



History of the Calendar

Originally there was not twelve months in the year. In fact, the concept of the year varies from culture to culture as well as what constitutes a full month.

What could be the oldest lunar calendar ever created was been identified on the walls of the famous, prehistoric caves at Lascaux in France. The interpretation that symbolic paintings, dating back 15,000 years, show the Moon going through its different phases comes from Dr. Michael Rappenglueck, of the University of Munich. The German researcher has previously associated patterns left in the caves with familiar stars and constellations. He now says groups of dots and squares painted among representations of bulls, antelope and horses depict the 29-day cycle of the Earth's satellite.

Visiting the Lascaux caves is an opportunity most people would never get. To protect the historic site from unnecessary wear and tear, all visitors now tour a mock-up of the caves, the so-called Lascaux II. Visiting the caves, once one's eyes adjust to the half-light, visitors are struck with amazement. Anyone who has seen the paintings on the walls can be left in no doubt that they represent some of the greatest works of art every created.



Lascaux cave painting

"The secret of understanding these caves," Dr Rappenglueck says, "is to understand the people who painted these walls. They painted the sky, but not all of it. Just the parts that were specially important to them." The animals were painted on to the walls of the chamber by Cro-magnon man, one of our close relations, 15,000 years ago. Dr. Rappenglueck gave a tour to David Whitehouse of the BBC, as he headed down a passage. He was pointing to a line of dots painted half way up the wall. "Count them. Count them." Below a stunning painting of a deer was a row of 13 dots, ending in a square. "Why 13?"

"It's half of the Moon's monthly cycle," Dr. Rappenglueck said. "One dot for each day the Moon is in the sky. At the new Moon, when it vanishes from the sky, we see an empty square, perhaps symbolically representing the absent Moon. "But there's more, further along." Beneath a dappled, brown horse with a dark mane was another row of dots. This time there were more of them. "There are 29 of them - one for each day of the Moon's 29-day cycle when it runs through its phases in the sky. It was a rhythm of nature that was important to these people." Dr. Rappenglueck looked around at the bulls, antelope and horses painted on the walls with such obvious admiration. "They were aware of all the rhythms of nature. Their survival depended on them, they were a part of them."

The Purpose of the Calendar

The purpose of the calendar is to reckon past or future time, to show how many days until a certain event takes place, the harvest or a religious festival, or how long since something important happened. Calendars indicate when to expect a change in seasons; helping farmers to plant, and priests to prepare festivals. The earliest calendars must have been strongly influenced by the geographical location of the people who made them. In colder countries, the concept of the year was determined by the seasons, specifically by the end of winter. But in warmer countries, where the seasons are less pronounced, the Moon became the basic unit for time reckoning; an old Jewish book says that "the Moon was created for the counting of the days."

Most of the oldest calendars were lunar calendars, based on the time interval from one new moon to the next, a so-called lunation. But even in a warm climate there are annual events that pay no attention to the phases of the Moon. In some areas it was a rainy season; in Egypt it was the annual flooding of the Nile River. The calendar had to account for these yearly events as well.



History of the Lunar Calendar

The lunar calendar became the basis of the calendars of the ancient Chinese, Babylonians, Greeks, and Jews. During antiquity the lunar calendar that best approximated a solar-year calendar was based on a 19-year period, with 7 of these 19 years having 13 months. In all, the period contained 235 months. Still using the lunation value of 29 1/2 days, this made a total of 6,932.5 days, while 19 solar years added up to 6,939.7 days, a difference of just one week per period and about five weeks per century.

Even the 19-year period required adjustment, but it became the basis of the calendars of the ancient Chinese, Babylonians, Greeks, and Jews. This same calendar was also used by the Arabs, but Muhammad later forbade shifting from 12 months to 13 months, so that the Islamic calendar now has a lunar year of about 354 days. As a result, the months of the Islamic calendar, as well as the Islamic religious festivals, migrate through all the seasons of the year.

When did ancient months start?

In the eighth century B.C.E., civilizations all over the world either discarded or modified their old 360 day calendars. The 360 day calendars had been in use for the greater part of a millennium. In many places, month lengths immediately after that change were not fixed, but were based instead upon observation of the sky.

Priest-astronomers were assigned the duty of declaring when a new month began – it was usually said to have started at the first sighting of a new moon. Month length at that time was simply the number of days that passed from one new lunar crescent to the next.

During those years in Rome, for example, a Pontifex (priest) observed the sky and announced a new moon and therefore the new month to the king. For centuries afterward Romans referred to the first day of each new month as Kalends or Kalends from their word *calare* (to announce solemnly, to call out). The word calendar derived from this custom. This practice of starting a month at the first sighting of a new moon was observed not only by Romans but by Celts and Germans in Europe and by Babylonians and Hebrews in the Levant. All of these peoples began their month when a young crescent was first seen in the sky. This is still done for the Islamic Calendar, but a new moon's date is calculated for traditional lunar calendars that are currently used in China and India.

During the period when month lengths were not fixed, new moons were usually sighted after either 29 or 30 days. If clouds obscured vision on the thirtieth day, a new month was declared to have begun. When month lengths were identical with lunar cycles, only those that lasted 30 days were considered to be normal. This was probably because all months had previously been 30 days for such a long period of time. During this period in Greece, for example, months that consisted of 30 days were considered to be "full;" those that lasted only 29 days were said to be "hollow." Months containing 30 days were also called "full" in Babylon, but those containing 29 were deemed to be "defective." After month lengths in the Celtic Calendar became fixed, those that had been given 30 days were termed "matos" (lucky) and those given 29 days "anmatos" (unlucky). This notion still exists today, months of 30 days in the Hebrew Calendar are called "full" and those with 29 are deemed to be "deficient."

How Long Was a Year?

In addition to their declaring the beginning of each month based upon a sighting of the new moon, priest-astronomers were also charged with pinpointing the start of a year. By observing the movement of Sirius, Egyptians came to grips with the fact that the year was more than five days longer than their venerable 360-day calendar. This resulted in a change to their method of approximating year length that had been in use for nearly a millennium. But it also caused them to wonder where the additional days came from. In order to account for these additional days, Egyptians created a myth about their sky-god, Nut.

During the reign of the Babylonian king Nabonassar (traditionally dated between 747 and 734 B.C.E.) astronomers priests (magi) in that country discontinued their practice of looking for the new moon in order to name the beginning of a month. Instead, they returned to a fixed-length calendar that had 12 months of 30 days each, but with five days added at the end.

Usually at a date later than the mid-eighth century B.C.E., many other peoples who had previously considered the year to be 360 days in length reluctantly returned to a calendar of

twelve 30-day months, but added five days to the end of their year. These additional days were considered to be very unlucky or unpropitious.

Two eastern Mediterranean peoples who did not embrace Islam were early Christians in upper Egypt, whom we now call Coptics, and their neighbors to the south, the Ethiopians. Probably because they were surrounded by Islamic peoples, Coptic and Ethiopian churches never adopted the Western calendar. Instead, these two isolated pockets of Christianity continued to use the old 360-day calendar. These two calendars are identical except for year number. Coptics date their calendar from C.E. 284 but Ethiopians date theirs from C.E. 7. Both of them observe three 365 day years followed by one 366 day year. Their years are divided into 12 months of 30 days each, and the extra five or six days are added after the twelfth month.

Zoroastrians, who began their calendar in 389 B.C.E. with the birth of their founder, the prophet Zoroaster, use a calendar of 365 days. It consists of twelve 30-day months with five "gatha days" added at the end of the year. Each of the thirty days as well as each of the gatha days has its own name. They are referred to by that name just as we speak of a day by its number in the month. Beginning in 1906 of the Common Era, some modern Zoroastrians adopted the practice of adding an additional day every four years.

One of Alexander the Great's generals, Seleucus Nicator, founded (late 4th Century BCE and early 3rd century BCE) an empire that stretched from Asia Minor to India. He established a new calendar that was essentially the same as one that had been used for some time in Syria. It contained twelve months of 30 days each and an extra five days at the year's end. Every fourth year an additional day for a total of six days were added at the end of the year.

In Persia under the Sassanids, and in Armenia and Cappadocia the official system of time-reckoning was twelve months of 30 days followed by five more days at the end of the year. However, Arabian astronomers said the Sassanian year of twelve 30-day months was adjusted to the seasons by intercalating a month every 120 years.

Earthly Calendar Systems:

The Babylonian Calendar

The Babylonian calendar was a lunisolar calendar based on the lunar phases which was used in Babylon and surrounding regions for administrative, commercial and ritualistic purposes. It consisted of twelve lunar months, each beginning on the evening (i.e. after sunset) of the first observed (or computed) lunar crescent after the astronomical new moon.

The year began around the spring equinox and in order to keep the calendar in step with the seasons, an intercalary month was inserted at (semi-)regular intervals. At first the



intercalary months were inserted at irregular intervals, based on the observed discrepancies between the calendar and the seasons, but after about 500 BCE a regular intercalation scheme consisting of seven intercalary months in a 19-year cycle was adopted.

This intercalation cycle was later also adopted by Greek astronomers, who referred to it as the Metonic cycle, and it still regulates the current Hebrew calendar.

The ancient Babylonians used a calendar with alternating 29 and 30-day months. This system required the addition of an extra month three times every eight years, and as a further adjustment the king would periodically order the insertion of an additional extra month into the calendar. To balance the calendar with the solar year, the early Babylonians calculated that they needed to add an extra month three times every eight years. But this system still did not accurately make up for the accumulated differences between the solar year and the lunar year. Whenever the king felt that the calendar had slipped too far out of step with the seasons, he ordered another extra month. However, the Babylonian calendar was quite confused until the 300's B.C.E., when the Babylonians began to use a more reliable system.

The Assyrians

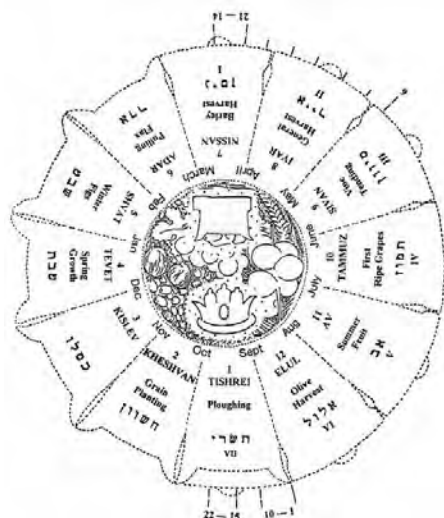
Assyria was a kingdom of northern Mesopotamia that became the center of one of the great empires of the ancient Middle East. It was located in what is now northern Iraq and southeastern Turkey. For accounting, the Assyrians also used a kind of week, of five days, as it seems, identified by the name of an eponymous official. Thus, a loan could be made and interest calculated for a number of weeks in advance and independently of the vagaries of the civil year. In the city of Ashur, the years bore the name of the official elected for the year; his eponym was known as the limmu. As late as about 1070 B.C.E., his installation date was not fixed in the calendar. From about 1100 B.C.E., however, Babylonian month names began to supplant Assyrian names, and, when Assyria became a world power, it used the Babylonian lunisolar calendar.

The Hebrew Calendar

Like most ancient peoples, at first the Jews followed a strictly lunar calendar. Our earliest record of this is a 10th century BCE calendar found in the Canaanite town of Gezer.

The present Hebrew calendar is the product of evolution, including a Babylonian influence. Until the Tannaitic period (approximately 10–220 CE) the calendar employed a new crescent moon, with an additional month normally added every two or three years to correct for the difference between twelve lunar months and the solar year. When to add it was based on observation of natural agriculture-related events. Through the Amoraic period (200–500 CE) and into the Geonic period, this system was gradually displaced by the mathematical rules used today. The principles and rules were fully codified by Maimonides in the Mishneh Torah in the 12th century. Maimonides' work also replaced counting "years since the destruction of the Temple" with the modern creation-era Anno Mundi.

The Hebrew lunar year is about eleven days shorter than the solar cycle and uses the 19-year Metonic cycle to bring it into line with the solar cycle, with the addition of an inter-



Historic Illustration of the Hebrew Calendar

calary month every two or three years, for a total of seven times per 19 years. Even with this intercalation, the average Hebrew calendar year is longer by about 6 minutes and than the current mean solar year, so that every 224 years, the Hebrew calendar will fall a day behind the current mean solar year; and about every 231 years it will fall a day behind the Gregorian calendar year.



History of the Egyptian Calendar

The ancient Egyptians used a calendar with 12 months of 30 days each, for a total of 360 days per year. About 4000 B.C. they added five extra days at the end of every year to bring it more into line with the solar year. These five days became a festival because it was thought to be unlucky to work during that time. The months were divided into three weeks (decans) of ten days each. Because the ancient Egyptian year was almost a quarter of a day shorter than the solar year and stellar events therefore "wandered" through the calendar, it has been referred to as the annus vagus, or "wandering year"

The Egyptians had calculated that the solar year was actually closer to 365.25 days, but instead of having a single leap day every four years to account for the fractional day (the way we do now), they let the one-quarter day accumulate. After 1,460 solar years, or four periods of 365 years, 1,461 Egyptian years had passed. This means that as the years passed, the Egyptian months fell out of sync with the seasons, so that the summer months eventually fell during winter. Only once every 1,460 years did their calendar year coincide precisely with the solar year.

In addition to the civic calendar, the Egyptians also had a religious calendar that was based on the 29 1/2 day lunar cycle and was more closely linked with agricultural cycles and the movements of the stars.

According to Roman writer Censorinus, the Egyptian New Year's Day fell on July 20 in the Julian Calendar in 139 CE, which was a heliacal rising of Sirius in Egypt.

For much of Egyptian history, the months were not referred to by individual names, but were rather numbered within the three seasons. As early as the Middle Kingdom, however,

each month had its own name. These finally evolved into the New Kingdom months, which in turn gave rise to the Hellenized names that were used for chronology by Ptolemy in his *Almagest*, and by others.

Copernicus constructed his tables for the motion of the planets based on the Egyptian year because of its mathematical regularity.

The Earliest Evidence of the Zodiac Constellations

While it is traditionally claimed that the earliest reference to the zodiac originates with the Babylonians, the discovery of an observatory in Metsamor, Armenia, predating the Babylonian kingdom by almost 2,000 years has changed our perception of events as the observatory at Metsamor apparently contains the first recorded example of dividing the year into 12 sections. Using an early form of geometry, the inhabitants of Metsamor were able to create both a calendar and envision the curve of the earth.

The discovery of the astronomical 'observatory' at Metsamor and the presence of engravings which have been speculatively called 'zodiac creatures' has given credence to the assertion that the ancient figures of the constellations were probably created by ancient peoples living in the Euphrates valley and near Mount Ararat in eastern Anatolia and Armenia.

The classical map of the sky, with the 48 Greek constellations, was derived from at least two different pre-Greek traditions. One tradition comprised the 12 signs of the zodiac, with several associated animal constellations, all of which developed over 3,200-500 BC in Mesopotamia in a religious or ritual tradition. These were taken over by the Greeks around 500 BC. However the other Babylonian constellations, their farming-calendar tradition, were not adopted. The other tradition was not Mesopotamian; it comprised large constellations which appear to date from 2,800 BC, probably from the Mediterranean region, devised for the navigators of ships. They include huge bears and serpents which marked the celestial pole and equator at that time, and probably the four anonymous giants which we know as Hercules, Ophiuchus, Bootes, and Auriga, as well as some of the large southern 'marine' constellations. The origins of some other constellations, including the Perseus tableau and various animals, are unknown. It is therefore currently concluded that among the Indo-European peoples, astrology dates to the third millennium BC.

Evidence points to an origin on Latitude 36°, which is near perfect for Sumeria (the civilization from which Babylon inherited much of its science). Accordingly, the Sumerians are currently credited with originating the constellations. It is important to recognize that the Sumerians also divided both time and space with the Hexadecimal system resulting in a 360° division of the globe and heavens still used today. Many theories exist where the Sumerians built their scientific knowledge from and there is little evidence to support the many advances they made except that they were an extremely observant and resourceful people. A few cuniform tablets that survive from Sumeria only point to older races who were there before them.

The Sumerians called the twelve major zodiacal constellations the 'Shiny herd'.

SUMERIAN NAME	TRANSLATION	MODERN NAME
GU.AN.NA	Heavenly Bull	Taurus
MASH.TAB.BA	Twins	Gemini
DUB	Pincers, Tongs	Cancer
UR.GULA	Lion	Leo
AB.SIN	Her father was Sin	Virgo
ZI.BA.AN.NA	Heavenly Fate	Libra
GIR.TAB	Which claws and cuts	Scorpio
PA.BIL (Archer)	Defender	Sagittarius
SUHUR.MASH	Goat-Fish	Capricorn
GU	Lord of the waters	Aquarius
SIM.MAH	Fishes	Pisces
KU.MAL	Field dweller	Aries

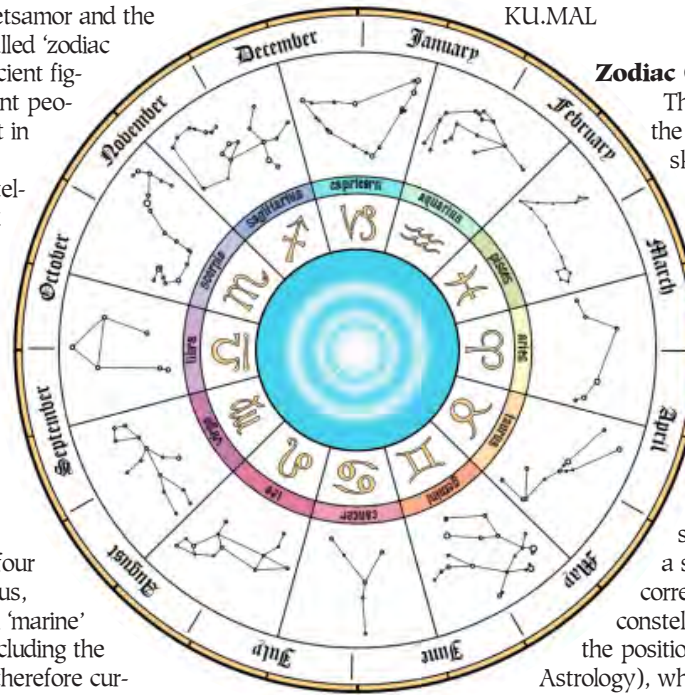
Zodiac Calendar

The zodiac is the belt or band of constellations through which the Sun, Moon, and planets move on their journey across the sky. Astrologers noted these constellations and so attached a particular significance to them. Over time they developed the system of twelve signs of the zodiac, based on twelve of the constellations through which the sun passes throughout the year, those constellations that are "Enlightened by the mind". Most western astrologers use the tropical zodiac beginning with the sign of Aries at the Northern hemisphere Vernal Equinox always on or around March 21 of each year. The Western Zodiac is drawn based on the Earth's relationship to fixed, designated positions in the sky, and the Earth's seasons. The Sidereal Zodiac is drawn based on the Earth's position in relation to the constellations, and follows their movements in the sky. Due to a phenomenon called precession of the equinoxes (where the Earth's axis slowly rotates like a spinning top in a 25,700 year cycle), there is a slow shift in the correspondence between Earth's seasons (and calendar) and the constellations of the zodiac. Thus, the tropical zodiac corresponds with the position of the earth in relation to fixed positions in the sky (Western Astrology), while the sidereal zodiac is drawn based on the position in relation to the constellations (sidereal zodiac).

In modern Western astrology the signs of the zodiac are believed to represent twelve basic personality types or characteristic modes of expression. The twelve signs are divided into four elements fire, earth, air and water. Fire and air signs are considered masculine, while water and earth signs are considered feminine. The twelve signs are also divided into three qualities, Cardinal, fixed and mutable.

The Vedic Calendar Systems

Hindu calendar is a collective name for most of the luni-sidereal calendars and sidereal calendars used in India since ancient times. It has undergone many changes in the process of regionalization, and today there are several regional Hindu calendars. It has also been standardized as the Indian national calendar. Some of the more prominent regional Hindu cal-



endars include the Nepali calendar, Assamese calendar, Bengali calendar, Malayalam calendar and Tamil calendar.

Most of the Hindu calendars are inherited from a system first enunciated in Vedanga Jyotisa of Lagadha, a late BC adjunct to the Vedas, standardized in the Surya Siddhanta (3rd century) and subsequently reformed by astronomers such as Aryabhaṭṭa (AD 499), Varahamihira (6th century) and Bhaskara II (12th century). Differences and regional variations abound in these computations, but the following is a general overview of the Hindu luni-solar calendar.

It is shown that the earliest Vedic calendar consisted of a six year cycle containing 6 years of 360 days divided into 12 months of 30 days each with an intercalary month (adhika mīsa) of 30 days at the end of the sixth year. The first year of the cycle began at winter solstice, which coincided with the heliacal rising of the winter star. The fourth and the seventh cycles had to be shortened to 5 years only making a total of 40 years in 7 cycles. The longer 40 year cycle is found to be related to the repetition of the heliacal rising of Venus along with the winter star after that period.

The twelve months of the year were named according to the prevailing seasonal conditions and the adhika mīsa (extra month) was called Mahasviin. The 12 months were grouped into three seasons which corresponded to the ideas of Winter, Summer and Monsoon (the rainy season).

It is shown that the above calendar originated in India around 7000 BC, pre-dating other calendar systems and though it was not perfect, it was vastly superior in its understanding of the patterns of the sun and moon in relation to the constellations.

What has transpired in the last 7000 years has been the cultural and traditional starting of the months based upon the sun's rising into the different zodiac positions vs. the new moon of the lunar cycle. Both these can work, but the sun's position is more scientifically accurate and more closely corresponds to a regular yearly and seasonal cycle.

Calendars in Iceland (before literacy)

Traditionally, the Vikings originating in Scandinavia in the early Middle Ages are associated with violence and brutal force. However, the views of modern scholars paint a less mono-chromatic picture. Many of the activities of the Vikings required and produced knowledge of time-reckoning and of what we would nowadays classify as astronomy. For example, their extensive traveling and trade must have involved some knowledge of astronomy. The necessity of such knowledge is generally recognized in the case of coastal navigation, but also holds for inland travel through previously unknown areas, such as the vast lands of Eastern Europe.

Inland travel and coastal navigation is one thing, but regular trans-oceanic traffic is quite another. Yet such traffic was required to support the Scandinavian settlement of Iceland and Greenland, around the years 900 and 1000 respectively, at a time when the people of Europe knew nothing of the compass or the sextant. Even with good luck the oceanic voyage would take about a week, and without it land might not be sighted for several weeks. The navigational methods used included both terrestrial and celestial observations. There is hardly any

doubt that the knowledge written down on vellum in Iceland in the twelfth and thirteenth centuries derives to a high degree from these observations and this experience.

In 930, the Icelanders decided to establish the Althing, a kind of parliament where an important part of the population gathered once a year for purposes of legislation and justice. Those who went there would spend two to five weeks away from home at a precious time of the year. The farms were scattered at long distances and the landscape often barely passable. Therefore the traditional Scandinavian method of summoning meetings by message was not viable – they needed a simple and reliable calendar to help people know when to start from home so as to arrive at the same time as the others. Moreover, since the Icelandic

summer is short, it was a matter of primary concern to utilize summer time as well as possible, and date the parliament at the time of summer when the loss of domestic labor was least harmful.

To understand the need for a calendar we may also look at the agriculture itself and its annual cycle. Certainly, the caprices of Icelandic weather and nature are such that the calendar may often be a bad guide for action. In deciding when to let cattle and sheep out on grass or when to start hay-making it is better to observe the actual signs of nature than the calendar. But there are certain kinds of annual operation where the calendar proves superior: for example, in determining when to sow the grain, something which people had tried with little success in the first centuries of settlement in Iceland. Another good example is that of deciding when to let the ram to the ewes. It is important to do this at the right time in the winter so that the lambs have the best possible prospect of growing in the short summer, without too much risk of interludes of bad weather in the spring just after they are born. When the individual farmer makes his decision on this at some point around Christmas time, he has no clear natural signs of a terrestrial nature to go by.

This was when the wisest men of the country had counted in two semesters 364 days or 52 weeks-then they observed from the motion of the sun that the summer moved back towards the spring; but there was nobody to tell them that there is one day more in two semesters than you can measure by whole weeks, and that was the reason.

There was a man called Thorsteinn the black, a very wise man. When they came to the Althing he sought the remedy that they should add a week to every seventh summer and try how that would work. By a correct count there are 365 days in a year if it is not a leap year, but then one more; but by our count there are 364. But when in our count a week is added to every seventh year, seven years together will be equally long on both counts. But if there are 2 leap years between the ones to be augmented, you need to add to the sixth.

How did Thorsteinn the Black determine his intercalation? His farm was favorably located in the country to utilize the so-called

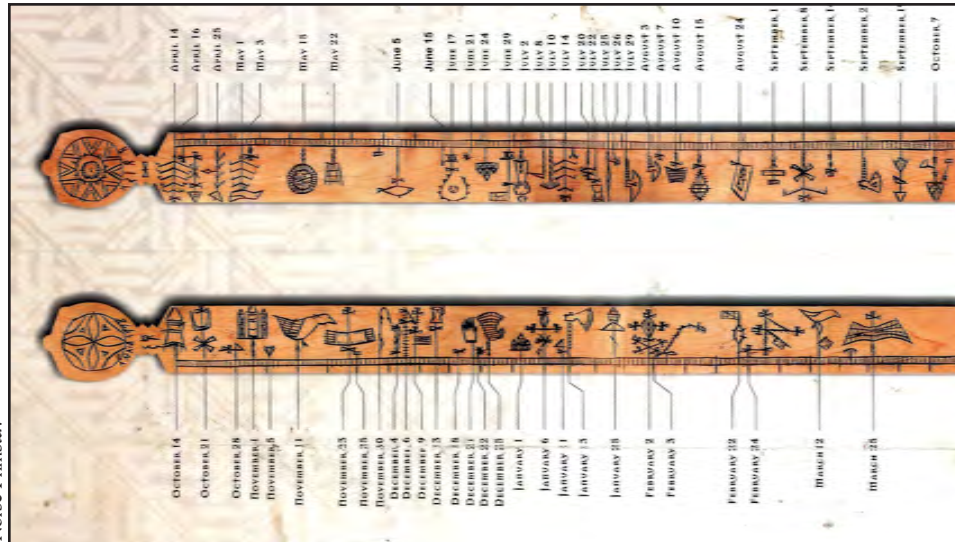
mountain circle method, that is, to follow the annual motion of sunrise and sunset near the horizon where he would have suitably distant mountains and other reference points in the landscape to make fairly exact observations possible. At high latitudes the points of sunrise and sunset move so fast that this method could easily be used to determine the length of the year to within a day.

