PHYSICS

Solar Power for "Mouse"

Small earth satellite could be powered by batteries that convert the sun's rays to electricity. Launched to circle earth for a short time, satellite could radio valuable information.

➤ A TINY earth satellite, launched in the near future to stay up for only a short time, could be powered to report observations by solar batteries, Dr. S. F. Singer of the University of Maryland told the American Rocket Society meeting in Baltimore, Md.

A sky-sweeping orbit in which the artificial moonlet would zoom from pole to pole rather than around the equator would "allow continuous production of electric power" by silicon solar batteries, he said.

An equatorial path would be easier to establish, he pointed out, but the polar orbit would allow not only power production but continuous scanning of the complete earth's surface in order to determine the amount of sunlight reflected by clouds. Such measurements would supply "the vital missing link" in computing the earth's heat balance, leading to the "possibility of predicting long-range climate for various latitude belts of the earth and for various reasons," Dr. Singer said.

Actual measurements would be very simple technically, a photocell continuously viewing the earth giving the necessary information.

Individual instruments in the small artificial satellite, called the "Mouse," would probably weigh only ounces. Thus the moonlet need not be larger than one foot both in diameter and height. With proper precautions, he said, average temperature inside the cylinder would be about room temperature.

Information about ultraviolet radiation from the sun, Dr. Singer expects, would be "the most important subject for study from a platform above the atmosphere." This is because ultraviolet radiation has such profound effects on the earth's upper atmosphere, producing several radio-reflecting layers and starting many chemical reactions.

Particles from the sun, cosmic rays, micrometeorites, densities of the upper atmosphere and radio properties of the ionosphere could also be studied with relatively simple instruments on a man-made, short-life satellite, Dr. Singer said.

The technical problems connected with launching, control and instrumentation of the "Mouse" are "well within the range of present technique," he pointed out. (See SNL, Mar. 27, 1954, p. 197.)

Science News Letter, May 7, 1955

PSYCHOLOGY

Voodoo Kills by Despair

➤ DEATH THROUGH despair is possible. This is the opposite of death caused by extreme stimulation and excitement. Despair deaths explain mysterious hex and voodoo fatalities.

Dr. Curt P. Richter of Johns Hopkins Hospital, Baltimore, Md., told the National Academy of Sciences in Washington that he has found rats can die when placed in hopeless, helpless situations from which no escape is possible.

The same is true with human beings.

It explains the very sudden voodoo deaths of persons who have been put under a "hex," doomed by a medicine man, or who have been "cursed" by having a magic bone pointed at them.

The hex or voodoo death occurs within a few hours and takes place without a hand being touched to the victim. Scientists have believed that death in such cases results from the extreme stimulation of the body's defense mechanisms. Such deaths are much more common among very primitive people, but they have been known to occur also in civilized communities.

In mysterious suicides, when people die after taking a minimum and certainly not fatal dose of poison, the death has a similar explanation, he said.

The similar deaths of rats also occur more commonly among very wild animals, Dr. Richter reported. If you hold such a wild rat gently but firmly in your hand, it will struggle violently for a minute or so and then may give up the struggle and, relapsing into hopelessness, die.

What happens to the rat is just the opposite of what scientists have thought occurs in the hex deaths. Instead of the heart's beating fast and wildly as it does when emergency action is required of an animal, the heart slows down to a stop when no action is possible.

Similar deaths have been noted in rats put into water in a swimming jar from which escape is impossible.

After a short violent struggle they may give up and die.

Examination of the bodies showed that the cause of death was not extreme stimulation of the sympathetic nervous system or reaction of the body to emergency but just the opposite. They are what Dr. Richter calls, "vagal deaths."

Science News Letter, May 7, 1955

GENERAL SCIENCE

Museum Sets Up Southwest Outpost

➤ A SCIENTIFIC outpost has been established by New York's American Museum of Natural History in southwestern Arizona.

Located at 5,400 feet altitude up the eastern slope of the Chiricahua Mountains in the Coronado National Forest, the Southwestern Research Station will serve as a permanent, year-round laboratory for researchers in all branches of the sciences.

Within a mile of the new station are two different types of deserts, a grassland, a woodland and an evergreen forest, harboring more than 42 species of animals, 170 species of birds and untold numbers of different plants and insects.

Science News Letter, May 7, 1955

ARCHAEOLOGY

Error Explains "Theft" Of Peking Man Bones

➤ THE ACCUSATION made recently in Communist China that Americans had "stolen" the missing bones of very ancient Peking Man has been traced to an "honest mistake" made by an English paleontologist, Prof. D. M. S. Watson of London University.

Although whereabouts of the bones is still shrouded in mystery, the piece of detective work tracking down the false accusation was done by Dr. O. G. S. Crawford, editor of the British archaeological journal, *Antiquity*.

It all began when Prof. Watson, visiting the American Museum of Natural History in New York, was shown the skull of Solo Man. This is another ancient skull found in Java. Prof. Watson mistook this skull for that of Peking Man.

Later, Prof. Watson told Dr. Walter Kuhne of Humboldt University in the German Democratic (Communist) Republic of having seen the "Peking Man skull" in New York. Dr. Kuhne passed the story along to Dr. Young of the Chinese Academy of Sciences, embroidering Prof. Watson's mistake with the additional statement that the skull had been "looted by an American soldier from the Imperial Japanese collection." It was also conjectured that the looting was carried out under orders issued by the U. S. occupation authorities in Japan.

New light on what did happen to the precious Peking Man bones—or at least what did not happen to them—is shed by Prof. Watson in the letter to Dr. Crawford in *Antiquity* (Dec. 1954) which acknowledged his mistake.

"Weidenreich," Prof. Watson's letter states, "told me not long before his death that he had been particularly careful to place them in Chinese custody and that they were being taken to Tientsin by Chinese when they were lost to sight."

Thus the Chinese should take the responsibility themselves for their loss.

Science News Letter, May 7, 1955