

## ASTRONOMY

# Mercury Seen at Dusk

Jupiter and Mars can also be seen during April. The first eclipse of the year, an annular eclipse of the sun, will occur on April 29. Naked-eye comet scheduled.

By JAMES STOKLEY

➤ MERCURY, smallest of the nine planets and nearest of them all to the sun around which they revolve, will make one of its rare appearances about the middle of April.

On the 15th it will be farthest east of the sun—"greatest eastern elongation" the astronomer calls it—and for a few days around then it will be seen near the western horizon just after sunset. Since at best it will set about an hour and three quarters after the sun, you will have to look for it as dusk gathers.

By the time the western sky is completely dark, Mercury will also have gone out of sight.

Because of this, Mercury does not appear on the accompanying maps, which show how the sky will look about 10 o'clock, your own kind of standard time, at the beginning of April. It will appear similarly about 9:00 p.m. at the middle of the month, and about 8:00 p.m. at the end.

Also not shown on the accompanying maps is the comet scheduled to be visible from the Northern Hemisphere in late April and May. It is predicted to blaze forth at zero magnitude, making it one of the most brilliant objects in the sky at that time.

If the comet lives up to expectations, it will be the biggest and most spectacular of its breed during the 20th century, brighter than Halley's Comet, last seen in 1910.

Known as Comet Arend-Roland after the two Belgian astronomers who discovered it, the object was first spotted on Nov. 8, 1956.

Since then, astronomers both here and abroad followed it with their telescopes until it traveled too close to the sun to be seen. By the end of April, it will be far enough away from the sun to be visible again.

Its brilliance will fade rapidly and it will disappear from naked-eye view by the first of June. During late April, the comet will appear very low in the northwest sky after sunset, between the constellations of Andromeda and Aries, the ram.

Comet Arend-Roland will reach its perihelion on April 8, when it will be only 29.7 million miles from the sun.

Two planets besides Mercury are shown. Brightest is Jupiter, which shines high in the south in the constellation of Virgo, the virgin. Jupiter is now so brilliant, about 15 times as bright as a typical star of the first magnitude, there will be little difficulty in locating it.

The other, planet is Mars, still receding after the close approach that it made last September, so it has faded greatly. Look toward the west, and you can see it in Taurus, the bull, to the left of the bright star Capella, in Auriga, the charioteer. Mars, however, has the brightness of a star of the second magnitude.

## Nine First Magnitude Stars

In addition to Capella, nine other bright stars (i.e., of the first magnitude) are now visible. Low in the southwest is Sirius, the dog star, part of Canis Major, the great dog.

To the right, directly west, is Orion, the warrior. Part of this figure is below the horizon, at the times for which our maps are drawn, but Betelgeuse is still visible, above the three stars that form his belt.

Farther to the right is Taurus, the bull, in which Mars now stands. Below the planet is Aldebaran, a first-magnitude star, although its low altitude causes it to be dimmed. Above Orion is the figure of Gemini, the twins, with Pollux, of the first magnitude, and Castor, of the second.

To the left of this group we find Procyon, in Canis Minor, the lesser dog. Still farther to the left, high in the southern sky, is Leo, the lion, with the bright star Regulus. This star, with a semicircle of stars just above, forms a little figure known as the Sickle. Regulus marks the end of the handle, which points downward.

High in the east is Bootes, the bear-driver, with brilliant Arcturus. Below this constellation we find Virgo, the virgin, with Spica, as well as Jupiter, a temporary visitor.

Finally, low in the northeast, Vega, part of Lyra, the lyre, is indicated. Even more than Aldebaran, its brilliance is dimmed by its low altitude, but later in the night, as

it climbs toward the south, you will be able to see it shining with accustomed glory.

By that time another planet will have appeared. Saturn, in the constellation of Ophiuchus, the serpent-bearer, rises in the east a little before midnight.

Venus, which has not been mentioned, passes behind the sun on April 14, so all month it is too nearly in line with that body to be seen.

## Annular Eclipse of Sun

The first eclipse of the year occurs on April 29, but only in the northwestern United States, western Canada and Alaska will North Americans be able to see it.

This is an eclipse of the sun, not total but annular. Although the moon passes between the earth and sun, its distance from us is so great that its apparent diameter is not enough to cause it to cover the sun completely, as it does in a total solar eclipse.

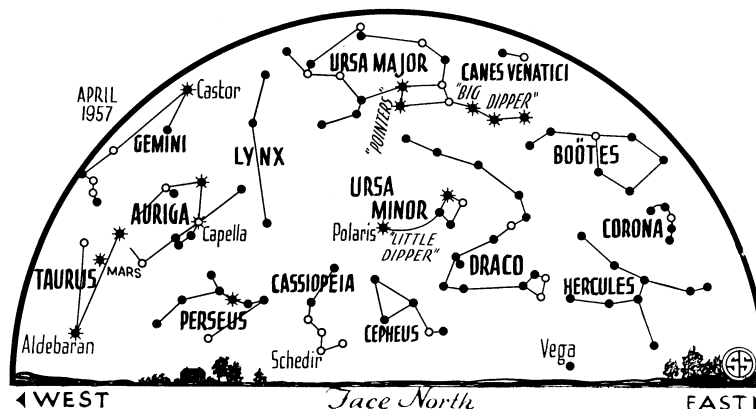
Instead, a ring of sunlight will remain visible around the dark lunar disc. To see this effect, one would have to be located along a curved area in the Arctic Ocean north of Russia.