According to this, people started by counting 52 weeks or 364 days in the year. When they realized the insufficiency of this they tried the remedy of intercalating one week every

Icelandic Months	
Gormánuður (mid-Oct - mid-Nov)	Slaughter Month
Ýlir (mid-Nov - mid-Dec)	Yule Month
Mörsugur (mid-Dec - mid-Jan)	Fat Sucking Month
Þorri (mid-Jan - mid Feb)	Frozen Snow Month
Góa (mid-Feb - mid-Mar)	Founder's Month
Einmánuður (mid-Mar - mid-Apr)	Lone or Single Month
Harpa (mid-Apr - mid-May)	Month of the Summer Goddess
Skerpla (mid-May - mid-Jun)	An Old Goddess Name
Sólmánuður (mid-Jun - mid-July)	Sun Month
Heyannir (mid-July - mid-Aug)	Hay Business Month
Tvímánuður (mid-Aug -mid-Sept)	Second Month
Haustmánuður (mid-Sept - mid-Oct)	Autumn Month

Skammdegi ("Short days")
|
Náttleysi ("Nightless days")

seventh year (sumarauki), thus making the average year 365 days. The method chosen may seem strange to us but it is a natural consequence of the important role of the week in the original calendar.



Norse Primstav

Norwegian Runic Calendar

A primstav (translation: prime staff) is the ancient Norwegian calendar stick. These were engraved with images instead of runes. The images depicted the different non-moving religious holidays. The oldest primstav still in existence is from 1457 and is exhibited at Norsk Folkemuseum.

A Runic calendar (also Rune staff or Runic Almanac) is a perpetual calendar based on the 19-year-long Metonic cycle of the Moon. Runic calendars were written on parchment or carved onto staves of wood, bone, or horn. The oldest one known, and the only one from the Middle Ages, is the Nyköping staff from Sweden, believed to date from the 13th century. Most of the several thousand which survive are wooden calendars dating from the 16th and the 17th centuries. During the 18th century, the Runic calendars had a renaissance, and around 1800, such calendars were made in the form of tobacco boxes in brass.

A typical Runic calendar consisted of several horizontal lines of symbols, one above the other. Special days like solstices, equinoxes, and celebrations (including Christian holidays and feasts) were marked with additional lines of symbols.

The calendar does not rely on knowledge of the length of the tropical year or of the occurrence of leap years. It is set at the beginning of each year by observing the first full moon after the winter solstice. The first full moon also marked the date of Disting, a pagan feast and a fair day.

On one line, 52 weeks of 7 days were laid out using 52 repetitions of the first seven runes of the Younger Futhark. The runes corresponding to each weekday varied from year to year.

On another, many of the days were marked with one of 19 symbols representing the 19 Golden numbers, the years of the Metonic cycle. In early calendars, each of the 19 years in the cycle was represented by a rune; the first 16 were the 16 runes of the Younger Futhark, plus special runes for the remaining three years: Arlaug (Golden Number 17), Tvímadur (Golden Number 18), and Belgthor (Golden Number 19). The new moon would fall on that

day during that year of the cycle. For example, in the 18th year of the cycle, the new moons would fall on all the dates marked with Tvímadur, the symbol for year 18.

Early Greek Calendars

The Hellenic calendar, or more properly, the Hellenic calendars (for there was no uniform calendar imposed upon all of Classical Greece) began in most Greek states between Autumn and Winter except the Athenian calendar, which began in Summer. The Greeks, as early as the time of Homer, appear to have been perfectly familiar with the division of the year into the twelve lunar months but no intercalary month or day is then mentioned. Independent of the division of a month into days, it was divided into periods according to the increase and decrease of the moon. Thus, the first day or new moon was called Noumenia. The month in which the year began, as well as the names of the months, differed among the states, and in some Greek states no names existed for the months, as they were distinguished only numerically, as the first, second, third, fourth month, etc.

The Attic calendar is the calendar that was in use in ancient Attica, the ancestral territory of the Athenian polis. I will focus on this calendar system as it was central to Athens, a major Greek city-state. Because of the relative wealth of evidence from Athens it is the best understood of all the Hellenic calendars.

The Athenian Calendar

The Attic calendar was an exclusively local phenomenon, used to regulate the internal affairs of the Athenians and with little relevance to the outside world. For example, just across the border in Boeotia not only did the months have different names, but the year began in mid-winter. In Athens the year began six months later, just after mid-summer. Furthermore, while Greek months were supposed to begin with the first sighting of the new moon, this was determined locally and with a degree of variability. In many years the months in the two communities would have more or less coincided, but there is no sign that they tried to keep the days of the month exactly aligned: they would have seen no reason to do so.

The year was meant to begin with the first sighting of the new moon after the summer solstice. The solstice is when the rising and setting points of the sun on the horizon, which have been creeping north over the past half-year, appear to remain in the same place for a few days before beginning their drift back toward the south. Ideally, the solstice was to occur in the last month of the year. Then, on the day after the evening when the first sliver of the new moon had been seen (or presumed to have been



Representation of the Goddess Athena

seen), the new year was to begin. Because the relation of these two events, solstice and new moon, is variable, the new year would have moved (in relation to a Gregorian date) by up to a month.

The linking of the sun and the moon meant that the calendar was lunisolar. Twelve lunar months add up to about 354 days, eleven days or so shorter than the solar year. Under a purely lunar calendar, such as the Islamic one, the months creep backwards over the years with no relation between the months and the seasons. In Greece with its pronounced seasons this had to be prevented. By tying the start of their year to the solstice, the Athenians allowed the months to relate, with some elasticity, to the seasons.

This still left the problem that twelve lunar months fall eleven days short of the solar year. To make up for this, an extra month had to be inserted ("intercalated") about every third year, leading to a leap year of about 384 days. So normal years contained 12 lunar cycles and then when it was judged that the months had slid back enough, a year of 13 cycles was used to realign the lunar and solar years. This extra month was achieved by repeating an existing month. That is to say, the same month name was used twice in a row. Handbooks usually refer to the sixth month, Poseideon, as the month that was repeated, but months 1, 2, 6, 7 and 8 are all attested as being doubled.

Various cycles were in existence for working out exactly which years needed to take a thirteen month. A nineteen-year cycle known as the Metonic cycle which was developed at Athens by the astronomers Meton and Euctemon (known to be active in 432 BC), could have been used to pattern the insertion of leap years so as to keep the lunar and solar years aligned with some accuracy. There is, however, no sign that any such system was in fact used at Athens, where the calendar seems to have been administered on an ad hoc basis.

The first function of this calendar was to set the days for the religious festivals. These festivals, in a county fair role, encompassed a much broader range of activities than the word "religious" suggests, and were central to the life of the city.

The Athenian months were named after gods and festivals. In this the calendar differed from the Mesopotamian models that lie behind all Greek lunar calendars. In the Sumerian and Babylonian prototypes, for instance, the months were named after the main agricultural activity practiced in that month. Many Athenian festivals did have links with different stages of the agricultural cycle, such as festivals of planting or harvest. This perhaps added to the need to keep lunar and solar calendars roughly aligned, though this was not always achieved. The year of farmers, however, was not the primary focus of the calendar.

Athenian festivals were divided between the 80 or so annually recurring celebrations and a set of monthly holy days clustered around the beginning of each month. These were often the birthdays of gods, the Greeks thinking of birthdays as a monthly rather than a yearly recurrence. Every month days 1-4 and 6-8 were all sacred to particular gods or divine entities, amounting to some 60 days a year:

- Day 1: New Moon
- Day 2: Agathos Daimon
- Day 3: Athena's Birthday
- Day 4: Heracles, Hermes, Aphrodite and Eros
- Day 6: Artemis' Birthday
- Day 7: Apollo's Birthday
- Day 8: Poseidon and Theseus (Mikalson 1975: 24)

Monthly and annual festivals were not usually allowed to fall on the same days. This means that every festival month had an opening phase with exactly recurrent practices and celebrations, while in the body of each month there was a unique schedule of festival days.

A parallel function of this calendar was the positioning of the perhaps 15 or so forbidden days on which business should not be transacted. This practice is not still currently in use.



The Chinese Calendar

Chinese New Year is the main holiday of the year for more than one quarter of the world's population. Although the People's Republic of China uses the Gregorian calendar for civil purposes, a special Chinese calendar is used for determining festivals. Various Chinese communities around the world also use this calendar.

The beginnings of the Chinese calendar can be traced back to the 14th century B.C.E. Legend has it that the Emperor Huangdi invented the calendar in 2637 B.C.E. The Chinese calendar is based on exact astronomical observations of the longitude of the sun and the phases of the moon. This means that principles of modern science have had an impact on the Chinese calendar.

What Does the Chinese Year Look Like?

The Chinese calendar - like the Hebrew - is a combined solar/lunar calendar in that it strives to have its years coincide with the tropical year and its months coincide with the synodic months. It is not surprising that a few similarities exist between the Chinese and the Hebrew calendar:

An ordinary year has 12 months, a leap year has 13 months.

An ordinary year has 353, 354, or 355 days, a leap year has 383, 384, or 385 days.

When determining what a Chinese year looks like, one must make a number of astronomical calculations: First, determine the dates for the new moons. Here, a new moon is the completely "black" moon (that is, when the moon is in conjunction with the sun), not the first visible crescent used in the Islamic and Hebrew calendars. The date of a new moon is the first day of a new month. Second, determine the dates when the sun's longitude is a multiple of 30 degrees. (The sun's longitude is 0 at Vernal Equinox, 90 at Summer Solstice, 180 at Autumnal Equinox, and 270 at Winter Solstice.) These dates are called the Principal Terms and are used to determine the number of each month:

Principal Term 1 occurs when the sun's longitude is 330 degrees.
 Principal Term 2 occurs when the sun's longitude is 0 degrees.
 Principal Term 3 occurs when the sun's longitude is 30 degrees. (etc.)
 Principal Term 11 occurs when the sun's longitude is 270 degrees.
 Principal Term 12 occurs when the sun's longitude is 300 degrees.

Each month carries the number of the Principal Term that occurs in that month. In rare cases, a month may contain two Principal Terms; in this case the months numbers may have to be shifted. Principal Term 11 (Winter Solstice) must always fall in the 11th month. Some variations in these rules are seen in various Chinese communities.

What Years Are Leap Years?

Leap years have 13 months. To determine if a year is a leap year, calculate the number of new moons between the 11th month in one year (i.e., the month containing the Winter Solstice) and the 11th month in the following year. If there are 13 new moons from the start of the 11th month in the first year to the start of the 11th month in the second year, a leap month must be inserted. In leap years, at least one month does not contain a Principal Term. The first such month is the leap month. It carries the same number as the previous month, with the additional note that it is the leap month.

Counting Years in the Chinese System?

Unlike most other calendars, the Chinese calendar does not count years in an infinite sequence. Instead years have names that are repeated every 60 years. (Historically, years used to be counted since the accession of an emperor, but this was abolished after the 1911 revolution.) Within each 60-year cycle, each year is assigned name consisting of two components:

The first component is a Celestial Stem. These words have no English equivalent:

1	jia	6	ji
2	yi	7	geng
3	bing	8	xin
4	ding	9	ren
5	wu	10	gui

The second component is a Terrestrial Branch. The names of the corresponding animals in the zodiac cycle of 12 animals are given in parentheses. The Shengxiào literally “birth likeness”, is also known in English as the Chinese zodiac. Zodiac derives from the similar concept in western astrology and means “circle of animals”. It is a scheme and systematic plan of future action that relates each year to an animal and its reputed attributes according to a 12-year mathematical cycle and it remains popular in several East Asian countries including China, Vietnam, Korea and Japan. In Chinese astrology the animal signs assigned by year represent what others perceive you as being or how you present yourself. It is a common misconception that the animals assigned by year are the only signs and many western descriptions of Chinese astrology draw solely on this system. In fact, there are also animal signs assigned by month (called inner animals), by day (called true animals) and hours (called secret animals).

1	zi (rat)	7	wu (horse)
2	chou (ox)	8	wei (sheep)
3	yin (tiger)	9	shen (monkey)
4	mao (rabbit)	10	you (rooster)
5	chen (dragon)	11	xu (dog)
6	si (snake)	12	hai (pig)

Each of the two components is used sequentially. Thus, the 1st year of the 60-year cycle becomes jia-zi, the 2nd year is yi-chou, the 3rd year is bing-yin, etc. When we reach the end of a component, we start from the beginning: The 10th year is gui-you, the 11th year is jia-xu (restarting the Celestial Stem), the 12th year is yi-hai, and the 13th year is bing-zi (restarting the Terrestrial Branch). Finally, the 60th year becomes gui-hai. This way of naming years within a 60-year cycle goes back approximately 2000 years. A similar naming of days and months has fallen into disuse, but the date name is still listed in calendars.

It is customary to number the 60-year cycles since 2637 B.C.E., when the calendar was supposedly invented. In that year the first 60-year cycle started.

What Is the Current Year in the Chinese Calendar?

The current 60-year cycle started on 2 Feb 1984. That date bears the name bing-yin in the 60-day cycle, and the first month of that first year bears the name gui-chou in the 60-month cycle. This means that the year wu-yin, the 15th year in the 78th cycle, started on 28 Jan 1998. The 20th year in the 78th cycle, started on 1 Feb 2003.

What was the Early Chinese calendar?

In China, the calendar was a sacred document, sponsored and promulgated by the reigning monarch. For more than two millennium, a Bureau of Astronomy made astronomical observations, calculated astronomical events such as eclipses, prepared astrological predictions, and maintained the calendar. After all, a successful calendar not only served practical needs, but also confirmed the consonance between Heaven and the imperial court.

Analysis of surviving astronomical records inscribed on oracle bones reveals a Chinese lunisolar calendar, with intercalation of lunar months, dating back to the Shang dynasty of the fourteenth century B.C.E. Various intercalation schemes were developed for the early calendars, including the nineteen-year and 76-year lunar phase cycles that came to be known in the West as the Metonic cycle and Callipic cycle.

From the earliest records, the beginning of the year occurred at a New Moon near the winter solstice. The choice of month for beginning the civil year varied with time and place, however. In the late second century B.C.E., a calendar reform established the practice, which continues today, of requiring the winter solstice to occur in month 11. This reform also introduced the intercalation system in which dates of New Moons are compared with the 24 solar terms. However, calculations were based on the mean motions resulting from the cyclic relationships. Inequalities in the Moon's motions were incorporated as early as the seventh century C.E., but the Sun's mean longitude was used for calculating the solar terms until 1644. Years were counted from a succession of eras established by reigning emperors. Although the accession of an emperor would mark a new era, an emperor might also declare a new era at various times within his reign. The introduction of a new era was an attempt to reestablish a broken connection between Heaven and Earth, as personified by the emperor. The break might be revealed by the death of an emperor, the occurrence of a natural disaster, or the failure of astronomers to predict a celestial event such as an eclipse. In the latter case, a new era might mark the introduction of new astronomical or calendar models.

Sexagenary cycles were used to count years, months, days, and fractions of a day using the set of Celestial Stems and Terrestrial Branches. Use of the sixty-day cycle is seen in the earliest astronomical records. By contrast the sixty-year cycle was introduced in the first century C.E. or possibly a century earlier. Although the day count has fallen into disuse in everyday life, it is still tabulated in calendars.



African Calendars

There is not much remaining evidence of African people's calendars. It is very likely that the ancient Egyptian calendar had important influences on the rest of the continent but there are some remaining calendar systems still used today with mixed cultural influences with western calendars. It can be said that there seems to be strong evidence when reading the older African time keeping systems that they were strongly influenced by observing the animals and the night sky, as this was chiefly important to the indigenous people. Much of the African continent is desert or does not portray the strong seasonal differences in weather patterns, so the behaviors of the animals played a strong role in the survival of the people.

Berber Calendar

Not much is known about the division of time among ancient Berbers of North Africa. Some elements of a pre-Islamic, and almost certainly pre-Roman, calendar emerge from some medieval writings, analyzed by Nico van d'sen Boogert. Some correspondences with the traditional Tuareg calendar suggest that in antiquity there existed, with some degree of diffusion, a "Berber" time computation, organized on native bases.

The Berber months drawn from medieval works...

	NAME OF THE MONTH	"MEANING"
1	tayyuret tezwaret	The first small moon
2	tayyuret teggwerat	The last small moon
3	yardut	?
4	sinwa	?
5	tasra tezwaret	The first herd
6	tasra teggwerat	The last herd
7	awdayeyet yezwaren	The first antelope babies
8	awdayeyet yeggweran	The last antelope babies
9	awzimet yezwaren	The first gazelle babies
10	awzimet yeggweran	The last gazelle babies
11	ayssi / aysi	?
12	nim	?

There are not enough elements to reconstruct this calendar fully, but known characteristics include many month names' appearing in couples (in the Tuareg world, even in triplets),

which suggests a time division different from the present one, made up of months of about 30 days.

The Guanches

Some further information, although difficult to specify and correlate with the situation in the rest of North Africa, may be deduced from what is known about time computation among the Guanches of the Canary Islands. According to a 17th-century manuscript by Tomás Marín de Cubas, they computed their year, called Acano, by lunations of 29 days (suns) beginning from the new moon. It began in summer, when the sun enters in Cancer, on June 21: at the first conjunction (at the first new moon after the Summer solstice) they celebrated nine festival days for the crop. The same manuscript states (although somewhat obscurely) that graphical-pictorial records of such calendar events were made on different supports, and on this basis some modern scholars identified descriptions of astronomical events connected to annual cycles in a series of geometric paintings in some caves of Gran Canaria island, but the results of these studies are speculative.

The name of only one month is known in the native language, handed down as Beñesmet. It seems it was the second month of the year, corresponding to August. Such a name, in case it was made up by something like *wen "that of" + (e)smet or (e)zmet, may correspond, in the list of medieval Berber month names, with the ninth and tenth months, awzimet (properly aw "baby of" + zimet "gazelle"). But data is too scarce for this hypothesis to be deepened.

Igbo Calendar

The Igbo calendar is the traditional calendar system of the Igbo people which has 13 months in a year (aro), 7 weeks in a month (onwa), and 4 days in a week (izu) plus an extra day at the end of the year, in the last month. The calendar has its roots steeped in ritualism and symbolism; many parts of the Igbo calendar are named or dedicated to certain spirits (Igbo: Mmuo) and deities (Igbo: Alusi) in the Igbo mythology. Some of the spirits and deities were believed to have given the Igbo people knowledge of time. The days, also known as market day, also correspond to the four cardinal points, north, south, east, west.

Although worship and spirit honoring was a very big part in the creation and development of the Igbo calendar system, commerce also played a major role in creating the Igbo calendar. An example of this is the Igbo market days of which each community has a day assigned to open its markets. In this way the Igbo calendar is still in use.

Some Igbo communities have tried to adjust the thirteen month calendar to twelve months, in line with the Gregorian calendar. The calendar is neither universal nor synchronized, so various groups will be at different stages of the week, or even year. Nonetheless the four-eight day cycle serves to synchronize the inter-village market days, and substantial parts (for example the Nri kingdom) do share the same year-start.

Xhosa Calendar

In the Xhosa calendar, traditionally, the year began in June and ended in May, when Canopus, a large star visible in the Southern Hemisphere, signaled the time for harvesting.

In the Xhosa language, there are two ways of naming months: modern and traditional. In urban areas the modern names of the months are used. However, in rural areas, in poetry, and particularly in the Eastern Cape the old names are still used.

The traditional names for months come from names of plants or flowers that grow or seasonal changes that happen at a given time of year. They are:

January – EyoMqungu (month of the Tambuki Grass)
 February – EyoMdumba (month of the swelling grain)
 March – EyoKwindla (month of the first fruits)
 April – UTshazimpuzi (month of the withering pumpkins)
 May – UCanzibe (month of Canopus)
 June - Isilimela (month of the Pleiades)
 July – EyeKhala / EyeNtlaba (month of the aloes)
 August – EyeThupha (month of the buds)
 September – EyoMsintsi (month of the coast coral tree)
 October – EyeDwarha (month of the lilypad)
 November – EyeNkanga (month of the small yellow daisies)
 December - EyoMnga (month of the mimosa thorn tree and simba)

Yoruba Calendar

The Yoruba calendar (Kojoda) year runs from 3 June to 2 June of the following year. According to this calendar, the Gregorian year 2015 A.D. is the 10057th year of Yoruba culture. The traditional Yoruba week has four days. The four days that are dedicated to the Orisa go as follow:

- Day 1 is dedicated to Obatala (Sopanna, Iyaami, and the Egungun)
- Day 2 is dedicated to Orunmila (Esu and Osun)
- Day 3 is dedicated to Ogun (Osoosi)
- Day 4 is dedicated to Sango (Oya)

(Orisha (spelled Orichá or Orixá in Latin America) are spirits that reflects one of the manifestations of God (Olodumare, Olorun, Olofi) in Ifá and Yoruba religion.)

To reconcile with the Gregorian calendar, Yoruba people also measure time in seven days a week and four weeks a month. The four day calendar was dedicated to the Orisas and the seven day calendar is for doing business.

The traditional Yoruba calendar (Kojoda) has a 4-day week and 91 weeks in a year. The Yoruba year spans from 3 June of a Gregorian calendar year to 2 June of the following year. According to the calendar developed Remi-Niyi Alaran, the Gregorian year 2011 AD is the 10,053th year of Yoruba records of time. With the British colonial and European cultural invasions, came the need to reconcile with the Gregorian calendar so Yoruba people also measure time in seven days a week and 52 weeks a year.

Namibia

The Himba people in Ekambu, Namibia, are some of the last peoples in the world living in relative isolation from modernity. “When the thunderstorms start and the leaves grow from the ground, that’s how we know it’s the new year,” said Maverihepisa Koruhama, one of the villagers in Ekambu. They measure time by the shifting sun and mark the coming of the new year with the arrival of seasonal rains that transform the parched red soil into a carpet of green. In their Herero language, the word for “day” is the same as the word for “sun,” and the word for “year” means “rain.”

The Islamic Calendar

The Islamic calendar (or Hijri calendar) is a purely lunar calendar. It contains 12 months that are based on the motion of the moon, and because 12 synodic months is only $12 \times 29.53 = 354.36$ days, the Islamic calendar is consistently shorter than a tropical year, and therefore it shifts with respect to the Gregorian calendar. The calendar is based on the Qur'an (Sura IX, 36-37) and its proper observance is a sacred duty for Muslims.

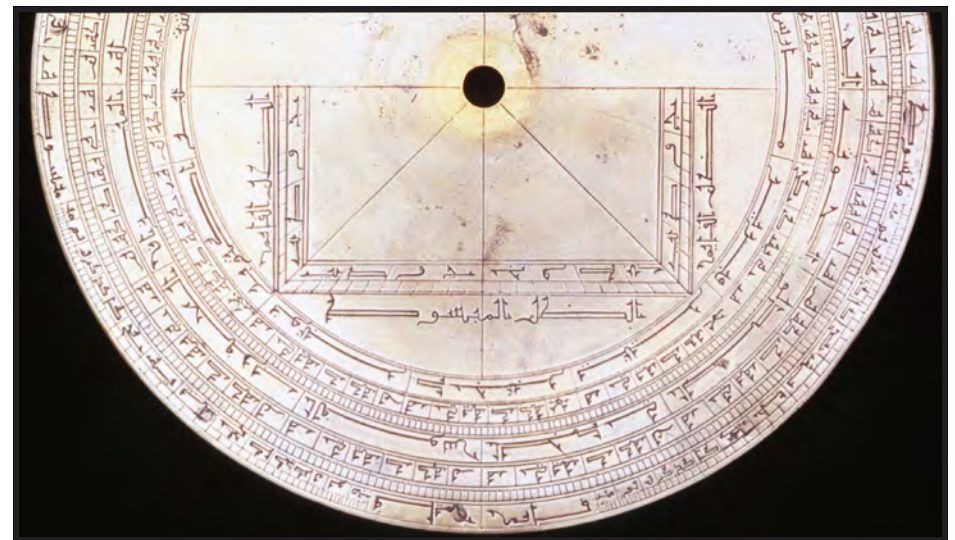
The Islamic calendar is the official calendar in countries around the Gulf, especially Saudi Arabia. But other Muslim countries use the Gregorian calendar for civil purposes and only turn to the Islamic calendar for religious purposes.

The names of the 12 months that comprise the Islamic year are:

- | | |
|--------------------------------|-------------------|
| 1. Muharram | 7. Rajab |
| 2. Safar | 8. Sha'ban |
| 3. Rabi' al-awwal (Rabi' I) | 9. Ramadan |
| 4. Rabi' al-thani (Rabi' II) | 10. Shawwal |
| 5. Jumada al-awwal (Jumada I) | 11. Dhu al-Qi'dah |
| 6. Jumada al-thani (Jumada II) | 12. Dhu al-Hijjah |

(Due to different transliterations of the Arabic alphabet, other spellings of the months are possible.)

Each month starts when the lunar crescent is first seen (by a human observer's eye) after a new moon. Although new moons may be calculated quite precisely, the actual visibility of the crescent is much more difficult to predict. It depends on factors such as weather, the optical properties of the atmosphere, and the location of the observer. It is therefore very difficult to give accurate information in advance about when a new month will start. Furthermore, some Muslims depend on a local sighting of the moon, whereas others depend on a sighting by authorities somewhere in the Muslim world. Both are valid Islamic practices, but they may lead to different starting days for the months.



Metal Islamic Calendar Record

Persian Calendar

The Persian calendar is a solar calendar with a starting point that matches that of the Islamic calendar. Apart from that, the two calendars are not related. The origin of the Persian calendar can be traced back to the 11th century when a group of astronomers (including the well-known poet Omar Khayyam) created what is known as the Jalaali calendar. However, a number of changes have been made to the calendar since then.

The current calendar has been used in Iran since 1925 and in Afghanistan since 1957. However, Afghanistan used the Islamic calendar in the years 1999-2002.

The names and lengths of the 12 months that comprise the Persian year are:

- | | |
|--------------------------|-------------------------|
| 1. Farvardin (31 days) | 7. Mehr (30 days) |
| 2. Ordibehesht (31 days) | 8. Aban (30 days) |
| 3. Khordad (31 days) | 9. Azar (30 days) |
| 4. Tir (31 days) | 10. Day (30 days) |
| 5. Mordad (31 days) | 11. Bahman (30 days) |
| 6. Shahrivar (31 days) | 12. Esfand (29/30 days) |

(Due to different transliterations of the Persian alphabet, other spellings of the months are possible.) In Afghanistan the months are named differently. The month of Esfand has 29 days in an ordinary year, 30 days in a leap year.

The Persian year starts at vernal equinox. If the astronomical vernal equinox falls before noon (Tehran true time) on a particular day, then that day is the first day of the year. If the astronomical vernal equinox falls after noon, the following day is the first day of the year.

