

## ASTRONOMY

# Jupiter Most Prominent

The giant planet Jupiter dominates the February sky until well past midnight. Among the constellations, some of the less well known winter groups are described.

By JAMES STOKLEY

► THE PLANET Jupiter, still the brightest star or planet in the evening sky, is now in its most prominent position. As the sun sets, it is already well up in the east, and it does not disappear behind the western horizon until about three in the morning.

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 February and about nine o'clock at the middle of the month, show its position in the constellation of Gemini, the twins. Its great brilliance makes it easy to find, however, and it provides a good starting point from which to locate the neighboring constellations.

Close by Jupiter, above and to the left, are Castor and Pollux, the brightest stars in the constellation of the twins. Pollux, of the first astronomical magnitude, is the brighter and lower. Directly below Jupiter is Canis Minor, the lesser dog, with the star Procyon.

Still farther down, and a little to the right, we find the great dog, Canis Major, with Sirius, often called the dog-star. This is the brightest star seen in the nighttime sky, although Jupiter, which is a planet, exceeds it by about 45%.

## Orion Is Familiar

Above and to the right of the great dog is one of the best-known of all star groups, easily identified by the three stars in a row, which are nearly in line with Sirius. These form the belt of the warrior, Orion, which is the name of this figure.

In it are two first-magnitude stars: Betelgeuse, which is above and to the left, and Rigel, below and to the right. Betelgeuse, with a slightly fainter star, Bellatrix, to the right, form the giant's shoulders, as depicted on the old star maps showing the mythical figures drawn around the stars.

Orion was represented as holding an up-raised club, in protection from the charging bull, the constellation of Taurus, which is still higher and farther right. Ruddy Aldebaran marks the eye of the bull. It is in a V-shaped group of stars that outline the face of the animal.

Above Taurus, right at the zenith, in fact, for the times of our maps, is Auriga, the charioteer, in which is found still another star of the first magnitude, Capella.

Coming up into the eastern sky is the figure of Leo, the lion, a herald of the approaching spring, since it may be seen high in the south on April and May eve-

nings. Regulus, another star of the first magnitude, is located here, at the end of the handle of the sickle, six stars outlining the shape of that agricultural implement.

Jupiter is not the only planet visible on February evenings, but the others will be more difficult to locate. One is Mercury, which will be farthest east of the sun on Feb. 13. Thus, a few days before and after this date, it will remain visible in the gathering dusk for a little while after the sun has gone down.

However, one must look for it right after sunset, low in the southwest, while there is still some twilight. By the time the sky is completely dark, Mercury will have set.

## Other Planets Visible

About midnight the planet Saturn appears above the eastern horizon, in Libra, the scales. It is followed two hours later by Mars, in Scorpius, the scorpion. Venus is not visible easily in February, since it is far out beyond the sun and nearly in line with that body.

The constellations of Orion, Taurus, the great and lesser dogs, and the twins are all so brilliant that they easily dominate the winter evening skies, and one is apt to forget the other groups that are now visible. Even though they contain no stars of the first magnitude, they can easily be located with the aid of our maps.

Three of these are right around Orion himself. Just to the left, between the two dogs, is Monoceros, the unicorn, a group whose origin is unknown, although allusions to it have been found as early as 1564.

Right below Orion, under his feet, in fact, is the little group of Lepus, the hare, sometimes said to have been placed there because it was one of the animals that Orion took

pleasure in hunting. Some legends connect it with the moon.

The markings on that body are most familiarly recognized as the face of the "man in the moon," but a little imagination shows other figures there and one is the head of a hare, or rabbit, with his two long ears.

To the west of Orion we find Eridanus, the river. This goes back to early times, for it was mentioned in the famous astronomical poem, the "Phenomena," by Aratus, Greek poet of the third century B.C. According to one Greek astronomer, Eratosthenes, it represented the Nile. Later the Romans identified it with the River Padus, the modern Po, which flows through Italy.

