



The evening of May 3 will present an unusual sight. Jupiter will be visible but without the four satellites which ordinarily accompany him. They will be blotted from view as they pass either behind the planet or across its face or are hidden in its shadow. This phenomenon was last witnessed from the United States in 1914.

or higher, than when in the evening sky at other times of year. Therefore, its light is less dimmed in its passage through the earth's atmosphere. In fact, Venus is so bright now that it casts a perceptible shadow, a fact which you can verify if you go to a place where it is quite dark, and no artificial lights are near. By holding a piece of white paper so that the light from Venus falls upon it, and then moving your hand around in front of it, you can easily discern the shadow. Of course, this should not be tried when the moon is visible and flooding the earth with its own light.

The other bright planet in the May evening sky is Jupiter, now of the minus 1.5 magnitude, about the same as that of Sirius. Since Sirius is not now visible, Jupiter is the second brightest object in the evening sky, excepting the moon. It is in the constellation of Cancer, the crab, now in the southwest. The position of the planet is shown on the accompanying map, and its brightness makes it easy to identify.

Invisible from America

Early in May it presents a very unusual aspect—on the evening of May 3 it will be seen without any of the satellites which almost invariably accompany it when seen in a small telescope. Not since 1914 has such a condition been seen from the United States. In that year it also happened in May. It also occurred on March 4, 1919, and on February 4, 1931, but at times when Jupiter was invisible from the United States. It will occur again on November 20, this year, but not at a time to permit America to see it. We shall have to wait until July 16, 1939, for the next appearance of Jupiter without satellites. Thus the phe-

nomenon is considerably more rare than a total eclipse of the sun, though it is not nearly so important scientifically.

The four large satellites, or moons, of Jupiter were discovered by Galileo in 1610. They are bodies as large as the smaller planets, and easily visible in a small telescope. The other five satellites of Jupiter are much smaller bodies, seen only through powerful instruments. If you watch Jupiter from night to night through a telescope, you will see the four moons continually moving around the planet. One night three may be on one side and one on the other, then all may be on the other side.

Frequently one of the satellites may vanish from sight. This occurs for one of three reasons. Either it passes behind Jupiter; or it enters Jupiter's shadow, eliminating the sunlight by which we ordinarily view it; or it comes in front of Jupiter, when it cannot be easily distinguished from the planetary background. Sometimes two satellites may disappear simultaneously, still more rarely three may vanish together, and, at very rare intervals, all four may disappear, as they do this month.

Though these moons have names, Io, Europa, Ganymede and Callisto, they are frequently referred to by number, I, II, III and IV. At 7:45 p. m., eastern standard time, on the third, II is occulted as it passes behind Jupiter. At 8:51, IV is eclipsed as it enters the planet's shadow. At 9:04, I disappears as it transits across the planet's disc. Finally, before any of these have reappeared, at 10:25, III is eclipsed. From this time until 11:20, no satellites are seen. At 11:20, I emerges from its transit across the disc, and again is seen floating in space beside the planet. Soon after this

Jupiter sets for observers in the eastern part of the country, but people in the West will see the reappearance of II at 1:07 a. m., eastern standard time, of IV at 1:43 and of III at 2:02.

Nine first magnitude stars can be seen in the May evening skies, though some of them are so close to the horizon that their light is considerably dimmed and they may appear even fainter than a star that is really not as bright, but is riding high in the heavens. The accompanying maps allow for this absorption, and show the stars as they appear.

Above and to the left of Jupiter is the "sickle," part of the constellation of Leo, the lion. The star Regulus is at the end of the handle. In the southern sky is the first magnitude star, Spica, part of Virgo, the virgin. Above her is Boötes, with the brilliant Arcturus. In the western sky, near Venus, is Gemini, the twins, with Pollux its brightest member. Below, and to the left, is Procyon, marking Canis Minor, the lesser dog. Capella, in Auriga, is low in the northwest. Low in the northeast Cygnus, the swan, with the star Deneb, is coming into view, while a little higher is Lyra, the lyre, with Vega. Scorpius, the scorpion, is low in the southeast with the star Antares close to the horizon.

During the month of May the moon is new on the fifth, at first quarter on the thirteenth, full on the twentieth and at last quarter on the twenty-sixth. Thus, moonlight evenings are indicated from the tenth to the twenty-third.

Science News Letter, April 30, 1932

CHEMISTRY

American Rediscovered Lost Chemical Compound

A CHEMICAL compound prepared for the first time seventy years ago, and since then "lost" in such uncertainty that chemists had concluded it did not really exist, has been rediscovered by Prof. W. A. Noyes of the University of Illinois.

The compound is nitryl chloride, represented by the formula NO_2Cl . It was first prepared by a German chemist, Richard Müller, in 1862. Afterwards a number of other chemists tried their hand at repeating Müller's work, with very uncertain success.

Nitryl chloride is a pale yellowish-brown gas, quite unstable chemically and very ready to break apart and enter into reactions with other substances. Because of the difficulty of preparing it and of its instability it has no practical uses.

Science News Letter, April 30, 1932