

closed and tightly sealed to prevent any other objects from leaking in. The sealed carriers were sent to Washington, where Mr. Meier has examined them.

As was expected, the spores, pollen grains, bits of fungal thread and scraps of non-living material were most numerous at the two ends of the long flight, and scarcest over the high-Arctic middle of the horseshoe-shaped course. But nowhere did the slides fail to show up some hundreds of scientific trophies.

Some of the fungus spores are recognizable as familiar genera, a part of which are of fungi that cause plant diseases. Others are as yet unrecognized, but botanical specialists are at work on them, as well as on the pollen grains, in an endeavor to identify as many as possible of the plants that launched their propagating bodies on such a long air voyage.

*Science News Letter, January 26, 1935*

## PHYSIOLOGY

## Sleeps Three Days at Time; Woman Puzzles Doctors

**S**TRANGE sleeping habits of Miss Eleanor Coburn, 93-year-old American-born resident of Wimbledon, have puzzled physicians.

For approximately three days Miss Coburn sleeps almost continuously. For another three-day period she remains awake almost continuously, although lately she has had a little sleep during her waking periods also. Interviewed in London just after she had awakened from fifty-four hours of sleep, she seemed extremely alert, intelligent and vivacious.

This pink-cheeked old lady, who will be 93 next March 12, is a picturesque figure in the bonnet and mittens of grandmother's or great-grandmother's time. She was a brilliant amateur pianist and now conducts an extensive correspondence with friends in many parts of the world, including America. She formerly lived in Boston, Mass., but left the United States finally over fifty years ago.

She started her strange method of sleeping and waking in alternate three-day shifts about four years ago, soon after becoming an invalid. Her sleeping habits are a mystery to her physician, as she apparently suffers from no mental or physical disease, although she shows a gradually increasing physical weakness.

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## PHYSICS

## "Shadow" of Earth Explains Cosmic Ray Variation

**C**ONFIRMATION for the idea that cosmic rays consist, in a large measure, of charged particles streaming down on the earth from outer space was presented before the Franklin Institute in Philadelphia by Dr. Thomas H. Johnson, assistant director of the Bartol Research Foundation, Swarthmore, Pa.

Dr. Johnson recently returned from a cosmic ray expedition to Mexico, where his party climbed the 14,000-foot peak of Nevado de Toluca, fourth highest mountain in the country.

Using heavy and elaborate apparatus which measures the intensity of cosmic radiation as it varies from zenith down to horizon, Dr. Johnson detected a greater intensity from the south than from northern directions. These results tie in with his previous discovery that cosmic ray intensity also is greater from the west than the east. Both results are explainable by previously developed cosmic ray theories of Prof. Carl Stoermer, Dr. P. S. Epstein and Abbé Lemaitre (developer of the expanding universe concept) and Dr. M. S. Vallarta.

To explain the north and south dif-

ference of cosmic rays is the concept that the earth casts a magnetic shadow. Says Dr. Johnson, "Due to the magnetic field and to the fact that the rays are electrically charged, the orbits are curved, and, if the earth were transparent to cosmic rays, much of the intensity which would be observed at the earth's surface would be due to rays which had previously been inside the earth. From inside the earth they would be turned back by the magnetic field into the region above the earth where they would again be turned down to the observer.

"Rays traveling such orbits as these are, of course, stopped at their first entry into the earth's surface and their absence on the remainder of their hypothetical path, appears as a complete shadow from the directions below the horizon and as a partial shadow from directions above the horizon," he added.

"The partial shadow is the more dense, according to experiment and theory, from northerly directions than southerly directions in the northern hemisphere."

*Science News Letter, January 26, 1935*



## STOWAWAY

*Cornelia Clarke Photo.*

A grocer in Grinnell, Iowa, was unpacking a bunch of bananas. He heard a slight rustling, and jumped back, expecting the conventional monstrous hairy spider; but what came out was this bright-eyed, harmless, vegetarian young iguana. From blunt nose to tip of tapering tail, "Iggy" is just an inch under two feet long.