

ASTRONOMY

Watch for Mercury

Rarely Seen Planet Is in the Evening Skies in March ; Argo, Largest of Constellations, Is Also Visible

By JAMES STOKLEY

ALTHOUGH no planets are sufficiently well placed during March to be on the accompanying maps (which show the skies at 10:00 p. m., March 1; 9:00 p. m., March 15, and 8:00 p. m., March 30) tiny Mercury will come into view for a brief period about the 16th. Then it will be visible low in the west just after sunset. About an hour and a half after the sun has vanished it, too, will drop behind the horizon, and that while twilight is still visible. However, Mercury is quite brilliant, and it should be easy to pick it up. On the evenings, especially, of March 15, 16 and 17, look just above the horizon, directly west, for a shining point of light. This will be Mercury, for there is nothing else there that might be confused with it.

Saturn, the ringed planet, is still in the evening sky, but by the end of the month it will approach too nearly into line with the sun to be seen easily. It is much fainter than Mercury. As soon as the sky is dark, this planet will appear low in the west, in the constellation of Pisces, the fishes. As for the other planets, Mars comes into view about 1:00 a. m., low in the southeast, in Sagittarius, the archer; Venus about two hours before sunrise, shining so vividly that it is easy to locate; while Jupiter is now almost in the sun's direction, and cannot be seen at the present time.

Orion Still Shines

Among the stars, Orion, and the beautiful winter time constellations surrounding it, are still with us in the evening, to the southwest. The three stars in a row, forming Orion's belt, are easy to locate. Above is Betelgeuse, below is Rigel. Follow the direction of the belt stars to the left, and you come to Sirius, the dog star, most brilliant of these distant suns seen at night. To the other side of the belt is red Aldebaran, the eye, of Taurus, the bull.

A little west of the zenith are Gemini, the twins, with Castor and Pollux. Between the twins and the great dog, in which Sirius shines, is the little dog, Canis Minor, with Procyon. Above Taurus is Auriga, the charioteer, of which

Capella is the brightest star. The great dipper, in Ursa Major, the great bear, is to the northeast, upside down, the bowl to the left. The position of the pointers is shown on the map. These show the direction, below, of the pole star. In the other direction, to the south, they lead to the Sickle, in Leo, the lion, of which first magnitude Regulus forms the end of the handle. If you follow southward the curve of the dipper's handle, you come first to Arcturus, in Bootes, the bear driver, then to Spica, in Virgo, the virgin.

Directly south, far less conspicuous than the groups already mentioned, is part of the greatest of all, Argo, the ship. Unfortunately, however, the most brilliant parts do not rise except in the extreme southernmost parts of the United States. So large is Argo that it is subdivided into four constellations, Carina, the keel, Vela, the sails; Pyxis, the compass, and Puppis, the stern. None of Carina is shown, but most of Puppis is visible, to the left of Canis Major. All of Pyxis can be seen, but this is inconspicuous. Below is a little of Vela.

Spring Coming

Most welcome event during the coming month after a winter which brought severe blizzards to many parts of the country, happens March 21, at 7:29 a. m., E. S. T. Then, the sun, in the middle of its northward journey through the sky, crosses the equator, an event called the Vernal Equinox, marking the official beginning of spring. On that date the sun rises directly east and sets directly

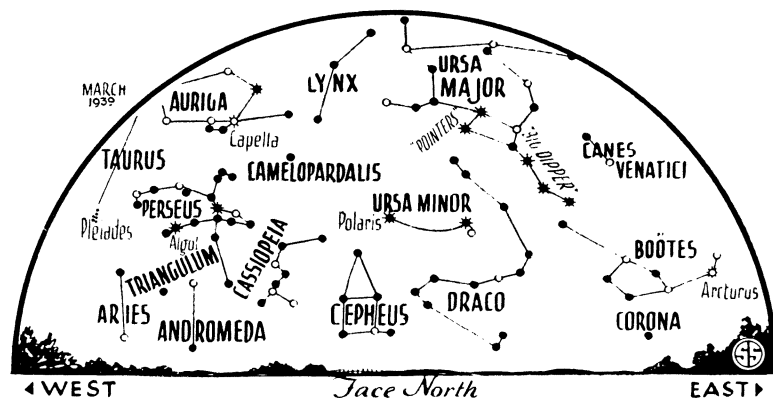
west, so day and night are approximately equal in length.

