ASTRONOMY

Jupiter Now Brightest

Mars and Saturn Will Also Shine in Evening Skies Of February, But Venus Is Lost in Sun's Glare

By JAMES STOKLEY

IN THESE difficult times, surrounded by a war-torn world, one feels a sense of refreshment as he turns to the heavens, regarding the skies not for possible bombers, but to behold the stars and planets. Entirely oblivious of man's efforts to destroy himself, these bodies continue on their majestic courses. Yes, they prove to us that law and order still reign in the universe, and inspire us to our task of insuring that these principles shall control here on earth as well.

During recent months we have been watching the planets with interest. Their act is closing, but we still have Mars, Jupiter and Saturn with us in the evening. Venus, until lately the brilliant evening star, is between earth and sun on February 2, lost in the solar glare. But it then moves to the west of the sun, rising in the east as a morning star which is visible before sunrise. By February 22 it will be seen easily in the dawn, when its astronomical magnitude is minus 4.1, extremely bright.

Jupiter is the brightest object (save the moon) left in the evening sky. As shown on the accompanying maps, which depict the skies of 10 p. m. at the opening of the month and an hour earlier in the middle, it stands to the southwest in the constellation of Taurus. Just below is Aldebaran, marking the eye of the bull which this figure represents. The magnitude of Jupiter is minus 2. It even exceeds that of Sirius (minus 1.6), the most brilliant star, which is in the south and lower in the sky, in Canis Major, the great dog.

Saturn, fainter though still equal to a first magnitude star, is lower and farther west, near the little cluster of stars called the Pleiades. Mars, at the beginning of the month, is lower and fainter. It is in the constellation of Aries, the ram, and its magnitude is 1. As an example of the motion of the planets referred to above, it will draw near to Saturn, passing that planet on the evening of the 23rd.

Distinct from the planets, which shine by the reflected light of the sun, are the stars; distant glowing suns themselves. Their brilliant mid-winter display is now seen in full glory. A good way to find them is by starting with the three stars marking Orion's belt. They are about halfway between Aldebaran and Sirius, which we already mentioned. Above the belt of the warrior are his shoulders, marked by Betelgeuse and Bellatrix. Below is Rigel, in one of his legs.

Canis Major is one of his dogs. The other, higher in the sky, is Canis Minor, in which first magnitude Procyon shines. Still higher are the twins, Gemini, with Castor and Pollux. Not far away, to the northwest of the zenith, is Capella, of Auriga, the charioteer.

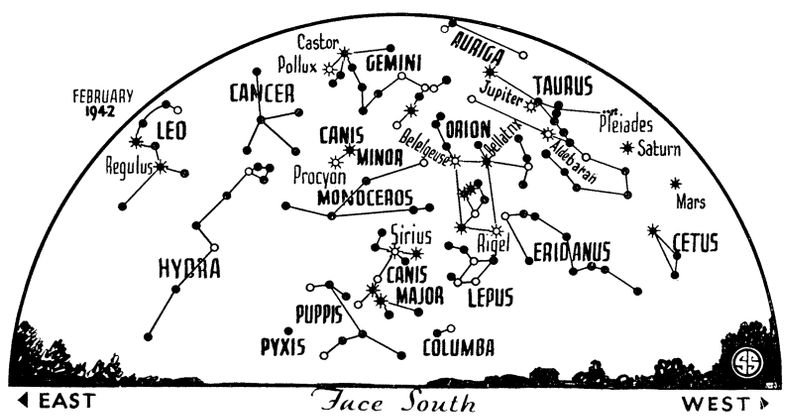
Beside these orbs in Orion and his neighbors one other of the first magnitude is seen. This is Regulus, in Leo, the lion, which is in the eastern sky. The star is in a hook-shaped group, the sickle, where it marks the end of the handle.

In the northern sky, the great dipper, part of Ursa Major, the big bear, is swinging high into the northeast. At the top of this figure, as it is now seen, are the two "pointers," the stars which indicate the direction of Polaris, the pole star. On the opposite side of the pole star is Cassiopeia, shaped like a W resting on the side, its top to the right.

