



but gradually more and more circles had to be introduced as new facts were learned about the planetary motions, and the system became most unwieldy.

In 1543 everything was simplified by the publication of the masterpiece of the Polish astronomer, Nicolaus Copernicus, a book generally known as "De Revolutionibus." This revived a suggestion made centuries before by Aristarchus, a Greek astronomer, that the sun is the center and the earth just one of the planets, revolving around it. Despite opposition, this theory prevailed, and now we know why part of this month Mars seems to move to the east, and during the rest of the month to the west.

We are observing it from a moving platform, for the earth moves around the sun at a speed of 18.5 miles per second. Farther out, Mars' speed is 15.1 miles per second. Thus, every time we are on the same side of the sun as Mars, we overtake it at a relative speed of 3.4 miles per second, and while we are doing this the planet seems to go the other way, to

"retrograde," as the astronomer says. In other words, the effect is similar to that observed by a person traveling along on an express train, and overtaking a slower freight train on the next track. Under such conditions, the freight may seem to be going backwards.

Celestial Time Table for June

Thursday, June 1, 10:11 p. m., full moon. **Tuesday, June 6,** 7:58 a. m., moon passes Mars, 17 lunar diameters to north. **Wednesday, June 7,** 4:00 a. m., Mercury on opposite side of sun; 6:00 p. m., moon farthest from earth—251,400 miles away. **Friday, June 9,** 11:07 p. m., moon in last quarter. **Sunday, June 11,** 11:45 a. m., moon passes Jupiter, 8.5 lunar diameters north. **Tuesday, June 13,** 6:34 a. m., moon passes Saturn, 6.5 lunar diameters north. **Saturday, June 17,** 8:37 a. m., new moon. **Monday, June 19,** 3:00 p. m., moon nearest earth, 225,800 miles away. **Thursday, June 22,** 2:40 a. m., sun farthest north—summer commences. **Friday, June 23,** 11:35 p. m., moon in first quarter. **Saturday, June 24,** 3:00 a. m., Mars stationary, after this moves to west instead of east.

Science News Letter, May 27, 1939

MEDICINE

Mystery of Leprosy And Tuberculosis

ONE of the unsolved questions in medicine and public health concerns the remarkable decline in leprosy in civilized countries since the Middle Ages. This horror of Biblical times still afflicts about 3,000,000 persons in various parts of the world. But in civilized countries it is so rare a disease as to be a medical curiosity. In the United States, for example, only about 30 deaths from leprosy are recorded each year out of an annual total of nearly 1,500,000 deaths.

Scientists would like to know exactly what has caused this decline in leprosy because, as public health experts of the Metropolitan Life Insurance Company point out, the answer might throw light on current medical problems, chiefly that of tuberculosis. This disease also seems on its way out, but if scientists knew just what happened to leprosy, they might be able to hasten further the elimination of tuberculosis, it is suggested.

The two diseases have many points in

common. Both are caused by germs belonging to the class of so-called acid-fast organisms. These germs seem to owe some of their properties to the fact that they have an outer coating of a waxy substance. Extensive modern chemical studies of the tuberculosis germ are throwing light on the properties of both this outer waxy coating and other parts of the tb germ.

Other resemblances between leprosy and tuberculosis are their moderate degree of infectiousness and the prolonged incubation period which makes it almost impossible to trace the source of the infection. Both diseases are very refractory to treatment and both tend to run a prolonged course. For both ailments institutional treatment with some degree of segregation is advisable, both to reduce the chances of spread and because this form of treatment is best for the patient.

Hereditary predisposition seems to play a part in determining the victims of both diseases.

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ETHNOLOGY

Assyrians Know Customs Of Shepherd's Psalm

PROBABLY no Bible passage is so frequently explained as the Twenty-Third Psalm. And still the Western World has difficulty in realizing how completely the pictures of shepherd life suggest the fullness of living to the Near East.

A new small book by an Assyrian, who was a chief shepherd's son and who grew up to become an Episcopal theologian, presents the Assyrian ethnology—to view it from a scientific angle—of the well-known passage.

Nearly every one in Arabia, Palestine, and Mesopotamia knows something about sheep, because the desert people depend on sheep for a livelihood, explains Dr. George M. Lamsa, in *The Good Shepherd: The Twenty-Third Psalm*. (A. J. Holman Co.) But good shepherds are rare, and some become so famous that they are set up as examples to be emulated.

Sheep raising has been considered the highest occupation in that part of the world throughout the centuries, he continues. Experienced shepherds act as judges, arbitrators, instructors of young shepherds, musicians, legislators, and healers. Like statesmen, they make oral treaties with surrounding tribes.

"Indeed," says Dr. Lamsa, "a shep-