As in the Islamic calendar, years are counted since Mohammed's emigration to Medina in AD 622. At vernal equinox of that year, AP 1 started (AP = Anno Persico/ Anno Persarum = Persian year). Note that contrary to the Islamic calendar, the Persian calendar counts solar years. In the year AD 2003 we have therefore witnessed the start of Persian year 1382, but the start of Islamic year 1424.

Since the Persian year is defined by the astronomical vernal equinox, leap years are years in which there are 366 days between two Persian New Year's days.

Persian to Zoroaster

The forerunner of all modern Zoroastrian calendars is the system used to reckon dates in the Persian Empire. In 539 BC, Persia's rulers conquered Babylon, and soon afterwards – at least by the 4th century BC – adopted the Babylonian method of reckoning months: 12 months each containing 30 days. The Zoroastrian calendar follows the Babylonian in relating the seventh and other days of the month to Ahura Mazda.

At about the time of the conquest of Babylonia in 539 B.C.E., Persian kings made the Babylonian cyclic calendar standard throughout the Persian Empire, from the Indus to the Nile. Aramaic documents from Persian Egypt, for instance, bear Babylonian dates besides the Egyptian. Similarly, the royal years were reckoned in Babylonian style, from Nisanu 1. It is probable, however, that at the court itself the counting of regnal years began with the accession day. The Seleucids and, afterward, the Parthian rulers of Iran maintained the Babylonian calendar. The fiscal administration in northern Iran, from the 1st century B.C.E., at least, used Zoroastrian month and day names in documents in Pahlavi (the Iranian language of Sasanian Persia). The origin and history of the Zoroastrian calendar year of 12 months of 30 days, plus five days (that is, 365 days), remain unknown. It became official under the Sasanian dynasty, from about C.E. 226 until the Arab conquest in 621. The Arabs introduced the Muslim lunar year, but the Persians continued to use the Sasanian solar year, which in 1079 was made equal to the Julian year by the introduction of the leap year.

Zoroastrian Calendar

The early progenitors of the Zoroastrian community were nomads who had a keen perception of the seasonal changes and a deep respect for the elements of nature. They chose to start the New Year on the day of Vernal Equinox (March 21) which marks the beginning of spring in the Northern Hemisphere. Also, on this day the sun enters the constellation Aries and is directly over the equator making the day and night equal.

This 'Avestan Calendar' of 360 days required regular correction to keep it synchronized with the solar year; this was achieved by intercalating a 13th month roughly once every six years.

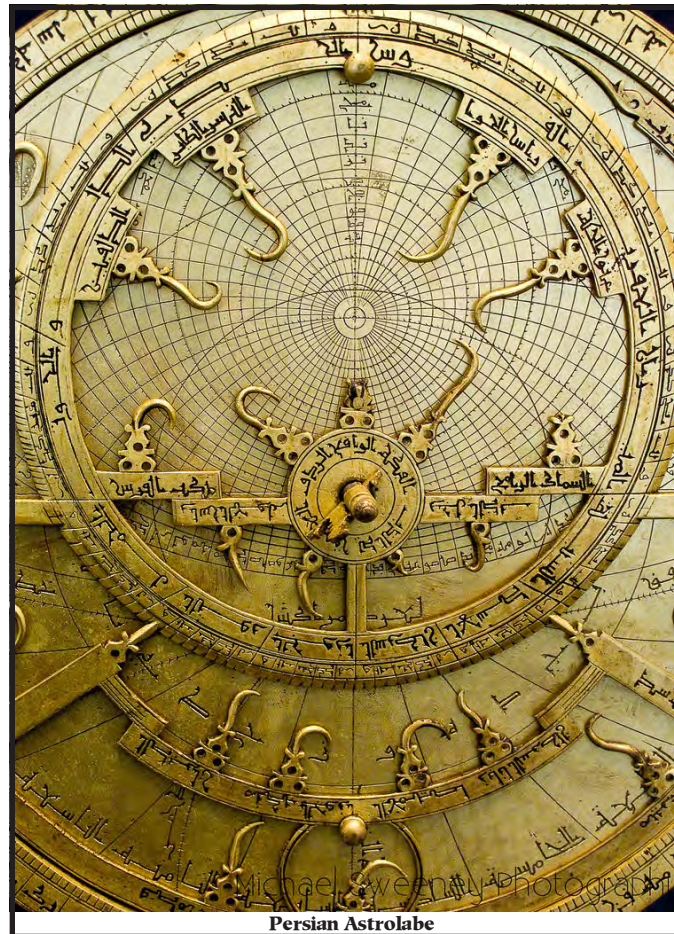
Intercalations did not always follow a regular pattern, but during the reign of Artaxerxes II (circa 380 BC) astronomers utilized a 19 year cycle which required the addition of a month called Addaru II month in years 3, 6, 8, 11, 14 and 19, and the month Ululu II in year 17 of the cycle. Older research suggests the first intercalation took place in 309 BC. It should be noted that the first month of the year was called Frawardin, and the first day of Frawardin was the 'New Year's Day' or Nawruz (also reckoned Now-Ruz, Nowruz, No Roz, No-Rooz, Norouz, or Navroz), from which all other religious observances were reckoned – this day being, in theory, the day of the Northern vernal equinox, 21 March (Gregorian).

Following Alexander's conquest of Persia in 330 BC, the Seleucids (312–248 BC) instituted the Hellenic practice of counting years from the start of an 'era', as opposed to starting a new count at the beginning of the reign of each individual king. They therefore counted years of the era of Alexander (now referred to as the Seleucid era). This practice was not considered acceptable to the Zoroastrian priests, who consequently founded a new era, the era of Zoroaster – which incidentally led to the first serious attempt to establish a historical date for the prophet Zarathustra.

The tradition of naming the days and months after divinities was based on a similar Egyptian custom, and was instituted at some point between 458 and 330 BC, very probably during the reign of Artaxerxes II (404–358 BC).[35] "The last evidence for the use ... with Old Persian month-names ... comes from 458BCE, ... after which the Elamite tablets cease." "No dated West-Iranian documents from between 458 BC and 330 BC survive, but the fact that the Zoroastrian calendar was created some time during that period can be inferred from its use in a number of far-flung lands which had formerly been parts of the Achaemenid Empire.

A 365-day calendar was introduced during the reign of the Sasanian emperor Ardashir I (226–241 AD). The names of months and of days of the month that had been used in Achaemenian times remained unaltered; the five additional days were inserted after the twelfth month. These five days were named Gatha or Gah days, after the ancient Avesta hymns of the same name. In 226 AD, 1 Frawardin and the New Year celebration of Nawruz had drifted to 1 October. The older custom of counting regnal years from the monarch's coronation was reinstated.

A major reform of the religious calendar was implemented some time between 399 and 518



Persian Astrolabe

AD. The names of the days and months were unaltered, but Nawruz would now be celebrated on the first day of Adur, hitherto the ninth month of the calendar. Other religious festivals were shifted to maintain their relative position to Nawruz. Mary Boyce has argued that, as part of this reform, the six-day festivals were compressed to five days. The major feasts, or gahambars, of contemporary Zoroastrian practice, are still kept as five-day observances today.

At the start of the 20th century, Khurshedji Cama, a Bombay Parsi, founded the “Zarthosti Fasili Sal Mandal”, or Zoroastrian Seasonal-Year Society. In 1906, the society published its proposal for a Zoroastrian calendar which was synchronized with the seasons. This Fasli calendar, as it became known, was based on an older model, introduced in 1079 during the reign of the Seljuk Malik Shah and which had been well received in agrarian communities.

The Fasli proposal had two useful features: a leap-day once every four years, and harmony with the solar year. The leap-day, called Avardad-sal-Gah (or in Pahlavi: Ruzevahizak), would be inserted, when required, after the five existing Gatha days at the end of the year. New Year's Day would be kept on the northward vernal equinox, and if the leap-day was applied correctly, would not drift away from the spring. The Fasli society also claimed that their calendar was an accurate religious calendar, as opposed to the other two calendars, which they asserted were only political.

The new calendar received little support from the Indian Zoroastrian community, since it was considered to contradict the injunctions expressed in the Denkard. In Iran, however, the Fasli calendar gained momentum following a campaign in 1930 to persuade the Iranian Zoroastrians to adopt it, under the title of the Bastani (traditional) calendar. In 1925 AD, the Iranian Parliament had introduced a new Iranian calendar, which (independent of the Fasli movement) incorporated both points proposed by the Fasili Society, and since the Iranian national calendar had also retained the Zoroastrian names of the months, it was not a big step to integrate the two. The Bastani calendar was duly accepted by many of the Zoroastrians.

The Mayan Calendar

Among their other accomplishments, the ancient Mayas invented a calendar of remarkable accuracy and complexity. Their pyramids were used as a calendar: four stairways, each with 91 steps and a platform at the top, making a total of 365, equivalent to the number of days in a calendar year.

The Maya calendar was adopted by the other Mesoamerican nations, such as the Aztecs and the Toltec, which adopted the mechanics of the calendar unaltered but changed the names of the days of the week and the months.

The Maya calendar uses three different dating systems in parallel, the Long Count, the Tzolkin (divine calendar), and the Haab (civil calendar). Of these, only the Haab has a direct relationship to the length of the year.

The Roman Calendar

When Rome emerged as a world power, the difficulties of making a calendar were well known, but the Romans complicated their lives because of their superstition that even

numbers were unlucky. Hence their months were 29 or 31 days long, with the exception of February, which had 28 days. However, four months of 31 days, seven months of 29 days, and one month of 28 days added up to only 355 days. Therefore the Romans invented an extra month called Mercedonius of 22 or 23 days. It was added every second year.

Even with Mercedonius, the Roman calendar eventually became so far off that Julius Caesar, advised by the astronomer Sosigenes, ordered a sweeping reform. 46 B.C. was made 445 days long by imperial decree, bringing the calendar back in step with the seasons. Then the solar year (with the value of 365 days and 6 hours) was made the basis of the calendar. The months were 30 or 31 days in length, and to take care of the 6 hours, every fourth year was made a 366-day year. Moreover, Caesar decreed the year began with the first of January, not with the vernal equinox in late March.

This calendar was named the Julian calendar, after Julius Caesar, and it continues to be used by Eastern Orthodox churches for holiday calculations to this day. However, despite the correction, the Julian calendar is still 11.5-minutes longer than the actual solar year, and after a number of centuries, even 11-minutes and 30-seconds adds up.

The original Roman calendar is believed to have been a lunar calendar, which may have been based on one of the Greek lunar calendars. As the time between new moons averages 29.5 days, its months were constructed to be either hollow (29 days) or full (30 days). Full months were considered powerful and therefore auspicious; hollow months were unlucky. Unlike currently used dates, which are numbered sequentially from the beginning of the month, the Romans counted backwards from three fixed points: the Nones, the Ides and the Kalends of the following month. This system originated in the practice of “calling” the new month when the lunar crescent was first observed in the west after sunset. From the shape and orientation of the new moon, the number of days remaining to the nones would be proclaimed. At some point in history dates of months ceased to be connected with lunar phases, but it is unknown when it happened.

Calendar of Romulus

Roman writers attributed the original Roman calendar to Romulus, the mythical founder of Rome around 753 BC. The Romulus calendar had ten months with the spring equinox in the first month:

CALENDAR OF ROMULUS

Martius (31 days)
 Aprilis (30 days)
 Maius (31 days)
 Iunius (30 days)
 Quintilis (31 days)
 Sextilis (30 days)
 September (30 days)
 October (31 days)
 November (30 days)
 December (30 days)

The regular calendar year consisted of 304 days, with the winter days after the end of December and before the beginning of the following March not being assigned to any month.

The names of the first four months were named in honor of Roman gods: Martius in honor of Mars; Aprilis in honor of Virilis (or Avril as we see in French—only much later in the mid-4th century AD did it change to honor Venus); Maius in honor of Maia; and Iunius in honor of Juno. The names of the months from the fifth month on were based on their position in the calendar: Quintilis comes from Latin quinque meaning five; Sextilis from sex mean-



Mayan Calendar Stone Illustration

ing six; September from septem meaning seven; October from octo meaning eight; November from novem meaning nine; and December from decem meaning ten.



Example of a written Roman Year Tablet

Calendar of Numa

Numa Pompilius, the second of the seven traditional kings of Rome, reformed the calendar of Romulus around 713 BC. The Romans considered odd numbers to be lucky, so Numa took one day from each of the six months with 30 days, reducing the number of days in the 10 previously defined months by a total of six days.

There were 51 previously unallocated winter days, to which were added the six days from the reductions in the days in the months, making a total of 57 days. These he made into two months, January and February, which he prefixed to the previous 10 months. January was given 29 days, while February had the unlucky number of 28 days, suitable for the month of purification. This made a regular year (of 12 lunar months) 355 days long in place of the previous 304 days of the Romulus calendar. Of the 11 months with an odd number of days, four had 31 days each and seven had 29 days each:

CALENDAR OF NUMA		
CIVIL CALENDARS		RELIGIOUS CALENDAR
<i>According to Macrobius and Plutarch</i>	<i>According to Ovid</i>	<i>According to Fowler</i>
Ianuarius (29-days)	Ianuarius	Martius
Februarius (28-days)	Martius	Aprilis
Martius (31-days)	Aprilis	Maius
Aprilis (29-days)	Maius	Iunius
Maius (31-days)	Iunius	Quintilis
Iunius (29-days)	Quintilis	Sextilis
Quintilis (31-days)	Sextilis	September
Sextilis (29-days)	September	October
September (29-days)	October	November
October (31-days)	November	December
November (29-days)	December	Ianuarius
December (29-days)	Februarius	Februarius

February consisted of two parts, each with an odd number of days. The first part ended with the Terminalia on the 23rd, which was considered the end of the religious year, and the five remaining days formed the second part.

To keep the calendar year roughly aligned with the solar year, a leap month, called the Mensis Intercalaris, sometimes also known as Mercedonius or Mercedinus, was added from time to time between these two parts of February, after the 23rd or the 24th. The second part of February was incorporated in the intercalary month as its last five days, with no change either in their dates or the festivals observed on them. The resulting leap year was either 377 or 378 days long, depending on whether Intercalaris began on the day after the Terminalia or the second day after the Terminalia. Intercalaris had 27 days, consisting of 22 additional days plus the five days brought over from February. Its Nones were on the fifth and its Ides on the 13th as usual; the next following day was a.d. XV Kal. Mart.

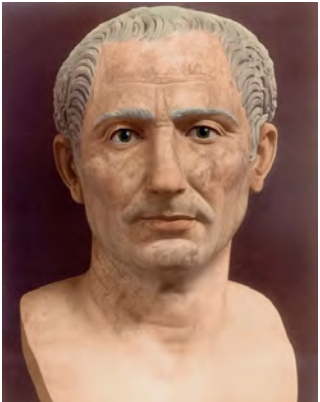
The Pontifex Maximus determined when an intercalary month was to be inserted. On average, this happened in alternate years. The system of aligning the year through intercalary months broke down at least twice: the first time was during and after the Second Punic War. It led to the reform of the Lex Acilia in 191 BC, the details of which are unclear, but it appears to have successfully regulated intercalation for over a century. The second breakdown was in the middle of the first century BC and may have been related to the increasingly chaotic and adversarial nature of Roman politics at the time. The position of Pontifex Maximus was not a full-time job; it was held by a member of the Roman elite, who would almost invariably be involved in the machinations of Roman politics. Because the term of office of elected Roman magistrates was defined in terms of a Roman calendar year, a Pontifex Maximus would have reason to lengthen a year in which he or his allies were in power, or shorten a year in which his political opponents held office. For example, Julius Caesar made the year of his third consulship in 46 BC 445 days long.

The Julian Calendar

Julius Caesar, as Pontifex Maximus, reformed the calendar in 46 BC. The new calendar became known as the Julian calendar. Quintilis was renamed as Iulius (July) in honor of Julius Caesar in 44 BC by Mark Antony. The calendar reforms were completed during the reign of his successor Augustus, when the Senate renamed Sextilis as Augustus (August) in 8 BC. Some documents state that the date of the change of the name started between 26 and 23 BC.

Before today's Gregorian calendar was adopted, the older Julian calendar was used. It was admirably close to the actual length of the year, as it turns out, but the Julian calendar was not so perfect that it didn't slowly shift off track over the following centuries. But, hundreds of years later, monks were the only ones with any free time for scholarly pursuits – and they were discouraged from thinking about the matter of “secular time” for any reason beyond figuring out when to observe Easter. In the Middle Ages, the study of the measure of time was first viewed as prying too deeply into God's own affairs – and later thought of as a lowly, mechanical study, unworthy of serious contemplation.

As a result, it wasn't until 1582, by which time Caesar's calendar had drifted a full 10 days off course, that Pope Gregory XIII (1502 - 1585) finally reformed the Julian calendar. Ironically, by the time the Catholic church buckled under the weight of the scientific reasoning that pointed out the error, it had lost much of its power to implement the fix. Protestant tract writers responded to Gregory's calendar by calling him the “Roman Antichrist” and



Bust of Julius Caesar

claiming that its real purpose was to keep true Christians from worshipping on the correct days. The “new” calendar, as we know it today, was not adopted uniformly across Europe until well into the 18th century.

By the 15th century the Julian calendar had drifted behind the solar calendar by about a week, so that the vernal equinox was falling around March 12 instead of around March 20. Pope Sixtus IV (who reigned from 1471 to 1484) decided that another reform was needed and called the German astronomer Regiomontanus to Rome to advise him. Regiomontanus arrived in 1475, but unfortunately he died shortly afterward, and the pope’s plans for reform died with him.



Statue of Pope Gregory XIII

Then in 1545, the Council of Trent authorized Pope Paul III to reform the calendar once more. Most of the mathematical and astronomical work was done by Father Christopher Clavius, S.J. The immediate correction, advised by Father Clavius and ordered by Pope Gregory XIII, was that Thursday, Oct. 4, 1582, was to be the last day of the Julian calendar. The next day would be Friday, Oct. 15. For long-range accuracy, a formula suggested by the Vatican librarian Aloysius Giglio was adopted: every fourth year is a leap year unless it is a century year like 1700 or 1800. Century years can be leap years only when they are divisible by 400 (e.g., 1600 and 2000). This rule eliminates three leap years in four centuries, making the calendar sufficiently accurate.

In spite of the revised leap year rule, an average calendar year is still about 26 seconds longer than the Earth’s orbital period. But this discrepancy will need 3,323 years to build up to a single day.

Gregorian Reform Adopted Gradually

The Gregorian reform was not adopted throughout the West immediately. Most Catholic countries quickly changed to the Pope’s new calendar in 1582. But Europe’s Protestant princes chose to ignore the papal bull and continued with the Julian calendar. It was not until 1700 that the Protestant rulers of Germany and the Netherlands changed to the new calendar. In Great Britain (and its colonies) the shift did not take place until 1752, and in Russia a revolution was needed to introduce the Gregorian calendar in 1918. In Turkey, the Islamic calendar was used until 1926.

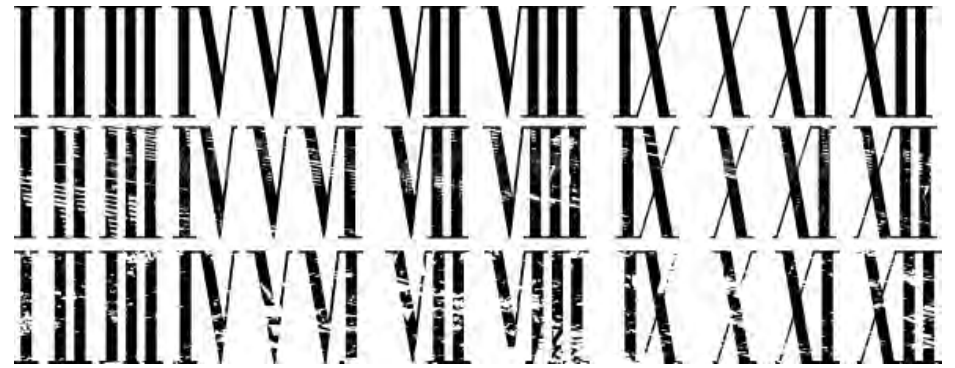
Despite its widespread use, the Gregorian calendar has a number of weaknesses. It cannot be divided into equal halves or quarters; the number of days per month is haphazard; and months and years may begin on any day of the week. Holidays pegged to specific dates may also fall on any day of the week, and few Americans can predict when Thanksgiving will occur next year. Since Gregory XIII, many other proposals for calendar reform have been made, but none has been permanently adopted. In the meantime, the Gregorian calendar keeps the calendar dates in reasonable unison with astronomical events.

A History of the Modern Months

The original Roman year had 10 named months Martius “March”, Aprilis “April”, Maius “May”, Junius “June”, Quintilis “July”, Sextilis “August”, September “September”, October “October”, November “November”, December “December”, and probably two unnamed months in the dead of winter when not much happened in agriculture. The year began with Martius “March”. Numa Pompilius, the second king of Rome circa 700 BC, added the two months Januarius “January” and Februarius “February”. He also moved the beginning of the year from Marius to Januarius and changed the number of days in several months to be odd,

a lucky number. After Februarius there was occasionally an additional month of Intercalaris “intercalendar”. This is the origin of the leap-year day being in February. In 46 BC, Julius Caesar reformed the Roman calendar (hence the Julian calendar) changing the number of days in many months and removing Intercalaris.

In the earliest times, the three reference dates were probably declared publicly, when appropriate lunar conditions were observed. After the reforms of Numa, they occurred on fixed days.



Counting the Kalendae in Rome

Kalendae (whence “calendar”), Kalends—first day of the month; it is thought to have originally been the day of the new moon. According to some ancient or modern proposed etymologies of the word, it was derived from the phrase *kalo Iuno Covella* or *kalo Iuno Novella*, meaning, respectively, “hollow Juno I call you” and “new Juno I call you”, an announcement about the Nones or in proclaiming the new moon that marked the Kalends which the pontiffs made every first day of the month on the Capitoline Hill in the Announcement Hall.

The Nones (thought to have originally been the day of the half moon) was eight days before the Ides, and fell on the fifth or seventh day of the month, depending on the position of the Ides. (Nones implies ninth from the Latin *novem*, because, counting Ides as first, one day before is the second, and eight days before is the ninth).

Idus, Ides—thought to have originally been the day of the full moon, was the 13th day of the months with 29 days, but the 15th day of March, May, July, and October (the months with 31 days).

The day preceding the Kalends, Nones, or Ides was *Prid*, e.g., *Id. Mart.* = 14 March. Other days were denoted by ordinal number, counting back from a named reference day. The reference day itself counted as the first, so that two days before was denoted the third day. Dates were written as *a.d. NN*, an abbreviation for *ante diem NN*, meaning “on the Nth (Numerus) day before the named reference day (Nomen)”, e.g., *a.d. III Kal. Nov.* = on the third day before the November Kalends = 30 October. The value two was not used to denote a day before the fixed point, because second was the same as *pridie*. Further examples of date equivalence are: *a.d. IV Non. Jan.* = 2 January; *a.d. VI Non. Mai.* = 2 May; *a.d. VIII Id. Apr.* = 6 April; *a.d. VIII Id. Oct.* = 8 October; *a.d. XVII Kal. Nov.* = 16 October.

In detail, the system worked as follows:

Months were grouped in days such that the Kalends was the first day of the month, the Ides was the 13th day of short months, or the 15th day of long months, and the Nones was the 9th day (counted inclusively) before the Ides (i.e., the fifth or seventh day of the month). All other days of the month were counted backward (inclusively) from these three dates.

In both long and short months (except February), there were 16 days between the Ides of the month and the Kalends of the next month, and the date referred to the name of the next month, not that of the current month; thus, for example, the date of the 16th day of March was a.d. XVII Kal. Apr. In intercalary years, the first part of February was terminated on the 23rd or 24th day, i.e., the day of the Terminalia or the following day, and the festivals normally held in the last five days of February were held instead in the last five days of the intercalary month, immediately before the Kalends of March. The first 22 days of the intercalary month were inserted between these two parts. So, in long months (31 days—March, May, July (Quintilis), and October), the days were divided into:

- 1st day of the month: 1 day for the Kalends of the month
- 2nd to 6th days of the month: 5 days before the Nones
- 7th day of the month: 1 day for the Nones
- 8th to 14th days of the month: 7 days before the Ides
- 15th day of the month: 1 day for the Ides
- 16th to 31st days of the month: 16 days before the Kalends of the next month

In short months (29 days—January, April, June, August (Sextilis), September, November and December), the days were divided into:

- 1st day of the month: 1 day for the Kalends of the month
- 2nd to 4th days of the month: 3 days before the Nones
- 5th day of the month: 1 day for the Nones
- 6th to 12th days of the month: 7 days before the Ides
- 13th day of the month: 1 day for the Ides
- 14th to 29th days of the month: 16 days before the Kalends of the next month

In ordinary years, the days in February (28 days) were divided into:

- 1st day of the month: 1 day for the Kalends of February
- 2nd to 4th days of the month: 3 days before the Nones
- 5th day of the month: 1 day for the Nones
- 6th to 12th days of the month: 7 days before the Ides
- 13th day of the month: 1 day for the Ides
- 14th to 28th days of the month: 15 days before the Kalends of March

In intercalary years, the days in February (23 or 24 days) were divided into:

- 1st day of the month: 1 day for the Kalends of February
- 2nd to 4th days of the month: 3 days before the Nones
- 5th day of the month: 1 day for the Nones
- 6th to 12th days of the month: 7 days before the Ides
- 13th day of the month: 1 day for the Ides
- 14th to 23rd days of a 23-day Feb.: 9 days before Kalends of the intercalary month
- 14th to 24th days of a 24-day Feb.: 10 days before Kalends of the intercalary month

The days of the intercalary month inserted in intercalary years (27 days) were:

- 1st day of the intercalary month: 1 day for the Kalends of the intercalary month
- 2nd to 4th days of the intercalary month: 3 days before the Nones
- 5th day of the intercalary month: 1 day for the Nones
- 6th to 12th days of the intercalary month: 7 days before the Ides
- 13th day of the intercalary month: 1 day for the Ides
- 14th to 27th days of the intercalary month: 14 days before the Kalends of March

Some dates were also sometimes known by the name of a festival that occurred on them, or shortly afterwards. Examples of such dates are recorded for the Feralia, Quirinalia, and the Terminalia, though not yet for the Lupercalia. The known examples of such dates are all after the Ides of February, which suggests they are connected with resolving an ambiguity that could arise in intercalary years: dates of the form a.d. [N] Kal. Mart. were dates in late

February in regular years, but were a month later in intercalary years. However, it is much debated whether there was a fixed rule for using festival-based dates. It has been variously proposed that a date like a.d. X Terminalia (known from an inscription in 94 BC) implied that its year 'was', 'was not', or 'might have been' intercalary.

