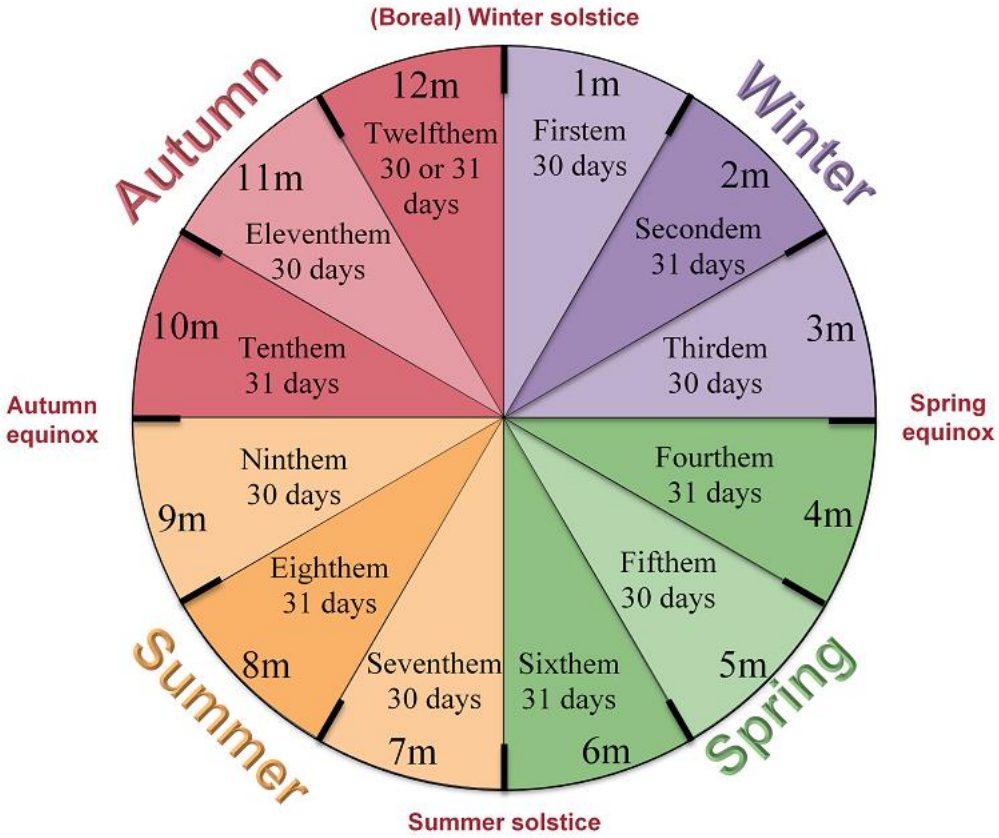
The Milesian calendar in short

Quick description

The Milesian calendar is a solar calendar, with weighted months, in phase with seasons. It enables you to understand and take control of the Earth's time.

The next picture represents the Milesian calendar with the *mean* solstices and equinoxes.



Leap days

The leap day is the last day of the year, it is 31 12m or 12m 31 (whether you use British or American English).

This day comes just *before* a leap year.

Years

The Milesian years are numbered as the Gregorian ones. However, they begin 10 or 11 days earlier.

1 Firstem Y (1 1m Y) corresponds to 21 December Y-1 when Y is a common year, like 2019. But it falls on 22 December Y-1 when Y is a leap year like 2020. The mapping between Milesian and Gregorian dates is shifted by one for 71 days during "leap winters", i.e. from 31 Twelfthem to 9 Thirdem. 10 Thirdem always falls on 1 March, and each following Milesian date always falls on a same Gregorian date.

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Date conversion with the Gregorian calendar

The first day of a Milesian month generally falls on 22 of the preceding Gregorian month, e.g.: 1 Fourthem (1 4m) falls on 22 March, 1 Fifthem (1 5m) on 22 April etc. However:

- 1 Tenthem (1 10m) falls on 21 Sept*ember*;
- 1 12m falls on 21 Nov*ember*;
- 1 1m of year Y falls on 21 Dec*ember* Y-1 if Y is a common year, but on 22 December if Y is a leap year;
- 1 2m and 1 3m falls on 21 Jan*uary* and 21 Febr*uary* in leap years, 20 Jan*uary* and 20 Febr*uary* in common years.

The first day of a Gregorian month generally falls on 11 of the Milesian month of same rank, e.g. 1 April falls on 11 4m, 1 June falls on 11 6m. However:

- 1 March, May and July fall on 10 3m, 5m, 7m respectively;
- in leap years 1 January (1/1 for British) falls also on 1**1** **1**m, but 1 February (1/2) falls on 1**2** **2**m;
- in common years, you must shift by one in January and February: 12 1m and 13 2m for 1 Jan and 1 Feb.

