

## ASTRONOMY

# Saturn Seen With Jupiter

Most welcome astronomical event of March is the vernal equinox on March 20, bringing spring to the Northern Hemisphere, autumn to the Southern Hemisphere.

By JAMES STOKLEY

► JUPITER, THE brilliant planet which has been shining during recent months in the evening sky, is joined by another planet during March. This is Saturn, famous for its curious system of rings.

At the beginning of the month it comes up about 10:45, your own kind of standard time, but each evening it appears a few minutes earlier. Thus, by the end of March, it rises before nine.

Saturn does not quite get on the accompanying maps, as these show the appearance of the skies about 10:00 p.m. on March 1, 9:00 p.m. on the 15th and 8:00 p.m. on the 31st.

Saturn is in the constellation of Libra, the scales, which is just below Virgo, the virgin, a group that is shown. The magnitude of Saturn is 0.6, which places it among the typical first-magnitude stars.

## Jupiter Now in Taurus

Jupiter, considerably brighter, appears in the west in Taurus, the bull. At the time of sunset, it is in the south and sets about midnight.

Jupiter and Saturn both are planets, shining by reflected sunlight, but the other luminous points that we see in the sky these evenings are stars, each a distant sun shining by its own light.

Brightest of these is Sirius, the "dog-star," in Canis Major, the great dog. Higher and farther right is Orion, the warrior, with Betelgeuse and Rigel, both of the first magnitude. Between these are the three stars in a row that form Orion's belt.

Still higher and farther right we come to Taurus, in which Jupiter now stands. The brightest star in the group is Aldebaran, marking his eye. Above Taurus is Auriga, the charioteer, with brilliant Capella, also of the first magnitude.

Moving directly upwards from Canis Major, we come to the lesser dog, Canis Minor, with the star called Procyon. And above this is the figure of Gemini, the twins, with Castor and Pollux. The latter is of the first magnitude.

Gemini, like Taurus, is one of the constellations of the zodiac, the path through which the sun and planets, as well as the moon, seem to move. So also is Cancer, the crab, to the left of the twins, but this is quite a faint constellation.

Next, along this same line, is Leo, the lion, with first magnitude Regulus. This star is at the end of the handle of a sub-group called the sickle. As a lion, the blade

of the sickle forms the head, Regulus is in the right shoulder and second-magnitude Denebola, farther along, is in the tail.

Below this is Virgo, also of the zodiac. In it is Spica, which is of the first magnitude, although its low altitude, as shown, dims its light considerably.

High in the northeast the familiar figure of the great dipper is visible, the curved handle pointing toward the east, to the star Arcturus, in Bootes, the bear-driver. In the bowl of the dipper are the two pointers that show the direction to Polaris, the pole star, in Ursa Minor, the lesser bear. The great bear, Ursa Major, includes the great dipper.

## Other Visible Planets

Toward the end of March, if you look carefully low in the western sky as dusk is gathering, you may be able to see the planet Venus. Although it is drawing to the east, away from the sun, even at the end of March it goes down before the sky is completely dark. In another month it will be seen easily. On March 28, Mercury is farthest west of the sun, and rises in the east before sunrise, but even then it will be hard to locate.

The red planet Mars, however, can be seen in the early morning sky in the constellation of Scorpius, the scorpion. It rises above the eastern horizon about 1:00 a.m.

Perhaps the most welcome astronomical event of March is one that occurs on March 20 at 10:54 p.m., EST. At that moment the sun, which has been moving northward through the sky since last December, reaches its halfway point and stands directly over the equator. This is the vernal equinox, marking the beginning of spring

in the Northern Hemisphere. In the Southern Hemisphere, it is the beginning of autumn.

If we still followed the practice that prevailed a couple of centuries ago, the vernal equinox would mark the beginning of a new year. In England, and its colonies, the year began with the first day of spring, arbitrarily set at March 25, until 1752, when the year started on Jan. 1. That was also the year in which the British adopted the Gregorian calendar, introduced in Catholic countries immediately after Pope Gregory XIII established it by a papal bull in 1582.

