

## ASTRONOMY

# Jupiter Now Prominent

Brightest object in the sky, this planet is easy to locate low in the east on September evenings. Deneb-Vega-Altair form large triangle high overhead.

By JAMES STOKLEY

► FOR THE first time in several months, the planet Jupiter now appears on the accompanying maps, which shows the evening skies at about 10 o'clock, your own kind of standard time, on Sept. 1 and an hour earlier at the middle of the month. (Add one hour if you are on daylight time.)

With magnitude of minus 2.5, thereby exceeding in brilliance any star or other planet now visible, it is easy to locate, in the constellation of Pisces, the fishes.

Directly above Pisces a quadrilateral of stars forms the "great square" in Pegasus, the winged horse. The northernmost star in the square, that is, the one to the left, for it is resting on one corner, is actually not in Pegasus, but in the neighboring group of Andromeda.

Above Pegasus one comes to Cygnus, the swan, with a first-magnitude star called Deneb, which stands close to the zenith. It is at the top of the "northern cross," the rest of which extends toward the southwest. To the west of the cross, in Lyra, the lyre, is Vega, brightest star visible these evenings. Toward the south, we find Altair, in Aquila, the eagle. Deneb—Vega—Altair: these make a large triangle of stars, now high overhead, which is easy to locate.

## Star Near Horizon

In addition, there are three other stars of the first magnitude visible these evenings, though all are near the horizon—so low that their light is considerably dimmed, on account of the greater thickness of the absorbing atmosphere through which it has to pass. In the northwest there is Arcturus, in Boötes, the bear-driver, which was high in the south at the beginning of summer. Capella, in Auriga, the charioteer, is seen in the northeast, the first harbinger of the bright stars that ornament the winter evening sky.

The third of these is Fomalhaut, in Piscis Austrinus, the southern fish, which is low in the south. Only in late summer and autumn does this southerly group come into view for us in the evening.

In addition to Jupiter, the planet Mercury makes a brief appearance in September, though just before sunrise rather than in the evening. On Sept. 16 it will be farthest west of the sun, and then will be seen at dawn, low in the east, near

the star Regulus, in Leo, the lion. Venus so conspicuous in our western evening sky until a month ago, is in line with the sun on Sept. 3 and invisible. However, by the end of September it will have moved far enough to the west that it will also be visible low in the east before sunrise. It will be very bright, of magnitude minus 4.2, so it will be easy to locate, and may even be followed into the sky after sunrise.

In September Mars is in the constellations of Cancer, the crab, and Leo, the lion. It rises a few hours ahead of the sun but is relatively faint, of the second magnitude, and will not be prominent. Saturn will be in the western evening sky at the beginning of September, though not easily visible, and on the 29th will be directly beyond the sun.

## Origin of Drawings

A perennial puzzle among those who are beginning to study the stars is how anyone ever saw any resemblance between the stars of the constellation of Aquila, for example, and an eagle; or between those of Aquarius, which is shown on our maps in the southeast, and a man with a jar from which a stream of water is flowing. Yet, on the old star maps, this is the way these were pictured, while other groups had equally far-fetched interpretations.

Actually these figures go back to a famous artist and engraver of the early 16th century, Albrecht Durer of Nuremberg. Of course, they have been modified in the passing years since his time, and some new constellations have been added, but the essential appearance of such groups as Orion, the Great Bear, Pegasus, Cassiopeia and others is still much as Durer drew them.

Long before the birth of Christ, the Egyptians, and the Chinese as well, made outlines of the constellations. Probably the names of many of the groups we use originated in Mesopotamia. In Greece, Homer and Hesiod mentioned many of these. There grew up a mythology connected with the stars, though it is not known just how they did picture the figures around the stars.

About 127 B.C., a Greek astronomer, Hipparchus, catalogued the principal stars. His successor, Claudius Ptolemy of Alexandria, Egypt, published these in 136 A.D. in his great work, which is known as the *Almagest* from its Arabic translation through which it first became known to European science. He listed 48 principal constellations.

## Published in 1515

It was in 1515 that Durer published two star maps, one for the northern hemisphere of the sky and the other for the southern, in the form of wood cuts. A mathematician of Nuremberg, named Heinfogel, laid out the stars, according to Ptolemy's list, but Durer's genius was responsible for the figures around them.

In 1603 Johann Bayer, of Augsburg, published a famous set of star maps, called the *Uranometria*, in which he introduced the practice, still followed, of designating stars by a Greek letter, in order of brightness within the constellation, followed by the Latin name (in the genitive case) of the group. Thus Deneb, as the brightest star in Cygnus, is alpha Cygni. For the figures, Bayer closely followed Durer, as did later astronomers who also published star maps. Thus, the Durer figures became classic, and it is fortunate that they originated with so able an artist.

However, there have been many attempts to introduce other figures around the stars. St. Bede, the English theologian, who died in 735 and is generally known as "The Venerable Bede," was dissatisfied with