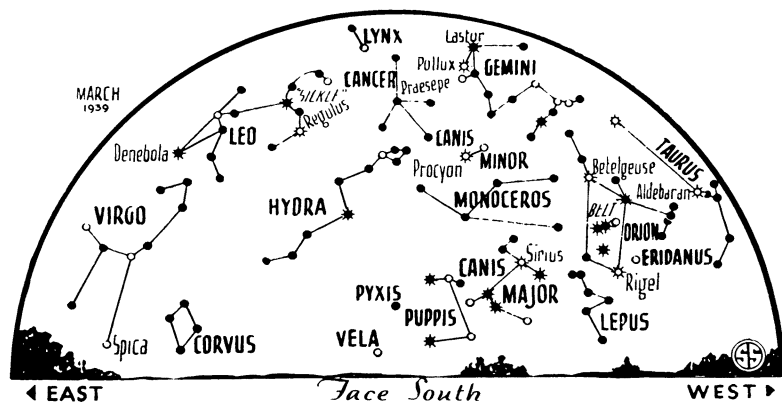
Another interesting phenomenon, however, comes in the morning hours of March 8, when the bright star Spica is occulted, or "eclipsed" by the moon. This will not be visible at all in New England. In the eastern part of the country it does not happen until the dawn is well under way, and, with the naked eye, it will be difficult to see the star. But in the Middle West and West, it will occur earlier. In Illinois, for instance, the moon, in the gibbous phase, a few days past full, will cover the star at 3:26 a. m., C. S. T., and will uncover it at 4:13 a. m., C. S. T. In California, the star will disappear at 12:20 a. m., P. S. T., and will emerge at 1:39 a. m., P. S. T.

Binoculars Help

A pair of binoculars, or even opera glasses, will help the view. The star will be covered by the bright edge of the moon, but will reappear from behind the darkened part. When it does so, it pops into view very suddenly, for there is no air around the moon partially dimming the star's light, even after it is clear of the solid part. Observations of occultations, such as this, are a very good means of checking the accuracy of predictions of the moon's motion.

Perhaps a few words might be said as to why March affords almost the only time this year that one can see Mercury. This planet, on the average, is only 25,950,000 miles from the sun, compared with 92,900,000 miles from the earth, so that it revolves in the smallest of the planetary orbits. It makes a trip around the sun every 88 days, but, in this period, the earth makes almost a quarter trip





◊ * ◦ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

around. Thus, it takes about 116 days for Mercury to catch up to the earth. As it does so, of course, it is almost between earth and sun and is not visible. About 63 days later it is again in line with the sun, but beyond it, also invisible.

After it has been between the earth and sun, the planet moves to the west, and when farthest in that direction, before it has started to go behind, it is said to be in "greatest western elongation." Then it is a morning star, rising before the sun. But after it has been behind, it is to the east of the sun, following that body in its daily motion across the sky, visible after sunset as an "evening star." This happens on March 16—then Mercury is at "greatest eastern elongation." Only at times of such elongations, either east or west, is the planet far enough removed from the sun's glare to be apparent.

To be seen in the evening sky, a springtime eastern elongation is best, for then the "ecliptic," the line along which the planets move, is nearly at right angles to the western horizon. Even though Mercury will be to the east of the sun again on July 13 and November 7, these will not be as favorable. Then the planet will be even farther away from the sun's direction than now, but, instead of being above the sun, it will be much more nearly to the side. Thus, Mercury will be much lower at sunset, and will set a much shorter time after the sun, while the sky is still very bright.

Celestial Time Table for March, 1939

Friday, March 3, 5:47 p. m., Algol at minimum. Saturday, March 4, 6:00 a. m., moon nearest earth, 223,000 miles. Sunday, March 5, 1:00 p. m., full moon. Wednesday, March 8, early morning, occultation of Spica. Sunday, March 12, 4:37 p. m. moon at last quarter. Monday, March 13, 12:16 a. m., moon passes Mars. Thursday, March 16, 10:00 a. m., moon farthest, 252,100 miles; 8:00 p. m., Mercury farthest east of sun—

visible as "evening star" about this date. Friday, March 17, 4:29 a. m., moon passes Venus. Saturday, March 18, 1:53 a. m. Algol at minimum. Monday, March 20, 8:49 p. m., new moon; 10:42 p. m., Algol at minimum. Tuesday, March 21, 7:29 a. m., sun crosses equator—spring commences. Wednesday, March 22, 12:17 p. m., moon passes Saturn. Thursday, March 23, 7:31 p. m., Algol at minimum. Sunday, March 26, 4:21 p. m., Algol at minimum. Tuesday, March 28, 7:16 a. m., moon at first quarter.

All times are in E. S. T.

Science News Letter, February 25, 1939

STATISTICS

Death Certificates Could Give Better Birth Data

DEATH certificates of married women, if changed in one small particular, to show number of children they have had, could give better birth statistics than are now obtainable, suggests Prof. Raymond Pearl of the Johns Hopkins University. (*Human Biology*, February)

Prof. Pearl points out that the present dependence on birth registration for statistics on fertility in women fail in two important respects. They give no information at all about women who never have children, and they do not tell, in the case of any given birth certificate, if that is the last child the mother is ever going to bear.

However, if a space could be left on the death-certificate blank for a complete listing of all children borne by a woman thus brought to the end of all possible motherhood, the records could, after a few years, be made much more definite.

Science News Letter, February 25, 1939

NEW PUBLICATION

February 15, 1939

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