

to be big in order to give the normalsized image on the retina.

"The first two hypotheses fail when tested by the camera. A photograph of the horizon moon is as small as the photograph of the moon in elevation. The third hypothesis fails because the horizon moon no longer looks large when you bend over and view it between your legs. The next hypothesis is that the illusion depends on looking up, and that hypothesis has been proved. It holds even for experimental moons only 30 meters away.

"So now you know; the phenomenon is an illusion and not an astronomical change, and it depends on looking up. But why, you ask at once. That needs another hypothesis. Perhaps what shrinks the moon is raising the eyes, or perhaps it is bending the neck. That question has been answered. The raised-eyes hypothesis is right, the bent-neck hypothesis is wrong. So, by forming and testing new hypotheses, you have refined your knowledge.

"Now you want to know why raising the eyes shrinks the moon, but no one has yet been clever enough to formulate for test the crucial hypothesis that will answer that question. Sometime it will be done."

## Time Table for December

| Dec | . EST       |                               |
|-----|-------------|-------------------------------|
| I   | 10:27 p. m. | Algol at minimum              |
| 4   |             | Algol at minimum              |
| 8   | 6:00 a. m.  | Moon farthest, distance 251,- |
|     |             | 200 miles                     |
|     | 8:57 a. m.  | Moon in first quarter         |



visible 16 Full moon 4:11 a. m. Uranus nearest distance 1,-20 7:00 a. m. 675,000,000 miles 12:00 noon Moon nearest, distance, 229,-100 miles Moon passes Saturn 3:51 a.m. Sun farthest south, winter 5:34 p. m. commences in northern hemi-12.11 a. m. Algol at minimum 12:12 a. m. Moon in last quarter 9:00 p. m. Algol at minimum 5:49 p. m. Algol at minimum Moon passes Venus 28 1:20 a. m. New Moon 4:44 a. m.

Meteors of Geminid shower

Subtract one hour for CT, two hours for MT, and three for PT.

Science News Letter, November 27, 1948

PLANT PATHOLOGY

12 early a. m.

## Uranium Found To Cause Hereditary Changes

➤ URANIUM, the atom-bomb element, is able to cause hereditary changes in plants when supplied in the form of its nitrate salt. Experiments demonstrating such changes in two widely different kinds of fungi are described in Science (Nov. 19), by Dr. E. C. Stakman, professor of plant pathology at the University of Minnesota and president-elect of the American Association for the Advancement of Science, together with Drs. J. M. Daly, M. L. Gattani and I. Wahl.

When supplied to the spawn of ordinary mushrooms, it produced mutants that grew from five to seven times faster than the original mushroom strains from which they were derived. Another fungus on which the uranium compound wrought hereditary changes was the one that causes smut disease in corn.

Dr. Stakman feels that these same effects may be obtained in other plants and perhaps animals. The uranium used in these experiments was of the ordinary kind, not the highly radioactive U236. The culture medium containing it is described as "mildly radioactive".

Science News Letter, November 27, 1948

"The whole world is queer except thee and me, and sometimes even thee seems a little queer"

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