

ASTRONOMY

# Saturn Is Now On View

The ringed planet appears low in southeastern sky in Libra, the scales. This year is 300th anniversary of discovery of the nature of the rings.

By JAMES STOKLEY

➤ FOR THE first time in many months, the ringed planet Saturn finds a place on our accompanying maps of the evening skies, which show their appearance at about ten o'clock, your own kind of standard time at the first of April, nine o'clock on the 15th and eight on the 30th.

Saturn is seen low in the southeast in the constellation of Libra, the scales, just as it is rising into view. Later in the night, of course, it will be higher.

The brightest planet of the April evening, however, is Jupiter, which is high in the southwest, in Gemini, the twins, close to the stars Castor and Pollux. Jupiter is moving in an easterly direction and at the end of April is nearly in line with the two stars.

A third planet is also shown but it is not very conspicuous. This is Mars, low in the northwest in Taurus, the bull. Because it has now receded so far from us, it is quite faint, of the second magnitude. Moreover, because of its low altitude, its light is absorbed by the greater thickness of the earth's atmosphere through which it has to pass, compared with what it would have to penetrate if it were higher in the sky. This dims it still further.

Among the stars that are shown, the most brilliant is still Sirius, the familiar "dog star," in Canis Major, the larger dog, which is low in the southwest. It too, because of its lowness, shines with less apparent brightness than it did on winter evenings.

To the right of Canis Major is shown Orion, the warrior, with only the upper part visible, containing the bright star Betelgeuse. And farther right is Taurus in which Aldebaran, as well as Mars, can be seen.

Above Canis Major is Canis Minor, with Procyon, another first magnitude star.

Still higher we find Gemini, the twins, already mentioned in connection with Jupiter. Pollux is of the first magnitude, while Castor, a little fainter, is second magnitude.

These are constellations typical of the winter sky, but high in the south is one that is characteristic of spring evenings, Leo, the lion, in which Regulus stands. This star is at the end of the handle of a smaller group called the sickle.

Denebola, a second magnitude star to the left, in the same constellation, marks the lion's tail.

Next to Leo, to the left and a little lower, is Virgo, the virgin, with the star Spica. A little higher is Bootes, the bear-driver, with Arcturus. Part of this constellation

extends over into the northern sky, and next to it is the great dipper, in Ursa Major, the larger bear.

In the bowl of the dipper are the two stars called the pointers, whose direction indicates the way to Polaris, the pole star, which is in Ursa Minor, the smaller bear, and at the end of the handle of the little dipper.

### Cassiopeia on Horizon

Below and to the left of Polaris stands Cassiopeia, the lady in the chair, near the horizon, and farther left is Perseus, the hero. Above him is Auriga, the charioteer, in which is the star Capella. And next to him we get to Taurus, and Gemini.

This year marks the 300th anniversary of the discovery of the true nature of the rings of Saturn, the planet which is now appearing late in the evening low in the southeast.

In the year 1610 Galileo first applied his

little telescope to the heavens, and discovered the four largest moons of Jupiter. Then he turned it on Saturn, and saw what seemed to be two moons, or at least some sort of appendages, on each side of that planet. Two years later he looked again and they were gone, which puzzled him greatly.

In the meantime, however, he had wanted to get his discovery on record, so that no one else could get ahead of him, yet he wanted to hold back if possible, in case he was wrong.

### Cryptic Disclosure

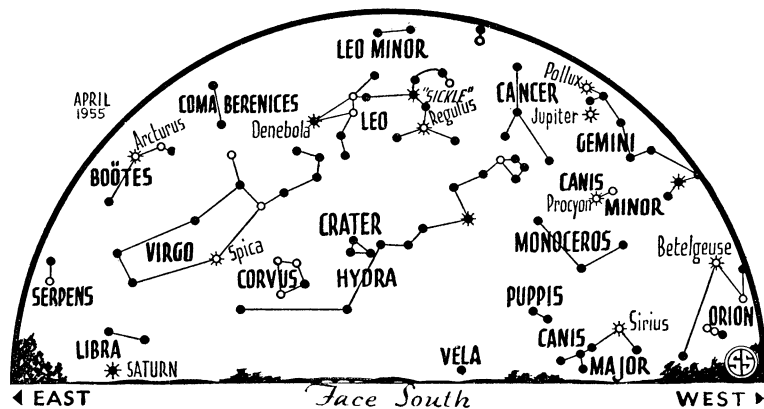
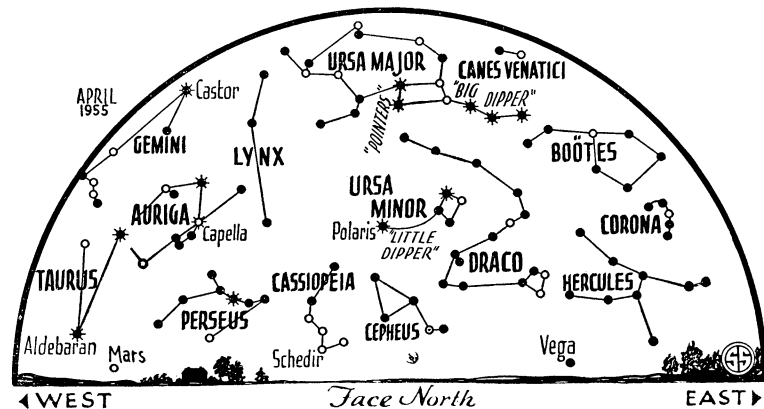
Accordingly, he resorted to what in those days was a common practice—he announced it as an anagram. In a letter to his friend Kepler, another great astronomer, he included the following jumble of letters:

"smaismrmilmepoetaleuimi  
bunenugttauiras."