If all this seems very confusing and overtly complex, well; to us it is. But to the Romans it all seemed like a good way to keep things on track using reverse logic, the moon and Roman numerals. So you can see that many other cultures probably had a tough time keeping track unless a central governor was keeping track for them, which they were most of the time.



Nundinal calendar, Rome. The ancient Etruscans developed an eight-day market week, known as the nundinal cycle, around the eighth or seventh century BC.

Nundinal cycle (or a week in Rome)

The Romans of the Republic, like the Etruscans, used a “market week” of eight days, marked as A to H in the calendar. A nundina was the market day; etymologically, the word is related to novem, “nine”, because the Roman system of counting was inclusive. The market “week” is the nundinal cycle. Since the length of the year was not a multiple of eight days, the letter for the market day (known as a “nundinal letter”) changed every year. For example, if the letter for market days in some year was A and the year was 355 days long, then the letter for the next year would be F.

The nundinal cycle formed one rhythm of day-to-day Roman life; the market day was the day when country people would come to the city, and the day when city people would buy their eight days' worth of groceries. For this reason, a law was passed in 287 BC (the Lex Hortensia) that forbade the holding of meetings of the comitia (for example to hold elections) on market days, but permitted the holding of legal actions. In the late republic, a superstition arose that it was unlucky to start the year with a market day (i.e., for the market day to fall on 1 January, with a letter A), and the pontiffs, who regulated the calendar, took steps to avoid it.

Because the nundinal cycle was absolutely fixed at eight days under the Republic, information about the dates of market days is one of the most important tools used for working out the Julian equivalent of a Roman date in the pre-Julian calendar. In the early Empire, the Roman market day was occasionally changed. The details of this are not clear, but one likely

explanation is that it would be moved by one day if it fell on the same day as the festival of Regifugium, an event that could occur every other Julian leap year. When this happened, the market day would be moved to the next day, which was the (leap) day.

The nundinal cycle was eventually replaced by the modern seven-day week, which first came into use in Italy during the early imperial period, after the Julian calendar had come into effect in 45 BC. The system of nundinal letters was also adapted for the week. For a while, the week and the nundinal cycle coexisted, but by the time the seven day week was officially adopted by Constantine in AD 321, the nundinal cycle had fallen out of use.

When did the modern year move to January 1st?

The calendar year originally began on 1 March, as is shown by the names of the six months following June (Quintilis = fifth month, Sextilis = sixth month, September = seventh month, etc.). It is not known for certain when the start of the calendar year was changed to 1 January. Ancient authors attributed it to Numa Pompilius. Varro states that, according to M. Fulvius Nobilior (consul in 189 BC), who had composed a commentary on a fasti preserved in the temple of Hercules Musarum, January was named after Janus because the god faced both ways, which implies the calendar year started in January in his time, before the consular year started beginning on 1 January in 153 BC. A surviving calendar from the late Republic proves the calendar year started in January before the Julian reform.

How years were identified during the Roman monarchy is not known. During the Roman Republic, years were named after the consuls, who were elected annually (see List of Republican Roman Consuls). Thus, the name of the year identified a consular term of office, not a calendar year. For example, 205 BC was “The year of the consulship of Publius Cornelius Scipio Africanus and Publius Licinius Crassus”, who took office on 15 March of that year, and their consular year ran until 14 March 204 BC. Lists of consuls were maintained in the fasti.

The first day of the consular term changed several times during Roman history. It became 1 January in 153 BC. Before then, it was 15 March. Earlier changes are a little less certain. There is good reason to believe it was 1 May for most of the third century BC, until 222 BC. Livy mentions earlier consular years starting on 1 Sextilis (August), 15 May, 15 December, 1 October and 1 Quintilis (July).

In the later Republic, historians and scholars began to count years from the founding of the city of Rome. Different scholars used different dates for this event. The date most widely used today is that calculated by Varro, 753 BC, but other systems varied by up to several decades. Dates given by this method are numbered ab urbe condita (meaning “from the founding of the city”, and abbreviated AUC), and correspond to consular years. When reading ancient works using AUC dates, care must be taken to determine the epoch used by the author before translating the date into a Julian year.

Converting pre-Julian dates

The fact that the modern world uses the same month names as the Romans can lead to an erroneous assumption that a Roman date occurred on the same Julian date as its modern equivalent. Even early Julian dates, before the leap year cycle was stabilized, are not quite what they appear to be. For example, Julius Caesar was assassinated on the Ides of March in 44 BC. This is usually converted to 15 March 44 BC. While he was indeed assassinated on the 15th day of the Roman month Martius, the equivalent date on the modern Julian calendar is probably 14 March 44 BC.

Finding the exact Julian equivalent of a pre-Julian date is complex. As there exists an essentially complete list of the consuls, a Julian year can be found to correspond to the pre-Julian year. However, the sources rarely reveal which years were regular, which were

intercalary, and how long an intercalary year was. Nevertheless, the pre-Julian calendar could be substantially out of alignment with the Julian calendar. Two precise astronomical synchronisms given by Livy show that in 168 BC, the two calendars were misaligned by more than two months, and in 190 BC, they were four months out of alignment.

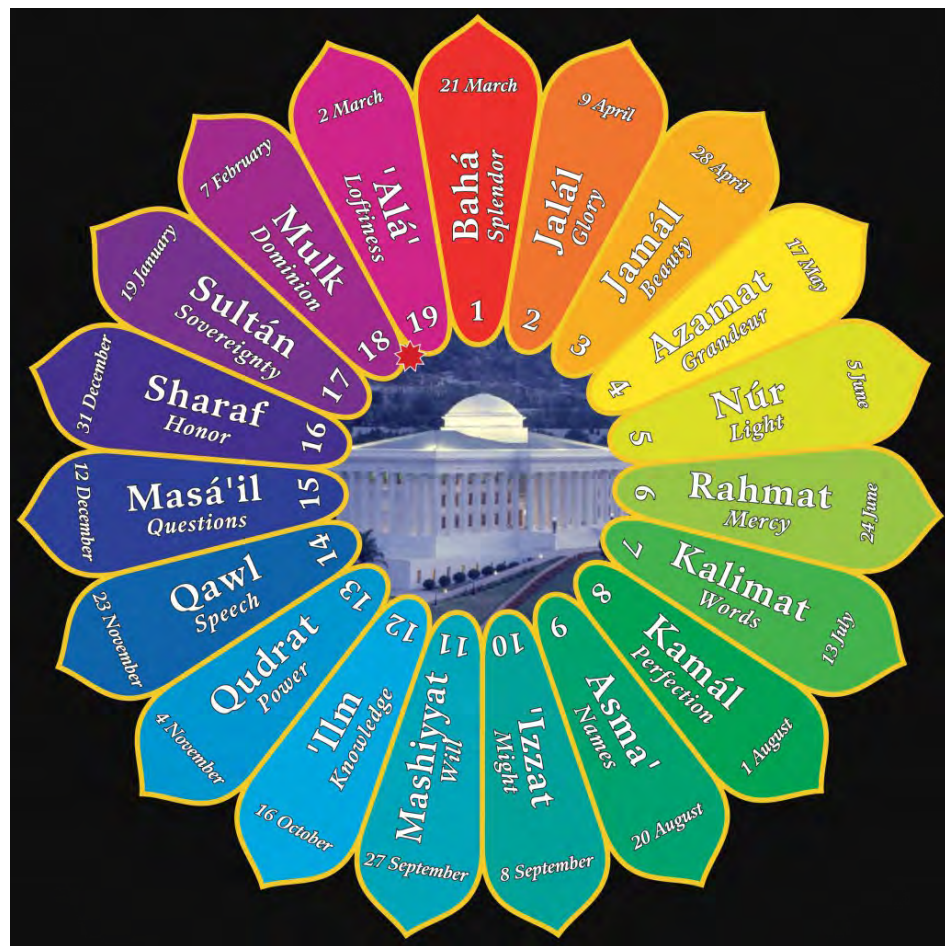


Illustration of the Baha'i Calendar System of Months

Baha'i Calendar

The year is based on the solar year of 365 days, five hours and some fifty minutes. Each year is divided into nineteen months of nineteen days each with four Intercalary Days (five in a leap year), called Ayyám-i-Há which Bahá'u'lláh specified should precede the nineteenth month. The Bahá'í New Year's Day (Naw Rúz) falls on the Spring Equinox. This usually occurs on 21 March but if the Equinox falls after sunset on 21 March, Naw Rúz is to be celebrated on 22 March because the Bahá'í day begins at sunset.

The names of the months in the Bahá'í (Badí) calendar were given by the Báb, who drew them from the nineteen names of God invoked in a prayer said during the month of fasting in Islam. At the beginning of each month, the Bahá'ís hold their local community's regular worship gathering. Called a "Feast," it is more a spiritual dinner than a physical one.

Note: See the Important Terms at the End of this Section

The months are:

Order	Name	Meaning	Gregorian Dates
1	Bahá	Splendor	21 March - 8 April
2	Jalál	Glory	9 April - 27 April
3	Jamál	Beauty	28 April - 16 May
4	Azamat	Grandeur	17 May - 4 June
5	Núr	Light	5 June - 23 June
6	Rahmat	Mercy	24 June - 12 July
7	Kalimát	Words	13 July - 31 July
8	Kamál	Perfection	1 August - 19 August
9	Asmá'	Names	20 August - 7 September
10	'Izzat	Might	8 September - 26 September
11	Mashíyyat	Will	27 September - 15 October
12	'Ilm	Knowledge	16 October - 3 November
13	Qudrat	Power	4 November - 22 November
14	Qawl	Speech	23 November - 11 December
15	Masá'il	Questions	12 December - 30 December
16	Sharaf	Honor	31 December - 18 February
17	Sultán	Sovereignty	19 January - 6 February
18	Mulk	Dominion	7 February - 25 February
19	'Alá	Loftiness	2 March - 20 March

Wiccan and Neo-Pagan Calendar

Wiccans and other Neopagans celebrate holidays and festivals based on nature and the changing of seasons. The Neopagan seasonal cycle, called the Wheel of the Year, consists of eight major Sabbats. The Sabbats are joyous occasions of celebration and festivity.

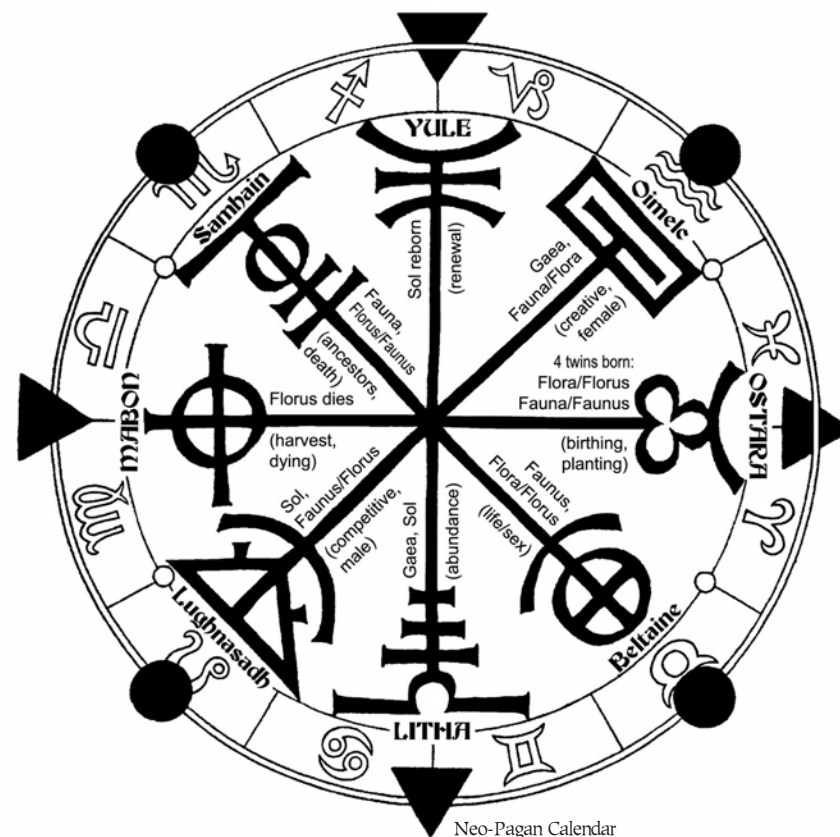
Like Jewish Sabbats, Neopagan Sabbats begin at sunset the day before the holiday. Four of the Sabbats, known as cross-quarter days, have Celtic origins and are called by their Celtic names. The other four mark important points on the solar calendar.

The Eight Sabbats are:

- December 21 - Yule (Winter Solstice)
- February 2 - Imbolc
- March 21 - Ostara (Spring Equinox)
- May 1 - Beltane
- June 22 - Midsummer (Summer Solstice)
- August 2 - Lughnasadh
- September 21 - Mabon (Autumn Equinox)
- November 1 - Samhain

Midwinter - Recognized as a significant turning point in the yearly cycle since the late Stone Age. The ancient megalithic sites of Newgrange and Stonehenge, carefully aligned with the solstice sunrise and sunset, exemplify this. The reversal of the Sun's ebbing presence in the sky symbolizes the rebirth of the solar god and presages the return of fertile seasons. From Germanic to Roman tradition, this is the most important time of celebration and in the Wiccan and Pagan traditions, it is the start of the New Year.

Imbolc - As the first cross-quarter day following Midwinter, this traditionally marks the first stirrings of spring. It is time for purification and spring cleaning in anticipation of the



year's new life. In Rome, it was historically a shepherd's holiday and among Celts associated with the onset of ewes' lactation, prior to birthing the spring lambs.

Ostara - The vernal equinox. From this point on, days are longer than the nights. Many pagan mythologies regard this as the time of rebirth or return for vegetation gods (e.g. Attis) and celebrate the spring equinox as a time of great fertility. Egg decorating is a very common tradition in vernal equinox celebrations throughout Europe. Germanic pagans dedicate the holiday to their fertility goddess Ostara (the eastern star). She is notably associated with the fecund symbols of the hare and egg. Her teutonic name may be etymological ancestor of the words east and Easter.

For Celtic pagans, the festival is dedicated to the goddess Brigid, daughter of The Dagda and one of the Tuatha Dé Danann.

Beltane - Traditionally the first day of summer in Ireland, in Rome the earliest celebrations appeared in pre-Christian times with the festival of Flora, the Roman goddess of flowers, and the Walpurgis Night celebrations of the Germanic countries.

Midsummer (the Summer Solstice) - One of the four solar holidays, and is considered the turning point at which summer reaches its height and the sun shines longest.

Some Wiccan traditions call the festival Litha, a name occurring in Bede's Reckoning of Time (De Temporum Ratione, 7th century), which preserves a list of the (then-obsolete) Anglo-Saxon names for the twelve months. Ærra Liða (first or preceding Liða) roughly cor-

responds to June in the Gregorian calendar, and Æfterra Liða (following Liða) to July. Bede writes that “Litha means gentle or navigable, because in both these months the calm breezes are gentle and they were wont to sail upon the smooth sea”. Since the Christianization of Europe, a more secular version of the festival has continued in Europe and America. In this form, it is well known for maypole dancing and the crowning of the Queen of the May.

Lammas/Lughnasadh - The first of the three Wiccan harvest festivals, the other two being the autumnal equinox (or Mabon) and Samhain. Wiccans mark the holiday by baking a figure of the god in bread and eating it, to symbolize the sanctity and importance of the harvest. Celebrations vary, as not all Pagans are Wiccans. The Irish name Lughnasadh (for the Celtic god Lugh) is used in some traditions to designate this holiday. Wiccan celebrations of this holiday are neither generally based on Celtic culture nor centered on the Celtic deity Lugh. This name seems to have been a late adoption among Wiccans. In early versions of Wiccan literature the festival is referred to as August Eve.

The name Lammas (contraction of loaf mass) implies it is an agrarian-based festival and feast of thanksgiving for grain and bread, which symbolizes the first fruits of the harvest.

Autumnal Equinox - The holiday of the autumnal equinox, Harvest Home, Mabon, the Feast of the Ingathering, Meán Fómhair or Alban Elfed (in Neo-Druid traditions), is a Pagan ritual of thanksgiving for the fruits of the earth and a recognition of the need to share them to secure the blessings of the Goddess and the God during the coming winter months. The name Mabon was coined by Aidan Kelly around 1970 as a reference to Mabon ap Modron, a character from Welsh mythology. Among the Sabbats, it is the second of the three Pagan harvest festivals.

Samhain - One of the four Greater Sabbats. Samhain is considered by some as a time to celebrate the lives of those who have passed on, and it often involves paying respect to ancestors, family members, elders of the faith, friends, pets, and other loved ones who have died. In some rituals the spirits of the departed are invited to attend the festivities. It is seen as a festival of darkness, which is balanced at the opposite point of the wheel by the festival of Beltane, which is celebrated as a festival of light and fertility.

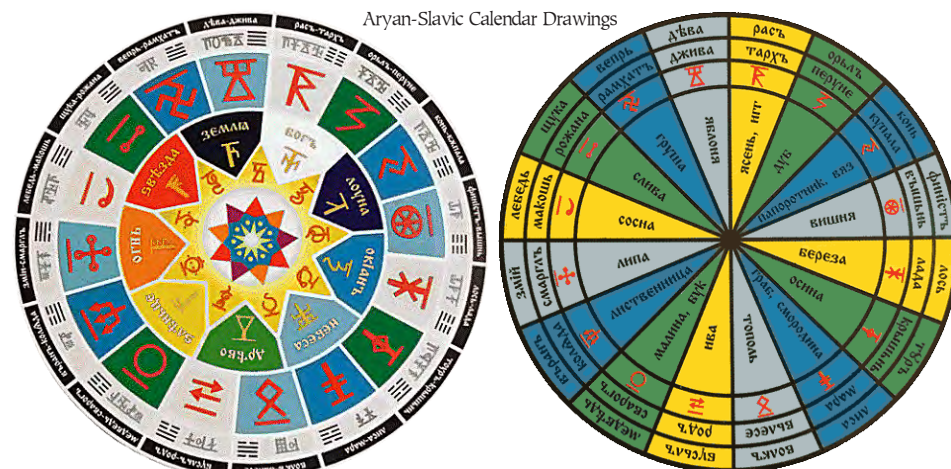
Many Pagans believe that at Samhain the veil between this world and the afterlife is at its thinnest point of the whole year, making it easier to communicate with those who have left this world. It is the bases for the modern holiday of Halloween.

Ancient Slavic-Aryan Calendars – Back to the Beginning of Times

At the moment we use the dating years from the birth of Christ and the Gregorian calendar. Not forgotten and the Julian calendar, the so-called “old style.” Every year in January, we are reminded of it when celebrating the “old” New Year’s Eve. Also, the media carefully reminded of the change years of Chinese, Japanese, Thai and other calendars. Of course, it broadens our horizons.

Let’s expand our horizons further to the ancient tradition of chronology of the Slavic peoples on which not so long ago our ancestors lived. This calendar represents the most ancient Slavic-Aryan faith. Widespread use of the Slavic ancient calendar stopped a little over 300 years ago, when Tsar Peter I, by his Decree, declared on the territory of Russia a foreign calendar and ordered the night of January 1, 1700 to celebrate the onset of the birth of Jesus Christ, the new God. In Russia at that time, the Slavic population was using its own Calendar that went back into prehistory from the creation of what was called the “Star Temple”.

Among the Slavic populace, this old Calendar stretched back thousands of years and cannot be verified today, but it offers very interesting clues to our pre-historic past to the beginning of times since Man traveled out of Africa. Since much of our Western past comes from these traditions, the author offers this as a clue to our past. It is unverified, but seems to contain elements of truth and great insight.



Aryan-Slavic Calendar Drawings

Unlike Greek, Indian or Egyptian mythology, there are no first-hand records for the study of Slavic mythology. Despite some arguable theories (for instance, the Book of Veles), it has not been proven that the Slavs had any sort of writing system before the arrival of Saints Cyril and Methodius to Slavic lands in C.E. 862. Therefore, all their original religious beliefs and traditions were passed down orally over the generations, and basically forgotten over the centuries following their rapid conversion into Christianity (which began with the conversion of Bulgaria in 864 and was largely complete by the late 11th century.) Before that, sparse records of Slavic religion were mostly written by non-Slavic Christian missionaries.

Archaeological remains of old Slavic cult images and shrines have been found, though little can be yielded from them without legitimate knowledge of their context, other than confirming existing historical records. Fragments of old mythological beliefs and pagan festivals survive up to this day in folk customs, songs, and stories of all the Slavic nations.

All these archaeological remains have the multiplicity of aspects in common. Statues of gods with multiple faces and remains of shrines with multiple sacrificial altars confirm written reports of Christian missionaries about the Slavs worshiping multi-faced gods, and also indicate that ancient Slavic mythology apparently put great emphasis on worship of deities with more spheres of knowledge than one.

From a perspective of the Slavic peasant, Christianity was not a replacement of old Slavic mythology, but rather an addition to it. Christianity may have offered a hope of salvation, and of blissful afterlife in the next world, but for survival in this world, for yearly harvest and protection of cattle, the old religious system with its fertility rites, its protective deities, and its household spirits was taken to be necessary.

Also quite important are remains of several pieces of pottery from 4th century Chernyakhov culture. Russian archaeologist Boris Rybakov identified and interpreted symbols inscribed onto them as records of the ancient Slavic calendar.

The first authoritative reference to the Slavs and their mythology in written history was made by the 6th century Byzantine historian Procopius, whose *Bellum Gothicum* described the beliefs of a South Slavic tribe that crossed the Danube heading south in just two days. According to Procopius, these Slavs worshiped a single deity, who crafted lightning and thunder. Though not named explicitly, it can be deduced this is a reference to the deity known as Perun in later historic sources, as in many Slavic languages today (Polish ‘piorun’ for example). Perun simply means “thunder” or “lightning bolt”. He also mentions the belief in various demons and nymphs (i.e. vilas), but does not mention any other names.

Calendar and Festivals

Slavic myths were cyclical, repeating every year over a series of festivities that followed changes of nature and seasons. Thus, to understand the mythology, it is important to understand their concept of the calendar. On the basis of archaeological and folklore remains, it is possible to reconstruct some elements of the pre-Christian calendar.

The year was apparently lunar and began in early March, similar to other Indo-European cultures whose old calendar systems are better known to us. The names for the last night of the old year and the first day of the new year are reconstructed as Velja Noc (*Velja Notj)/Velik Dan (Veliku dini) (Great Night/Great Day). After Christianization, these names were probably passed onto Easter. In Slavic countries belonging to Orthodox Churches, Easter is known as Velik Dan/Great Day, while among Catholic Slavs, it is known as Velika Noc/Great Night. The names blend nicely with the translation of the Greek Megale Evthomada, Great Week, the Christian term for the week in which Easter falls. In pagan times, however, it was believed, spirits of dead ancestors traveled across the land, entering villages and houses to celebrate the new year with their living relatives. Both of the yearly Equinoxes are believed to be a time when spirits travel to the moral realms as the veil between the two worlds is thinner at those times. Consequently, the deity of the last day of the year was probably Veles, god of the Underworld.

The spring fertility festival of Maslenitsa, rooted in pagan times and involving the burning of a straw effigy is still celebrated by Slavs all over the world.

There was a large spring festival dedicated to Jarilo (the green man), god of vegetation and fertility. Processions of young men or girls used to go round villages on this day, carrying green branches or flowers as symbols of new life. They would travel from home to home, reciting certain songs and bless each household with traditional fertility rites. The leader of the procession, usually riding on a horse, would be identified with Jarilo. The custom of creating pysanki or decorated eggs, also symbols of new life, was another tradition associated with this feast, which was later passed on to Christian Easter.

The summer solstice festival is known today variously as Pust, Ivanje, Kupala or Kries. It was celebrated in form as a village wedding. There was a lot of eating and drinking on the night before, large bonfires (Slavonic: Kres) were lit, and youngsters were coupling and dancing in circles, or jumped across fires. Young girls made wreaths from flowers and fern (which apparently was a sacred plant for this celebration), tossed them into rivers, and on the basis of how and where they floated, foretold each other how they would get married.

Ritual bathing on this night was also very important; hence the name of Kupala (from kupati = to bathe), which probably fit nicely with the folk translation of the future patron saint the Church installed for this festival, John the Baptist (Ivan Kupala Day). Overall, the whole festival probably celebrated a divine wedding of a fertility god, associated with the growth of plants for harvesting.

In the middle of summer, there was a festival associated with thunder-god Perun, in post-Christian times transformed into a very important festival of Saint Elijah. It was considered the holiest time of the year, and there are some indications from historic sources that it involved human sacrifices. The harvest probably began afterwards. However, this theory of a blood sacrifice of the Slavic people is claimed to have been debunked.

It is unclear when exactly the end of harvest was celebrated, but historic records mention an interesting tradition associated with it that was celebrated at the Svantevit temple on the island of Ruyana (present-day Rugen), and survived through later folklore. People would gather in front of the temple, where priests would place a huge wheat cake, almost the size of a human. The high priest would stand behind the cake and ask the masses if they saw him. Whatever their answer was, the priest would then plead that the next year the people

could not see him behind the large cake, i.e. that the next year's harvest would be even more bountiful.

There was probably also an important festival around winter solstice, which later became associated with Christmas. Consequently, in many Slavic countries, Christmas is called Bozhich, which simply means little god. While this name fits very nicely with the Christian idea of Christmas, the name is likely of pagan origin; it indicated the birth of a young and new god of the sun to the old and weakened solar deity during the longest night of the year. The old sun god was identified as Svarog, and his son, the young and new sun, as Dažbog. An alternative (or perhaps the original) name for this festival was Korochun or Koleda.

The Serbian tradition of "Badnja Vece" on Christmas Eve can also provide hints into pre-Christian Slavic rituals. In this ceremony, oak branches are collected, and each is adorned with ribbons. A priest will "bless" the branches with water, wheat (or barley) and perhaps walnuts. Interestingly, the infant Jesus is not mentioned in the service. At the conclusion of the ceremony, an oak log is set ablaze.

From Sources Handed Down to Us (Unverified)

Since ancient times, the Slavs had a coherent system of harmonization of the space, which was called Rodolad. The prototype of this system has become Oberezhny Circle. All this contributed to the fact that a few thousand years ago the Slavic-Aryan way of life dominated vast territories. It was the whole of Europe, India and parts of Asia. From this culture grew the foundations of Sumaria, Babylon, The Greeks, the Norse and the Vedic Empire.

In the Slavic legend tells of a wise system of knowledge "Oberezhnogo circle" in which every word and every letter lies in a magical relationship between man and the universe, woven patterns and, waking up on the response of feelings, forgotten knowledge entrusts us instructions by which we become masters of our destiny, creating the world and realizing their intentions. ... With us you will pass over a guiding thread through the labyrinth of magic orbs of his inner mind, to comprehend the new laws of the universe, using the good signs and symbols "Oberezhnogo Circle".

