

ASTRONOMY

# Planets Return

## September Brings Jupiter and Saturn Shining Low in East During Evening; Swan at Zenith

By JAMES STOKLEY

**F**OR THE FIRST time in several months, maps of the evening sky again show planets. The earth has moved so far in its annual journey around the sun that Jupiter and Saturn are visible well before midnight. They are low in the east. Jupiter is the more northerly and is many times brighter than Saturn. This makes it easy to find. During the daylight hours on Sept. 20, the moon passes the two planets. That night these three bodies, moon, Jupiter and Saturn, so close together, will form an interesting sight.

Another planet is visible later. Venus rises about two o'clock in the morning, local standard time. Farthest west of the sun on Sept. 5, it is in its best position as a morning star. After the fifth it starts drawing near the sun again, and incidentally becoming fainter. For some time, however, it will continue to surpass in brilliance all other planets or stars.

The various constellations now seen in the evening, with their principal stars, are also shown on the maps. These give the appearance of the skies at 10:00 p. m., local standard time, on Sept. 1, 9:00 p. m. on the 15th and 8:00 p. m. on the 30th. The best place to start to learn these is with Vega, in Lyra, the lyre, high in the west. East of Vega, almost directly overhead, is Deneb, of Cygnus, the swan. Deneb is in the head, to the north, of the northern cross. South of the cross is Altair, in Aquila, the eagle. This is a bright star with fainter ones near it above and below.

Arcturus, in Bootes, the bear driver, is on view low in the northwest. In the north is the Great Dipper, now in a poor position; to the northeast is Capella, of Auriga, the charioteer. One other star of the astronomer's first magnitude is low in the south. This is Fomalhaut, in Piscis Austrinus, the southern fish.

Shining brightly in the evening, the planet Jupiter is now an attractive object. It is even more interesting through a telescope, for then its moons are seen. No large instrument is required to observe the four biggest moons. They were discovered with the first tiny telescope used on the heavens by Galileo in 1610. The other seven, however, are much harder to

find, and some have only been detected on photographs made with the largest telescopes in the world.

Revolving around their planet in periods ranging from less than two days to more than two weeks, these four moons are often eclipsed, as they pass into Jupiter's shadow. They are occulted, when they hide behind him, or they transit across his face. In the latter case, like the former, they are invisible, for their color is nearly the same as that of the planet's surface.

Three times this month all but one of these moons will be hidden simultaneously. Only the fourth one, named Callisto, will remain in view, to the west. From 12:08 a. m., E.S.T., to 1:28 a. m., on Sept. 12, Io, the first, will be in transit, while 2 and 3, Europa and Ganymede, will be occulted behind Jupiter. From 1:08 to 1:12 a. m., E.S.T., on Sept. 19, a similar condition will prevail. It will be repeated on September 26 from 3:14 to 5:02 a. m., E.S.T.

Though it is astronomical fare for October, rather than September, some astronomers are now busy preparing for next month's total eclipse of the sun. It comes on Oct. 1, when the moon's shadow will sweep across the northern part of South America, the south Atlantic Ocean, and South Africa. Most of the observers are going to Brazil, near Recife, where the sun will hide for nearly five minutes. In South Africa, local astronomers will make the best of their opportunities. Had it not been for the war, many expeditions from distant lands probably would have gone there also. This location has, how-

ever, been selected by one American group, from the Cruft Laboratory of Harvard University. Their main interest is not astronomical, as they are concerned with measuring the effect of the eclipse on radio waves.

The eclipse will be entirely invisible from the United States, except in Florida, where there will be a slight partial eclipse when the sun rises on Oct. 1.

ZOOLOGY

## War-Marooned Collections Find American Sanctuary

**M**ANY valuable zoological collections recently gathered in Central America for England, but held up because of the war, are being housed in the Field Museum of Natural History, which is giving a helping hand to the British Museum in London.

When an expedition headed by Ivan T. Sanderson, of Belize, British Honduras, completed its work of collecting mammals, reptiles and various invertebrate animals in Central America, it was in a quandary what to do with them. The war made it unsafe to ship them to England. Some Field Museum curators happened along on an expedition to the Caribbean, learned of Mr. Sanderson's difficulties and notified Director Clifford C. Gregg in Chicago. The museum promptly offered its hospitality, and the first large installment of Mr. Sanderson's material has just arrived.

Some of it is to be classified immediately, at his request, and ultimately some division of the collections will be made between the Field Museum and the British Museum, it is said.

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