

Man and his calendars

by James Stokley

Our lives are affected by three astronomical cycles: the alternation of day and night, the year, and the lunar month—the 29½-day period in which the moon goes through its complete change in phase.

Unfortunately, these three cycles do not fit evenly into each other. So man has devised numerous systems, or calendars, in his attempt to fit them together approximately.

The Julian Day calendar, used by astronomers, employs only one. It simply counts the total number of days since Jan. 1, 4713 B.C. Julian Day 2,441,349 begins at noon on Feb. 1.

The earth takes about 365¼ days (actually 365 days 5 hours 48 minutes and 46 seconds) to make one circuit of the sun. Thus, every four years one extra day has accumulated. In about 700 years this shifts the seasons by six months.

To prevent this we have a leap year, with 366 days, as soon as the excess amounts to a full day. This system was introduced in 46 B.C. by Julius Caesar in the Julian Calendar (not to be confused with the Julian Day).

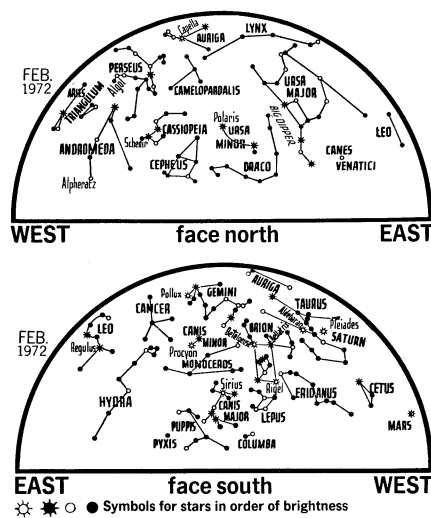
But the correction of one day every fourth year is a little too much. By 1582 spring was beginning on March 11 instead of March 21, so Pope Gregory XIII decreed a further change. He dropped 10 days from the calendar to bring the beginning of spring back to the 21st. To keep it there he ordered that a century year be a leap year only if divisible by 400.

This calendar doesn't consider the moon at all. The Hebrew Calendar does. Each month begins just after new moon. The lunar month, from one new moon to the next, is about 29½ days, so Jewish months alternate between 29 and 30 days. Twelve such months form a

year of only 354 days so they add an extra month every two or three years, to keep in step with the seasons.

Mohammedans use a strictly lunar calendar. It has 12 months of 29 or 30 days, a year of 354 days. They do not add an extra month to keep in step with the seasons. In 32½ years the Mohammedan months work completely backward through the four seasons.

The maps show the sky at 10 p.m. local standard time at the beginning of February; 9 p.m. at mid-month; and 8 p.m. at the end.



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CELESTIAL TIMETABLE

Feb.	EST	
5	8:00 pm	Moon farthest, distance 251,400 miles
7	6:11 am	Moon in last quarter
10	1:20 pm	Algol at minimum
	6:00 pm	Moon passes south of Jupiter
12	10:00 pm	Algol at minimum
14	7:29 pm	New moon
15	6:50 pm	Algol at minimum
17	2:00 pm	Moon nearest, distance 226,900 miles
	11:00 pm	Moon passes north of Venus
19	7:00 pm	Moon passes north of Mars
21	11:00 am	Moon passes north of Saturn
	12:20 pm	Moon in first quarter
28	10:12 pm	Full moon

