

Celestial coordinates

by James Stokley

From Sept. 23 to March 20 the sun passes through the zodiacal constellations from Virgo to Aquarius. It is over the earth's Southern Hemisphere, which then has summer while northerly countries have winter.

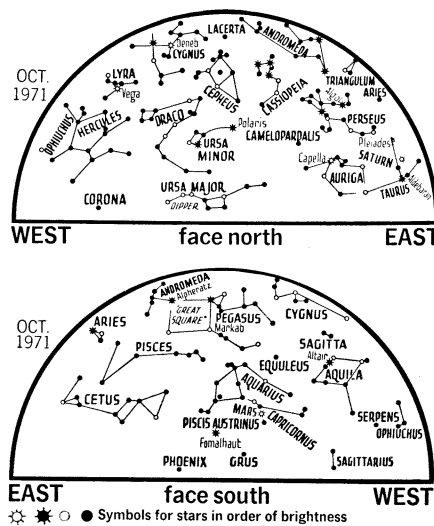
In March, as it crosses the equator on its northward journey, the sun stands at a point in Pisces called the vernal equinox. (It's marked on the map by a small x below Pisces.) You can locate it in the sky by following a straight line from the left side of the Great Square in Pegasus about its own length to the south.

There is also the autumnal equinox where the sun stands at the beginning of autumn in the Northern Hemisphere. This is in the opposite part of the sky in Virgo.

In the sky the vernal equinox performs a function similar to that of the old Greenwich Observatory, in England, on earth. Any point on the globe can be located by two coordinates: latitude and longitude. Latitude is measured north or south of the equator; longitude east or west of the meridian of Greenwich, the line from pole to pole that passes through Greenwich.

One of the celestial coordinates, declination, which corresponds to latitude, is likewise measured from the equator. The equivalent of longitude, called right ascension, is measured from the celestial meridian that passes through the vernal equinox. Ship and aircraft navigators as well as astronomers make use

of these coordinates. Sailors often refer to the vernal equinox as "the first point of Aries." This seems peculiar, as it is some distance from Aries, to the left of Pisces. The usage seems to be a hold-over from the time, thousands of years ago, when the equinox actually was in Aries. It shifts because of a slow movement of the sky called the precession of the equinoxes. In about 26,000 years the equinoxes move completely around the sky from east to west, along the ecliptic, the apparent path of the sun across the sky. About 700 years from now this drift will shift the vernal equinox from Pisces into Aquarius, the next constellation of the zodiac. Then we will literally be in the Age of Aquarius. □



CELESTIAL TIMETABLE

Oct.	EDT	
4	8:20 a.m.	Full moon
	11:00 a.m.	Moon nearest, distance 222,800 miles
8	3:00 a.m.	Moon passes north of Saturn
	11:00 a.m.	Mercury behind sun
11	1:29 a.m.	Moon at last quarter
18	4:00 a.m.	Moon farthest, distance 252,600 miles
19	3:59 a.m.	New moon
20	3:00 p.m.	Moon passes south of Venus
22	5:00 p.m.	Moon passes south of Jupiter
22	8:00 p.m.	Moon passes north of Antares, star in Scorpio (From Central and South America the moon will pass in front of the star.)
27	1:54 a.m.	Moon in first quarter
28	8:00 p.m.	Moon passes north of Mars
30	3:00 p.m.	Jupiter passes north of Antares

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