

ASTRONOMY

Springtime Skies Here

High in the south appears the figure of Leo, the lion; Jupiter is the brightest object during most of the evening at the present time.

By JAMES STOKLEY

► WITH the coming of April, the appearance of the evening skies, as well as the weather, attest to the fact that spring has come and winter is left behind. Orion's glorious figure, so dominant in the evening in January, is just glimpsed low in the west. Instead, high in the south, appears the figure of Leo, the lion. To the right in this group is the familiar "sickle," with the blade of that implement forming the lion's head. Joining the stars in Leo, at the present time, is the planet Jupiter, brightest object during most of the evening.

On the accompanying maps are pictured the stars and planets seen on April evenings, about 11:00 p. m., your own kind of war time, at the beginning of April, and about 10:00 p. m. on the 15th. Sirius, the brightest star, is still visible, in the southwest, to the left of Orion. Above it is Canis Minor, the lesser dog, with first magnitude Procyon. Directly west, above Orion, is the constellation of Gemini, the twins. Like Leo, this group also contains a planet—Saturn—which is fainter than Jupiter but brighter than most of the stars. The brightest star in Gemini is Pollux, alongside which is seen Castor, the other twin.

In the southeast, extending downwards to the left from Jupiter, is the group of Virgo, the virgin, and in this is the bright star Spica. Above the eastern end of Virgo is Boötes, of which the star Arcturus is the prominent member.

Capella Prominent

The most prominent star in the northern half of the sky, as the maps show it, is Capella, in Auriga, the charioteer, which is in the northwest, to the right of the foot of Castor, where Saturn is seen. Aldebaran, in Taurus, the bull, is lower, but when it gets as close to the horizon as here depicted the absorption of light by the earth's atmosphere dims its brightness, so it seems only of the second magnitude, whereas it is actually of the first. The same thing is true of Vega, in Lyra, the lyre, which is shown very low in the northeast. But while Aldebaran is now

about to disappear from the evening skies entirely, Vega, during the coming months, will be coming into a better position.

Ursa Major, the great bear, of which the dipper is the best known part, is now in its highest position of the year, directly above the pole star, Polaris, to which the pointers are guide posts. The W-shaped figure of Cassiopeia is low in the north. Winding around the little dipper, of which the pole star is part, is the group of Draco, the dragon. Next to the little quadrilateral of stars at the bottom which form the dragon's head is Hercules, the strong man, which, like Vega, will come into better view during the late spring and summer.

In the latter part of the month, the moon will move through some of the constellations shown. New on April 12, a day or two later it will be glimpsed as a narrow crescent low in the west after sunset. By April 15 it will be in the constellation of Taurus. Early in the morning of the 17th, when it is not visible, it will be close to Saturn. First quarter comes on the 19th, when it is in Cancer, the crab. During the following week, in a gibbous phase, it moves through Leo and Virgo, until April 27, the date of full moon, when it stands in the direction of Libra, the scales. During the night of April 22 it will pass Jupiter, at a distance of about 6 lunar diameters.

One other planet will be seen at the

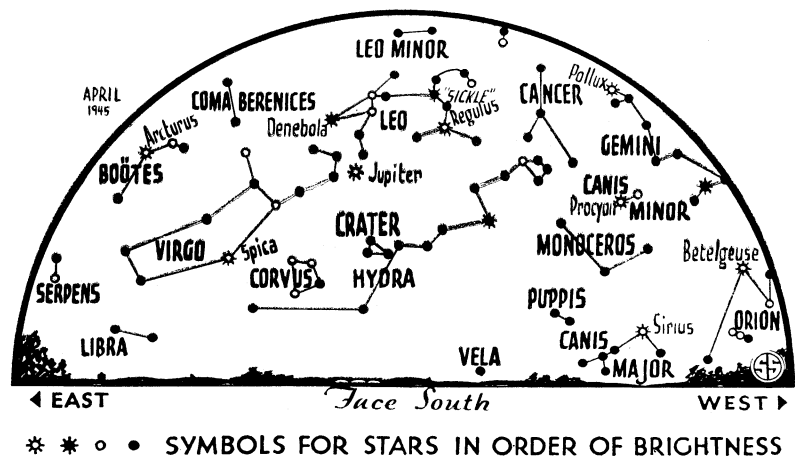
beginning of the month when Venus is still visible low in the west in the early evening. It is rapidly drawing toward the sun, however, and is nearly in line with it on the 15th. Then, as it passes to the west of the sun, it rises in the east before sunrise and at the end of the month will be visible there as a morning star.

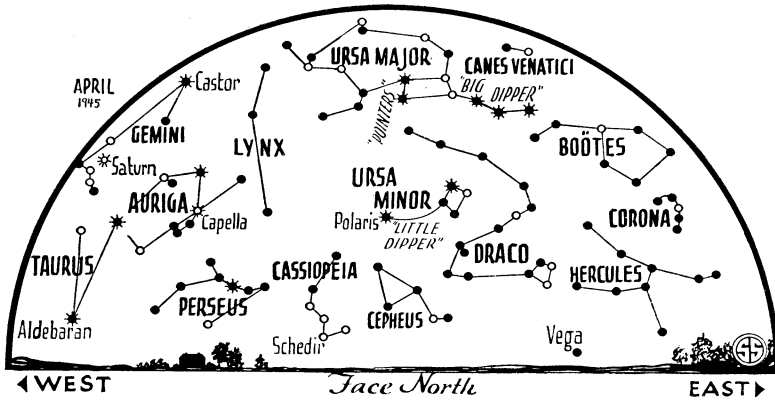
This month, as Venus shifts from evening to morning star, we have an example of something that was very puzzling to the ancients. They saw this planet in both positions, but it was a long time before they realized that it was one and the same. When it was a morning star they called it Phosphorus, while Hesperus was the name given to its evening manifestation.

