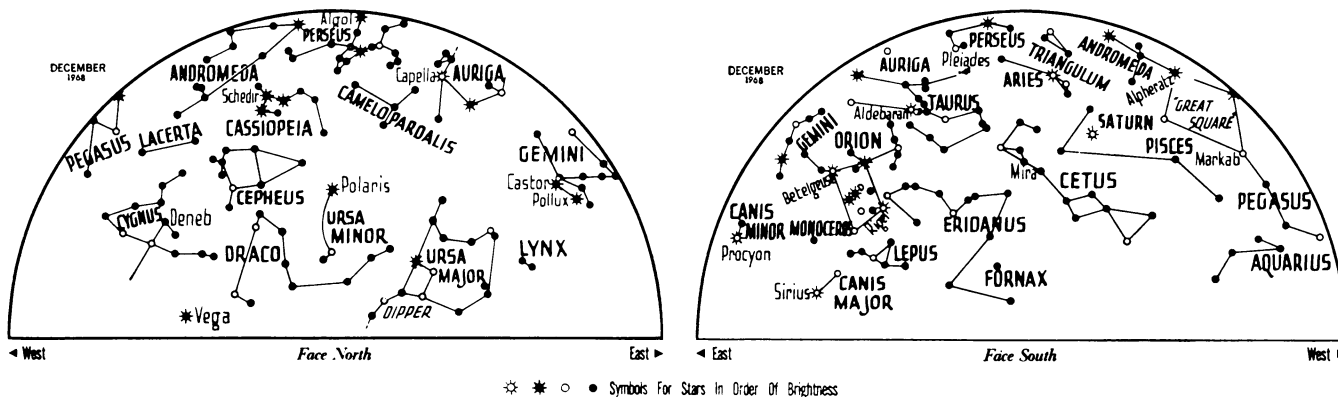


# Winter skies bright

by James Stokley



Winter, in the Northern Hemisphere, starts Dec. 21st and the skies reflect its arrival. The part of the sky that is prominent on winter evenings contains more bright stars than any other area of similar size. In December they appear in the southeast. By January they will be in the south and later, in the southwest.

This year also, in the evening, Venus is brilliant and Saturn, considerably fainter but still equal to a first magnitude star, is also visible.

The two maps, one of the southern, the other of the northern sky, show the heavens at about 10 p.m., standard time, on Dec. 1, 9 p.m. on the 15th and 8 p.m. on the 31st.

Venus sets before these times, so it is not shown. It is so bright, however, that it is easy to identify, and in the southwest will appear well before any other star or planet. On the 22nd the

crescent moon will be near Venus.

Saturn, about a 60th as bright, is shown. It is in the constellation of Pisces, high in the south.

Most prominent of the bright constellations is Orion, in the northeast. It is the only one visible in northern latitudes that contains two first magnitude stars: Betelgeuse and Rigel. They appear similar in brightness but that is because Betelgeuse is closer; at the same distance Rigel would be more than three times as bright. In luminosity, or candlepower, it is about 50,000 times as bright as the sun.

Below Orion is the star that is apparently brightest in the nighttime sky: Sirius, in Canis Major. The nearest bright star that can be seen from this part of the world, Sirius is 21 times as luminous as the sun. To the left and higher is Canis Minor, with Procyon.

Higher is Gemini, a group divided

between the two maps. Pollux is the brighter of the two principal stars. It is of the first magnitude, although shown by the symbol for one that is fainter. That is because it is rather low and atmospheric absorption reduces its apparent brightness.

### CELESTIAL TIMETABLE FOR DECEMBER

December	EST	
2	9:40 p.m.	Algol (variable star in Perseus) at minimum brightness
4	6:08 p.m.	Full moon
5	10:00 a.m.	Moon farthest, distance 252,600 miles
	6:20 p.m.	Algol at minimum
6	10:00 p.m.	Mercury behind sun
12	7:50 p.m.	Moon in last quarter
13	8:00 p.m.	Moon passes south of Jupiter
15	4:00 a.m.	Moon passes south of Mars
19	7:00 a.m.	Moon nearest, distance 221,600 miles
	1:19 p.m.	New moon
21	2:00 p.m.	Sun farthest south, winter begins in Northern Hemisphere
22	4:00 p.m.	Moon passes south of Venus
	11:20 p.m.	Algol at minimum
25	8:10 p.m.	Algol at minimum
26	9:15 a.m.	Moon in first quarter
27	3:00 p.m.	Moon passes north of Saturn



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Above Orion is Taurus, with Aldebaran, brilliant and reddish. And above Gemini is the constellation Auriga, with Capella.

In the northwest there are two other bright stars greatly dimmed by their low altitude. One is Deneb, in Cygnus. The other, very close to the horizon, is Vega, in Lyra.

Of the other planets sometimes visible to the naked eye, Mercury cannot be seen in December; it passes behind the sun Dec. 6. Mars rises in the east about 2:00 a.m., in Virgo. Now drawing closer, it is getting brighter; by New Year's Day it will just equal the faintest first magnitude star.

Also in Virgo, rising about an hour earlier, is Jupiter, some 16 times as bright as Mars.

On Saturday, Dec. 21, at 2 p.m., EST (1 CST, noon MST and 11 a.m. PST), the sun is farthest south. This marks the winter solstice—the beginning of winter in the Northern Hemisphere and of summer in the Southern. The sun will then be directly over a point on the Tropic of Capricorn at 106 degrees west longitude. This is in the Pacific Ocean, about 400 miles northeast of Easter Island.

If it is clear on Christmas eve Venus will be shining brilliantly in the west. To many, no doubt, it will suggest the Star of Bethlehem, but that star could not have been Venus. The Wise Men knew the skies and would not have been excited about a familiar planet; the star must have been something much more unusual.

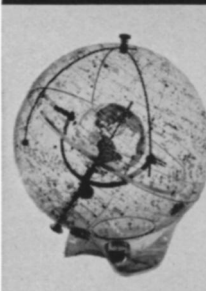
There have been many explanations of the Star of Bethlehem. These include a bright comet, a particularly brilliant meteor that flashed across the sky, a nova that suddenly shone with extraordinary brilliance.

The Magi, the Wise Men of the East, were astrologers and believed that the positions of the planets in the sky influenced people and activities on earth. They would have seen an unusual grouping of bright planets in 6 B.C.—a year that could have been when Christ was born. That event took place at least as early as 4 B.C., and perhaps even before that.

In 6 B.C. Saturn, Jupiter and Mars came close together in Pisces, where Saturn is at present. Although they were not close enough to appear as a single star, they must have made a striking display in the evening sky.

According to astrology, Saturn was particularly important to the Hebrews, and so was the constellation of Pisces. Hence they may have decided that this was a portent of something of great import in Hebrew history. Perhaps it foretold the coming of the King of the Jews, which the prophets had forecast.

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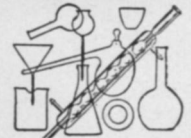
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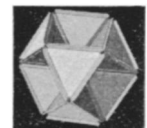
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