PHYSIOLOGY

Eight Hours' Sleep Apparently Necessary

➤ THE TRADITIONAL eight hours of sleep is apparently what the body needs.

This was shown when members of the British North Greenland Expedition were permitted to sleep at any time they wanted during the 24-hour nights of Arctic winter.

Results of this "demand feeding" of sleep, similar to the "demand feeding" of babies who are given the bottle whenever hungry, were reported to the British Association for the Advancement of Science meeting in Sheffield, England, by Drs. H. E. Lewis and J. P. Masterton of the Medical Research Council, Hampstead, London.

"During the dark period, members were going to bed and taking naps at all times over the 24 hours, and one was given the impression that they were sleeping excessively," the scientists reported, but actually they were not. When the sleep was totaled up for the month, it was found the expedition members averaged 7.9 hours a day, in spite of the fact they were at liberty to sleep practically as long as they liked and when they liked.

The 25 members of the expedition were away for one to two years at a base less than 800 miles from the North Pole.

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ASTRONOMY

Huge Yellow Cloud Appears On Mars

➤ A GREAT YELLOW CLOUD, probably of dust, enveloped much of the planet Mars about Sept. 1.

Spotted through the 82-inch telescope of McDonald Observatory on Mt. Locke, Texas, and reported by Dr. G. P. Kuiper, the Mars cloud was in the form of a shallow ribbon-like "W" 3,000 miles from tip to tip and 250 miles wide.

This means it extended over three-quarters of the diameter of the ruddy planet, which shines brilliantly in the southeastern sky.

On Aug. 30, the cloud was seen as some thousand miles wide, although it was not present the morning before.

It is believed to be the largest cloud ever reported on Mars. It resembles one spotted in 1954, also in the form of a "W." (See SNL, Dec. 18, 1954, p. 389.)

The cloud was over the area of the planet called Mare Sirenium. No water or carbon dioxide exists in any appreciable amount on Mars and the phenomenon is not like earthly clouds.

Astronomers at Lowell Observatory, Flagstaff, Ariz., also reported they had spotted the huge cloud.

One theory of such clouds, not held by the McDonald astronomers, is that such dust is caused by gigantic volcanic eruptions. This has been the view of Dr. Dean McLaughlin of the University of Michigan Observatory. (See SNL, July 3, 1954, p. 11.)

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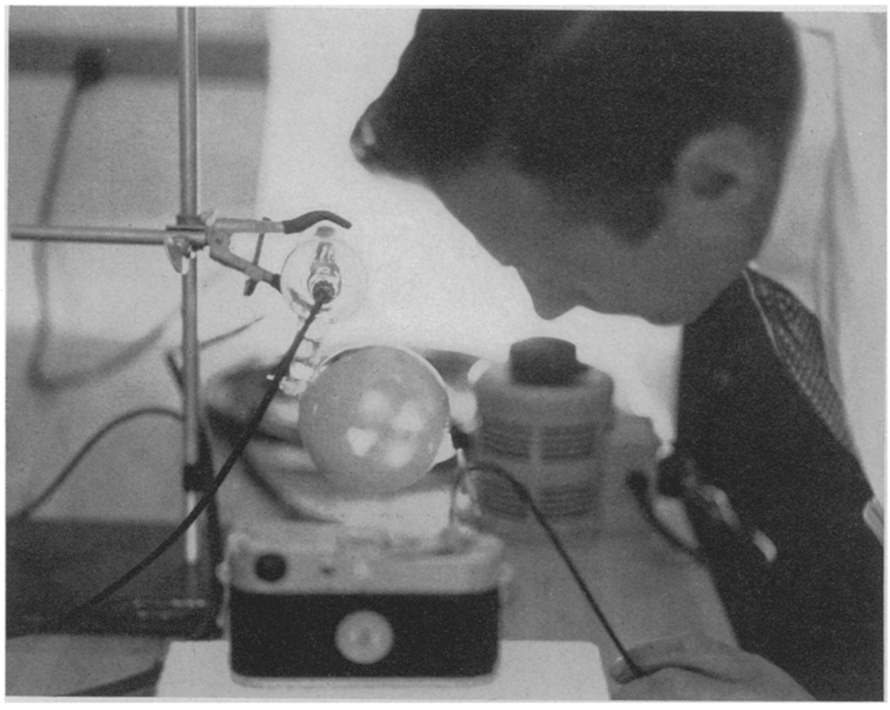

ATOMIC "CRYSTAL BALL"—This round glass bulb is actually part of a field emission microscope being used to investigate atomic arrangement on the surface of an extremely fine tungsten needle point by scientists at the National Carbon Company's research laboratories in Parma, Ohio. Surrounded by a curved metal surface, the needle point is subjected to an electric field, and the electrons emitted are photographed to reveal surface details.

RADIO ASTRONOMY

Radio Signals From Mars

➤ RADIO ASTRONOMERS are trying to tune in on signals from Mars. What they are listening for is natural radio waves from the planet itself, not from intelligent life on the ruddy planet.

Two other planets, Venus and Jupiter, have already been detected by the radio waves they broadcast.

Although at least three of the giant antennas known as radio telescopes that are used to pick up radio waves from space are being trained on Mars during September, astronomers in the United States will not know immediately whether or not they have heard Martian signals.

This is because the radio radiation, if present at all, is so weak that only statistical analysis of records made over a period of time will reveal its presence.

The radio radiation from Mars, if found, might result from two causes: the sun's heat reflected back into space by the planet, or thunderstorm-like disturbances in the very thin Martian atmosphere. Astronomers do not expect radio messages from Martians because they do not believe Mars can support life forms higher than lichens or mosses

Mars is the object of special attention of both optical and radio astronomers because it approached within 35,120,000 miles of earth at midnight EST on Sept. 6.

A team of scientists at the Naval Research Laboratory, Washington, has tried to pick up Martian signals at a wavelength of 1.86 centimeters, or slightly less than half an inch, and at three centimeters, or about an inch and a quarter.

The radio astronomers are hopeful that, at the longer wavelength, they may have better luck in getting a direct signal from Mars, since there is less atmospheric absorption of radiation at three centimeters than at 1.86 centimeters.

Also in Washington, scientists at Carnegie Institution's Department of Terrestrial Magnetism are looking for Mars at 22 megacycles, part of a general survey of the sky they are making at that frequency.

In Columbus, Ohio, Dr. John D. Kraus of Ohio State University has set his large aerial to search for possible radio radiation from Mars at 11 meters. So far he has found "nothing positive" to indicate atmospheric disturbances on Mars.

Harvard College Observatory's new 60-foot radio telescope is also expected to be trained on Mars soon It will be used at a wavelength of three or four centimeters.

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