



be about 100 miles in diameter. The others are even smaller, and XII may not be more than about 15 miles in diameter.

While the small satellites are incapable of causing eclipses of the sun on Jupiter, the four large ones can. In fact, with telescopes on the earth we can often observe these, and see the shadows of these moons, as well as the moons themselves, moving across the face of the planet.

Sometimes the moons are themselves eclipsed, as they pass through Jupiter's shadow. And sometimes they are hidden, or occulted, as they go behind Jupiter.

These effects were observed with early telescopes, within 50 years or so after the moons were discovered, but it was found difficult to predict their occurrence with precision. Sometimes they would be ahead of schedule, sometimes behind.

This was explained in 1675 by a Danish astronomer, Olaus Roemer, who noticed that they were early when the earth was on the same side of the sun as Jupiter. On the other hand, when earth was far on the opposite side of its orbit from Jupiter, they would occur about 16 minutes later.

Roemer therefore concluded, correctly, that light took about 16 minutes to travel the diameter of the earth's orbit. When we

were in the part toward Jupiter, the light rays telling us about the eclipse reached us that much sooner than when we were farther away.

Since the velocity of light, about 186,000 miles per second, is one of the most important constants of nature, and because this was the first determination of its value, Roemer's discovery ranks among the great events in the history of science.

Celestial Time Table for April

April	EST	
3	7:25 a.m.	New moon.
	3:00 p.m.	Moon nearest, distance 221,900 miles.
4	1:28 p.m.	Moon passes Venus.
7	9:34 p.m.	Moon passes Jupiter.
10	12:05 a.m.	Moon in first quarter.
14	12:00 midnight	Planet Neptune (not visible with naked eye) nearest earth, distance 2,723,000,000 miles.
17	3:00 p.m.	Moon farthest, distance 252,600 miles.
18	12:48 a.m.	Full moon.
19	12:01 a.m.	Moon passes Saturn.
23	12:20 p.m.	Moon passes Mars.
25	11:57 p.m.	Moon in last quarter.
26	3:00 p.m.	Saturn nearest, distance 817,900,000 miles.

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

Science News Letter, March 27, 1954

OPHTHALMOLOGY

Young Eyes Vulnerable

► EYES ARE most "vulnerable" in the pre-school years when they are going through their greatest period of development, Dr. Walter H. Fink of Minneapolis reported at the sight-saving conference of the National Society for the Prevention of Blindness in St. Louis.

This points up the "vital importance" of early care of eyesight, he declared. Neglect is causing thousands of American school children to suffer irreparable damage to their eyesight, he charged.

He warned parents not to rely on simple eye tests using charts as proof of healthy vision. Eye defects, he declared, often occur in children whose sight shows 20/20 on tests.

Every child, when he reaches the age of two years, should have his eyes screened by an eye specialist, he advised. In this way defects can be detected and treated in time to prevent "irreparable damage which results when bad habits become deeply ingrained and when the eyes are in a less plastic state."

Dr. Fink also warned parents not to think that crossed eyes are outgrown. Treatment should be started the moment the condition is recognized, even though the child is under one year old, he advised.

From 20% to 25% of children of school age have eye defects, he reported on the basis of recent surveys.

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