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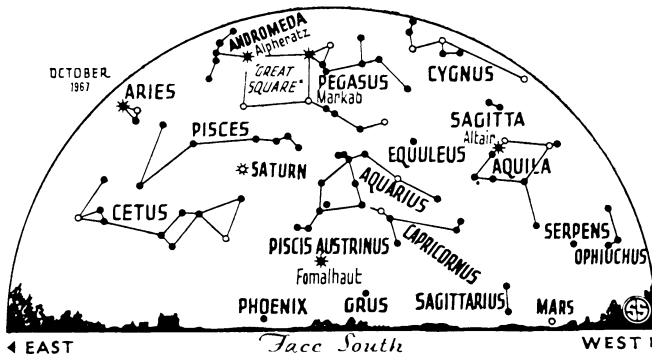
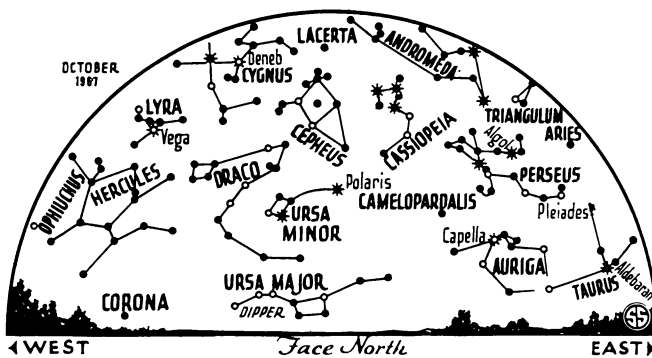
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ASTRONOMY

Total Moon Eclipse

by James Stokley



☼ * ○ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

A total eclipse of the moon is the feature event on the astronomical program for October. This will occur starting slightly after two o'clock in the morning on Oct. 18.

In addition the planet Saturn, in the southern sky in Pisces, the fishes, will hide behind the moon on Monday evening, Oct. 16.

The accompanying maps show the appearance of the sky, about 11:00 p.m., your own kind of daylight saving time, on Oct. 1. Two weeks later they appear the same an hour earlier, and at the end of the month, two hours earlier.

As the moon, in its monthly trip around the earth, moves eastward across the sky, it may pass in front of other objects. When it goes in front of the sun, we have a solar eclipse. When it hides a star or planet, it is an "occultation."

Faint stars are often occulted, but occultation of a bright star is rarer. Still more unusual is the occultation of a bright planet, but that occurs on the evening of Oct. 16. It will be visible over most of the United States and Canada.

The moon, less than a day and a half before full, will be quite bright, making it rather difficult to see the planet nearby without a pair of binoculars.

The eastern edge of the moon will cover the planet, which will reappear, about an hour later, from behind the western edge. The times, for various

parts of the United States and Canada, are given in the following table.

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Disappears Reappears

Mass.	EDT	752 p.m.	8:58 p.m.
Wash., D. C.		7:42	8:46
Georgia		7:28	8:27
Toronto		7:49	8:55
Montreal		7:56	9:03
Illinois	CDT	6:37	7:40
Texas		—	7:18
Colorado	MDT	—	6:35
New Mexico		—	6:23
Winnipeg		5:54	6:57
Edmonton		—	7:00

The occultation will be over by the time the moon rises in the Far West. However, next month, as it comes around again, it will occult Saturn once more, on Nov. 12, and then the West will see it. For people in the central and eastern states, it will occur after moonset.

The other interesting event involving the moon comes during the early morning of Oct. 18: a total lunar eclipse. The beginning will be visible all over North America. For the Atlantic Coast, however, the moon sets before the eclipse ends.

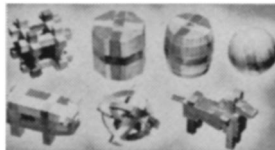
On Oct. 18 the eastern edge of the moon starts entering the deep shadow at 4:25 a.m., EDT. When the moon is completely shaded, at 5:45 a.m., the total eclipse will begin. It will last until 6:46 a.m., when the moon starts to emerge from the shadow. At 8:05 a.m., when the moon will have set for people along the Atlantic Seaboard, even the partial eclipse will be over.

CELESTIAL TIME TABLE— OCTOBER 1967

Oct.	EDT	
2	6:00 p.m.	Saturn opposite sun and nearest earth; distance 784,700,000 miles
3	4:24 p.m.	New moon
4	10:00 a.m.	Moon nearest, distance 222,500 miles
5	10:00 p.m.	Venus at greatest brilliance
8	9:00 a.m.	Moon passes south of Mars
	midnight	Mercury farthest east of sun
10	8:11 a.m.	Moon at first quarter
16	10:00 p.m.	Moon passes Saturn and occults it for observers in U.S. and Canada
17	1:10 a.m.	Algol (variable star in Perseus) at minimum brightness
18	6:11 a.m.	Full moon (total lunar eclipse)
19	4:00 a.m.	Moon farthest, distance 252,400 miles
	10:00 p.m.	Algol at minimum
22	6:40 p.m.	Algol at minimum
26	8:04 a.m.	Moon at last quarter
28	9:00 a.m.	Moon passes north of Jupiter
29	3:00 p.m. EST	Moon passes north of Venus

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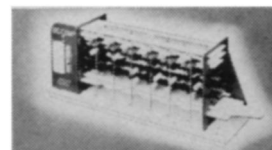
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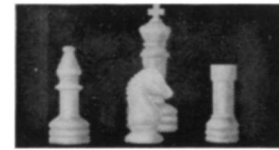
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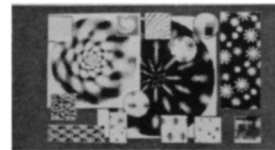
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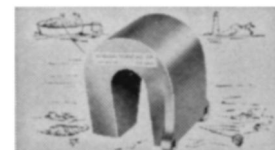
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