According to the Slavic Carol Dar (Calendar)

Now very few people remember that the earlier date of initial letter Annals recorded the ancient language.

Prior to the introduction of the new calendar 7208 new year people said of the victory over the ancient Chinese, and the date is always recorded initial letter ... it tells us that writing existed long before the Slavs in Solun monks Cyril and Methodius ... if it were not for the reform of Peter, the Church would be a fairy tale about "education of illiterate nations" would be long forgotten, like someone's bad joke. No wonder that the Empress Catherine II said: "The Slavs for many thousands of years before Christ, his writings had."

Here is a short list of Slavic old believer calendar forms:

- Summer 7519 from the Creation in the Star Temple (Chronology corresponding 2011)
- Summer 13019 from the Big Freeze (Great cooling)
- Summer 44555 Creation of the Great Colo Russenia
- Summer 106790 From the base of the Asgard Erie
- Summer 111817 from The Great Migration of Daarija
- Summer 143001 from the period of the Three Moons
- Summer 153377 from Assa Dei
- Summer 165041 Time of Tara
- Summer 185777 Time of Thule
- Summer 211697 Time of SMAD

Summer 273905 OCCASIONALLY h'Arra
Summer 460529 Gifts of Time
Summer 604385 Time of the Three Suns ...

These systems do not cancel, but complement each other ... each is a continuation of the previous calendar system ...

Different people living in Europe had different systems of counting days. The Celts and Scandinavians was originally a 9-month calendar, but later it was replaced by a 24-month cycle (Norse system). This was due to the ever-changing weather conditions and to complete the transition to the runic way of tracking time.

In southern Europe, the Latins brought with them their calendar systems ... In consequence there are new systems, such as the Greek "Olympic games" or Latin "Kalend with the founding of Rome.

There was a great variety of calendar systems, and they were very confusing in the definition of "large trading days", holy days and "non-trading days" ... so in 45 BC by decree Emperor Julius Caesar, the "new" calendar system was instituted, which all were required to comply with in the Roman Empire. "New" is deliberately written in quotes because its origin was the current calendar of the priests of Egypt and Rome. Julius Caesar changed it only somewhat, so there was a well-known Julian calendar.

Imagine the kind of problems faced by Christian missionaries who went to "educate" the pagans of Europe. Even if someone joined to the new faith, he immediately encountered problems when honoring the holidays or at what time to comply with legal postings as done by each magistrate of each territory.

A different calendar system did not allow Christian missionaries to easily date whichever local calendar corresponded to the Julian calendar, for local calendars were more difficult to understand by the Christians, and to-date them in the relatively constant float of local time. Only one solution was found. Deny the old calendar and implement a new one — Julian.

The same pattern was observed at the baptism of Russia and the introduction of the Julian calendar. Because its people could not understand why Russian would accept an alien calendar system, with numbered months in Latin, and the alien idea of the New Year did not begin at one of the equinoxes, it was largely rejected by the Slavic people.

In recognition of this, the Church responded by using Slavic names for the Julian calendar months instead of numbers in Latin. The Slavic names were: Berezen, Kviten, Traven, Cherven, Lipen, Serpen, Veresen, Zhovten, falling leaves, Gruden, Sichen, Lyuty. Only in this way, did the Christian Church get the Slavic people to adopt another calendar.

But even after the Church found a way, the ancient Slavic calendar did not cease to exist. In all Slavic lands they continued to use two calendars. The old calendar was needed primarily for everyday life, for it determined when to start and when to stop agricultural work and other cultural events and the new Julian calendar was used for Christian Holy days. Thus in Russia there were two parallel calendar systems, old and new.

But the ecclesiastical and secular authorities did not like the fact that people's holidays were celebrated in both calendars, but most of all they disliked the confusion which was created by chroniclers, because Russian chroniclers used the date the old Slavic calendar and invited Greek chroniclers who used the date of the new calendar, where Rosh Hashanah reckoned from the first spring full moon ...

For example: Slavic dates were reconciled from the beginning of the Star Temple creation in 7519 with the new year Starting on March 21st while Christians dated the time from Christ's birth (A.D.) with the new year Starting on January 1st. To give some sort consistency to the new calendar, in the year 6856 (1348 AD) by the order of Ivan III, Rosh Hashanah in the new calendar was fixed on March 1, and the number of years taken from the old Slavic calendar. At this time, Ivan III started banning some festivals and others were celebrated

despite the ban. The Christian Church adapted to some local customs and adopted Slavic holidays into Christian themed days. For example:

Veles God's Day became Happy Blasius;

Pancake Day-madder was announced as Carnival;

God Kupala Day was the day of John the Baptist, or as it is called in the Russian, Ivan Kupala, ie Ivan, who all bathed in the river;

Day Triglav (Svarog, Perun-Sventovita), has become a Trinity Celebration;

Perun God's Day became Day of Elijah, and so on ...

Eventually Ivan III prohibited the old Calendar and was forced to quell a rebellion over the draconian measures taken to stop the peasants from using it. (Not Confirmed) Ivan had expanded Russia's territories greatly and had many different calendar systems to deal with, so it is likely that he had to institute a common calendar.

In the summer of 7090 (1582 G.) the Catholic Church, at the direction of Pope Gregory XIII, introduced a new calendar. The new calendar no longer used dating from the Creation and the birth of Christ. The need to introduce a new calendar was associated with the fact that the duration of the Julian calendar was a little off. For every 128 years it differed one day from the solar year. Therefore, at the time of introduction of the Gregorian calendar, there was a 10 day difference to the solar solstice. Not all European countries immediately moved to the new calendar. Some countries took years or even centuries, to go to the new Gregorian style. In Russia, the style is moved on February in 1918. The Gregorian calendar is also not entirely accurate: its behind one day for 3,300 years, but gradually, the Gregorian calendar was adopted by most states.

We return to the Slavic-Aryan Calendar System

Despite the modern perception of ancient calendars, this calendar system is very accurate and convenient. The author understands this statement sounds unfounded, but I will try to continue to prove the sophistication of this statement. More so, for the past several thousand years, the Slavic calendar is not incorrect for a single day ...

In ancient times the year was divided into three main seasons: the period of agricultural work (spring), the time of ripening and harvesting (covered summer and autumn) and winter. The three natural seasons translate to Spring, Fall (Ousen) and Winter. In turn, each season is divided into three months for a total of 9 months in the year. In the Slavic tradition they often refer to a Year as a "Summer" not to be confused with the season.

In this calendar, there are two concepts of a solar year: a Simple Year and a Sacred Year. These solar years are a repeating 16 year cycle, called a Circle Year, in which there are 15 simple and 1 Sacred year (16 years) in the Circle Year. There are nine Circle Years, in a Circle of Life, which consists of 144 years (16x9=144). These repeated cycles are called Krugoletom Chisloboga. These 16 years are kept track of by using the Aryan Zodiac, which they referred to each constellation as Palaces or Halls. The ancient Slavic-Aryan Vedas state that the universe is governed by the god of fire (Svarog), and the path of the Sun around the central sun of the galaxy is called the Svarog Circle, which lasts for 25,920 years and consists of 180 Circles of Life, each in 144 Years. The Sun moved across the sky from constellation to constellation yearly. The Palace of the system is determined on the yearly Autumnal Equinox Day. While moving through the Svarog Circle, the solar system passes through 16 constellations of the zodiac-Aryan palaces, the zodiacal epoch of each of them lasts 1620 years. So every 1620 years on the Autumnal Equinox the sun moves into a new palace.

In each Hall of Svarog Chertog protects a particular Slavic Deity:

Halls of the Virgin - the goddess of Jiva

Halls Race - Dazhdbog

Halls Eagle - god Perun

Halls horse - god Kupala
Halls Finista - god Vyshen
Halls of Elk - goddess Lada
Halls Tour - god Kryshen
Halls Foxes - goddess Madder
Halls Wolf - god Veles
Halls Buslov - god Rod
Halls Bear - god Svarog
Halls Crow - Kalyada god, Varuna
Halls Snake - god Semargl
Halls of the Swan - the goddess Makosh
Halls Pike - the goddess to give birth
Halls Boar - god Ramhat

The names of these halls also gives us an Aryan Zodiac based upon each constellation name and how it is associated to each Slavic Deity.

A Simple Summer consists of 365 days, all the odd-numbered months have 41 days, and even number months have 40 days. $(5 \times 41 = 205) + (4 \times 40 = 160) = 365$. In a Simple Year, two months equals 81 days or 9 weeks. A Sacred Year consists of 369 days, all months contain 41 day. $(9 \times 41) = 369$. Thusly, since a solar year is 365.25 days, when multiplied by a factor of 16 to match a Circle Year, it would equal 5844 days to be on track to match the solar year cycle within seconds. By the Old Slavic calculation you have 15 years at 365 days = 5475 days and 1 year of 369 days = 5844 exactly.

Rosh Hashanah accounts for 1 day of the second month Ouseni, ie: the autumnal equinox. This is usually attributed to the fact that the entire crop was harvested, granaries are full, and a new year starts with a full income. In addition, the most important event was made to correspond to Rosh Hashanah.

A Slavic calendar week also consisted of 9 days. They carried a numerical form, and are labeled numerically as can be seen by the modern Polish, Russian and Hungarian days of the week. Most likely the day names corresponded to: (1) Weeks Head or After Rest, Second, Third, Fourth or Middle, Fifth or Middle, Sixth, Seventh, Eighth or Sabbat and (9) Weeks End, Rest or Day of Joy.

9 days in a week, 9 months in a year, and 9 Circle Years in a Circle of Life. And as a Sacred Summer consists of 41 weeks, then the next Circle of Life, started on the same day of the week as the last Sacred Summer. Thus, each Circle of Life (cycle of 144 years) begins on the same day of the week.

The ancient Slavic calendar, as well as the Scandinavian or Celtic had Runic forms of display, ie: initial month names, numbers, days of the week and the names of years are recorded as runes. For those who do not know, a Rune is not letter or syllable, it is a symbol that embodies a sacred concept, a sound and a purpose.

The first month is a one (1) rune, and the remaining eight months are the joining of two designated runes, the second rune points to the part of the solar cycle, known to us as Lto. In addition, every month carries a meaning, which determines people's lives or destiny. This leads us to a from of Astrology that would carry elements of both Eastern and Western Zodiac signs.

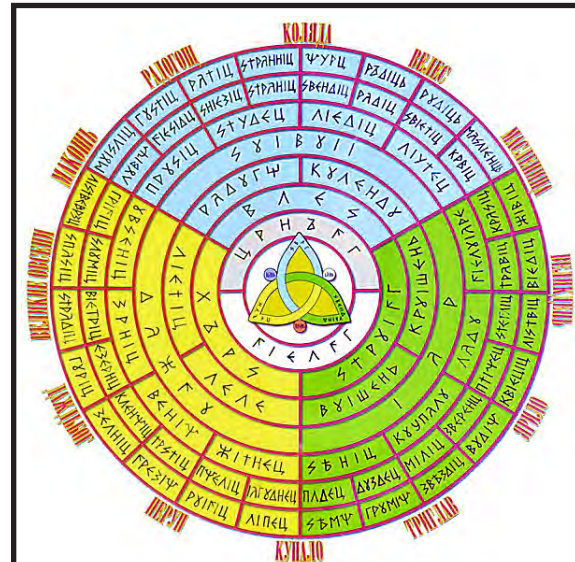
Here are the names of the Slavic calendar months:

Ramhat — Month of the Godhead.
Aylt — Month of New Gifts.
Beylt — Month of White Radiance the World.
Geylt — The Month of Blizzards and Frost.
Daylt — The Month of Awakening Nature.
Elt — The Month of Sowing and Naming.
Veylt — Month of the Winds.
Heylt — Month of the Gifts of Nature.
Taylt — Month of Finality.

The month names had deeper meanings hidden in the symbols of the runes. The months initial aggregate letter or sound carries a special meaning. To understand it, you just need to remember the names of Runic letter and in Slovakian in they translate as:

P — Recurrence — to instruct or inform;
A — Az — a man;
B — Gods;
D — to speak;
D — Welcome,
E — This, — Decree of the form;
In — Lead — Vedas, wisdom, knowledge;
X — Hran — gifts;
T — Solid — Finally, the final shape;

Combining these runic letters we get the following: The gods instruct man saying welcome this gift of Wisdom in its final form.



These three seasons are shown in the diagram in green, yellow and blue color, allowing you to immediately determine what the gods patronized a particular time of the year and when they occurred today.

There are trinary-quaternary division: three agricultural seasons, four solar phases, four months in each season and four weeks in each month.

Another point of concern was the 16 year cycle where the calendar would be up to 15 days off from the seasons and would cause problems on when to properly plant crops. 15 days is a very long way to be off for a harvest season and the Vernal Equinox can be easily calculated with three properly placed stones. Perhaps they compensated for this, but there is no mention of it. Many sources also attributed the 144 year Life Circle as being a normal life span, when we know this is simply not true.

Finally, some sources sited the "Book of Veles" as source material for this calendar system, but research shows that a calendar of this level of sophistication is not written out in Veles's Book and further, many speculate that the book is a forgery. I offer the Slavic Aryan Calendar not as fact, but as a very interesting system that has many well thought out time keeping properties. Some of it may be true, but without more facts, its hard to say.

The English Seasons - Where did their names come from?

Winter - derived from the Proto-Germanic "Wentruz", meaning winter. This in turn probably comes from the Proto-Indo-European "wed", meaning "wet". Alternatively, it may come from the word "wind", meaning "white". Either way, the Proto-Germanic Wentruz gave rise to the Old English "winter" as the fourth season of the year and the name for the season has stuck around ever since.

Spring - referring to a season rather than the many other meanings of the word, first popped up in the sixteenth century. Starting in the 14th century, this time of year was called "springing time" and then in the fifteenth century this got shortened to "spring-time", and then further shortened in the sixteenth century to just "spring". The 14th century "springing time" came about in reference to plants "springing" from the ground and the like. Before the season was called these things, it was called "Lent" in Old English.

Summer - from the Old English name for the season "sumor", which in turn came from the Proto-Germanic "sumur", which itself came from the Proto-Indo-European root "sam-", meaning summer. "sam" seems to be a variant of the Proto-Indo-European "sem" meaning "together" or "one".

Fall - the origin of "fall" as a name for a season, rather than the more common "autumn", is not perfectly clear, though it's thought that it came from the idea of leaves falling from trees and many plants, particularly the contraction of the English saying "fall of the leaf". It first popped up as a name for a season in the later sixteenth century in England and became particularly popular during the seventeenth century, at which point it made its way over to North America. Calling autumn "fall" in England has since passed out of widespread practice, but has survived as a common name for the season in North America.

"Autumn" came to English via the Old French "autompne", meaning autumn. This in turn came from the Latin "autumnus", also meaning "autumn". From here things get murky, but it's thought "autumnus" probably came from an Etruscan word and is possibly related to the Latin "augere" meaning "to increase". Beyond that, nobody is quite sure why the season was originally called Autumn.

Calling the season "autumn" in English first popped up in the 12th century, though was a rarity until around the fourteenth century. It then began to pick up steam and became common in the sixteenth century, about the same time calling it "fall" popped up as the name for the season. Before calling the season "autumn" or "fall" in English, it was called "harvest".

Incidentally, you may also wonder why the seasons are called "seasons". The word "season" in this context comes from the Old French "seison", meaning "sowing / planting". This in turn came from the Latin "sationem" meaning "sowing". Initially this referred to actually sowing seeds, but later, as with the Old French "seison", shifted definition to refer to the time period when you sow seeds, so literally "seed-time". "Season" in this sense in English popped up around the 13th century. It was also around this time that "season" popped up referring to seasoning food- in this case from the Old French "assaisonner", meaning "to ripen".



Seasonal Myths

The Slavic Seasons

Slavic mythology tells of a persisting conflict involving Perun, god of thunder and lightning, and Veles, the black god and horned god of the underworld. Enmity between the two is initiated by Veles' annual ascent up the world tree in the form of a huge serpent and his ultimate theft of Perun's divine cattle from the heavenly domain. Perun retaliates to this challenge of the divine order by pursuing Veles, attacking with his lightning bolts from the sky. Veles taunts Perun and flees, transforming himself into various animals and hiding behind trees, houses, even people. (Lightning bolts striking down trees or homes were explained as results of this.) In the end Perun overcomes and defeats Veles, returning him to his place in the realm of the dead. Thus the order of the world is maintained.

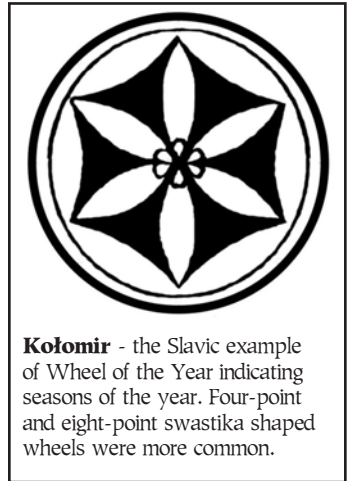
The idea that storms and thunder are actually divine battle is pivotal to the changing of the seasons. Dry periods are identified as chaotic results of Veles' thievery. This duality and conflict represents an opposition of the natural principles of earth, water, substance, and chaos (Veles) and of heaven, fire, spirit, order (Perun), not a clash of good and evil. The cosmic battle between the two also echoes the ancient Indo-European narrative of a fight between the sky-borne storm god and chthonic dragon.

On the great night (New Year's), the two children of Perun are born, Jarilo, god of fertility and vegetation and son of the Moon, and Morana, goddess of nature and death and daughter of the Sun. On the same night, the infant Jarilo is snatched and taken to the underworld, where Veles raises him as his own. At the time of the spring equinox, Jarilo returns across the sea from the world of the dead bringing with him fertility and spring from the evergreen underworld into the realm of the living. He meets his sister Morana and courts her. With the beginning of summer, the two are married bringing fertility and abundance to Earth, ensuring a bountiful harvest. The union of Perun's kin and Veles' stepson brings peace between two great gods, staving off storms which could damage the harvest. After the harvest, however, Jarilo is unfaithful to his wife and she vengefully slays him, returning him to the underworld and renewing enmity between Perun and Veles. Without her husband, god of fertility and vegetation, Morana, and all of nature with her, withers and freezes in the ensuing winter. She grows into the old and dangerous goddess of darkness and frost, eventually dying by the year's end only to be reborn again with her brother in the new year.

Modern Wicca and Neo-Druidism

In Wicca, the narrative of the Wheel of the Year traditionally centers on the sacred marriage of the God and the Goddess and the god/goddess duality. In this cycle, the God is perpetually born from the Goddess at Yule, grows in power at the vernal equinox (as does the Goddess, now in her maiden aspect), courts and impregnates the Goddess at Beltane, reaches his peak at the summer solstice, wanes in power at Lammas, passes into the underworld at Samhain (taking with him the fertility of the Earth/Goddess, who is now in her crone aspect) until he is once again born from Her (mother/crone aspect) at Yule. The Goddess, in turn, ages and rejuvenates endlessly with the seasons, being courted by and giving birth to the Horned God.

In a variation of this cycle, many Wiccan, Neo-Druid, and eclectic Neopagans incorporate a narrative of the Oak King and the Holly King as rulers of the waxing year and the waning year respectively. These two figures battle endlessly with the turning of the seasons. At the



summer solstice, the Holly King defeats the Oak King and commences his reign. After the Autumn equinox the Oak King slowly begins to regain his power as the sun begins to wane. Come the winter solstice the Oak King in turn vanquishes the Holly King. After the spring equinox the sun begins to wax again and the Holly King slowly regains his strength until he once again defeats the Oak King at the summer solstice. The two are ultimately seen as essential parts of a whole, light and dark aspects of the male God, and one would not exist without each other.

The Holly King is often portrayed as a woodsy figure, similar to the modern Santa Claus, dressed in red with sprigs of holly in his hair and the Oak King as a fertility god.

Mesopotamian Myth of Tammuz

Tammuz, Sumerian Dumuzi, in Mesopotamian religion, god of fertility embodying the powers for new life in nature in the spring. The name Tammuz seems to have been derived from the Akkadian form Tammuzi, based on early Sumerian Damu-zid, The Flawless Young, which in later standard Sumerian became Dumu-zid, or Dumuzi. The earliest known mention of Tammuz is in texts dating to the early part of the Early Dynastic III period (c. 2600–c. 2334 bce), but his cult probably was much older. Although the cult is attested for most of the major cities of Sumer in the 3rd and 2nd millennia BCE, it centered in the cities around the central steppe area - for example, at Bad-tibira (modern Madinah), where Tammuz was the city god.

As shown by his most common epithet, Sipad (Shepherd), Tammuz was essentially a pastoral deity. His father, Enki, is rarely mentioned, and his mother, the goddess Duttur, was a personification of the ewe. His own name, Dumu-zid, and two variant designations for him, Ama-ga (Mother Milk) and U-lu-lu (Multiplier of Pasture), suggest that he actually was the power for everything that a shepherd might wish for: grass to come up in the desert, healthy lambs to be born, and milk to be plentiful in the mother animals.

When the cult of Tammuz spread to Assyria in the 2nd and 1st millennia BCE, the character of the god seems to have changed from that of a pastoral to that of an agricultural deity. The texts suggest that in Assyria, Tammuz was basically viewed as the power in the grain, dying when the grain was milled.

The cult of Tammuz centered around two yearly festivals—one celebrating his marriage to the goddess Inanna, the other lamenting his death at the hands of demons from the netherworld. During the 3rd Dynasty of Ur (c. 2112–c. 2004 bce) in the city of Umma (modern Tell Jokha), the marriage of the god was dramatically celebrated in February–March, Umma's Month of the Festival of Tammuz. During the Isin-Larsa period (c. 2004–c. 1792 BCE), the texts relate that in the marriage rite the king actually took on the identity of the god and thus, by consummating the marriage with a priestess incarnating the goddess, magically fertilized and fecundated all of nature for the year.

Later, the Greeks incorporated much of the Myths of Tammuz into the story of Adonis and his relationship with Persephone and Aphrodite.

The Myth of Hades and Persephone

The myth of Hades and Persephone is a myth of love and abduction in the Greek mythology. The myth of Hades and Persephone is one of the well known Greek myths. Hades was the brother of Zeus and the god of the underworld. Persephone was the daughter of Demeter (Ceres), the Goddess of nature.

In one of the rare times he left the underworld, Hades fell in love with Persephone while she was gathering flowers in a field. Hades confided his secret in his brother Zeus, asking for help, so the two of them concocted a plan to trap her. As the girl (Persephone) played

with her companions, they caused the ground to split underneath her. Persephone slipped beneath the Earth and Hades stole her to the Underworld where he made her his wife.

Demeter had gone to supervise her bountiful crops. As Persephone engaged in play and with the rest of the group, her attention fell upon the potently fragrant valley nearby and she couldn't take her eyes of the yellow flower narcissus. She called upon her playmates (the water nymphs) to accompany her, but they couldn't possibly go with her as leaving their waters would result in their death. The flower Narcissus was planted there by Gaia, who was following the orders of Zeus. The goal was to enchant Persephone and attract her, away from her guides.

So, Persephone danced her way to the garden alone and tried to pluck the narcissus from the bosom of Gaia. It drained her energies as the narcissus only came out after a lot of pulling. But suddenly, to her utter fright, she saw the tiny hole from which she had drawn out the flower shaft, began to rapidly grow in size until it started to resemble an enormous chasm.

Demeter rushed back to where she had left her daughter and found only the Cyane river there with the nymphs weeping. Worried as she was, she asked all as to the whereabouts of her beloved daughter.

Nobody could tell her anything at all, and Demeter; furious that they couldn't protect her child, cursed all the nymphs into becoming heinous women with plumed bodies and scaly feet, called the sirens. It was only the river Cyane who helped her by washing over the belt of Persephone, indicating that something gravely wrong had happened.

Demeter went mad and hunted for her daughter everywhere. The myth says that she even disguised herself as an aged lady with a lighted torch in her hands and roamed the Earth for nine long days and nine long nights searching for her.

Finally, she met Hekate, the deity of magic, witchcraft, spirits and crossroads, at the dawn of the 10th day who had pity at her dismal condition and asked her to seek help from the all seeing Helios, the sun god. Helios told Demeter all about how Hades had dragged Persephone into the underworld.

Persephone's mother, Demeter, begged her brother Hades to allow Persephone to come back to the living, denoting that the young Persephone was not supposed to live in the underworld. Hades consulted with Zeus and they both decided to allow Persephone to return to the world to appease Demeter, but Hades still had one scheme to deploy. Before leaving the underworld, Hades persuaded Persephone to eat four seeds of a pomegranate. In ancient mythology, to eat the fruit of one's captor meant that one would have to return to that captor or country, so Persephone was doomed to return to the underworld for six months of the year. So for half of the year she could be with her Earth Mother, Demeter.

The myth of Hades and Persephone is associated with the coming of Spring and Winter: When Persephone comes to the Earth, it's springtime. When she descends to Hades, it is winter. The myth says that Persephone was very unhappy in the underworld to start, but after much time, she came to love the cold-blooded Hades and lived happily with him.

The disappearance and the return of Persephone were the occasions of great festivals in ancient Greece, among them the Eleusinian rites, whose secrets were so closely guarded that little is known about them today. Some experts believe the rites or mysteries fostered the idea of a more perfect life after death, and thus helped to lay the groundwork for the coming of Christianity, which upholds the idea of everlasting life.

The Deities and Their Seasons

Maia - Goddess of Spring



Spring Gods and Goddesses: The Spring Equinox falls on March 20th in the Northern Hemisphere. On passing this date, the days begin growing noticeably longer and the fields must be prepared for planting. Animals mate and bear their young in the spring. From ancient times, peoples the world over celebrated the coming of Spring with rituals and celebrations to ensure fertility and growth.

As sunlight hours lengthen, Nature secretly slips from beneath Winter's heavy blanket of snow. Ever so slowly at first, buds swell and seeds sprout, animals of all kinds gather and mate, and then all at once, life happens. Seemingly overnight, the sleeping Earth awakens to the glorious beauty of Spring and its promise of bounty. Mother Earth and the Green Man are awakening...

The Spring Gods celebrates the turning of the wheel of the year as the death and decay of winter gives way to a time of renewal and rebirth. Spring begins with the first green shoots and explodes into a multitude of beautiful blossoms and promise of good harvest. In ancient times many festivals were held to celebrate the Spring Goddesses who were associated with flowering, growth and fertility of the land.

Autumnal Gods and Goddesses: The legends and myths of the Autumn Deities are all about the mystery of passage through death. The strength of the towering oaks in the forest wanes as the Holly King (representing Winter and it's mysterious transformation) defeats the Oak King (representing Summer and it's strength and vitality. The need to make preparation for this transformation is the essential instruction of these myths.