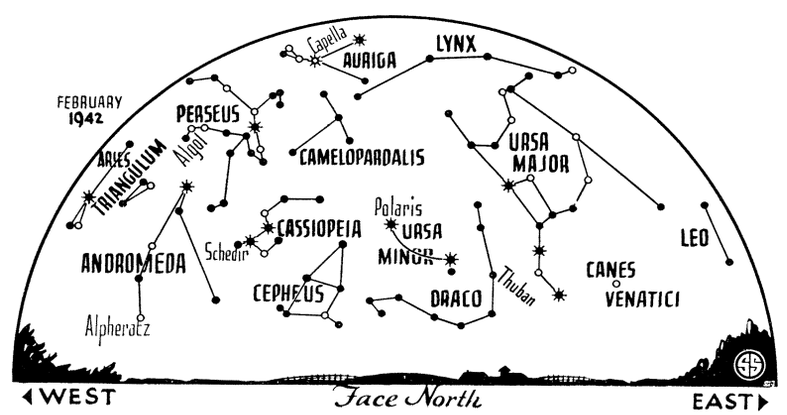
Recently a reader of these articles took me to task for an alleged error. It seems that, as in this one, I referred to Jupiter being in the constellation of Taurus. But this correspondent knew better—he had looked it up in an astrological magazine, and that said Jupiter was in Gemini, the twins.

Apparently it never occurred to this gentleman to look at the sky itself—as I did when I received his letter. I had entertained no doubt as to where it would be, but it was with a feeling of satisfaction that I looked at Taurus that same evening. There was Jupiter, shining just where I had promised it would be.

Perhaps some other readers have been similarly confused. If so, the fault is not



☼ ✷ ○ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS



with the sky itself, but with the astrologers, who are really a few thousand years behind the times. If you have ever watched a spinning top, you have noticed that it has another movement in addition to the rapid rotation. This is a "wobbling" motion, in which the axis of the top itself moves around in a circle.

The earth undergoes a similar "wobbling." Every 24 hours it turns on its axis. And every 25,800 years the north pole and the south pole, ends of the axis, swing around in circles. Just now it happens that the star we call Polaris is practically over the north pole, because the axis points in that direction. But this is only temporary. When the pyramids were built in Egypt a star called Thuban, in Draco, the dragon, was the pole star. In the year 14,000 Vega, in Lyra, the lyre, a star now seen in the summer far from the pole, will have that place of honor.

This movement, called the "precession of the equinoxes," also causes the constellations along the sun's annual path, the ecliptic, to slip around. A few thousand years ago the sun at the beginning of spring, which was then the beginning of the year, was entering the constellation of Aries, the ram. Because of precession, however, the sun of 1942, at the beginning of spring next month, will be in Pisces, the fishes. A few millennia hence and it will be in Aquarius, the water carrier.

"Signs" of the Zodiac

The twelve constellations along the ecliptic make up the zodiac, and the sun, moon and planets are always in this path. They have different areas but, for convenience, the early astrologers, who supposed they could predict the future from the movement of the planets, divided the zodiac into twelve "signs," each the same size. The names of the signs were the same as the corresponding constellations.

But now precession has thrown this system awry. The astrologers of today still use the signs, and ignore the constellations, which are where the stars really are. Taurus is now in the "sign" of Gemini, but it is in the constellation of Taurus. Mars is in the constellation of Aries, but the sign of Taurus, and so on.

This, by the way is one of many factors which show to students of the stars the ridiculous nature of the astrological superstition, and have led all astronomers to reject it completely. For surely if there were any effect caused by the extremely distant background which a planet happened to have as seen from the earth, it should certainly be the place where the stars are—not the direction they happened to have several thousand years ago!

Celestial Time Table for February

Sunday, February 1, 4:12 a.m., Full moon. Monday, February 2, Noon, Venus between sun and earth, and closest to earth for 1942, distance 25,110,000 miles. Thursday, February 5, 8:00 a.m., Jupiter stationery in its motion among the stars—changes from "retrograde" movement to the west to "direct" motion to east. Sunday, February 8, 9:52 a.m., Moon in last quarter. Monday, February 9, 6:00 p.m., Mercury between earth and sun. Wednesday February 11, 12:25 a.m., Algol at minimum; 7:00 a.m., Moon nearest; distance 228,600 miles. Friday, February 13, 6:37 p.m., Moon passes Venus; 9:15 p.m., Algol at minimum. Sunday, February 15, 5:02 a.m., New moon. Monday, February 16, 6:04 p.m., Algol at minimum. Saturday, February 21, 7:05 p.m., Moon passes Mars; 10:03 p.m. Moon passes Saturn. Sunday, February 22, 10:40 p.m., Moon in first quarter. Monday, February 23, 9:00 a.m., Moon farthest, distance 251,300 miles; 1:36 p.m., Moon passes Jupiter; 9:00 p.m., Mars passes Saturn.

Eastern standard time throughout. Add one hour to the times shown here after Feb. 9, 2 a.m., to conform with new time.

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