

ASTRONOMY

Jupiter Now Most Prominent

April is the month that will see the planet Jupiter nearest to the earth, in addition to bringing the first solar eclipse of the year.

By JAMES STOKLEY

► IN A DIRECTION from the earth directly opposite to that of the sun on April 17, the giant planet Jupiter will make its closest approach of the year, at a distance of 413,000,000 miles. It will then be most prominent, visible all night with a brightness of minus two on the astronomical magnitude scale.

Jupiter is shown on the accompanying maps, which depict the sky as it appears about 10:00 p.m., your own kind of standard time, at the first of April, an hour earlier at the middle and two hours earlier at the end. It is toward the southeast, in Virgo, the virgin, just to the left of Spica, the brightest star in that constellation. Although Spica is among the 20 brightest stars in the sky (those of the first magnitude or brighter), Jupiter now surpasses it in brilliance by about 18 times.

High in the south, above and right of Virgo, you come to Leo, the lion, with another first-magnitude star. This is Regulus, which is in a group of six stars often called the "sickle," from its resemblance to that implement.

To the right of Leo is the rather faint constellation of Cancer, but next to that is the figure of Gemini, the twins. Here we find Pollux, also of magnitude one. Below Gemini is Canis Minor, the lesser dog, with Procyon, and below that stands the great dog Canis Major, with Sirius, the dog star. This is now so low that it is faint and relatively inconspicuous, quite different from the way it looked on midwinter evenings, when it was in the southern sky.

Orion is Faint

The same is true of Orion, to the west. Betelgeuse, the brightest star in this figure of the warrior, is shown; so are the three stars that mark his belt. However, Rigel, below the belt, has passed below the horizon. It may be seen earlier in the evening.

To the right of Orion is Taurus, the bull, in which we see Aldebaran. On account of its low altitude, and the consequent increased absorption of its light by the earth's atmosphere, it is represented by the symbol for a second-magnitude star, although it is really of the first. Above Taurus is Auriga, the charioteer, in which Capella shines.

High in the eastern sky, above and to the left of Jupiter, is the figure of Bootes, the bear-driver. Here we find Arcturus. Close to the northeastern horizon Vega, which is in Lyra, the lyre, is shown. Actually, of all the stars that can be seen from these latitudes, only Sirius surpasses Vega in bright-

ness, but as it is seen here you might not think so. Later in the night, as it climbs higher in the sky, it will be seen at full brilliance, as it will in the evenings later in the year.

Saturn, now in the constellation of Ophiuchus, the serpent-bearer, appears about midnight above the southeastern horizon. Hours later, or about two and a half hours before sunrise, Mars appears, in Capricornus, the sea-goat. Mars, red in color, is a little fainter than Saturn, although both are of the first magnitude. About half an hour later Venus appears, brighter even than Jupiter. Mercury, which appeared in the evening sky at the end of March, may be glimpsed in the first day or so of April, but you will have to look to the western sky, near the horizon, after sunset and even before dusk has faded, if you want to see it.

On April 3, at 10:45 p.m. EST, the moon will be full. This full moon will have a special significance, for it is the paschal moon, the one that determines the date of Easter.

It is commonly stated that Easter is the first Sunday following the first full moon after the vernal equinox, or the beginning of our spring in the Northern Hemisphere. The vernal equinox occurred on March 20 at 10:06 p.m., EST, when the sun passed

over the equator. The next full moon is on April 3, so the following Sunday, April 6, is Easter. And from the date of Easter are determined the dates of certain other religious "movable feasts."

