ASTRONOMY

Venus Becomes Prominent

Mercury is also visible for a few days near March 12, when the most favorable greatest eastern elongation for 1959 occurs. Partial lunar eclipse will be seen on March 24.

By JAMES STOKLEY

➤ VENUS, shining brilliantly low in the western sky for two hours after sunset, is the most conspicuous object in the evening skies during March, except for the moon.

Another planet, Mercury, will appear for a few days around March 12. It will be seen below Venus and will set earlier, before twilight has entirely faded.

Neither Venus nor Mercury is shown on the accompanying maps, since they are drawn for a later hour: 10:00 p.m., your own kind of standard time, at the beginning of March; 9:00 p.m. at mid-month and 8:00 p.m. at the end. However, Venus is so bright that it will be seen long before any other planet or any star, and there will be no doubt of its identity.

Although Mercury, when it comes into view, will be only about 1/25th as bright as Venus, it will still be brighter than most first magnitude stars.

A third planet, Mars, is also visible in March, and does appear on the maps. It is high in the west, in the constellation of Taurus, the bull, a little above the red star Aldebaran, which it resembles in color. Mars is slightly fainter than Aldebaran, but still bright enough to rank in the first magnitude on the astronomical scale.

Mars and the other planets have no light of their own. They shine by reflected sunlight. But the stars are many times farther away; their distances are numbered in trillions of miles. Each star is a sun, shining with its own light.

Sirius Is Brightest Star

The brightest star now visible in the evening is Sirius, the dog star. It is located in the southwest, in Canis Major, the greater dog. A little higher is another, and smaller, dog, Canis Minor. In this group shines the star called Procyon. Still higher are the twins, Gemini, with Castor and Pollux. The latter is a first magnitude star, while Castor is ranked in the second magnitude.

To the right of Sirius and a little higher is the magnificent constellation known as Orion, the hunter. This boasts two stars of the first magnitude: Betelgeuse, above, and Rigel, below. Between them are three stars in a row that form the hunter's belt, a feature of Orion that helps in identifying the constellation.

Farther to the right is Taurus, already mentioned as the location of Mars, and the bright star Aldebaran. Above and to the right of Taurus (shown on the northern sky map) is Auriga, the charioteer, and brilliant Capella.

Next to the Gemini, toward the left, is Cancer, the crab, a faint constellation which merits attention chiefly because it is one of the 12 that mark the zodiac, the path of the sun, moon and planets. There are no bright stars in Cancer but it does contain a little star cluster visible to the naked eye, called Praesepe, or the beehive.

Left from Cancer, is located the most brilliant of the zodiacal constellations, Leo, the lion. It is marked by a smaller group called the sickle, with Regulus at the end of the handle. The blade of the sickle is supposed to mark the lion's head and Denebola, at the other end of the group, his tail.

Below Denebola is Virgo, the virgin, with Spica. This star is also of the first magnitude. However, at the position indicated it is so low that much of its light is absorbed in passage through the atmosphere and it is considerebly dimmed.

The great dipper is high in the northeast. It is part of Ursa Major, the greater bear. The two stars in the bowl of the dipper indicate the direction of Polaris, the pole star. Following the curve of the handle toward the right, Arcturus appears in Bootes, the herdsman, the last of the first magnitude stars of the March evening skies.

In ancient Greece, when Venus was visible in the evening sky as it is now, it was called Hesperus. When it was seen in the morning hours, before sunrise, as it was last summer and fall, it was called Phosphorus. The early Greeks did not realize that the same planet shifted from one side of the sun to the other, and thus was visible alternately as an evening, and as a morning, star.

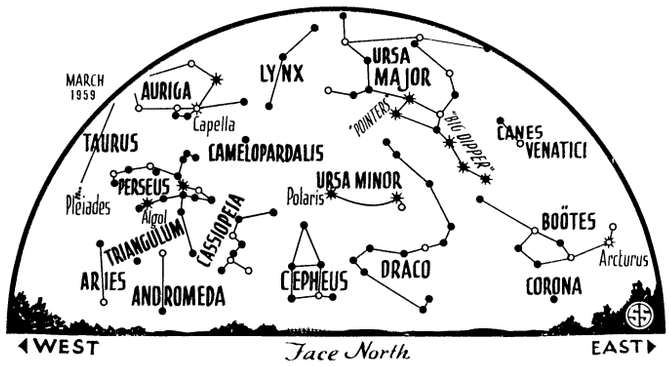
Actually Venus moves around the sun at an average distance of 67,000,000 miles (the earth's distance is 93,000,000 miles), and takes 225 days for one revolution. Every 584 days it catches up and comes approximately between the earth and sun. This position is called inferior conjunction.

