous Society people have a chance to advance Mentally, Physically and Spiritually. The result is a move towards PERFECTION. Perfect doctors, perfect engineers, perfect musicians, perfect farmers, perfect poets, perfect athletes, perfect priests, everyone towards perfection in all fields physically and spiritually.

6- **AMERETAT - Immortality-** It has two forms, one it creates a mental stage in human life where one is Free from the Fear of Death, free from

the fear of the unknown. Thereby one does not belong to the material world but to a timeless, space-less state of mind where death has no meaning. Second such a person leaves behind his work his goodness that benefits society and he is remembered for generations, that's immortality.

7- Having attained Perfection and lost the sense of fear, the final and seventh stage is attained. One understands and becomes one with, The **Wisdom in Creation, MAZDA AHURA**, the Power, the living Wisdom, the active, creative, expanding Force that keeps the universe in action and chain reaction, and the **Creator of this Wisdom AHURA MAZDA**. In Paarsi we say KHOD-AH (God) self realization.

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^{iv} Immortality - Amordad - Ameratata - is achieved in two phases one while a person is alive he/she does not fear death, death is meaningless, time and space have a different meaning for such a person, this is achieved when mentally one reaches the perfection stage (Khordad). The other type of immortality is after a person is dead, the work done by the person, the exemplary life of the person, the thoughts of the person, cause people to remember that person with goodness for centuries and millenniums and praise his name.

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