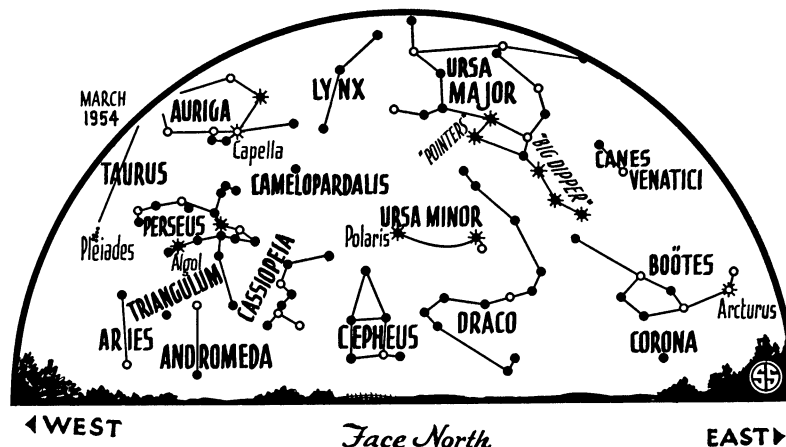
## Two Dates Used

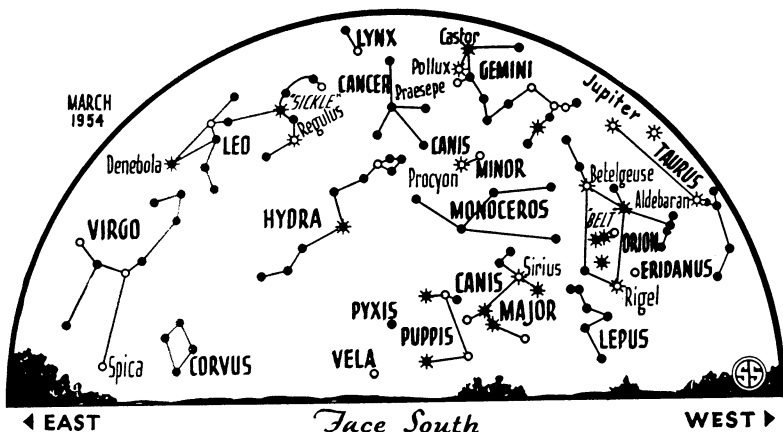
In Scotland, although the Gregorian calendar had not been adopted then, the change of the beginning of the year had been made more than a century and a half earlier, in 1600. Before 1752, it was the custom in England to write dates between Jan. 1 and March 25 with both years, thus, "Feb. 15, 1742/3," indicating that it was 1742 by the old style, with the year beginning in March, and 1743 if you began it on Jan. 1, according to the new style.

Many earlier calendars, such as the one used by the Greeks, began the year with the vernal equinox. Since this marked the reawakening of nature and the renewal of agricultural and other activities that had been suspended for the winter, it was an appropriate beginning for a new cycle. Moreover, it was easy to determine.

We can picture their priests, who were also the astronomers, watching the rising sun, morning after morning, as the winter came to an end. It had been rising in the southeast, but the rising point was gradually creeping northwards. Finally, one day, they would find it coming up directly east, as it does at the equinox, and then they could announce to their followers that the new year had started.

For such reasons, many of their temples were "oriented," i.e., they faced directly





◄ EAST Face South WEST ►  
 \* \* ◦ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

east. Then, with the doors open, at the equinox, the rays of the rising sun would shine straight down the main aisle to the high altar. The historian Josephus tells us that Solomon's temple at Jerusalem was thus open to the east.

Many early Christian churches were similarly oriented. St. Peter's, in Rome, as its predecessor, the basilica built on the Vatican hill in the fourth century by the Emperor Constantine, similarly faces the sun as it rises about March 21.

After the sixth century, however, there arose an alternative practice of having a church face the west. Then the worshipers, rather than the priest, could face the rising sun as its rays shone in through windows above the altar.

**Celestial Time Table for March**

Mar.	EST	
1	5:00 a.m.	Mercury between earth and sun.
4	10:11 p.m.	New moon.
6	5:00 a.m.	Moon nearest, distance 223,500 miles.
7	1:00 a.m.	Algol (variable star in Perseus) at minimum.
9	9:49 p.m.	Algol (variable star in Perseus) at minimum.
11	8:21 a.m.	Moon passes Jupiter.
	12:51 p.m.	Moon in first quarter.
12	6:38 p.m.	Algol at minimum.
19	7:42 a.m.	Full moon.
20	10:54 p.m.	Sun crosses equator, spring com-mences in Northern Hemisphere.
21	1:00 p.m.	Moon farthest from earth, dis-tance 252,400 miles.