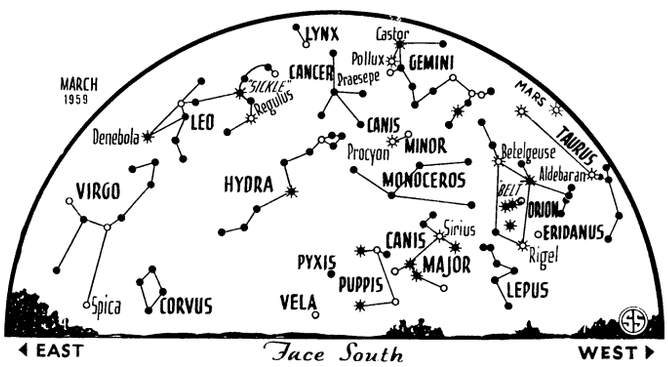
Venus Lost in Solar Glare

Once in each revolution it is likewise far out beyond the sun, at superior conjunction. This happened last Nov. 11.

At either conjunction Venus is in line with the sun, and not visible, since it is lost in the solar glare. After superior conjunction it moves to the east of the sun, and follows that body in its daily motion across the sky.

As Venus get farther and farther away from the sun's direction, it remains visible longer and longer after sunset, thus becoming prominent in the evening sky, as it is now. Its "greatest elongation" to the east of the sun will come on June 23, when Venus will shine in the west for more than two and a half hours after sunset.





☼ ✱ ○ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

After that it will close in rapidly toward the sun, reaching inferior conjunction Sept. 1. During the fall and winter Venus will be in the morning sky again, until it reaches superior conjunction on June 23, 1960. By the autumn of next year, Venus will once more be shining in the evening sky.

Mercury goes through a similar, but accelerated, cycle, and it likewise had two names in ancient times. It was called Mercury in the evening and Apollo in the morning. This planet's mean distance from the sun is only 36,000,000 miles and it goes around once in 88 days.

The "synodic period," in which it catches up to earth, is 116 days, so three or four times each year it may come into the evening sky, when it reaches greatest eastern elongation.

March Brings Mercury

As far as seeing Mercury is concerned, the best such elongation is one that occurs near the beginning of spring, so the one on March 12 is the most favorable of the year. The next on July 8, is fairly good, but the next after that, on Nov. 3, is quite unfavorable.

March brings a partial eclipse of the moon, in which the moon enters partly into the shadow of the earth. This occurs on March 24, but during daylight hours in North America, so it will not be visible here. It will be seen over most of the Eastern Hemisphere, as well as Antarctica. About one-quarter of the moon's diameter will be shaded at the maximum eclipse.

On Saturday, March 21, at 3:55 a.m., EST, the sun, which has been moving northward in the sky since Dec. 22, will be directly over the equator at a point in the Indian Ocean, off the cost of Somalia. This is the equinox, which marks the beginning of spring in northern countries, and of fall in those of the Southern Hemisphere.

Celestial Timetable for March

March	EST	
1	5:08 a.m.	Moon passes Jupiter
	9:54 p.m.	Moon in last quarter
3	5:05 p.m.	Moon passes Saturn
9	5:51 a.m.	New moon
10	7:14 p.m.	Moon passes Mercury
11	6:39 p.m.	Moon passes Venus
12	8:00 a.m.	Mercury at greatest elongation east of sun
14	4:00 a.m.	Moon farthest from earth, distance 251,800 miles
16	3:16 a.m.	Algol (variable star in Perseus) at minimum brightness
	1:35 p.m.	Moon passes Mars
17	10:10 a.m.	Moon in first quarter
19	12:05 a.m.	Algol at minimum
21	3:55 a.m.	Sun over equator, spring begins in Northern Hemisphere
	8:54 p.m.	Algol at minimum
24	3:02 p.m.	Full moon; partial eclipse of moon visible in Australia, Antarctica, Asia, Europe and Africa
26	4:00 a.m.	Moon nearest, distance 224,100 miles
28	12:35 p.m.	Moon passes Jupiter
29	5:00 a.m.	Mercury in inferior conjunction with sun
31	1:01 a.m.	Moon passes Saturn
	6:06 a.m.	Moon in last quarter

Subtract one hour for CST, two hours for MST, and three for PST.