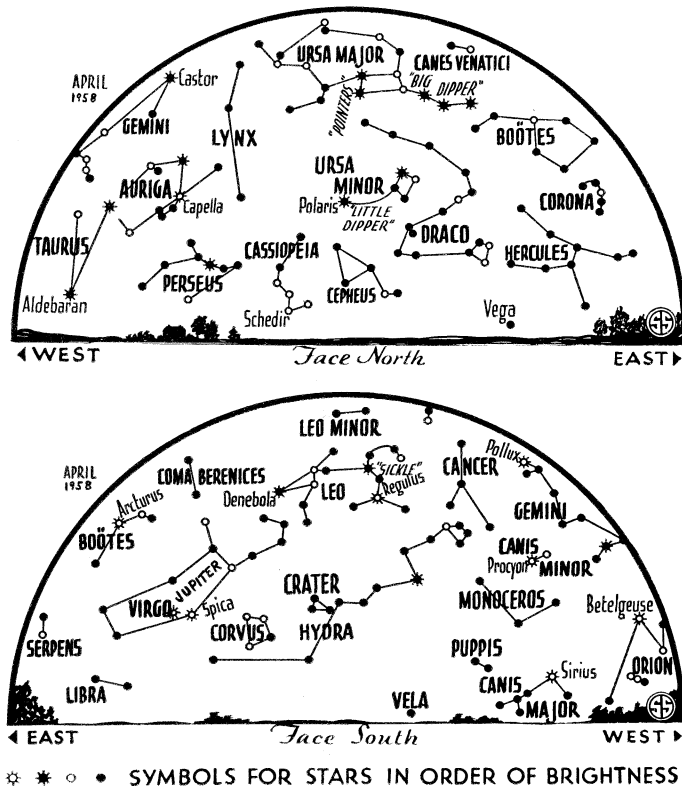
The Easter Moon

The Easter rule was set in 325 A.D. by the Council of Nicaea. Before that there were two principal factions in the early church with their own ideas as to when the festival should be celebrated.

The Crucifixion and Resurrection had taken place at the time of the Hebrew Passover, which begins on the 14th day of the month of Nisan in the Jewish calendar. Since each month in this calendar begins with the new moon, it is always full at the 14th. Hence when Christ arose from the dead it was a time of full moon and, also, it happened on a Sunday.

One group wanted to celebrate Easter always at the time of the full moon, but the others thought that the day of the week was important. They wanted it on Sunday, and the Nicene Council decided in their favor.

They fixed the rule that Easter should come on the Sunday following the 14th day of the moon when this came on or after March 21, which was the day of the equinox in 325. Actually, as this year, the equinox may occur on the 20th; sometimes it may come on the 22nd, while the full moon may not necessarily come on the 14th day of the lunar month. Thus, the rule



does not apply to the real moon, but represents an average. In 1818 and 1845, for example, the full moon came on Easter day, and caused considerable questioning from those who thought the rule applied to the body they saw in the sky.

First Eclipse of 1958

April also brings the first eclipse of 1958, but it will not be visible in any part of North America, except Alaska. This happens on April 18, when the new moon will come directly between earth and sun. However, the moon will be far enough away that it will appear slightly smaller than the sun and thus will not completely cover it.

Even where the solar eclipse is at its height, along a path that starts in the Indian Ocean, southwest of India, crosses Burma, Thailand, Viet Nam and Formosa and ends in the Pacific Ocean southeast of Japan, one would see a ring of the bright solar surface around the dark disc of the moon. Thus it is called an annular eclipse, since "annulus" is Latin for ring. Along the first part of this path it will be April 19 as the eclipse occurs. But the path crosses the International Date Line where it is still the 18th, so the event may be said to end the day before it begins!

Over a larger area, covering all of Asia except the northwestern part, the Indian Ocean, Indonesia and the western Pacific, as well as Alaska, there will be a partial eclipse, with the moon hiding a part of the sun. By our time reckoning, the eclipse occurs during the night of the 18th.

Celestial Time Table for April

April EST

3	4:00 p.m.	Moon nearest, distance 221,800 miles.
	10:45 p.m.	Full moon.
4	10:39 p.m.	Moon passes Jupiter.
8	6:00 p.m.	Venus farthest west of sun.
	9:10 p.m.	Moon passes Saturn.
10	6:50 p.m.	Moon in last quarter.
13	7:53 a.m.	Moon passes Mars.
16	2:00 p.m.	Mercury and sun in same direction.
	6:00 p.m.	Moon farthest, distance 252,500 miles.
17	2:00 a.m.	Jupiter in opposite direction from sun and nearest earth, distance 413,000,000 miles.
18	10:23 p.m.	New moon—annular eclipse of sun.
23	9:00 p.m.	Neptune in opposite direction from sun and nearest earth, distance 2,724,000,000 miles.
26	4:36 p.m.	Moon in first quarter.

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

Science News Letter, March 22, 1958

RADIO

Saturday, March 29, 1958, 1:30-1:45 p.m., EST

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio network. Check your local CBS station.

Dr. Leonard A. Scheele, president, Warner-Chilcott Laboratories, Morris Plains, N. J., will discuss "Safer Child-Birth."

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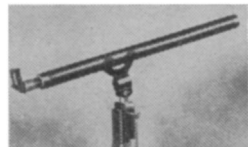


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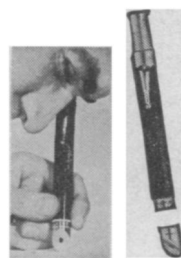
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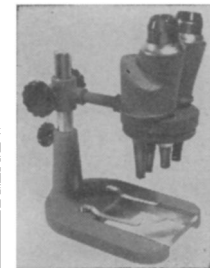
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