

# Watch for full moon to shine on early Jan. 8



RAYMOND E. BULLOCK

January, the first month of a new year, was named in honor of the Roman god Janus, the two-faced keeper of the gates. That doesn't mean he was deceitful; he had two faces so he could see things coming and going at the same time.

It is appropriate that Janus represent January, for this is a time to look back at the past and forward to the future. It is also the time that many illustrious publications (especially the ones at the checkout counters in grocery stores) make vague predictions as to what the new year will bring.

Predictions about astronomical events are not a matter of guesswork; they are very precise. For example, in 1993 spring begins precisely at 9:35 and 17 seconds on the morning of March 20; this year there will be two partial eclipses of the sun and two total eclipses of the moon; Jupiter will be within the constellation Virgo all year, which might get astrologers all excited, but is of no earth-shaking consequence to astronomers.

January, which certainly seems to be the LONGEST month of the year, has a variety of interesting events for sky-gazers; there will be a meteor shower, Venus will be at maximum elongation and may be visible in daylight; Mars will be at opposition and at its farthest north in the sky. Venus will dazzle the eye after sunset all month. Face southwest about 45 minutes after sunset (sunset on Jan. 1 will be at 5:12 p.m.) and you'll see Venus about 27 degrees above the horizon. Twelve degrees below and to the right of Venus, about 19 degrees above the horizon, will be Saturn. The two planets will be drifting apart by one degree each night during the month. (One degree is equal to two full moon diameters.) For early risers bright Mars will dazzle the eye in the pre-dawn sky.

Look toward the west northwest about 45 minutes before sunrise (sunrise will be at 8:02 a.m.) on Jan. 2, and you'll find the red

planet 17 degrees above the horizon. Four degrees above Mars will be the star Pollux (PAHL lux); five degrees to the right of Pollux will be Castor. These two stars each mark a "head" of the Gemini twins. The Quadrantid (QUAD ran tid) meteor shower peaks during the pre-dawn hours of the 3rd. This is a fairly good annual shower, as many as 40 "shooting stars" can be expected to be seen each hour. The Quadrantid shower is

named for an obsolete constellation. The radiant (the point from which the meteors appear to radiate) is in the constellation of Draco the dragon, which will be rising in the northeast after midnight. To observe the shower, just go outside, look toward the northeast, and be patient! We are fortunate this year; the fainter members of the shower should be visible because the moon will not be scattering light across the sky. Earth will be at perihelion (the

point in our orbit where we are the CLOSEST to the sun) on the evening of Jan. 3. Because our orbit around the sun is elliptical (oval), there is a point where we are at our closest to the sun and another when we are farthest. It surprises many people to learn that when we are closest to the sun we have our coldest weather! It is the 23.5 degree tilt of the earth's axis, not our distance from the sun, that determines our seasons.

Look for the moon after sunset on the 4th. It will be in Taurus, two degrees to the right of the Pleiades (PLEE a dees) star cluster. The cluster may be difficult to see with the moon so close; try using binoculars to spot it. The orange-red star 12 degrees below the moon will be Aldebaran (al DEB a ran), the "eye" of the bull. The moon will be very close to this same position on the last day of this month. The bright red "star" eight de-

grees to the left of the moon on the evening of the 7th will be Mars. Mars will be at opposition that night (opposite the sun as seen from the earth), so it will rise at sunset, be visible all night and set at sunrise.

Full Moon will occur at 7:38 a.m. on Jan. 8. Notice the moon's position with respect to Mars tonight; it will be 10 degrees below that planet. The previous night it was to the right of Mars.

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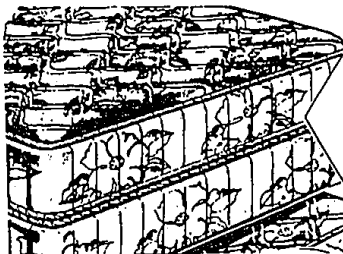
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