



The Amazing Story of Our Calendar

The **Julian calendar** was introduced in 46 BC by Julius Caesar and took force in 45 BC (709 *ab urbe condita*). It was chosen after consultation with the astronomer Sosigenes of Alexandria. It has a regular year of 365 days divided into 12 months, and a leap day is added to February *every* four years. Hence the Julian year is on average 365.25 days long.

The ordinary year in the previous Roman calendar (before Julius Caesar) consisted of 12 months, for a total of 355 days. In addition, a 27-day extra month, the *Mensis Intercalaris*, was sometimes inserted between February and March, when the Roman authorities felt that months were no longer aligned with the seasons.

Immediately after the Julian calendar system was introduced in 45 BC, the twelve months of the Roman calendar were named *Ianuarius*, *Februarius*, *Martius*, *Aprilis*, *Maius*, *Iunius*, *Quintilis*, *Sextilis*, *September*, *October*, *November*, and *December*, just as they were before the reform. Their lengths were set to their modern values (30, 31, and 28). The old intercalary month, the *Mensis Intercalaris*, was abolished and replaced with a single intercalary day at the same point (i.e. five days before the end of *Februarius*). The first month of the year continued to be *Ianuarius*, as it had been since 153 BC.

The Romans later renamed months after Julius Caesar and Caesar Augustus, renaming *Quintilis* (originally, "the Fifth month", with March = month 1) as *Iulius* (July) in 44 BC and *Sextilis* ("Sixth month") as *Augustus* (August) in 8 BC. (Note that the letter J was not invented until the 16th century). *Quintilis* was renamed to honor Caesar because it was the month of his birth. *Sextilis* was renamed to honor Caesar Augustus because several of the most significant events in his rise to power, culminating in the fall of Alexandria, occurred in that month.

Other months were renamed by other emperors, but apparently none of the later changes survived their deaths. Caligula renamed *September* ("Seventh month") as *Germanicus*; Nero renamed *Aprilis* (April) as *Neroneus*, and Domitian renamed October ("Eighth month") as *Domitianus*.

The Julian calendar was in general use throughout Europe from the times of the Roman Empire until 1582, when Pope Gregory XIII promulgated the **Gregorian calendar**, which was soon adopted by most Catholic countries. Protestant countries followed later, and the Orthodox countries of Eastern Europe even later (that is one reason why Easter is usually celebrated on different dates in the Catholic and Orthodox churches even today).

The Gregorian calendars years are numbered based on the traditional birth year of Jesus Christ, all years since the estimated birth of Christ are labeled "Anno Domini" or "the Year of our Lord."

The Gregorian Calendar was devised both because the average year in the Julian Calendar was slightly too long, causing the vernal equinox to slowly drift backwards in the calendar year, and because the lunar calendar used to compute the date of Easter had grown in error as well.

The Gregorian calendar system dealt with these problems by dropping a certain number of days to bring the calendar back into synchronization with the seasons, and then slightly shortening the average number of days in a calendar year, by omitting three Julian leap-days every 400 years. The Julian calendar didn't work because the exact length of a solar year is actually 11 minutes and 14 seconds less than $365 \frac{1}{4}$ days. That means that even if you add a leap day every four years, the calendar would still overshoot the solar year by a little bit—11 minutes and 14 seconds per year. So, the creators of the Gregorian calendar decided to omit leap years three times every four hundred years. A century year is not a leap year unless it is evenly divisible by 400. This rule manages to eliminate three leap years every few hundred years and keeps the Gregorian calendar more-or-less in line with the seasons.

Although the Julian calendar remained in use into the 20th century in some countries and is still used by many Orthodox Christian churches for religious purposes, it has generally been replaced by the modern Gregorian calendar. The British (and their American colonists) did not adopt the Gregorian calendar until 1752. When studying American or world history it is very helpful to remember that different European countries were using different calendars between 1582 and 1752 and a few, like Russia, continued to use the Julian calendar until the 1900s. Therefore while you might read that something occurred in France on July 2, 1750 and in England on July 2, 1750 those two dates were actually 11 days apart because the two countries used different calendars.

September 2, 1752, was a great day in the history of sleep.

That Wednesday evening, millions of British subjects in England and the colonies went peacefully to sleep and did not wake up until twelve days later. Behind this feat of narcoleptic prowess was not some revolutionary hypnotic technique or miraculous pharmaceutical discovered in the West Indies. It was, rather, the British Calendar Act of 1751, which declared the day after Wednesday September 2nd to be Thursday September 14th. There actually was quite a bit of controversy over this, many uneducated people feared their lives would be 12 days shorter because of this, some demanded that the government owed them the 12 lost days' wages!

Confusion with British versus American usage in dealing with the two calendars -

Dates of events in Britain *prior to 1752* are usually *now* shown in their *original Julian* form, whereas dates of events in America prior to 1752 are usually *now* shown in the *adjusted Gregorian* form.

For example, Shakespeare died on April 23rd (Julian date), and it is rare to see this converted to May 3rd (Gregorian date). But while George Washington was born on February 11th (Julian date), his birthday is now celebrated on February 22nd (Gregorian date). (*Washington changed its celebration date himself, as a twenty-one-year-old surveyor.*)

The notation "Old Style" (OS) is sometimes used to indicate a date in the Julian calendar, as opposed to "New Style" (NS), which indicates a date in the Gregorian calendar.

Sources: www.wikipedia.com, www.infoplease.com, www.factmonster.com