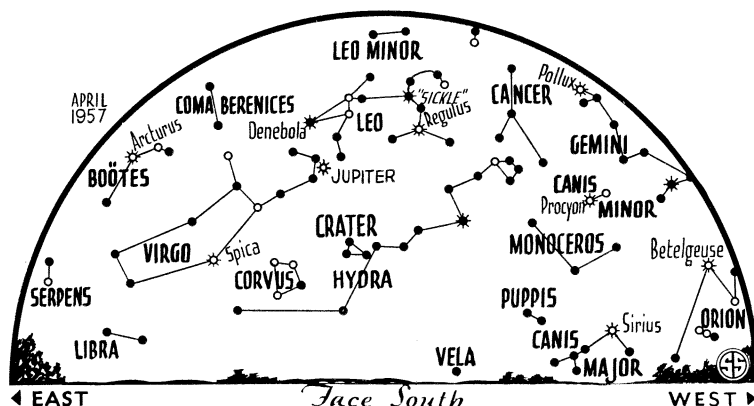
Over part of European Russia, most of Asia and northwestern North America there will be a partial eclipse, with the moon passing partly in front of the sun. At Seattle, for example, the eclipse will start at 5:05 p.m. PST, and end at 6:14 p.m.

At 5:40 the eclipse will be at its maximum, with 14% of the solar diameter covered, so it will not be a very large eclipse. At Anchorage, Alaska, it lasts from 2:01 p.m. to 4:02 p.m., Alaska standard time, with the maximum at 3:00 p.m. when almost half of the solar diameter will be covered.

## Protection for Eyes

People who live in these areas, of course, should not try to look at the eclipse without adequate protection for the eyes. Smoked glass or several layers of over-





◊ \* ◦ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

exposed photographic film should be used. Sun glasses or welder's goggles are not sufficient protection.

Mercury, which appears at the middle of April, has mean distance from the sun of only 36,000,000 miles, somewhat more than a third the earth's distance of 93,000,000 miles.

As it swings around the sun, it appears alternately to the west and east of that body. In the former case it moves ahead of the sun as they make their daily trip around the sky. Then it may appear just before sunrise, in the morning twilight. When east of the sun, as it is in April, it remains above the western horizon after the sun has set. However, this does not always bring it into our view.

When such an eastern "elongation" occurs in the autumn, it is not nearly as favorable for evening viewing as when it occurs in the spring.

In April this year conditions are almost at their best, so take advantage of your opportunity.

Even when Mercury does thus come into view, it never remains visible after twilight has faded and it is never seen very high in the sky, while the period over which it can be easily observed is not more than about a week.

The great Polish astronomer Copernicus, who showed that the planets revolve around the sun, is said never to have seen Mercury. Even at an elongation, the low-flying mists usually obscured it.

### Celestial Time Table for April

APRIL	EST	
4	10:41 p.m.	Moon passes Mars.
7	3:32 p.m.	Moon at first quarter.
11	8:00 p.m.	Moon nearest, distance 226,100 miles.
12	9:02 a.m.	Moon passes Jupiter.
14	7:09 a.m.	Full moon.
	8:00 a.m.	Venus passes behind sun.
15	4:00 a.m.	Mercury farthest east of sun.
17	9:41 p.m.	Moon passes Saturn.
21	10:00 a.m.	Neptune nearest, distance 2,724,000 miles.
	6:00 p.m.	Moon in last quarter.
23	4:00 p.m.	Moon farthest, distance 251,500 miles.
29	6:54 p.m.	New moon—partial eclipse of sun visible in northwestern North America.

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

Science News Letter, March 23, 1957

### PUBLIC HEALTH

## Public Demands Too Much In Health Insurance

► THE PUBLIC is demanding too many benefits from health insurance policies, Dr. Carll S. Mundy, Toledo, Ohio, vice chairman of the American Medical Association's council on rural health, said.

The trouble lies with the public's demand for benefits which do not belong in an insurance policy, he told the 12th National Conference on Rural Health meeting in Louisville, Ky.

Many of these items are small and insignificant, but they increase the cost of the policy out of all proportions to the benefit gained. Although they are not traditionally "insurable" under the basic laws of insurance operations, the public wants them regardless of the increase in costs, he said.

"Home and office calls, the annual health examination, annual X-rays . . . routine vaccination, are all events we know will happen to us and our children," he said.

Trying to cover them by insurance not only increases the premium but it abuses the original purpose of insurance. Events that are covered should be "predictable" for large groups or areas but "unpredictable" for the individual. They should not be events that recur at a given frequency or at regular intervals, he explained.

Hospital and medical insurance should be expected to cover the unpredictable and larger expenses, but if the public wants modern medicine with all it involves, it will have to expect a premium in proportion to the cost of the services.

Premiums would be materially less if only strictly insurable items were covered by the policies. The other small items should be taken care of outside the health insurance, he reported.

Science News Letter, March 23, 1957

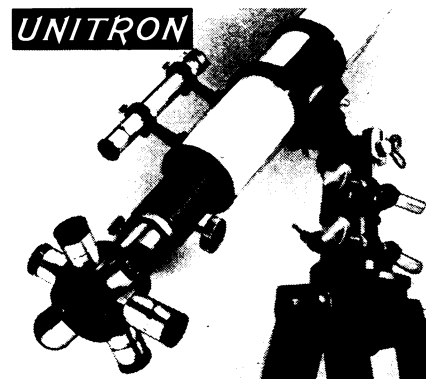
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