

GEOPHYSICS

Moon Influences Meteors

An effect of the phases of the moon on meteors, rainfall, earth's magnetic field and shortwave communications has been found, but the reason is unknown—By Ann Ewing

► THE MOON'S changing faces, already linked to heavy rainfall, affect the number of meteors, or shooting "stars."

Scientists have also found the moon's phases influence the number of tiny particles around which raindrops form, disturbances in the earth's magnetic field that disrupt shortwave communications and the amount of ozone, heavy oxygen, in the earth's atmosphere.

The reason for these effects, unsuspected until very recently, is not known.

One suggestion is that the moon has an electric charge and this changes the paths of the meteor particles that make shooting "stars" when they burn up in the earth's atmosphere. This is the proposal of Dr. E. G. Bowen of the Commonwealth Scientific and Industrial Research Organization, Sydney, Australia.

Because shooting "stars" are seen only at night in clear weather, Dr. Bowen used the rate of meteor burn-ups as recorded by radar to find the link between lunar phase and incoming meteors. More meteors fall between new moon and first quarter

and when the moon is at third quarter than at other times of the lunar cycle, Dr. Bowen's calculations show.

He believes that the moon first produces an effect on the incoming meteors, and that this then affects the number of tiny particles necessary for rain or snow formation in the lower parts of earth's atmosphere. The supply of these particles varies with the lunar cycle, Dr. E. K. Bigg, also of the Sydney organization, has found.

The final effect is to make precipitation heavier than usual during the week following the new moon and full moon, especially on the third to fifth days following both new and full moon. Such a link of the moon's phases with heavy rainfall was found independently last year by U. S. and Australian scientists (see SNL 82:206, Sept. 29, 1962).

Dr. E. E. Adderley, also of Sydney, reported in the *Journal of Geophysical Research*, 68:1401, 1405, 1409, 1963, that the amount of ozone increases at the vernal equinox about the first and third lunar quarters and decreases at the same lunar phases of the autumnal equinox.

Dr. Bigg has also found that geomagnetic storms, which interfere with earthly communications, tend to occur more frequently near the first and third lunar quarters and to avoid dates corresponding to the new moon.

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GEOPHYSICS

Antarctica Not Continent, A Collection of Islands

► EVIDENCE THAT Antarctica is a collection of islands, not a continent, has been found by the Australian Antarctic Expedition.

Ice sometimes thousands of feet thick linked the islands in a glacial mass of still unknown quantity.

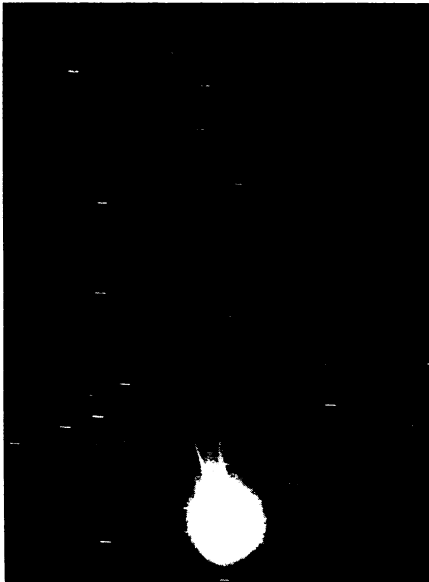
Robert Thomson led five Australians and an American on a seismic research trek over 1,800 miles from the Australian base, Wilkes, to the Russian base, Vostok, and back in four months, Sept. 17 to Jan. 15.

The trek has been accepted generally as one of the greatest postwar achievements of Antarctic exploration.

The trek by tractor into area never before ventured, stopped every 30 miles to measure ice thickness and found most of the rock surface between Wilkes and Vostok well below sea level and under thousands of feet of ice.

"This supports the theory, investigated first by the Russians, that Antarctica is a series of islands," Mr. Thomson said.

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George Van Biesbroeck

COMET IKEYA—The photo of Comet Ikeya was taken during a ten-minute exposure with the University of Chicago Yerkes Observatory 24-inch telescope on Feb. 26. The short lines are stars which turned to streaks as the telescope followed the comet. The tail appears to be at right angles to its direction because of the movements of the earth, sun and comet. (See SNL 83:187, March 23, 1963)

ASTRONOMY

Year's Second Comet Discovered in Northeast

► THE SECOND COMET of the year, bright enough to be seen with binoculars, has been discovered by a European astronomer in the northeast sky.

Comet Alcock, so named for its discoverer, is eighth magnitude. It can be seen in the constellation of Cygnus, the swan, which rises in the northeast about midnight and is almost overhead about dawn.

The comet, which has only a small tail, is moving slowly northwestward toward the constellation of Draco, the dragon. Harvard College Observatory in Cambridge, Mass., has sent news of its discovery on March 19 to astronomers in the Western Hemisphere.

Its position at discovery was in right ascension is 19 hours, 33 minutes; in declination, plus 48 degrees, 34 minutes.

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GENERAL SCIENCE

Dr. Haworth Named New Science Foundation Head

► DR. LELAND J. HAWORTH, now an Atomic Energy Commissioner, has been named the new director of the National Science Foundation by President John F. Kennedy.

Dr. Haworth will succeed Dr. Alan T. Waterman, who has been director of NSF since it was established by Congress in 1951. Dr. Waterman, 71, is retiring.

President Kennedy designated Dr. Gerald F. Tape to replace Dr. Haworth as Atomic Energy Commissioner. Dr. Tape, 47, is now president of Associated Universities, Inc., a post held by Dr. Haworth before his appointment to the AEC. Associated Universities runs Brookhaven National Laboratory on Long Island, N. Y.

Dr. Haworth, 58, is a specialist in the design of high-energy atom smashers. He was born in Flint, Mich., and studied at Indiana University, later teaching there. His Ph.D. was earned in 1931 at the University of Wisconsin, where he also taught.

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EDUCATION

Advanced Science Fellowships Awarded

► GRADUATE FELLOWSHIPS in the sciences, mathematics and engineering for the academic year 1963-64 have been awarded to 1,880 applicants by the National Science Foundation.

The awards were made in furtherance of NSF's policy of encouraging outstanding students to obtain advanced graduate training in the sciences on a full-time basis. The graduate fellows were selected from 6,122 applicants from all parts of the United States and its territories. They may attend any appropriate non-profit U. S. or foreign institution.

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