The story of Ceres/Demeter's grief and rage at the abduction of her beloved daughter, Persephone/Kore, is illustrative of the preparation necessary for survival. So that mankind would not starve during the Winter she supplied her son Triptolemus with seed corn, a plough, and a chariot drawn by snakes, and sent him all over the world to teach the art of agriculture so that humans could ensure their own survival through harvest and preservation.

The mythos surrounding the triple Goddesses known as The Morrigan, is a mythos instructive of the foresight and preparation necessary to preserving the seed of survival. The story of Estsanatlehi highlights the need for adaptation to each season in it's own time. Even the translation of her Navajo name, Changing Woman, yields instruction about the importance of adapting to each season as it is her ability to adapt, to change, that grants her the powers of endless rejuvenation for which she is revered.

These are the gods and goddesses of the Harvest and Planning for a long difficult time. The Mythos of the Deities of Autumn are clearly about the need to make preparation for the ultimate magic of transformation through the mystery of death.

The Season of Mabon is a popular time to celebrate wine-making, and deities connected to the growth of the vine. Whether you see him as Bacchus, Dionysus, the Green Man, or some other vegetative god, the god of the vine is a key archetype in harvest celebrations.

The Greek Dionysus was representative of the grapes in the vineyards, and of course the wine that they created. As such, he gained a bit of a reputation as a party-hardy kind of god, and his followers were typically seen as a debauched and drunken lot. However, before he was a party god, Dionysus was originally a god of trees and the forest. He was often portrayed with leaves growing out of his face, similar to later depictions of the Green Man. Farmers offered prayers to Dionysus to make their orchards grow, and he is often credited with the invention of the plow.

In Roman legend, Bacchus stepped in for Dionysus, and earned the title of party god. In fact, a drunken orgy is still called a bacchanalia, and for good reason. Devotees of Bacchus whipped themselves into a frenzy of intoxication, and in the spring Roman women attended secret ceremonies in his name. Bacchus was associated with fertility, wine and grapes, as well as sexual free-for-alls. Although Bacchus is often linked with Beltane and the greening of spring, because of his connection to wine and grapes he is also a deity of the harvest.

In medieval times, the image of the Green Man appeared. He is typically a male face peering out from the leaves, surrounded by ivy or grapes. Tales of the Green Man have overlapped through time, so that in his many aspects he is also Puck of the midsummer forest, Heme the Hunter, Cernunnos, the Oak King, John Barleycorn, and Jack in the Green. The spirit of the Green Man is everywhere in nature at the time of the harvest -- as leaves fall down around you outside, imagine the Green Man laughing at you from his hiding place within the woods!

Gods of wine and the vine are not unique to European societies. In Africa, the Zulu people have been brewing beer for a long time, and Mbaba Mwana Waresa is a goddess who knows all about brewing. Originally a rain goddess, and associated with rainbows, Mbaba Mwana Waresa gave the gift of beer to Africa.

The Aztec peoples honored Tezcatzoncatl, who was the god of a sour, somewhat yeasty brewed drink called pulque. It was considered a sacred drink and was consumed at



Representation of the Triple Goddess (Youth, Woman and Crone)

festivals each fall. Interestingly, it was also give to pregnant women to ensure a good pregnancy and a strong baby - perhaps because of this, Tezcatzontecatl was associated not only with fertility but also with drunkenness.

Beer was one of the many gifts that Osiris gave to the people of Egypt. In addition to all of his other duties, his job is to brew beer for the gods of the Egyptian pantheon. Eventually, Osiris came to be known as a harvest god, as the cutting and dismemberment of his body was associated with the cutting and threshing of grain.

Winter Gods and Goddesses: The Winter Goddess is part of the cycles of the seasons. She represents a time of stillness and going within. She is the face of death as not everything will be renewed and transformed in the spring. The Goddess of winter carries the seeds of your dreams, to be nurtured through the darkness so it can grow new roots in the spring. In winter, everything is striped bare to the essentials. There is no outward growth, just the potential of the void where new life force can be crystallized as the warmth of the sun returns.



Skadi - Norse Goddess of Winter

The start of winter is celebrated in different ways in many parts of the world. It is the time of year when the veil between us and the spirit world is said to be at it's thinnest. In the Christianized areas, All Saints Day is a reminder that "good" has conquered "evil". Alongside this, the commercial festivities of Halloween give expression to the archetypes of our myths, stories and the unconscious.

In Mexico at the beginning of November they celebrate their ancestors with the Día de los Muertos "the day of the dead". The Mexicans build altars in their homes honoring their dead, using sugar skulls, marigolds and the favorite foods and beverages of the departed.

Families often gather at grave yards to celebrate their ancestors, offering them food and gifts. These traditions date back many years and have been linked to the Aztec festival dedicated to the Goddess Mitctecacihuatl "the lady of the dead."

Samhain for Pagans and Wiccans celebrates the Crone aspect of the Goddess. She is the wise old woman who has gained knowledge by observing the cycles of life and death. Nothing escapes her beady eyes as she has seen it all before. If you seek her out her out, make no excuses, for she will see through all your fears and self-deceptions. Her honesty is sharp like the cracking of an icicle. If you have the courage to face her she will instruct you on which bits of you life need to be hard pruned back to allow for new growth. Goddesses associated with this time of year include: Cerridwen, Ereshkigal, Hekate, Hella and Nephthys.

Throughout the world gods and goddesses of light were being born during the Winter Solstice. The Egyptian goddess Isis delivered Horus whose symbol was the winged Sun. Mithras, the Unconquered Sun of Persia, was born during the solstice, as was Ameratsu, the Japanese Goddess of the Sun. Rhea gave birth to Saturn (the Father of Time), Hera conceives Hephaestus, and Quetzalcoatl, Lucina ("Little Light") also celebrate birthdays at this time. Lucia, saint or Goddess of Light, is honored from Italy to Sweden, crowned with candles to carry us through the darkness. Sarasvati, Queen of Heaven in India, is honored during Yuletide.

Summer Gods and Goddesses: The summer solstice has long been a time when cultures celebrated the lengthening year. It is on this day, sometimes called Litha, that there is more daylight than any other time; a direct counterpoint to the darkness of Yule. No matter where you live, or what you call it, chances are you can connect to a culture that honored a sun deity around this time of year.

As the Sun god's birth is universally seen to be December 25th on the Gregorian calendar, the Summer represents his greatest strength. It is the time of plenty, bright days, long hours of light and is often associated with goodness and life's most powerful season. Conversely, with the shortest nights of darkness, evil has little time to play with mortal lives.

The gods of summertime are very strongly associated with the solar deity and sun worship. Many ancient festival are associated with the worship of the sun god or goddess in honor of their strength and life giving rays. There is always a dualistic nature to the sun deity as they can also cause the crops to wither and animals to suffer in the heat of day, so always be on her good side.



Helios or Apollo - The Sun God on his Chariot

African Gods



Hare Ke: West African Goddess of the sweet waters fed by the spring rains that brought fertility back to the land.

Mesoamerican Gods



Huitzilopochtli: This warrior god of the ancient Aztecs was a sun god and the patron of the city of Tenochtitlan. He battled with Nanahuatzin, an earlier solar god. Huitzilopochtli fought against darkness, and required his worshipers to make regular sacrifices to ensure the sun's survival over the next fifty-two years, which is a significant number in Mesoamerican myths.

[illegible]

The Green Man: Also known as Green Jack, Jack-in-the-Green, and Green George, the Green Man is usually illustrated as a horned man covered by a mask of leaves, usually of the sacred oak. He represents the spirits of trees, plants and foliage. He brings the rain to foster livestock with lush meadows. He was frequently depicted in medieval art, including church decorations. In Spring festival processions, a young man dressed in greenery or an effigy of Green George leads the way, and is sometimes dunked in the local waters to ensure enough rain for the season. The Green Man, covered head to toe in the color of the fairies, is aligned with the forest-dwelling Fae, thought by some to be the long-neglected Tuatha da Danaan. In some parts of the British Isles fairies are called Greenies or Greencoaties.

Epona: This Celtic Goddess, sometimes associated with Rhiannon, found favor with Roman soldiers who occupied the British Isles because of her similarity to Athena. Her aspects seem to have become dual. To soldiers she was the Goddess of horses, mules, dogs, and patroness of calvalrymen. She conducted the souls of the dead to the Underworld. However, her symbol is also the cornucopia, a symbol of fertility and plenty. In this perhaps older aspect, she is Goddess of Spring, healing, maternity, and prosperity.

Lugh: Lugh was known as a god of both skill and the distribution of talent. He is sometimes associated with midsummer because of his role as a harvest god, and during the summer solstice the crops are flourishing, waiting to be plucked from the ground at Lughnasadh.

The Morrigan: Morrigan the Celtic Queen of Demons is very much associated with Autumn. It is believed that she makes a sexual union with Dagda, an Irish Tribal God said to be the All-Father, at the Autumnal celebration of Samhain in order to ensure the survival and future prosperity of the land. Thus, when the barren times of Winter come, Morrigan carries the seed of new growth. In her aspect as Queen Maeve she is ritually wedded to the mortal king of the land, but, in her warlike aspects of Nemain (panic) and Badb/Mab, the Raven of Battle, she uses her supernatural powers to spread fear and confusion among the enemy.

Nantosuelta: Gaulish goddess of nature, the earth, fire, and fertility.

Olwen: Goddess of sunlight she reappeared every Spring, leaving behind her a trail of white clover where ever she walked.

Ostara: Painted eggs and white rabbits are sacred to Ostara ,the Celtic Goddess of Spring, fertility and rebirth. Her symbols have been incorporated into the Christian celebration of Easter.

Sucellus: god of agriculture, forests and alcoholic drinks

Chinese Mythology



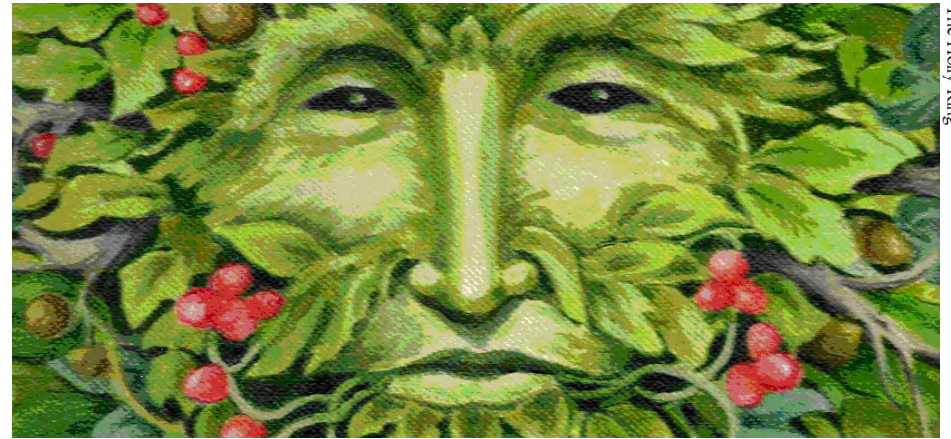
Chinese Gods

Gou-Mang, Kou-Mang: As dragon-messenger of the Chinese Sky God, Gou-Mang comes from the East, bringing springtime and happiness.

Hu Tu: A goddess of the Summer solstice

Ma-ku: The Chinese Goddess of Spring.

Druidic and Neo-Pagan Tradition



The Holly King

Holly King: (British/Celtic) The Holly King is a figure found in British tales and folklore. He is similar to the Green Man, the archetype of the forest. In modern Pagan religion, the Holly King battles the Oak King for supremacy throughout the year. At the winter solstice, the Holly King is defeated.

Oak King: The Oak King, the Lord of the Greenwood and golden twin of the waxing year, rules from Midwinter to Midsummer. At Midwinter, he goes to battle with his twin, the Holly King, for the favor of the Goddess. He slays the Holly King, who goes to rest in Caer Arianrhod until they do battle again at Midsummer. The Oak King and Holly King are mortal enemies at Midsummer and Midwinter, but they are two sides of a whole. Neither could exist without the other.

Egyptian Mythology



Egyptian Gods

Aten: This god was at one point an aspect of Ra, but rather than being depicted as an anthropomorphic being (like most of the other ancient Egyptian gods), Aten was represented by the disc of the sun, with rays of light emanating outward.

Hapi: The god of the annual flooding of the Nile in ancient Egyptian religion. The flood deposited rich silt (fertile soil) on the river's banks, allowing the Egyptians to grow crops. Some of the titles of Hapi were, Lord of the Fishes and Birds of the Marshes and Lord of the

River Bringing Vegetation. The annual flooding of the Nile occasionally was said to be the Arrival of Hapi.

Horus: Horus was one of the solar deities of the ancient Egyptians. He rose and set every day, and is often associated with Nut, the sky god. Horus later became connected with another sun god, Ra.

Ra: The supreme sun god

Renpet: Egyptian Goddess of youth, who began the years cycle as the Goddess of Spring. Depicted crowned with palm leaves.

Finnish Mythology



Finnish Gods

Beiwe: A Saami Goddess associated with the fertility of plants, the coming of spring and reindeer. Together with her daughter Beiwe-Neia, they turned the hills green so the reindeer could feed.

Lempo: god of wilderness and archery

Louhi: A goddess of the ocean & winter

Hlin: A goddess of summer

Mielikki: goddess of forests and the hunt

Germanic Mythology

Eostre or **Ostara:** the goddess of spring, rabbits and eggs

Frau Holle: Germanic goddess of winter

Nerthus: goddess of the earth, called by the Romans Terra Mater

Zisa: A Germanic goddess of autumn

Greek Mythology



Greek Gods

Apollo: The son of Zeus by Leto, Apollo was a multi-faceted god. In addition to being the god of the sun, he also presided over music, medicine and healing. He was at one point identified with Helios. As worship of him spread throughout the Roman empire into the British Isles, he took on many of the aspects of the Celtic deities, and was seen as a god of the sun and of healing.

Boreas: the Greek god of the cold north wind and the bringer of winter. His name meant "North Wind" or "Devouring One"

Chloris: goddess of flowers and the spring

Cybele: Phrygian goddess of the fertile earth, nature and wild animals

Demeter: goddess of the harvest, the fertility of the earth, grains and the seasons

Dionysus: god of wine, vegetation, pleasure and festivity. Roman equivalent is Bacchus.

Hebe: The Goddess of eternal youth and Spring.

Hegemone: goddess of plants, specifically making them bloom and bear fruit.

The Horai: (or Horae) The goddesses of the seasons and the natural portions of time.

They presided over the revolutions of the heavenly constellations by which the year was measured, while their three sisters spun out the web of fate. The Horai also guarded the gates of Olympus and rallied the stars and constellations of heaven.

The Horai were particularly honored by farmers who planted and tended their crops in time with the rising and setting of the stars which measures the passing of the seasons. The three were usually named Eunomia (Good Order, Good Pasture), Eirene (Peace, Spring), and Dike (Justice) goddesses who individually represented the conditions required for farming prosperity. The association of agriculture with law and order can also be found in the divinities of Zeus, Demeter and the Daimones Khryseoi.

Kore: Kore is an alternative name for the Greek Goddess Persephone

Maia: This Goddess of Spring represented the forces of growth and the return of the warm rays of the sun

Persephone: Her mother Demeter mourned her daughter as left for the underworld each Autumn causing the land to become cold and barren. When she returned in the Spring the happy Demeter would bestow the land with growth and abundance.

Physis: Primeval goddess of nature

Hinduism

Vedic Gods



Annapurna: A goddess of autumn

Aranyani: goddess of the forests and the animals that dwell within them

Annapurna: A goddess of autumn

Sita: Spring Goddess of agriculture and the earth

Surya: Sun God who rides the sky in a horse-drawn chariot

Japanese Mythology

Japanese Gods



Ameratasu: In feudal Japan, worshipers celebrated the return of Ameratasu, the sun goddess, who slept in a cold, remote cave. When the other gods woke her with a loud celebration, she looked out of the cave and saw an image of herself in a mirror. The other gods convinced her to emerge from her seclusion and return sunlight to the universe.

Inari: Both male and female, Inari descends from the mountains each Spring to watch over the planting of rice, precious to the Japanese. He/She is venerated as symbolic of rice cultivation in the Spring, prosperity, and friendship. Inari/Inara, the rice Goddess, may also be identified with the Indian Lakshmi, the Javanese Dewi Sri, and sometimes with Uga-no-Mitama, the goddess of agriculture.

Kono-Hana-Sakuya-Hime: She is associated with the Springtime and cherry blossom as her name means "Lady who makes the trees bloom." She is also Goddess of the sacred site Mount Fuji.

Tatsuta Hime: A goddess of autumn

Maori Mythology



Polynesian Gods

Papa: personification of the earth

Ruaumoko: god of volcanoes and seasons

Mayan Mythology



Mayan Gods

Yum Caax: god of agriculture, wild plants and animals

Mesopotamian Mythology

Mesopotamian Deities



Adon: The consort of Astarte, this Phoenician God was associated with death and rebirth and the cycle of the seasons of agriculture. His sacred river, known today as Nahr Ibrahim, flows red with minerals stirred up by the rains of late Spring. During this time, his worshipers first mourned and grieved his death, the men dressing like women and cutting themselves and wailing in the river waters. Afterward, they marked his rebirth by ritually shaving their heads and celebrating joyously. Women of Adon's cult could offer themselves sexually during the orgiastic festival instead of shaving their heads.

Damu or Tammuz: Sumerian god of vegetation and rebirth

Emesh: Sumerian god of vegetation

Ereskigal: She was, in Sumerian and Babylonian belief, a sky goddess who was abducted by Kur (a horrible monster). During the time of this abduction she is seen in some texts, as the dark, alter-ego of the Goddess Inana, but in others she is identified as the elder sister. In any event, she is among the many deities said to be abducted into the underworld for a period of time, during which growth in the world above declines and dies. She is returned to the world after Enki the God of Wisdom intervenes.

Malakbel: The personification of Spring to the ancient Syrians (then known as Palmerenes), God of the Sun and vegetation. Symbolized by an eagle.

Ninhursag: Sumerian mother goddess associated with the earth and fertility

Ninsar: Sumerian goddess of plants

Utu or Shamash: The Mesopotamia Sun God

Native American Mythology



Native American Gods

Adekagagwaa: Iroquois spirit of summer who rests during the winter in the south

Aholi: God and ruler of the Pikya clan of Native Americans. He wears a beautiful cloak covered with images and colors which symbolize Spring, fertility, and the brightness of the Sun.

Estsanatlehi: The transformation after death, and the magic therein, is embodied in the Navajo fertility Goddess Estsanatlehi, or Changing Woman. She is also known as White Shell Woman and Turquoise Woman. The latter because tradition has it that she was created from a small turquoise image into which life was given by the Great Gods. In the Navajo pantheon, Estsanatlehi has endless powers of self-rejuvenation and is therefore untouched by death, endlessly re-awakening with each new season of growth and fertility.

Gohone: The Iroquois spirit of winter

Ngen: Mapuche spirits of nature

Norse Mythology



Norse Gods

Freya or Freyja: Nordic Goddess of Spring and flowers, she is the patron goddess of Spring crops. The most beautiful of Norse Goddesses, she is the symbol of sensuality and patroness of all matters of love, fertility, and birth. She loves music and nature, and is particularly fond of the fairies.

Gefn: This is another name for the Nordic Goddess Freya.

Hod: A old god of winter

Idun or Ithunn: The goddess of spring who guarded the apples that kept the gods eternally young; wife of the god Bragi.

Sif: A goddess of agriculture, fertility & autumn, Goddess of harvest.

Sunna/Sol: Norse goddess of the sun. She doesn't get talked about very much in the myths, but she is honored at the solstice for her role in providing warmth and thus life in the cold Nordic countries.

Roman Mythology



Roman Gods

Acca Larentia: An earth goddess & god of winter

Aestas: A goddess of summer usually portrayed nude & adorned with garlands of grain. She is the Roman personification of summer.

Angerona: A goddess anguish, secrecy, silence & the winter solstice

Anna Perenna: She was associated with the cycles of the year and renewal. Her main festival was celebrated on Ides of March.

Bacchus: god of wine, nature, pleasure and festivity; equivalent to the Greek god Dionysus

Befana: A goddess of winter who was kind, each January fifth she distributes goodies to good children & of lumps of coal to those that are not.

Bona Dea: Translated, Bona Dea means "Good Goddess". She is most often referred to as a Roman goddess of fertility, virginity and women, though she also has ties to agriculture and healing. She was also called by Fauna by some and still others believed that her true name could not be spoken. Her sacred rites were celebrated in December (an 'invitation only' event hosted by the wife of the senior magistrate of Rome at a location other than her temple) and her public festival was observed on May 1.

Ceres: goddess of growing plants and motherly relationships; equivalent to the Greek goddess Demeter

Diana: goddess of the hunt, wild animals, wilderness and the moon; equivalent to the Greek goddess Artemis

Feronia: goddess associated with wildlife, fertility, health and abundance & winter

Flora: goddess of flowers and the spring; equivalent to the Greek goddess Chloris
Flora (Roman) The Goddess of flowering plants, especially those that bore fruit. Her festival, the Floralia, took place in April or early May and was marked with dancing, drinking, and flowers.

Fufluns: god of plant life, happiness and health and growth in all things

Libera: Together with Ceres and Liber she formed part of a triad of ancient Roman Gods and Goddesses responsible for bringing fertility back to the land.

Nemestrinus: god of the forests and woods

Ops: goddess of fertility and the earth

Proseпина: She was the Roman counterpart to Persephone and daughter of the grain Goddess Ceres

Pomona: goddess of autumn, fruits, fruit trees, gardens & prosperity

Silvanus: tutelary spirit or deity of woods and fields and protector of forests

Vertumnus: In Roman mythology, Vertumnus, also **Vortumnus** or **Vertimnus**, is the god of seasons, change and plant growth, as well as gardens and fruit trees. He could change his form at will; using this power, according to Ovid's Metamorphoses, he tricked Pomona into talking to him by disguising himself as an old woman and gaining entry to her orchard, then using a narrative warning of the dangers of rejecting a suitor (the embedded tale of Iphis and Anaxarete) to seduce her. The tale of Vertumnus and Pomona has been called the only purely Latin tale in Ovid's Metamorphoses. Vortumnus' festival was called the Vertumnalia and was held on August, 13th.

Slavic Mythology



Slavic Gods

Artio: The Swiss bear Goddess who hibernates during the Winter her return heralds the beginning of Spring.

Dziewanna: Eastern European Goddess of Spring and Agriculture. She was especially honored by local farmers.

Jarilo: god of vegetation, fertility, spring, war and harvest.

Kostroma: A Russian fertility Goddess and personification of Spring. In Russian mythology she dies at the end of each Spring, only to arise once more at the end of the following winter.

Lada: As Goddess of Spring and Love she was worshiped throughout Lithuania, Poland and Russia.

Svantovit: The Slavic God of Spring and War, honored on the island of Rugen as the protector of their fields. Every year they celebrated a harvest festival at Springtime to honor him. Also known as Svetovit.

Tawals: Polish blessing-bringing god of the meadows and fields

Veles: god of earth, waters and the underworld

Zeme: goddess of the earth

Welsh Mythology

Rhiannon as the Stag



Aine: (pronounced AW-neh), was originally worshiped as a Sun Goddess. Like so many goddesses and gods, Aine has assumed many other roles over the years, being seen as a Moon Goddess, a Goddess of Love, a Fertility Goddess, a Healing Goddess, and a Sovereignty Goddess. Aine is also known as a Faery Queen. She is often called Aine, Goddess of Love, Light, and Fertility. Her name means “brightness, glow, joy, radiance; splendor, glory, fame” and she is associated with the abundance of summer.

As the sun goddess nicknamed Bright, could take the form of Lair Derg, a red mare that no one could outrun. As Lair Derg, She walked among Her people, offering aide where needed. Aine, had two sisters, Fenne and Grainne. When the moon was full, the three sisters would ride their horses out from their sidhes (underground mounds where fairie goddesses live) to laugh and play in the moonlit waters of the sacred lake, Lough Gur. It is possible that Aine and Grainne alternated as goddesses of the waxing and waning solar year, changing place at the solstices.

Creiddylad/Creudylad/Cordelia: A goddess of summer flowers & the sea

Olwen: Welsh Patroness of Springtime and Love, she is known as the white footprint because of the flowers which spring up beneath her every step.

Rhiannon: ancient Welsh “great queen,” and in her form as magical stag the mythical source of the “king’s power,” arrives to rejuvenate our instinctual selves in the spring.

Deities of the Months

Greco-Roman Months



Janus - God of gates and doorways

January: Janus is the Roman god of gates and doorways, depicted with two faces looking in opposite directions. His festival month in January.

February: Februa is the Roman festival of purification, held on February fifteenth. It is possibly of Sabine origin.

March: Martius was the time for the resumption of war. Mars is the Roman god of war. He is identified with the Greek god Ares.

April: Aprilis is the month of Aphrodite the Greek goddess of love and beauty. She is identified with the Roman goddess Venus.

May: Maia (meaning “the great one”) is the Italic goddess of spring, the daughter of Faunus, and wife of Vulcan.

June: Junius or Juno is the principle goddess of the Roman Pantheon. She is the goddess of marriage and the well-being of women. She is the wife and sister of Jupiter. She is identified with the Greek goddess Hera.

July: After the first Roman Emperor Julius Caesar (100-44 B.C.), who was regarded as a God.

August: After the second great Roman Emperor Augustus Caesar (63 B.C.-14 A.D.), who like all Emperors up until Constantine (274-337 A.D., the first Christian Emperor) was also regarded as a God.

A Pan-Cultural Reference for the Months of the Year and the New Year

The evolution of the Calendar has been complex and followed many tracks across many countries. Much of the modern worlds traditions have come from ancient sources, some based on scientific observations, some from traditional holidays and others from mythical stories. These brief charts helps to illustrate some of these calendar systems. The 1st month is considered the culture's New Year month.