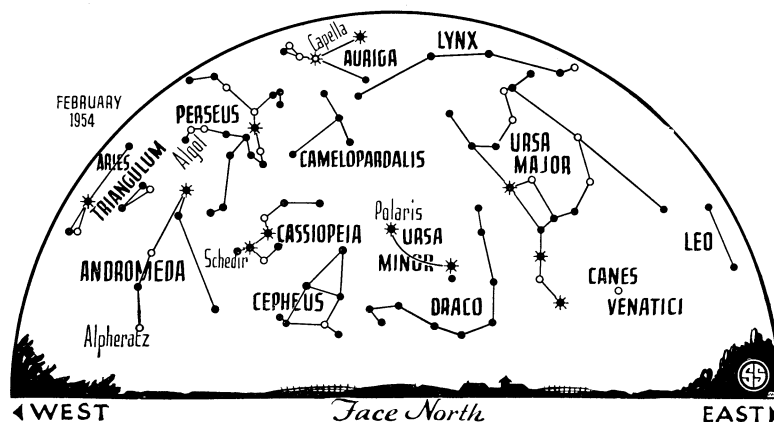
## Constellation of the Zodiac

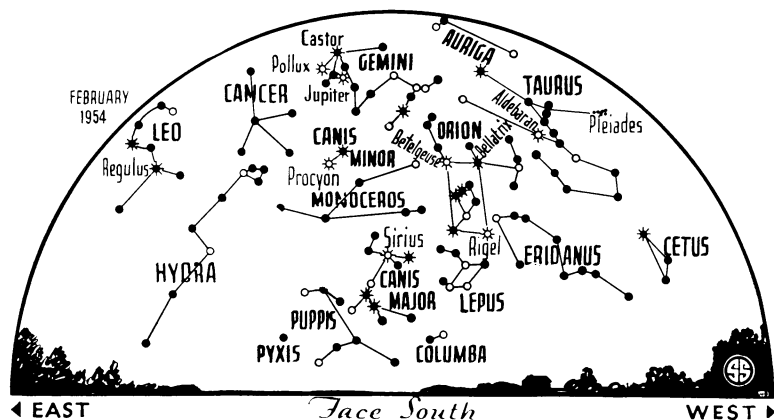
Between Gemini and Leo is Cancer, the crab, which can hardly be called a little-known constellation, since it is one of the 12 making up the zodiac, the path of the sun, moon and planets through the sky. It is most inconspicuous of them all, however.

Among the Egyptians it was not a crab, but a scarab, their sacred beetle that was emblematic of immortality. Just above and to the right of the central star in Cancer, as shown on the map, is a famous naked-eye star cluster, Praesepe, also known as the Beehive, which presents a dim misty appearance on a dark clear night.

A pair of opera glasses, or binoculars, will show it more clearly. Another name for it is the "Manger." Two asses, represented by nearby stars, are supposed to be feeding from it!

Below Cancer is the head of Hydra, the water-snake, the rest of his long body continuing to the southern horizon. This also is mentioned by Aratus, but probably goes back many centuries earlier. On a stone, bearing representations of star groups, found in the Euphrates and dating from 1200 B.C., there is a snake that is supposed to represent Hydra. It was one of the





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

symbols used by the Babylonians for their great dragon, Tiamat.

Under Lepus is the little constellation of Columba, the dove, which first appeared in the 17th century, and was intended to represent the dove that Noah sent out from the Ark. Farther to the left, under Canis Major, is Puppis, not conspicuous to us, but actually part of the largest of all the constellations, and one of the most prominent.

The most brilliant parts, unfortunately, are not visible from most of the United States; one has to go farther south to see it. This is Argo, the ship, which is so big that it is subdivided into four constellations, of which the most northern is Puppis, the stern, shown on the map. The star alongside it is part of Pyxis, the compass, another section of Argo.

Still farther south, and now prominent to people in the southern hemisphere, are Carina, the keel, and Vela, the sail. In Carina is the brilliant star Canopus, second in brightness only to Sirius of all the stars seen in the nighttime sky.

**Celestial Time Table for February**

Feb.	EST	
3	10:55 a.m.	New moon.
6	1:00 a.m.	Moon nearest—distance 226,600 miles.
10	3:29 a.m.	Moon in first quarter.
12	12:24 a.m.	Moon passes Jupiter.
	2:25 a.m.	Algol (variable star in Perseus) at minimum.
	6:00 p.m.	Pluto nearest—distance 3,187,000,000 miles.

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- 13 3:00 p.m. Mercury farthest east of sun—visible for a few days around this time low in west just after sunset.
- 14 11:14 p.m. Algol at minimum.
- 17 2:17 p.m. Full moon.
- 20 4:53 p.m. Algol at minimum.
- 22 2:00 a.m. Moon farthest—distance 251,900 miles.
- 23 4:33 p.m. Moon passes Saturn.
- 25 11:53 p.m. Moon passes Mars.

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

Science News Letter, January 23, 1954

**ELECTRONICS**

**Language Translation By Electronic "Brain"**

► DEVICES THAT can "read" a printed page automatically will be needed before translations from one language to another by electronic "brains" will be of any practical value, many computer specialists believe.

Although scientists now know how to instruct giant "brains" so that the translations they do make sensible reading about 85% of the time, many of them believe it will be a long time before the machine replaces a human translator. Two reasons for this are that many words have two or more meanings and that there are wide variations in grammatical structure of sentences from one language to another.

In a public demonstration at the International Business Machines world headquarters in New York, Russian was translated into English by an electronic "brain." Dr. Leon Dostert of Georgetown University, Washington, cooperated with IBM mathematicians in preparing the instructions required by the machine to do its translating.

About two years ago, Dr. Harry Huskey and two colleagues at the University of California at Los Angeles worked out the instructions necessary to translate German to English, using SWAC, the National Bureau of Standards' Western Automatic Computer. The same methods they used could, however, be applied to translation of other languages, including Russian.

Science News Letter, January 23, 1954

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