Later he explained that if these were rearranged, they spelled out the Latin sentence:

*Altissimum planetam tergeminum observavi,*

which means "I have observed the most distant planet to be triple." Later, other



☼ \* ○ ● SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

astronomers watched Saturn through larger telescopes, and the appendages were seen again; to some, they looked like handles on either side of the planet.

It was in 1655 that the Dutch astronomer, Christian Huygens, using one of the best telescopes that had yet been made, looked at Saturn and finally realized the nature of these handles. But he also was hesitant about making an announcement.

However, he also discovered a moon of Saturn, which he named Titan. In March of 1656 he wrote a letter telling about this, which his publisher, Adrian Vlacq of the Hague, printed in a book by Peter Borel on the history of the telescope.

And at the end of this letter was another meaningless jumble of letters:

“aaaaaaaaaaccccddeeeegghiiiiiii  
llllmmnnnnnnnnnooooo  
ppqrrstttttuuuuu.”

Four years later he decided that the time was ripe to make an explanation to the world, so he wrote a book called “The System of Saturn” also published by Vlacq.

In this he explained that the letters, rearranged, spelled out:

*Annulo cingitur, tenui, plano, nusquam cohaerente, ad eclipticam inclinato.*

In English this means: “It is surrounded by a ring, thin, flat, nowhere touching, inclined to the ecliptic.” It would be difficult to give a more concise description. Thus the mystery was solved.

Now we know that the ring is not solid, but consists of a vast swarm of tiny moons, too small to be seen individually. The system is about 41,500 miles wide, and has an outside diameter of 171,000 miles, with a space of some 7,000 miles between the inner edge and the surface of the planet.

Yet, huge though they are, the rings are very thin, not more than ten miles in thickness. Saturn goes around the sun once in 29½ years, and twice in this period the edges are presented to us.

When this happens, because of their thinness, they are not visible from earth even with a big telescope, thus explaining the puzzling disappearance of the appendages observed by Galileo.

While these rings are now unique, as far as we know, they may not always be so. It is believed that they originated when another and larger moon of Saturn accidentally got so close to the planet that tidal forces pulled it to pieces.

Some of these fragments continued revolving around and thus formed the rings. There is a theory that, in the far distant future, our own moon may be drawn in closer than it is now, to suffer a similar fate.

No doubt many of the fragments would rain down on earth, destroying any life that may remain here at that remote epoch. Those left, if this theory is correct, will then form a second ring system, so the earth and Saturn will then both be ringed planets.

### Celestial Time Table for April

April	EST	
7	1:35 a.m.	Full moon.
9	10:23 p.m.	Moon passes Saturn.
11	9:00 a.m.	Moon farthest, distance 251,800 miles.
15	6:00 a.m.	Moon in last quarter.
17	11:00 a.m.	Neptune nearest to earth, distance 2,723,000,000 miles.
20	12:20 a.m.	Moon passes Venus.
21	early a.m.	Meteors visible, radiating from constellation of Lyra.
22	8:06 a.m.	New moon.
	11:00 p.m.	Mercury on far side of sun.
23	2:00 p.m.	Moon nearest, distance 223,500 miles.
24	8:51 p.m.	Moon passes Mars (From Canada & northwest U.S. the moon will go in front of Mars, occulting it.)
27	9:01 p.m.	Moon passes Jupiter.
28	11:23 p.m.	Moon in first quarter.

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

Science News Letter, March 26, 1955

### VETERINARY MEDICINE

# Love Helps Cat Diet

► FOR BETTER-FED pussycats, add to their diet a good dash of personal attention and a heaping tablespoonful of affection.

This is the advice of Drs. James B. Allison and John R. McCoy of the Rutgers University bureau of biological research, New Brunswick, N. J. The animal specialists are studying the basic nutritional needs of cats.

It seems that the 20,000,000 plus cats kept as pets in non-farm homes consume tons of prepared food daily, most of it horse meat. But whereas the cat population is increasing, the horse population is decreasing and pussycat nutritionists are trying to find a suitable substitute.

In their quest for a new kitty diet, the New Jersey nutritionists discovered that pussycats are individualistic and demand regularly administered portions of affection and attention. Drs. Allison and McCoy

point out, however, that cats, like humans, cannot live on love alone.

The extra effort in petting and fondling before mealtime is merely good cat psychology, the scientists say, and helps the diet study. The kittens are being fed a semi-synthetic diet carefully tailored to the best nutritional requirements and the affection and attention helps in getting the cats to eat their meals regularly.

From the cat diet studies, the Rutgers scientists hope to develop the basic information upon which veterinarians and animal nutritionists can scientifically make better diets for pussycats. They also think that the study will aid zoo-keepers in concocting better diets for lions, tigers and other prize animals, but make no mention of the need for petting and fondling these bigger pussycats before mealtime.

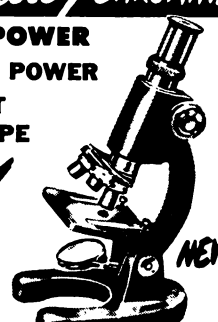
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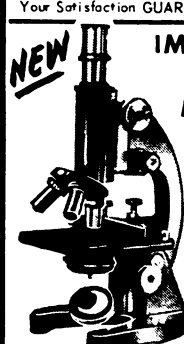


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