Month No:	Etruscan	Meaning	Old Roman	Meaning	Gregorian
1st Month	Velcitna	Closest meaning might be Cattle Month, the Modern month of March	Martius	The month named to the god Mars, soldiers march to war (March).	March
2nd Month	Capre	The Star Capella which is the star seen in April relating to Capricorn	Aprilis	The month dedicated to Virillus or Avril, goddess of fortune (April)	April
3rd Month	Ampill	A time to take away, to give to the god of the underworld. (May)	Maius	The month of the goddess Maia, the Spring Goddess (May)	May
4th Month	Acall	The sun time, corresponds to June.	Iunius	Named in honor of the goddess Juno, the great mother goddess.	June
5th Month	Turane	The giving month, or dispersal.	Quintilis	The Fifth month. (July)	July
6th Month	Herme	The Month of the god Herme who is associated with the Greek Hermes	Sextilis	The Sixth Month. (August)	August
7th Month	Celi, masn	The whole month, grain harvesting, with associations to sacrifice	September	The Seventh Month.	September
8th Month	Xuru, xurvar	Associations with the taking of animals to butcher and cook	October	The Eight Month.	October
9th Month	Un-named winter days	Winter days are not named in Etruscan culture (Nov-April/March)	November	The Ninth Month.	November
10th Month			December	The Tenth Month.	December
			Un-named winter days	Winter days are not counted	
13th Month					Leap Days in February

A Pan-Cultural Reference for the Months of the Year and the New Year

The Earliest recorded calendars are Babylonian and Semitic based. They had strong ties to religious festivals and references to the newly created agricultural lifestyles and the farming communities that gave rise to the earliest settlements and stationary villages. These eventually became the first cities. For these cultures the New Year calendar started at the Spring Equinox.

Month No:	Babylonian	Meaning	Hebrew	Meaning	Gregorian
1st Month	Nissanu	Sanctuary or First Month; Nissau starts at the Spring Equinox	Nissan	Miracles, Redemption (March 21st)	Mar/Apr
2nd Month	Ayaru	Prospering Herd or Bright Flowers	Iyyar	Month of Healing, Self-Improvement	Apr/May
3rd Month	Simanu	Brick Making, Appoint (May/June)	Sivan	Vision; giving of the Law of God	May/June
4th Month	Du'uzu	Scatter Seed, Spring God,	Tammuz	Spring God, Sun god, Heat	June/July
5th Month	Abu	Fiery Month (July/August)	Av	Father, will or desire of the Father	July/Aug
6th Month	Ululu	Purification, Mission of Ishtar	Elul	Search your Heart and Repent	Aug/Sept
7th Month	Tashritu	Resplendent Temple, Worship	Tishrei	To begin, the beginning of the Harvest Season, Early Harvest	Sept/Oct
8th Month	Arach-Samna	Laying Foundations, Opening of Dams from the irrigation of fields	Cheshvan	To be Still, to Pray	Oct/Nov
9th Month	Kislimu	Fertility Season, Uncertain harvest	Kislev	Joyous Trust, Giving of Charity	Nov/Dec
10th Month	Shabatu	Destructive Rainy Time (Dec/Oct.)	Tevet	Ten, The Goodly Eye	Dec/Jan
11th Month	Tebet	Violent Rains, Flooding	Se'bat	Royal Scepter or Staff, Blessings	Jan/Feb
12th Month	Adaru	Threshing or grain-cutting	Adar	Strength, Vital Support	Feb/March
13th Month	Adaru II	Empty Days of the Moon 17 or 19 year Metonic Cycle			Leap Days

A Pan-Cultural Reference for the Months of the Year and the New Year

The Polish and Gaelic Calendars share a combination of cultural references mixed with the roman tradition. As the Roman expanded their empire to new territories, the two cultures shared ideas and local customs of time keeping combined with Roman pragmatism to create hybrid calendars. Both the Polish and Irish month names are excellent examples of hybridization.

Month No:	Polish	Meaning	Irish	Meaning	Gregorian
1st Month	Styczen	means “to meet” - “to join”	Samhain	means “end of Summer” and corresponds to the beginning of November	Nov/Dec
2nd Month	Luty	fierce, “bitter frost”, “freezing cold”	Nollaig	derives from Latin natalicia (birthday), referring to the birth of Christ	Dec/Jan
3rd Month	Marzec	meaning “ to freeze” or perhaps a cognate of the Roman god Mars	Eanair	this is Gaelic for January, Janus’ month	Jan/Feb
4th Month	Kwiecien	from flowers, a blooming month	Feabhra	the Gaelic term for February or as it is more popularly known - Imbloc	Feb/March
5th Month	Maj	from the Roman calendar devoted to goddess Maia.	Marta	Gaelic for Month of Mars (March)	March/Apr
6th Month	Czerwiec	from a Polish word “czerwienic” - meaning to redden or ripen	Aibrean	Gaelic for the month of April	Apr/May
7th Month	Lipiec	From lipa - “linden tree” - which flowers in that time.	Bealtaine	The month of May is named after the this religious festival to the goddess.	May/June
8th Month	Sierpien	Sierp, “a sickle” used for harvesting	Meitheamh	means “mid-summer” within the month of June, the Summer Solstice	June/July
9th Month	Wrzesien	From wrzosa - “heather” that flowers purple in that time	Luil	Gaelic for July or Julius	July/Aug
10th Month	Pazdziernik	From pazdzierz - tow, wooden dry part remained from flax or hemp	Lunasa	the month of August is named after this religious festival dedicated to Lugh	Aug/Sept
11th Month	Listopad	From padajace liscie - falling leaves	Mean Fuomhair	Middle of Harvest	Sept/Oct
12th Month	Grudzien	Gruda - hardened ground which is caused by cold weather	Deireadh Fuomhair	End of the Harvest	Oct/Nov
13th Month			Sonno-cingos	The Walking of the Sun	Leap Days

A Pan-Cultural Reference for the Months of the Year and the New Year

American Indian Tribes tended to be very watchful of nature and considered themselves to be part of nature and very much a part of its cycles. The times of the year were described by the monthly moon cycles. The moons were similar to months but not as fixed by number of days or exact time of year. The moon names often tell the story of how to survive through the year.

Month No:	Zuni Indian	Meaning of the Moon	Heida Indian	Meaning of the Moon	Gregorian
1st Month	dayamcho yachunne	when limbs of trees are broken by snow	táan kungáay	bear hunting moon	Jan/Feb
2nd Month	onon u'la'uk-wamme	no snow in trails	hlgit'ún kungáay	goose moon	Feb/March
3rd Month	li'dekwakkyats'ana	little sand storm	xitgáas kungáay	noisy goose moon	March/Apr
4th Month	li'dekwakkyalana	great sand storm	xíit kungáay	migratory geese moon	Apr/May
5th Month	yachun kwa'shi'amme	no name	tahálaa kungáay	food-gathering moon	May/June
6th Month	ik'ohbu yachunne	turning moon	gáan kungáay	berries ripen moon	June/July
7th Month	dayamcho yachunne	when limbs of trees are broken by fruit	chîin kungáay	salmon moon	July/Aug
8th Month			k'îit'aas kungáay	cedar bark for hat & baskets	Aug/Sept
9th Month	li'dekwak kwyats'ana	corn is harvested	káalk kungáay	ice moon	Sept/Oct
10th Month	li'dekwak kwyalana	big wind moon	cha'áaw kungáay	bears hibernate	Oct/Nov
11th Month			t'a'áaw kungáay	snow moon	Nov/Dec
12th Month	k'ohbu yachunne	sun has traveled home to rest	gáangálang kungáay	ripe berries moon	Dec/Jan

A Pan-Cultural Reference for the Months of the Year and the New Year

Two examples of Calendar systems based around a 360 day year (12 months of 30 days) with some intercalation days that are non-Latin based. The Zoroastrian calendar and the early Celts have their own rationale for setting a New Year's Date near the spring equinox. Both had strong influences of the sun in their culture and this is the time of year when the day becomes longer than the night.

Month No:	Gaul/Celtic	Meaning	Zoroastrian	Meaning	Gregorian
1st Month	Samonios	"Belonging of Summer"; or Celtic "beginning of Summer"	Frawardin	New year's month starts at the Spring Equinox; means "spirit to choose"	Mar/Apr
2nd Month	Dumanios	"Month of Sacrificial Offering; Sanskrit dhumah "smoke"	Ardwahisht	Around the Gregorian month of May; translates to "true working existence"	Apr/May
3rd Month	Riuos	"Thick/Fat/Large month" Perhaps referring to Full Bellies	Khordad	Divinity associated with "wholeness" or "perfection." Spiritual wealth	May/June
4th Month	Anagantios	"One Does Not Travel" A month of Tending the Home	Tir	Divinity associated with life-bringing rainfall and fertility. (June-July)	June/July
5th Month	Ogronios	"Cold Month"; Associations with Autumn	Amurdad	Divinity/divine concept of immortality	July/Aug
6th Month	Cutios	Unknown etymology Refers to October/November	Shahrewar	Dedicated to the Bounteous Immortals; similar to the Arch-Angels	Aug/Sept
7th Month	Giamonios	"Month belonging to Winter"; from the Celtic root of Winter	Mihr	Dedicated to the angelic Divinity of Covenant, Oath, and Truth – Mithra	Sept/Oct
8th Month	Simiuisonna	Unknown etymology Perhaps Half Sun month	Aban	Dedicated to the divinities of water; Elemental Water, or divine water	Oct/Nov
9th Month	Equos	Seems to have "Horse" as root; Perhaps means Equal (Equinox)	Adur	Dedicated to "holy fire"; or "visible and invisible fire"	Nov/Dec
10th Month	Elembiu	"Month belonging to the Deer"; or "Month of the Deer-hunt"	Dae	The month of Ahurahe Mazda, the great source of goodness (~January)	Dec/Jan
11th Month	Aedrinios	Bright (or Hot) Month"; Summertime	Wahman	One of the Six great Spirits; of "Good Purpose" or "Good Mind"	Jan/Feb
12th Month	Cantlos	perhaps "Song month" Month of Story Telling	Spendarmad	One of the Six Divine Sparks associated with "Earth" or Terra Firma.	Feb/Mar
13th Month	Sonnocingos	"Sun's march" (Inter-calculation)	Addaru II	Gatha Days (hymn & grain days)	

Note: See the Important Terms at the End of this Section

A Pan-Cultural Reference for the Months of the Year and the New Year

Two examples of Calendar systems based around the astrological constellations. The Vedic calendar is very much based on the sun and the moon with different cultures and religious traditions following either a new moon (Lunar) monthly schedule or an astrological based Sun position. The modern Astrology Calendar is also based on the sun traveling through the constellation during the year.

Month No:	Vedic	Astrological Start	Astrology	Meaning /Birth Sign	Gregorian
1st Month	Chaitra	Chaitra begins with the new moon in March/April (Pisces-Aries)	The Ram	The Ram of the Golden Fleece; March 21st - April 19th (Aries)	March/Apr
2nd Month	Vaisakha	Corresponds to Aries/Taurus; it is named from the star Vishakha	The Bull	The Cretan Bull (Taurus); April 20th - May 20th	Apr/May
3rd Month	Jyestha	Jyestha begins with the Sun's entry into Gemini on May 22nd	The Twins	Castor and Pollux (Gemini); May 21st - June 21st	May/June
4th Month	Asadha	Begins with the Sun's entry into Cancer on June 22nd or the new moon	The Crab	Hercules tasks in killing the Hydra; June 22nd - July 22nd (Cancer)	June/July
5th Month	Sravana	Begins with the Sun's entry into Leo on July-22nd (Cancer-Leo)	The Lion	the Nemean Lion (Leo); July 23 - August 22	July/August
6th Month	Bhadrapada	Begins on the 23rd of August when the Sun enters Virgo (Leo-Virgo)	The Virgin	the maiden is based on Astraea; August 23 - September 22 (Virgo)	Aug/Sept
7th Month	Asvina	Ashvin begins with the Sun's exit from Virgo (Virgo-Libra)	The Scales	Scales of Justice held by Themis; September 23 - October 23 (Libra)	Sept/Oct
8th Month	Kartika	Kartikai begins with the Sun's entry into Scorpio (Oct-23rd)	Scorpion	The Scorpion sent by Gaia (Scorpio); October 24 - November 20	Oct/Nov
9th Month	Agrahavana or Margasirsa	Begins with the Sun's entry into Sagittarius; means Sun's path	The Archer	the Centaur of mythology (Sagittarius); November 21 - December 22	Nov/Dec
10th Month	Pausa	It begins with the solstice on 22 December (Sagittarius-Capricorn)	Sea Goat	the Sumerian god of water Enki; December 23 - January 20 (Capricorn)	Dec/Jan
11th Month	Maagha	Maagh begins with the Sun's entry into Capricorn (Capricorn-Aquarius)	The Water Bearer	The Cup Bearer Ganymede January 21 - February 21 (Aquarius)	Jan/Feb
12th Month	Phalguna	Named after a star, it mark Spring; marked by the Sun into Aquarius	The Fish	Aphrodite and Eros escape Typhon February 22 - March 20 (Pisces)	Feb/March
13th Month	Adhika Masa	means "extra month" to synchronize the Solar and Lunar Calendars		None (completely solar based)	Leap Days

A Pan-Cultural Reference for the Months of the Year and the New Year

The Neo-Pagan Wheel of the Year is somewhat of a modern innovation. The modern understanding of the Wheel is a result of the cross-cultural awareness that began developing by the time of Modern Europe. Most Pagans celebrate the New Year on Samhain (On the Autumn Equinox) The Egyptian calendar also starts around this time and follows the moon cycles and flooding of the Nile river.

Season No:	Neo-Pagan	Solar Astrological Start	Egyptian	Meaning /Time	Gregorian
1st Season	Samhain	Last Harvest, Start of Winter; Honor of the Dead (Oct-31st)	Thoth	God of Wisdom and Science / First of Akhet (Nile rising - 1st Moon)	Sept/Oct
			Menhet or Phaophi	Named after the God of the Nile / Second of Akhet (Nile flooding)	Oct/Nov
2nd Season	Yule	The Longest Night; December 21st (Winter Solstice)	Hathor	Goddess of Beauty and Love / Third of Akhet (Nile flooding)	Nov/Dec
			Choiak or Koiak	The Egyptian sacred Earth Bull / Forth of Akhet (Nile flooding -4th Moon)	Dec/Jan
3rd Season	Imbloc	Lactation of the Ewes; Between Feb. 2 to March 6th	Toubeh or Ta-'b	In honor of the Sun God Amun Ra / First of Peret (Growth - 5th Moon)	Jan/Feb
			Meshir or Amshir	In honor of the Wind God / Second of Peret (Receding Floods)	Feb/March
4th Season	Ostara	In Honor to the goddess of Spring; The Vernal Equinox (March 21st)	Paremhat or Rekeh-nedjes	Named for War God Mont / Third of Peret (Growth Season)	March/Apr
			Renwet or Parmouti	To the Goddess of the harvest / Forth of Peret (Growth Season)	April/May
5th Season	Bethane	Cattle to the Fields-Summer Begins; Held on May-1st (May Day)	Hnsw or Pachon	From Khonsu, the moon God / First of Shemu (Harvest - 9th Moon)	May/June
			Payni or Paoni	after Horus, "God of Metals" / Second of Shemu (Harvest Season)	June/July
6th Season	Mid-Summer	The Longest Day The Summer Solstice (June 21st)	Ipip, Epip or Abib	the month Apep (darkness) / Third of Shemu (Harvest - 11th Moon)	July/Aug
			Wep-renpet or Mesore	means "Birth of the Sun" / Forth of Shemu (End of Harvest)	Aug/Sept
7th Season	Lammas or Lughnasadh	Wheat Harvest or Lugh's Time The First Harvest (Aug. 1st)	Sopdet	Based on the rising of Sirius (Sothic Year) - Little Month	Leap Days
8th Season	Mabon	Night and Day are Equal The Autumn Equinox (Sept. 22nd)			

A Pan-Cultural Reference for the Months of the Year and the New Year

There is a logic to starting the year In October. The fields are harvested and the granaries are full (if lucky) and the farmers have been paid. It is a fruition of the year. To our ancestors, this seems a very good place to Start and end a year with the Autumn Equinox. The Norse and Slavic people thought this way as seen in their calendars.

Month No:	Norse	Meaning /Time	Slavic	Meaning /Time	Gregorian
1st Month	Gormánuður	means “Slaughtering Month” First Month of Winter	Koložeg	Time of burning tree trunks	Oct/Nov
2nd Month	Ýlir, Jólnir or frermánuður	Named in Honor of Odin (Jolnir) frermánuður means “Frost month”	Secko	Time of hewing, chopping wood	Nov/Dec
3rd Month	Mörsugur	Third month of winter Mörsugur means “leaf fat sucker”	Derikoža	Time of killing livestock	Dec/Jan
4th Month	Þorri	For the Story of Þórr Fourth Month of Winter	Ležitrava	Time of vigorous growth	Jan/Feb
5th Month	Gói	Possibly “Protection of Women” Fifth Month of Winter	Cvetanj	Time of flowering grasses	Feb/March
6th Month	Einmánuður	Means “One Month” A Month dedicated to boys	Trešnjár	Time of the first yield of fruits	March/Apr
7th Month	Harpa/Sumar or sáðtið	Month for Girls / Summer means Summer or “seed time”	Žetvar	Time of the harvest	April/May
8th Month	Skerpla or Eggtið	Second month of Summer Eggtid means “Egg Time”	Gumník	Time of wheat threshing	May/June
9th Month	Sólmánuður	means “Sun Month and is the Third Month of Summer	Grozdober	Time of harvesting grapes	June/July
10th Month	Heyannir or Miðsumar	means “Hay Month and is also called Mid-Summer	Šumopad	Time of leaves yellowing	July/Aug
11th Month	Tvímánuður	means “Two Month” and is also called Grain Cutting Month	Studen	Time of cold; late autumn	Aug/Sept
12th Month	Haustmánuður	means “Harvest Month” and is also called Autumn month	Koledar	Time to meet the new year	Sept/Oct
					Leap Days

A Pan-Cultural Reference for the Months of the Year and the New Year

The Greek city states all had their own calendars with their own month names. Some States had related calendars, as can be seen her between Athens and Delphi, but other States had completely different New Year celebrations and months named for completely different reasons and starting for other reasons than lunar cycles. For Example, it is known that the Spartans followed a 9 month calendar.

Month No:	Delphi	Meaning/Lunar Start	Attic/Athens	Meaning / Lunar Time	Gregorian
1st Month	Apellaios	Named after the Sun god Apollo; July - August (1st new Moon)	Hekatombaion	Named after Hekatombe Festival; July - August (1st new Moon)	July-August
2nd Month	Boukatios	Festival of Boukatia for Apollo; August - Sept. (2nd New Moon)	Metageitnion	Cult name for Apollo (Sun God); August - Sept. (2nd New Moon)	Aug-Sept
3rd Month	Boathoos	Festival of Defender Heros; Sept. - October (3rd New Moon)	Boedromion	Boedromia - Thanks to Apollo Sept. - October (3rd New Moon)	Sept-Oct
4th Month	Heraios	Named after the goddess Hera; October - Nov. (4th New Moon)	Pyanepsion	boiling beans at Pyanepsia Festival; October - Nov. (4th New Moon)	Oct-Nov
5th Month	Dadaphorios	Festival of torch Bearers; November - Dec. (5th New Moon)	Maimakterion	Named after Zeus (Father God); November - Dec. (5th New Moon)	Nov-Dec
6th Month	Poitropios	Named after Posideon (Sea God); Dec. - January (6th New Moon)	Poseideon	Named after Posideon (Sea God); Dec. - January (6th New Moon)	Dec-Jan
7th Month	Amalios	Unknown; Jan. - February (7th New Moon)	Gamelion	Marriage of Zeus to Hera (Gamelia); Jan. - February (7th New Moon)	Jan-Feb
8th Month	Bysios	The Month of the Oracle of Apollo; Feb. - March (8th New Moon)	Anthesterion	From the Festival of Anthesterion; Feb. - March (8th New Moon)	Feb-March
9th Month	Theoxenios	Feast in honor of Apollos guests; March - April (9th New Moon)	Elaphebolion	Festival of Artemis (Elaphebolia); March - April (9th New Moon)	March-Apr
10th Month	Endyspoitropios	Unknown; April - May (10th New Moon)	Mounichion	From the Festival of Munichia; April - May (10th New Moon)	April-May
11th Month	Herakleios	Named after Zeus' son Hercules; May - June (11th New Moon)	Thargelion	Pre-harvest Festival (Thargelia); May - June (11th New Moon)	May-June
12th Month	Ilaios	Apollos Sacred Actions; June - July (12th New Moon)	Skirophorion	The Skirophoria festival for Demeter June - July (12th New Moon)	Jun-July
13th Month	Leap Days	Named after the month picked II.	Poseidion II	Inter-calculation Days	

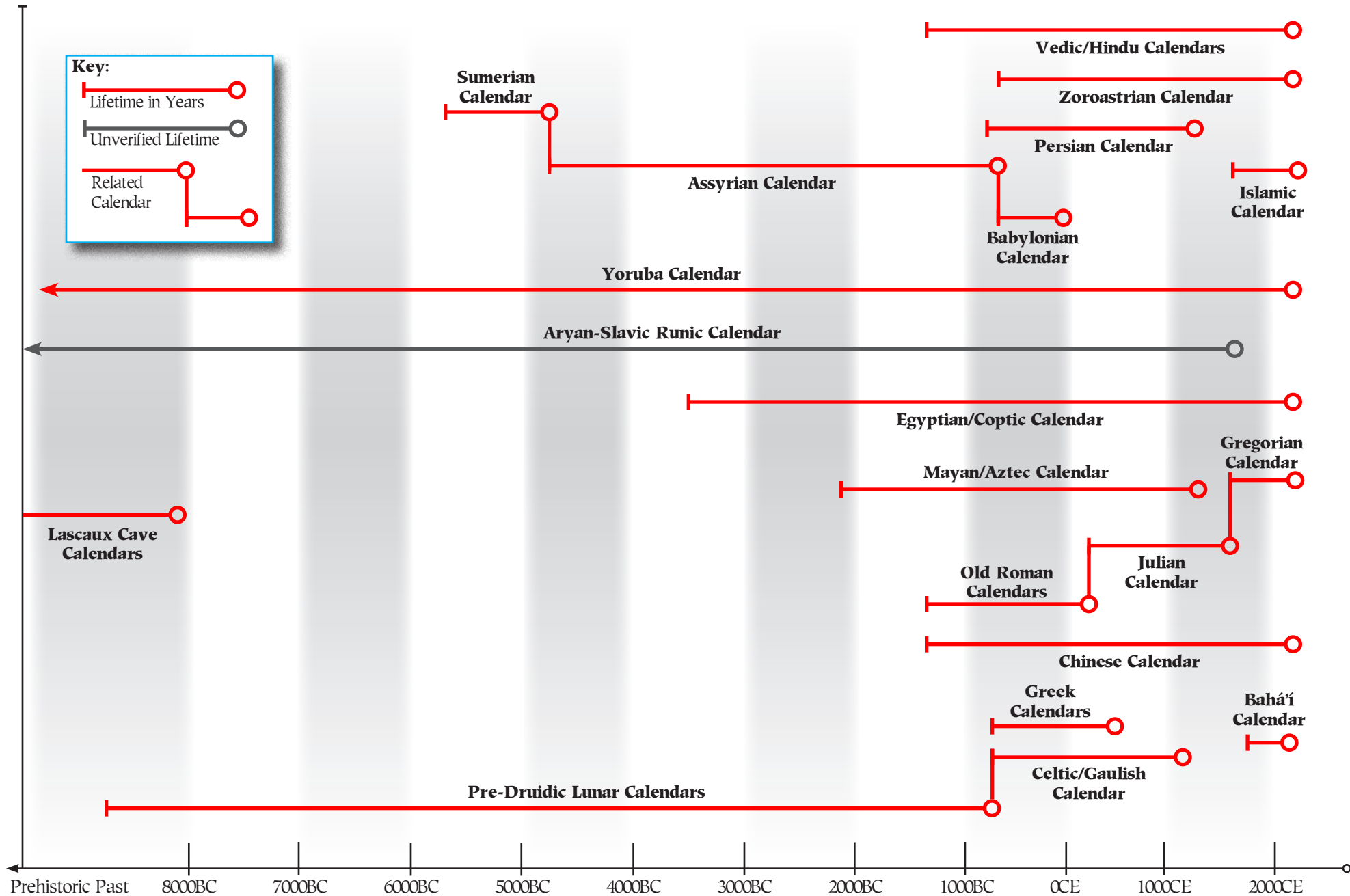
A Pan-Cultural Reference for the Months of the Year and the New Year

There are few examples of truly native African calendar systems and those we do have are fragmentary. Here are two examples of Native African calendars that give us some insights, but they have been heavily influenced by Roman/Western thought. According to the Yoruba calendar, the Gregorian year 2008 CE is the 10,050th year of Yoruba culture.

Month No:	Berber	Meaning	Yorùbá	Meaning /Time	Gregorian
1st Month	tayyuret tezwaret	The First Small Moon - June 21st	Okudu	Means “The Official”	June/July
2nd Month	tayyuret teggwerat	The Second Small Moon	Agemo	Menas “Jul”	July/Aug
3rd Month	yardut	?? Unknown	Ogun	Means “War”	Aug/Sept
4th Month	sinwa	?? Unknown	Òwéré	Yoruba for “Sep”	Sept/Oct
5th Month	tasra tezwaret	The First Herd	Owara	Simply is October in Yoruba	Oct/Nov
6th Month	tasra teggwerat	The Last Herd	Bèlu	Means “Nov” in Yoruba	Nov/Dec
7th Month	awdayeyet yezwaren	The First Antelope Babies	Ope	Means “Thanks” in Yoruba	Dec/Jan
8th Month	awdayeyet yeggweran	The Last Antelope Babies	Sere	Means “Lightly”	Jan/Feb
9th Month	awzimet yezwaren	The First Gazelle Babies	Erele	Means “Feb”	Feb/March
10th Month	awzimet yeggweran	The Last Gazelle Babies	Ereana	“Mar” in Yoruba	March/Apr
11th Month	ayssi / aysi	?? Unknown	Igbe	Means “Cry”	April/May
12th Month	nim	?? Unknown	Ebibi	Means “Nausea” in Yoruba	May/June

A Time-line of Calendar Systems

This page is devoted to showing a time line of the major calendar systems leading up to the Gregorian Calendar. It shows the basic life of the calendar and when it was developed in historical context to a CE. timescale. There is no order to these from top to bottom.



Important Terms:

Axial Precession or Procession of the Equinoxes:

In astronomy, axial precession is a gravity-induced, slow, and continuous change in the orientation of an astronomical body's rotational axis. In particular, it refers to the gradual shift in the orientation of Earth's axis of rotation, which, similar to a wobbling top. Earth's precession was historically called the precession of the equinoxes, because the equinoxes moved westward along the ecliptic relative to the fixed stars, opposite to the yearly motion of the Sun along the ecliptic. It is a cycle of cycle of approximately 26,000 years.



Equinox: An equinox occurs twice a year, around 20 March and 22 September. The oldest meaning is the day when day-time and night are of approximately equal duration.

Heliacal Rising: The heliacal rising of an astrological object occurs annually when it first becomes visible above the eastern horizon for a brief moment just before sunrise, after a period of time when it had not been visible.

