

ASTRONOMY

Harvest Moon Now Flooding Earth With Excess Light

MORE MOONSHINE than usual will be the order for several evenings before and after Saturday, September 26. Ordinarily the moon rises about an hour later each night, but around that date it will rise above the eastern horizon each evening only about 19 minutes later than the previous evening. This is the well-known "harvest moon," the full moon occurring nearest to the autumnal equinox, which comes this year on September 23, and marks the beginning of autumn.

The accompanying diagram shows why this occurs. Because of the daily rotation of the earth, the sun, the moon and all the planets and stars seem to move across the sky from east to west. They rise above the eastern horizon, for a large part of the United States, at an angle of about 50 degrees. However, the moon is also moving among the stars, from west to east. Each night, at moonrise, it is about 12 degrees farther east in the sky than it was the previous night, and therefore its rising is delayed. But the path along which the moon moves through the stars, called the ecliptic, is inclined at an angle of $23\frac{1}{2}$ degrees to the line along which it seems to move as it rises. At the time of the autumnal equinox the ecliptic at moonrise is most nearly parallel with the horizon. The lines a, b and c represent the moon's motion as it rises on September 25, 26 and 27. The more nearly equal these lines are, the less is the time moonrise is retarded from one night to the next.

Retarded in March

In March, however, the path of the moon is much more inclined to the horizon. The lines d, e and f represent the path of the full moon as it rises on successive days in March, about the time of the spring equinox. Then, as now, the moon each night is about 12 degrees farther east among the stars than on the previous night. This motion, however, then carries it the greatest distance below the eastern horizon, and so its rising is retarded by the greatest amount, as much as 80 minutes a day.

The greater number of bright moonlight evenings at this time of year is supposed to help the farmer do his

harvesting at night, and that is the origin of the name of "harvest moon." The next full moon after the harvest moon is also characterized by an unusually short daily retardation of rising, and is called the "hunters' moon."

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PUBLIC HEALTH

Smallpox Threatens Large Part of Country

LARGE PARTS of the United States are in grave danger of epidemics of that horribly disfiguring and highly fatal disease, smallpox, members of the American Public Health Association have been told by George H. Van Buren of the Metropolitan Life Insurance Company.

The fact that over half a million cases of the dreaded disease occurred in the United States during the period 1920-1930 came as a surprise to this important gathering of public health officials and authorities, in view of the fact that vaccination, sure preventive of smallpox, has been known for 130 years.

"Almost all of these cases occurred in states whose aggregate population is about 70 per cent. of the total for the country," Mr. Van Buren said. "In

these states there was one case of smallpox per annum for every 1,500 inhabitants."

The largest number of cases per thousand population was reported from the eight Rocky Mountain and the three Pacific Coast states, while the fewest cases were found in the most densely populated parts of the country, the New England and the Middle Atlantic states.

"These are the states in which public sentiment has been most active in supporting constituted health authorities in measures for the prevention of smallpox," Mr. Van Buren pointed out. "On the other hand, the states where the incidence of the disease is high are those where opposition to compulsory vaccination has been strongest.

"Until there is more general vaccination and revaccination, there will always be grave danger of severe outbreaks."

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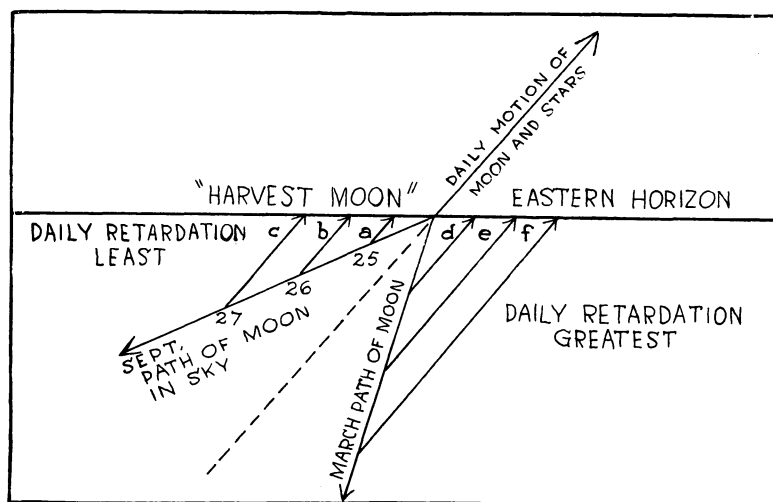
METEOROLOGY

Tropical Hurricanes Once Ancient Maya Disasters

TROPICAL hurricanes, such as those that destroyed Belize and tore across Yucatan, operated in the downfall of the Mayas shortly before the coming of the first white men to the peninsula.

Natives told Diego de Landa, second bishop of Yucatan, that after a series of disasters like drought, famine, civil war, disease and locusts, came hurricanes which tore up every big tree, ruined orchards and fields and blew away houses. Early traditions of Haiti, too, refer to floods and cataclysms.

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WHY WE HAVE SO MUCH MOONLIGHT

This diagram, which is described in the text, explaining abundant moonlight, shows how the harvest moon will shine for an unusually long time several days before and after Saturday, Sept. 26.