- 22 9:28 p.m. Moon passes Saturn.
- 26 9:34 a.m. Moon passes Mars.
- 27 11:14 a.m. Moon in laster quarter.
- 28 10:00 a.m. Mercury farthest west of sun.
- 29 11:34 p.m. Algol at minimum.

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

Science News Letter, February 20, 1954

The incidence of lung cancer in Norway is lower than in the United States, the Netherlands and Great Britain.

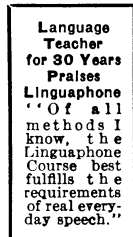
**LINGUAPHONE for LANGUAGES**

World's Standard Conversational Method

French • Spanish • Italian  
 German • Russian • Japanese

Norwegian • Portuguese  
 any of 20 languages available

No Textbook Can Teach You to Speak



Language Teacher for 30 Years Praises Linguaphone "Of all methods I know, the Linguaphone Course best fulfills the requirements of real every-day speech."

With LINGUAPHONE World's Standard Conversational Method, you bring a foreign land right into your own home—you LISTEN and LEARN another language in the same easy, natural way you learned English long before you went to school. It's like living in another land.

Learn at Home AT HOME you hear native men and women speak about every day matters with a 1954 vocabulary. You listen—you understand—YOU SPEAK correctly, easily, naturally. You read and write. You can learn in 20 minutes a day.

**World Wide Educational Endorsement**

Used internationally by scientists, schools, colleges, governments, Armed Services and business firms for personnel training. Over a million home-study students. WRITE TODAY for fascinating FREE book, "Passport to a New World of Opportunity." Linguaphone Institute, 3102 RCA Building, N. Y. 20.

**MAIL COUPON NOW**

**LINGUAPHONE INSTITUTE**  
 3102 RCA Building  
 N. Y. 20, N. Y.  
 Send me your FREE book, "Passport to a New World of Opportunity."  
 LANGUAGE INTERESTED.....  
 NAME.....  
 ADDRESS.....  
 CITY.....ZONE.....STATE...  
 Our 50th Yr. of Up-to-Date Language Courses

**Samples in DisOrder?**

Write for three good ideas about keeping small samples in order.

Just ask for leaflets X-SNL

**Mois-Tec RG**

A new reagent for low concentrations of water, with possibilities of usefulness in many fields.

Write for Data Sheet RG-SNL

R. P. CARGILLE LABORATORIES, INC.  
 117 Liberty Street, New York, N. Y.

*Praise for*

**• Ways of Mammals**

In Fact and Fancy

by CLIFFORD B. MOORE

HERE are the facts—in contrast to the myths—concerning the habits of all kinds of mammals, from waltzing mice to lords of the jungle. Based on the observation of noted zoologists, book includes several sections by authorities on particular aspects of animal behavior. "Sprightly . . . entertaining . . . source of sound and authentic information."—LEE S. CRANDALL, General Curator Emeritus, New York Zoological Park, in *Animal Kingdom*. **\$3.50**

**• Practical Taxidermy**

by JOHN W. MOYER

STEP-BY-STEP instructions for making finished, life-like mounts of fish, birds, mammals, and reptiles with modest equipment. Covers field collecting, tanning; fur rugs, modern museum methods; history of taxidermy. "Beautifully illustrated guide . . . of use to museum preparators and amateurs alike."—ALFRED M. BAILEY, Director, Denver Museum of Natural History. **\$3.00**

**• Boy's Book of Snakes**

by PERCY A. MORRIS

THE truth about snakes, showing how useful many of them are. Explains how to tell one kind from another, and how to catch the harmless ones for pets. Also how to recognize poisonous snakes—including first-aid for snake bite. "A more attractive gift for a nature-wise youngster of either sex could hardly be imagined."—*The Biologist*. **\$3.50**

At your bookstore or from

**THE RONALD PRESS COMPANY**  
 15 East 26th St., New York 10