Intercalation Day: The insertion of a leap day, week or month into some calendar years to make the calendar follow the seasons.

Leap Days: Leap days are the extra days (think February 29th) that are added to any calendar in leap years. These are used to reconcile the moon phases not evenly matching the solar year exactly.

Leap Year: A leap year (or intercalary or bissextile year) is a year containing one additional day (or, in the case of lunisolar calendars, a month) in order to keep the calendar year synchronized with the astronomical or seasonal year.

Lunar: Meaning the Earth's "Moon".

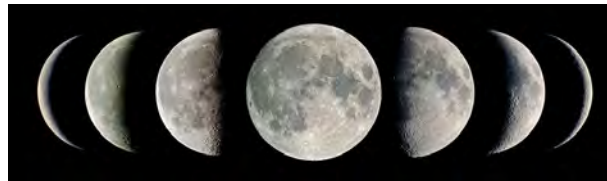
Lunar Calendar: A lunar calendar is a calendar that is based on cycles of the lunar phases. Because there are slightly more than twelve lunations (synodic months) in a solar year, the period of 12 lunar months (354.37 days) is sometimes referred to as a **Lunar Year**.

A common purely lunar calendar is the Islamic calendar or Hijri Qamari calendar. A feature of the Islamic calendar

is that a year is always 12 months, so the months are not linked with the seasons and drift each solar year by 11 to 12 days. It comes back to the position it had in relation to the solar year approximately every 33 Islamic years.

Lunisolar Calendar: A lunisolar calendar is a calendar in many cultures whose date indicates both the moon phase and the time of the solar year. If the solar year is defined as a tropical year, then a lunisolar calendar will give an indication of the season; if it is taken as a sidereal year, then the calendar will predict the constellation near which the full moon may occur. Usually there is an additional requirement that the year have a whole number of months, in which case most years have 12 months but every second or third year has 13.

Metonic Cycle: Meton of Athens (ca. 440 BC) noticed that 235 lunar months made up almost exactly 19 solar years. Using modern measurements, the near commensurability of the two periods follows from the fact that 235/19 is the 6th convergent of the ratio of the lunar month and solar year periods (365.2425/29.53059). This 19-year lunar cycle became known as the Metonic cycle, and was the basis for the Greek calendar until the Julian calendar was introduced in 46 BC. Since 12 lunar months equal 354.367 days, about 11 days less than a solar year, an additional lunar months were added to synchronize the cycle. These were added in years 3, 5, 8, 11, 13, 16, and 19 of the cycle. The Metonic cycle was extended by Callippus to four 19-year cycles, which is known as the **Callippic Cycle**.



Moon Cycle or Moon Phases: the full cycle of the moon takes 29.5 days for it to pass through all 8 phases. The phases are: New Moon (unseen), Crescent Waxing, 1st Quarter Moon, Waxing Gibbous, Full Moon, Waning Gibbous, 3rd Quarter Moon, Waning Crescent.

Sidereal Year: (from Latin sidus "asterism, star") is the time taken by the Earth to orbit the Sun once with respect to the fixed stars. Hence it is also the time taken for the Sun to return to the same position with respect to the fixed stars after apparently travelling once around the ecliptic. It equals 365.25636 days for the 2000 year epoch.

The sidereal year differs from the tropical year, the time interval between vernal equinoxes in successive years, due to the precession of the equinoxes. The sidereal year is 20 min 24.5 seconds longer than the mean tropical year at (365.242189 days), and is 19 min 57.8 s longer than the average year of the Gregorian calendar (it is the seasonal year that is approximated by the average Gregorian year of 365.2425 days). For naked-eye observation, the shift of the constellations relative to the equinoxes only becomes apparent over centuries or "ages", and pre-modern calendars such as Hesiod's Works and Days would give the times of the year for sowing, harvest, and so by reference to the first visibility of stars, effectively using the sidereal year.

Sothic Cycle or Canicular Period: A period of 1,461 ancient Egyptian years (of 365 days each) or 1,460 Julian years (averaging 365.25 days each). During a Sothic cycle, the 365-day year loses enough time that the start of the year once again coincides with the heliacal rising of the star Sirius, a star called Sopdet by the Egyptians, in Greek transcribed as Sothis; a single year between heliacal risings of Sothis is a Sothic year). This rising occurred within a month or so of the beginning of the Nile flood, and was a matter of primary importance to this agricultural society.

Solar: The Earth's Sun as by its name of "Sol". Also known as Helios, Utu, Shamash, and Sunnos. Solar means "of the Sun".

Solstice: An astronomical event that occurs twice each year as the Sun reaches its highest or lowest excursion relative to the earth's equator. This will equal the shortest amount of daylight and the longest amount of daylight in a day usually occurring on December 21st and June 21st, respectively

Synodic Year: 12 synodic months, or 12 returns of the Moon to the same phase, forms the period of time known as a **Lunar Year**. If you start from the Full Moon closest to the time of Winter Solstice (Dec. 21st), and count how many times the Moon returns to this position and how many times it returns to the same phase, you will find that in the time it has returned to Full Moon 12 times, it will have passed Orion's hand 13 times. This is one lunar year. 12 same shapes, 13 returns to the same stars. This lunar year is exactly 354.372 days long, which is a whole 11 days shorter than a Solar tropical year.

List of the Months of the Year in Many World Languages

	January	February	March	April	May	June	July	August	September	October	November	December
Abkhaz	ианвар (Iapvar)	февралар (Febwarap)	хәахәкыра (xəaxəkyra)	мшәагы (mšəaby)	мәцәра (məcara)	июн (Iup)	июл (Iul)	нанхәа (nanxəa)	сәцәбра (səcəbra)	жә таара (z taara)	ноябр (nɔabr)	пхынцкәын (xəynckəyn)
Afrikaans	Januarie	Februarie	Maart	April	Mei	Junie	Julie	Augustus	September	Oktober	November	Desember
Albanian	janar	shkurt	mars	prill	maj	qershor	korrik	gusht	shtator	tetor	nëntor	djhetor
Alsation	Janner	Horn	März	April	Mai	Juni	Juli	August	Septamber	Oktober	November	Dezamber
Arabic (Egypt, Sudan and Yemen)	يناير (yanayir)	فبراير (fibrayir)	مارس (maris)	أبريل (abril)	مايو (mayu)	يونيو (yunyu)	يوليه (yulia)	أغسطس (agustus)	سبتمبر (sibtambir)	أكتوبر (uktubar)	نوفمبر (nufambir)	ديسمبر (disambir)
Arabic (Levant)	كانون الثاني (kanun al-thani)	شباط (shubat)	آذار (athar)	نيسان (nisan)	ايار (ayyar)	حزيران / huzayran	تموز (tammuz)	آب (ab)	أيلول (aylul)	تشرين الأول (tishrin al-awwal)	تشرين الثاني (tishrin al-thani)	كانون الأول (kanun al-awwal)
Arabic (Libya)	أين التار (aynu n-tar)	التار (an-nuwar)	الربيع (ar-rabi)	الطير (al-tayr)	الله (al-la)	الصيف (al-sayf)	ناصر (nasir)	حانيبال (hanibal)	الفتح (al-fatih)	التور، التور (at-tumur, al-tumur)	الحارث (al-harth)	الكانون (al-kanun)
Arabic (Algeria & Tunisia)	جانفي (Janfi)	فيفري (F-firi)	مارس (Mars/Mars)	أفريل (Afril)	ماي (May)	جوان (Juwān)	حويّلة (Juw il-yā)	أوت (Ut)	سبتمبر (Sibtambir)	أكتوبر (Uktubar)	نوفمبر (Nufambir)	ديسمبر (Disambir)
Arabic (Morocco)	يناير (yanayir)	فبراير (fibrayir)	مارس (mars)	أبريل (abril)	ماي (may)	يونيو (yunyu)	يوليوز (yulyuz)	غشت (gušt)	شتنبر (štānbinr)	أكتوبر، أكتوبر (uktubar, uktubar)	نوفمبر (nuwambir)	ديسمبر (duzānbinr)
Aranese	gèr	hereuèr	març	abriu	mal	junh	junhsèga	agost	setema	octobre	noveme	deseme
Asturian	xineru	febreru	marzu	abril	mayu	xunu	xunetu	agostu	setiembre	ochobre	payares	avientu
Azerbaijani	Yanvar	Fevral	Mart	April	May	yun	iyul	Avqust	Sentyabr	Oktyabr	Novabr	Dekabr
Basque	urtarril	otsail	martxo	apiril	maiaz		uztail	abuztu	irail	urri	azaro	abendu
Belarusian	студзень (studzien)	люты (luty)	сакавік (sakavik)	красавік (krasavik)	маі (mai)	чэрвень (červien)	ліпень (lipien)	жнівень (žniven)	верасень (verasiien)	кастрычнік (kastychnik)	лістапад (listapad)	снежань (snežan)
Breton	miz Genver	miz Chwevrer	miz Meurzh	miz Ebrel	miz Mae		miz Gouere	miz Eost		miz Here	miz Du	miz Kerzu
Bulgarian	януари (januari)	февруари (fevruan)	март (mart)	април (april)	май (mai)	юни (jun)	юли (juli)	август (avgust)	септември (septemvri)	октомври (oktomvri)	ноември (noemvri)	декември (dekemvri)
Catalan	gener	febrer	març	abril	maig	juny	juliol	agost	setembre	octubre	novembre	desembre
Chinese	一月 (yiyue)	二月 (eryue)	三月 (sanyue)	四月 (siyue)	五月 (wuyue)	六月 (liuyue)	七月 (qiyue)	八月 (bayue)	九月 (jiuyue)	十月 (shiyue)	十一月 (shiyiyue)	十二月 (shiyier-yue)
- Cantonese	yat-yue	yih-yue	sam-yue	sei-yue	ng-yue	luk-yue	chay-yue	chay-yue	chay-yue	chay-yue	chay-yue	chay-yue
- Mandarin	yi-yue	er-yue	sanyue	siyue	wuyue	liuyue	qiyue	bayue	jiuyue	shiyue	shiyiyue	shiyier-yue
- Taiwanese	it-goeh ¹	ji ² -goeh ¹	sa ³ -goeh ¹	si ³ -goeh ¹	go ⁷ -goeh ¹	lak ⁸ -goeh ¹	chhit-goeh ¹	peh-goeh ¹	kau ² -goeh ¹	chap ⁶ -goeh ¹	chap ⁶ -goeh ¹	chap ⁶ -goeh ¹
Comish	Mys Genver	Mys Hwevrer	Mys Merth	Mys Ebrel	Mys Ma	Mys Methewan	Mys Gontheren	Mys Est	Mys Gwynnigala	Mys Hedra	Mys Du	Mys Kevardhu
Corisian	ghienmaghju	feraghju	marzu	aprilie	maghju	ghlugnu	lugliu	aostu	sittembre	uttobre	nuvembre	dicembre
Croatian	siječanj	velljaca	ožujak	travanj	svibanj	lipanj	srpanj	kolovoz	rujan	listopad	studeni	prosinac
Czech	leden	únor	březen	duben	květen	červen	červenec	srpen	září	říjen	listopad	prosince
Danish	januar	februar	marts	april	maj	juni	juli	august	september	oktober	november	december
Džermélsais	janvier	février	mar	avril	mai	jun	juillet	avout	septembre	octobre	novembre	decembre
Dutch	januari	februari	maart	april	mei	juni	juli	augustus	september	oktober	november	december
Estonian	jaanuar	veebruar	märts	aprill	mai	juni	juli	august	september	oktoober	november	detsember
Ewe	Dzove	Dzodze	Tedoxe	Atchile	Dante	Masa	Siamlom	Anyonyo	Kele	Adecmekpoxe	Dzome	
Faroese	januar	februar	mars	april	mai	juni	juli	august	september	oktober	november	desember
Filijan	Jaanuəri	Fepuruəri	Maji	Epereli	Mee	Junee	Julai	Okosila	Seploba	Noovoba	Tiloba	
Finnish	tammikuu	helmikuu	maaliskuu	huhtikuu	toukokuu	kesäkuu	heinäkuu	elokuu	syyskuu	lokakuu	marraskuu	joulukuu
French	janvier	février	mars	avril	mai	juin	juillet	aout	septembre	octobre	novembre	decembre
Frisian (North)	Januar	februar	märts	april	mol	juni	juli	august	septlamber	oktober	novlamber	deislamber
Frisian (West)	Jannewaris	Febrewaris	Maart	April	Maale	Juny	July	Augustus	Septimber	Oktober	Novimber	Desimber
Friulan	genâr	fevâr	març	avril	mai	jugn	lui	avost	setembar	otubar	novembar	decembar
Galician	xaneiro	febreiro	marzo	abril	maio	xuño	xullo	agosto	setembro	outubro	novembro	decembro
German	Januar	Februar	März	April	Mai	Juni	Juli	August	September	Oktober	November	Dezember
German (Swiss)	Januar	Februar	Merz	April	Mai	Juni	Juli	August	Septlamber	Oktober	Novamber	Dezamber
Greek (Modern)	Ἰανουάριος (Ianiouários)	Φεβρουάριος (Febrouáriος)	Μάρτιος (Mártios)	Ἀπρίλιος (Aprílios)	Μάιος (Maios)	Ἰούνιος (Iounios)	Ἰούλιος (Ioulíos)	Αὐγουστός (Augoustos)	Σεπτέμβριος (Septémvrios)	Οκτοβρίος (Októbrios)	Νοέμβριος (Noémvrios)	Δεκέμβριος (Dekémvrios)
Greenlandic	Januari	februari	marts	april	maj	juni	juli	agustusi	septemberi	oktoberi	novemberi	decemberi
Haïtian Creole	janvye	fevriye	mas	avril	me	jen	jwè	out	septanm	oktòb	novanm	desanm
Hebrew	ינואר (yanu'ar)	פברואר (febru'ar)	מרץ (mars)	אפריל (april)	מאי (may)	יוני (yoni)	יולי (yuli)	אוגוסט (avgust)	ספטמבר (septemban)	אוקטובר (oktobar)	נובמבר (november)	דצמבר (december)
Hindi	जनवरी (janvārī)	फरवरी (farvārī)	मार्च (mars)	अप्रैल (april)	मई (mai)	जून (jun)	जुलाई (julaī)	अगस्त (agast)	सितंबर (siltambir)	अक्टूबर (aktubar)	नवंबर (navambar)	दिसंबर (disambar)
Hungarian	január	február	március	április	május	június	július	augusztus	szeptember	október	november	december
Icelandic	janúar	febrúar	mars	apríl	máíur	júníur	júlíur	agústur	september	október	november	desember
Indonesian	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
										Deireadh		
Irish (Gaelic)	Eanáir mí Eanáir	Feabhra mí Feabhra	Márta mí an Mhárta	Albèan mí Albèan	Bealtaine mí na Bealtaine	Mheitheamh mí an Mheithimh	lùil - mí Iùil	Lúnasa mí Lúnasa	Meán Fómhair mí Mheán Fómhair	Fómhair mí Dheireadh Fómhair	Samhain mí na Samhna	Nollaig mí na Nollaig
Italian	gennaio	febbraio	marzo	aprile	maggio	giugno	luglio	agosto	settembre	ottobre	novembre	dicembre
Japanese (Traditional calendar)	一月 (ichigatsu) 睦月 (mutsuki)	二月 (nigatsu) 如月 (kisaragi)	三月 (sangatsu) 弥生 (yayoi)	四月 (shigatsu) 卯月 (uduki)	五月 (gogatsu) 皀月 (satsuki)	六月 (rokgatsu) 水無月 (minaduki)	七月 (shichigatsu) 文月 (fumiduki)	八月 (hachigatsu) 葉月 (haduki)	九月 (kugatsu) 長月 (nagatsuki)	十月 (jūgatsu) 神無月 (kaminaduki)	十一月 (jūichigatsu) 霜月 (shimotsuki)	十二月 (jūnigatsu) 除夜 (shinwasu)
Jarrais	Janvyl	Févri	Mar	Avri	Mal	Jun	Juliet	Aoot	Septembre	Octobre	Novembre	Dezembre
Kapampangan	Enero	Pebrero	Mars	April	Maj	Hunio	Hulio	Zélnic	Séwnik	Octubre	Novembre	Dezembre
Kashubian	Stecznik	Gromicznik	Strzemiennik	Lżékwiat	Mój	Czerwiec	Lipnec	Zélnic	Séwnik	Octubre	Novembre	Dezembre
Kazakh	Қаңтар (Qañtar)	Ақпан (Aqpan)	Наурыз (Nauryz)	Сәуір (Saur)	Мамыр (Mamyr)	Маусым (Mausym)	Шілде (Shilde)	Тамыз (Tamyz)	Қыркүйек (Qyrykujek)	Қазан (Qazan)	Қараш (Qarasa)	Желтоқсан (Zeltoksan)

List of the Months of the Year in Many World Languages (cont.)

Khoekhoe (Nama)	Khanni	Ikhangkoab	Ikhoakhaab	Ikhalisab	gamalaab	#khesaob	aoikhumükhaab	taralkhumükhaab	inulinäseb	ihof-gaeb	hoasoreb
Korean	일월 (ilweol)	상월 (sangweol)	사월 (saweol)	오월 (oweol)	유월 (yuweol)	칠월 (chilweol)	팔월 (palweol)	구월 (guweol)	시월 (siweol)	십이월 (sipilweol)	십이월 (sipilweol)
Ladino	Jenero	Marso	Avril	Mayo	Junio	Djudio	Agosto	Setiembre	Oktubre	Novembre	Diciembre
Latin	Ianuarius	Februarius	Martius	Aprilis	Iunius	Iulius	Augustus	September	October	November	December
Latvian	janvāris	februāris	aprīlis	maījs	jūnijs	jūlijs	augusts	septembris	oktobris	novembris	decembris
Ligurian	zema	frèv	arv	mazzu	zognu	luggiu	agustu	settembre	ottubre	novembre	decembre
Limburgish	jannewarie	fibberwarie	mier	miej	junie	lepa	rugpluis	september	oktober	november	december
Lithuanian	sausis	vasaris	kovas	gegužė	birželis	julie	augustus	september	oktober	november	december
Low German	Januar	Februar	Moaz	Mai	Jun	Jul	August	September	Oktober	November	Dezember
Luxembourgish	Januar	Februar	März	Mee	Jun	Jul	August	September	Oktober	November	Dezember
Macaronian	Januāri	februāri	mar	mal	juni	juli	agost	setembre	oktombri	novembri	dekembri
Malay	Januari	Mac	April	Mei	Jun	Julai	Ogos	September	Oktober	November	Disember
Maltese	Janar	Frar	Marzu	Majju	Ġunju	Lulju	Awwissu	Settembru	Ottubru	Novembru	Dicembru
Māx	Jerrey-gouree	Toshaght-arree	Averil	Boaldyn	Mean-source	Jerrey-source	Luanistyn	Mean-fouyir	Jerrey-fouyir	Mee Houney	Mee ny Nollick
Maori	Kohiteatea	Hui tanguru	Poutū te rangi	Heratua	Pipiri	Hongingoi	Hereturikōka	Mahuru	Whiringa a nuku	Whiringa a rangi	Hakhea
Marshallese	Janwode	Papode	Maaj	Mao	Juun	Julae	Okwoj	Jeptomba	Oktoha	Nobomba	Tijemba
Mirandese	Janeiro	Febreiro	Maio	Malo	Junho	Julho	Agosto	Setembre	Outubre	Novembre	Dezembre
Ndebele	Mihloli	Mhlanja	Nakana	Mhlayili	Mvengweni	Velobhinja	Rhoboyi	Mbozisi	Sewula	Sinyekhaba	Nobayeni
Neapolitan	jennaro	fevvaro	marzo	maggio	giugno	luglio	agosto	settembre	ottovre	novembre	diciembre
Nuean	Ianuāi	Fepuāi	Mal	Me	Iuni	Iulai	Akuso	Sepelema	Oketopa	Novema	Tesemo
Normand	januyvi	fevri	mar	mouai	juni	juliet	ao	s'tembre	octobe	novembe	décembre
Norwegian	januar	februar	mars	mai	juni	juli	august	september	oktober	november	desember
Occitan	genièr	febrer	març	mai	juni	juli	agost	setembr	octobre	novembre	decembre
	ger (Gascon)	beller (N. Occitan)	abrial (N. Occitan)	mai	juni	juli	agost	setembre (Gascon)	octobre	novembre	decembre
		heurièr (Gascon)	abriu (Gascon)	mai	juni	juli	agost	setembre (Gascon)	octobre	novembre	decembre
Old English	Se æfterra Geola	Hreþmonað	Eaſtermonað	Primilcemonaþ	Seremonað	Mædmónað	Weodmónað	Halgimónað	Winteryllep	Blotimónað	Geolmónað
Papiamentu	yanuari	febrüari	mar	mei	yüni	yüli	ouguſtus	september	oktober	november	desember
Piauldietsch	Januwoa	Febawoa	Moaz	Mai	Juni	Juli	August	Septiamba	Oktoha	Novamba	Dezamba
Poltvin	Janvrae	fouvræ	mar	mae	jen	juliet	ao	sebtembre	octubre	nouembre	decembre
Polish	styczeń	mazec	kwiecień	maj	czerwiec	lipiec	sierpień	wrzesień	październik	listopad	grudzień
Portuguese	janeiro	março	abril	maio	junho	julho	agosto	setembro	outubro	novembro	dezembro
Provençal	janviè	febré	mar	mai	juni	juliet	avoust	setembre	octubre	novembre	decembre
Quechua	Kamay killa	Pogoy	Pauqarwaray	Aynuray	Kuski	Hawkaykusi	Situa	Chawawarki	Kantarayki	Ayamarka	Novembra Hatun Raymi
Romanian	Ianuarie	februarie	martie	mai	iunie	iulie	august	septembrie	octombrie	noiembrie	decembrie
Russian	январь (janvar')	февраль (fevral')	март (mart)	апрель (aprel')	июнь (jun')	июль (jul')	август (avgust)	сентябрь (sentjabr')	октябрь (okjabr')	ноябрь (nojabr')	декабрь (dekabr')
Sardinian	gennarju	frarju	marzu	aprili	mayu	lampedas	arolas	cabudanni	ladamini	donniasantu	idas
Scots	Januar	Februar	March	Apryle	May	Jun	Julie	September	October	November	Dizember
Scottish Gaelic	am Faoilleach	an Gearran	am Màrt	an Giblean	an t-Ogmhios	an t-Iuchar	an Lùnastal	an t-Sultain	an Dàmhair	an t-Samhain	an Dùbhlachd
Serbian	Janjap (januar)	febrjap (februar)	mart	maj (mai)	juni	juli	avgust	centwobap (septembar)	okrobap (oktober)	novembap	decembap (decembar)
Sercquiala	djavli	fevri	mar	me	djwî	djwilet	u	septab	okrob	novabr	dezab
Sesotho	Pherekong	Hiakubele	Mmesa	Moisheanong	Phuplane	Phupu	Phato	Lwetse	Mphalane	Pudungwana	Tshitwe
Sicilian	Januaru	frivatu	mazu	malu	glugnu	glugnettu	augutu	sittimirtu	uttivirtu	novemirtu	diciemirtu
Slovak	január	február	marec	maj	jún	júl	august	september	október	november	december
Slovenian	januar	februar	marec	maj	juni	julij	avgust	september	oktober	november	december
Somali	Janaayo	Febraayo	Maarso	Abriil	Juun	Luuulyo	Agosto	Sabteembar	Oktoobar	Novembar	Disembar
Sorbian	wulk róžk	malj róžk	naleŋik	jurownik	rozownik	smaznik	žnjenc	požnjenc	wjowc	nowymnik	hodownik
Spanish	enero	febrero	marzo	mayo	juno	julio	agosto	septiembre	octubre	noviembre	diciembre
Swahili	Januari	februari	machi	mei	juni	julai	agosti	septemba	oktoha	novemba	desemba
Swazi	Bhimbidwane	Indlovu	Mabasa	INKhwekhwele	INKhaba	Khokwane	INGci	INYoni	Mphala	Liduba / Lweti	INGongoni
Swedish	Januari	februari	mars	april	juni	juli	augusti	september	oktober	november	december
Thai	มกราคม (makarakhom)	กุมภาพันธ์ (kumpaphan)	มีนาคม (minakhom)	เมษายน (mesayon)	พฤษภาคม (phruesaphakhom)	มิถุนายน (mithunayon)	กรกฎาคม (karakadakhom)	สิงหาคม (singhakhom)	กันยายน (kanyayon)	ตุลาคม (tulakhom)	พฤศจิกายน (phruesajkayon)
Tok Pisin	Januari	Februari	Mas	Epri	Me	Juni	Ogas	Septemba	Oktoha	Novemba	Disemba
Turkish	ocak	şubat	mart	nisan	mayıs	temmuz	agustos	eyylul	ekim	kasım	aralık
Tuvaluan	Ianuali	Fepuali	Mali	Apelila	Me	Juni	Akuso / Aukuso	Setema	Oketopa	Novema	Tesema
Ukrainian	січень (sichen')	лютий (liuti)	березень (berezen')	квітень (kviten')	травень (traven')	липень (lypen)	серпень (serpen)	вересень (veresen)	жовтень (zhovten)	листопад (lystopad)	грудень (hruden)
Venda	Phando	Luhlu	Tshafemuhwe	Lambamal	Shundunhule	Fulwi	Thangile	Khubvumedzi	Tshimedzi	Lara	Nyendavhueleku
Vietnamese	tháng một (tháng giêng)	tháng hai (tháng nhị)	tháng ba (tháng tam)	tháng tư (tháng tứ)	tháng năm (tháng ngũ)	tháng sáu (tháng lục)	tháng bảy (tháng thất)	tháng tám (tháng bát)	tháng chín (tháng cửu)	tháng mười (tháng thập)	tháng mười hai (tháng thập nhị)
Voro	vahedobaaakuu	radokuu	urpōkuu	mahiaakuu	lehekuu	plimākuu	hainakuu	pōmukuu	tehekuu	maŕeku	julukuu
Waloon	djanvi	tevi	māss	avri	may	djun	djulete	avousse	octebe	novimbe	decimbe
Welsh	Ionawr	chwefor	mawrth	ebrill	mai	mehfin	gorffennaf	awst	hydref	tachwedd	rhagfyr
Yiddish	יאנואר (yanuar)	פֿעברואַר (februar)	מאַרץ (marts)	אַפריל (april)	מיי (may)	יוני (yuni)	יולי (yuli)	אוגוסט (avgust)	סעפטעמבער (september)	אקטאבער (oktober)	דעצעמבער (detsember)
Zulu	uJanuwari	uFebruwari	uMashi	uAprili	uMeyi	uJuni	uJulayi	uAgasti	uSeptemba	uOkthoba	uDisemba
	January	February	March	April	May	June	January	February	March	April	June