Advantages

Suitability to climate studies

In average, solstices and equinoxes fall when a Milesian month begins or finishes. Thus, the Milesian calendar represents the seasons' cycle in an ideal way.

www.calendriermilesien.org shows example where seasons dependent phenomena are better displayed on a Milesian layout than on a Gregorian one, in particular for the cycle of the Arctic Sea Ice (http://www.calendriermilesien.org/analyser-la-calotte-glaciaire.html), and for the cycle of the Sea Surface Temperature (SST) (http://www.calendriermilesien.org/pulsation-annuelle-des-oceans.html).

Suitability to daylight period length estimation

By referring to the Milesian months, you can estimate the daylight period length month by month, using the "Rule of Twelfths", well-known to sailors to estimate tides. Consider the gap between the shortest and longest day. In 1m, the daylight period length increases by 1/12 of the gap. In 2m, by 2/12, in 3m by 3/12, in 4m again by 3/12, in 5m by 2/12 and in 6m by 1/12. And it decreases in the same way from 7m till 12m.

Facilitate computations thanks to regular month intervals

Each "bimester" (2 month's period) within a year is exactly 61 days. This facilitate many mental computations.

- You can compute the day of week within a year almost as easily as within a month, because 7 weeks is 63 days, 2 months + 2 days.
- You can anticipate the moon phases, because two mean moon months last approximately 59 days, 2 months – 2 days.
- As you can anticipate the moon phases, you can also anticipate the sea tides.

The English-born mathematician John H. Conway designed a "doomsday rule" (https://en.wikipedia.org/wiki/Doomsday_rule) for computing days of week of any date. This method is applicable to the Milesian calendar, with exactly the same "doomsday".

Unambiguous notation

The international notation of Milesian months is "1m", "2m", etc., "12m".

In United Kingdom, you write 2 3m 2019 whereas in US you write 3m 2, 2019. No confusion.

Built for globality

The Milesian month names are easy to build in any language: the ordinal followed by the sound "m". So "Unème, secondème, tertème..." in French, "Firstem, Secondem, Thirdem..." in English, and so on. No special name to learn by heart.

Unambiguous historical dates

Our calendar as a complex history. Julius Caesar introduced it in 709 Ab Urbe Condita (i.e. in year 709 after Rome was founded). The 1 January 45 B.C. (year -44 for astronomers) was the first date of this calendar. Since that date, months have had the same length as today. Caesar did not dare to change the strange length of February, the month of infernal powers. Moreover, as a continuation of the former luni-solar calendar, this first day of the Julian calendar was also a day of new moon. Caesar did not wait until a new moon would occur at the winter solstice. This occurred only 9 years later, Caesar had been assassinated the year after his reform.

The leap day was obtained by doubling the sixth day before 1 March: bis sextus dies, hence the word *bissextile*.

In the Julian calendar, leap years occur every four years, with no exception. But the tropical year is a little shorter than one year and six hours. Therefore, in the 16th century, the Spring equinox would occur on 11 March rather than on 21 March, and the computation of Easter, the most important feast for Christians, was becoming a problem. That is why Pope Gregorius 13 introduced in 1582 an enhancement of the Julian calendar, which became our Gregorian calendar. The changes were as follows:

- 10 days were suppressed: 4 October 1582 was followed by 15 October in Rome, and most catholic countries did the same at different subsequent dates; for instance, 9 December 1582 was followed by 20 December in France;
- intercalation rules were changed: century years like 1700, 1800, 1900 would no more be leap years, but years divisible by 400 like 1600 and 2000 would remain leap years;
- the computus, i.e. the set of rules for computing the date of Easter, was enhanced.

Unfortunately, the non-Catholic countries did not apply the reform before 1700, England and the British Dominions not before 1752. Thus, a same date may refer to different days. For instance, both Shakespeare and Cervantes died on 23 April 1616, but the former died in England 10 days after the latter in the Kingdom of Spain. (http://www.calendriermilesien.org/shakespeare-et-cervantes.html).

The Milesian calendar avoids such ambiguous dates.

Understanding long term calendar and season changes

Astronomers and historians use the "proleptic Julian calendar" for dates before Julius Caesar introduced it. This leads to misunderstandings. For instance, the heliacal rising of Sirius, which announced the flood of the Nile, would occur on 16 July in 3300 B.C., and would occur on 19 July at the time of Caesar and Cleopatra. Shifted by only 3 days? In reality, it was 26 days later in the tropical year (http://www.calendriermilesien.org/la-derive-de-sirius.html).

Why *Milesian*?

This name was chosen as a tribute to Thales of Miletus. After Herodotus, Thales was the first scientist who said that a tropical year held 365 ¼ days, instead of exactly 365.

Introducing the Milesian calendar to today's world

Our belief is that the Milesian calendar should be introduced as a possible addition to the Gregorian calendar. It should be used for studying matters in relation with the tropical years: climate, agriculture, seasonal economics, history etc. This is the same idea as using the nautical mile rather than kilometre or terrestrial mile when designing the route of a vessel or of an aircraft.

Easy to use computing tools are necessary for web applications, spreadsheets etc. They may be found on GitHub or via www.milesiancalendar.org. May anyone interested in the Milesian calendar project make comments and contribute.

More information (in French… hopefully soon in other languages) at:

www.milesiancalendar.org

or

www.calendriermilesien.org.

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