The same thing was true of Mercury, which at the end of March was visible in the west after sunset, and in May will be a morning star, on the other side of the sun. They called it Mercury when it was in the evening, but Apollo in the morning.

Both Revolve Around Sun

Actually, these planets both revolve around the sun and both move in orbits that are smaller than that of the earth. Every 116 days Mercury comes approximately between the sun and earth at "inferior conjunction." About 22 days before this it is at its greatest distance or "elongation" east of the sun, when it is visible in the evening for a while after sunset. About 22 days after inferior conjunction it is farthest west of the sun—a morning star. Then about 72 days elapse while it swings around behind the sun, again coming to its evening position. Because Mercury is so close to the sun—at a





distance of but 36,000,000 miles—it is only visible when near one or the other elongation.

Venus, on the other hand, is at a mean distance from the sun of 67,000,000 miles, so it is visible over a much larger part of its orbit. Only near its inferior conjunction, which occurs April 15, or the superior conjunction, when it is on the far side of the sun, is it completely invisible. The greatest eastern elongation, such as recently brought it into view in the evening, comes about 72 days before inferior conjunction, and greatest western elongation about the same time afterwards. Then about 440 days elapse while it slowly creeps behind the sun, and again comes into view in the evening. About

this time next year it will come into the evening sky once more, gradually brightening until it attains the maximum brilliancy just before Christmas, 1946.

Celestial Time Table for April

Apr.	EWT	
5	3:18 p.m.	Moon in last quarter
9	3:07 p.m.	Moon passes Mars
12	4:00 a.m.	Moon nearest, distance 221,-800 miles
	6:54 a.m.	Moon passes Mercury
	8:29 a.m.	New moon
	8:58 a.m.	Moon passes Venus
15	1:00 p.m.	Venus between earth and sun
17	8:52 a.m.	Moon passes Saturn
19	3:46 a.m.	Moon in first quarter
23	1:50 a.m.	Moon passes Jupiter
25	11:00 a.m.	Moon farthest, distance 252,-500 miles
27	6:33 p.m.	Full moon

Subtract one hour for CWT, two hours for MWT, and three for PWT.

Science News Letter, March 31, 1945

AERONAUTICS

World's Largest Airport

➤ WORLD'S largest airport is a B-29 base on Tinian Island in the Pacific, reports P. B. Taylor, acting general manager of Wright Aeronautical Corporation, who recently completed a 25,000-mile journey of key points in the South Pacific theater. Several 8,000-foot runways for the Superfortresses were cut right out of the jungle, and the whole installation completed in eight weeks, he stated.

Tinian, along with Saipan and Guam, now form the principal air bases for attacks on Japan. The shape of the island closely resembles Manhattan. It is about ten miles from north to south and four miles wide at its center. U. S. troops stationed there have named parts of the island for familiar New York City areas, including the Bowery, Broadway, and Columbus Circle.

Unlike airports in the United States which have a number of runways criss-crossing each other so that planes may

take off into the wind, and land with the wind, there are no cross strips on the Tinian field. Pilots take the winds as they find them, coming in fast for landings and relying on the steel mats used to surface the runways to stop the plane short, Mr. Taylor pointed out.

When U. S. forces seized Tinian from the Japanese, they found only one landing strip on the heavily fortified island. This landing strip was so inadequate and poorly built that our Army and Navy built the new larger landing strips right over the top of it, he commented.

The climate on Tinian is comparable to that of the Philippines, although the heat is not as intense. It is a low coralline limestone island without prominent elevations.

Tinian is one of the Mariana group that stretches northward from Guam about 550 miles. The group was named in 1688 in honor of Maria Anna of Austria. In 1914, the Japs took all of them

except Guam from Germany, who had bought them from Spain in 1889. Japan stole Guam from the United States soon after Pearl Harbor, and held it for about two and a half years.

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AERONAUTICS

Huge Steel Propellers In Quantity Production

➤ AMERICA'S largest four-bladed hollow steel propeller is now in quantity production for use on the huge flying boat Mars and army warplanes. The propeller measures 16 feet 8 inches from tip to tip, and is designed to absorb approximately 3,000 horsepower.

The new propeller was developed after three years of joint research by the Army Air Forces Materiel Command and the Curtiss-Wright Corporation.

The new propellers are full-feathering. That means that the blades can be turned to approximately a 90-degree angle of pitch, thereby preventing the propeller from windmilling and causing excessive vibration in the event of engine failure. With motion stopped, it presents a minimum amount of drag.

Science News Letter, March 31, 1945

No fungicide is known that arrests fungi in their early stages and prevents them from forming colonies, and is also non-corrosive, non-toxic to humans, permanent and colorless.

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