

ASTRONOMY

# Illumination During Eclipse Equal to 24 Full Moons

## Most Accurate Determinations Ever Made of Positions Of Sun and Moon Expected From New Photograph Series

**D**URING the total eclipse of the sun in Brazil on October 1, 1940, the illumination of the scene was equal to 24 full moons, Dr. E. O. Hulburt, of the United States Naval Research Laboratory, reported to the American Astronomical Society.

Despite cloudy weather which interfered with some of the planned observations, some data were obtained, the astronomers heard in a report from five members of the expedition which was sent jointly by the National Bureau of Standards and the National Geographic Society.

Dr. Hulburt's measures showed that most of the light at the eclipse came from the glow around the horizon, where light from the uneclipsed sun was scattered outside the moon's shadow.

The most accurate determinations ever made of the relative positions of the sun and moon will probably be obtained from photographs of the moon as it gradually covered the sun, Dr. Paul A. McNally, S.J., director of the George-

town College Observatory, indicated.

In these, the partial, phases of the eclipse, he took 140 photographs on plates of especially fine grain. As many as six exposures were made on a single plate, the movement of the sun and the moon in the interval keeping them sufficiently separated to be identified.

The exposures were made at intervals of fifteen seconds as the moon first began to come in front of the sun, just as it completely covered it, as it started to go off, and as it left the sun completely.

Father McNally said that the laborious work of reducing his observations is still in progress, and that he cannot yet give a final report.

Dr. Irvine C. Gardner, of the Bureau of Standards, who led the expedition, explained the operation of the automatic equipment by which the various cameras were operated electrically. He showed a photograph of the bright inner part of the sun's corona, which was made through the clouds.

*Science News Letter, January 18, 1941*



**LOOSE-CLOAKED**

*Skunk cabbage is the title thrust upon this attractive plant in the Pacific Northwest. True, its leaves are somewhat malodorous when bruised, like those of the true skunk cabbage of the East; moreover, the two plants are fairly close botanical relatives. Yet the Western species should hardly be called a skunk cabbage, for the flower structure itself is said to have a rather agreeable odor. The generic name, *Lysichiton* (or *Lysichiton*), is Greek for "loose cloak"—a reference, doubtless, to the open structure of the spathe. The photograph reproduced here is by Paul Miller of Seattle, and is being shown until Jan. 31, at the International Salon of Nature Photography in Boston.*

GENERAL SCIENCE

# Free Search for Truth Final Guaranty of Culture

## Modern Commandment "You Shall Not Lie" If Followed Would Solve Most of Difficulties of the World Today

**A** MODERN commandment: "You shall not lie" if followed by mankind would solve most of the difficulties that beset the world today, in the opinion of the eminent historian of science, Dr. George Sarton of Harvard and the Carnegie Institution of Washington.

Although the Old Testament (Exodus 20:1-17) left it out of the Ten Commandments, although "few people except scientists realize the fundamental wickedness involved" to this day, Dr. Sarton urged upon the American Association for the Advancement of Science the teaching of the necessity for truth.

When Dr. Sarton protests against lying he does not mean merely the telling of positive lies. Lying consists as well in the suppression of truth and the suggestion of something else.

"Honest men know this by intuition and act accordingly in the ordinary business of life," he said. "Scientists refine the procedure and apply it to their own investigations. Yet all men, including scientists, need be taught that the same habits should be applied to social and political thinking.

"The relativity of truth as understood by the scientist is essentially different

from scepticism or cynicism. The scientist realizes that he can approach it indefinitely by the method of successive approximations."

The free search for the truth, its publication and defense constitute the ultimate guaranties of culture, Dr. Sarton declared.

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## ● RADIO

Henry T. Paiste, director of research of the Philco Corporation, will describe the new phonograph which operates by a beam of light from a photoelectric cell in place of the old hard metal needle as guest scientist on "Adventures in Science" with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Thursday, Jan. 23, 3:45 p.m. EST, 2:45 CST, 1:45 MST, 12:45 PST. Listen in on your local station. Listen in each Thursday.