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GEOPHYSICS

Core Samples Show Sea Life 25 Million Years Ago

➤ AN OCEAN FLOOR teeming with sea life 25,000,000 years ago is indicated by the first core samples taken from the deepest well drilled into the ocean floor.

Fossil evidence from a 109-foot core of deep ocean ooze showed that sea life near Guadalupe Island off the western coast of Mexico was abundant for about 7,000,000 years and then tapered off to the present oceanic barren life.

The findings were announced by the National Academy of Sciences and the National Science Foundation, the leaders and sponsors of the deep-sea drilling program. The drilling is part of Project Mohole, eventual goal of which is to drill through the earth's crust to the underlying mantle.

The first direct heat measurements ever made 500 feet below the ocean floor also were somewhat higher than expected from earlier shallower ocean bottom measurements. Scientists believe the heat is conducted up through the earth's crust from the molten interior.

The measurements were made by the project's ship, CUSS I, anchored in 12,250-foot deep water.

• Science News Letter, 80:46 July 15, 1961

MEDICINE

Lower Radiation Doses Using Two Drugs

➤ TWO DRUGS that, in themselves, do little to fight cancer, have been found to make cancer cells more susceptible to radiation, scientists from the National Cancer Institute, Bethesda, Md., reported.

Drs. J. Robert Andrews and Roger J. Berry told the Radiation Research Society that with the help of these two drugs, known as IUDR and BUDR, lower doses of radiation are more effective, at least against certain types of mouse cancer.

To determine just how much good the drugs do, the scientists developed a new technique for measuring exactly how much cancer cells are damaged by known amounts of radiation.

In another experiment, Drs. Andrews and Berry also found that, in some respects, neutron beam irradiation is a better cancer treatment than the widely used X-rays.

Neutron irradiation given alone, they said, was just as effective as X-rays given under oxygen tension. It is well known that increasing the oxygen pressure within a target cell renders the cell more susceptible to X-rays.

• Science News Letter, 80:46 July 15, 1961

EDUCATION

Grant Program Renewed For Teacher Training

➤ THE FOURTH annual renewal of a National Science Foundation program permits some 11,000 secondary school teachers of science and mathematics to get supplemental training during out-of-school hours.

For the 1961-62 school year, NSF grants total \$2,700,000. The money will support 236 In-Service Institutes at colleges and universities where institutes are conducted.

Attending teachers in grades seven through 12 will learn more about their respective fields, encounter new textbooks and laboratory materials, and in some cases work on a part-time basis toward a master's degree.

The Foundation's other grant programs for science and mathematics teachers this year will include 398 summer institutes, expected to be attended by 20,000; 43 academic year institutes held during the college year (with possible summer extensions), with 1,500 teachers scheduled; and summer research participation programs at 104 colleges and universities for 300 secondary school teachers and 350 college science teachers.

• Science News Letter, 80:46 July 15, 1961

HORTICULTURE

Apples Grow Fastest When "Put to Bed"

➤ APPLES GROW twice as fast as usual when the trees are "put to bed" at high noon, scientists at Pennsylvania State University, University Park, Pa., have found.

In studying the influence of light and darkness on growth of the Golden Delicious apples, Dr. Loren D. Tukey, associate professor of pomology, covered young fruit-bearing trees with black cloth at noon. Except that the light inside the tent measured one to two foot candles (almost total darkness) while daylight was about 10,000 foot candles, all other conditions were about equal.

The apples grew fastest after a succession of bright days during which carbohydrates accumulated in tree tissues. Dr. Tukey also discovered that the fruits have an indestructible natural rhythm. They grow fastest during the night, shrink somewhat during forenoon and recover and resume growth as evening approaches.

When this rhythm is disrupted by the noontime "sleep" induced by the experiments, the trees followed the artificial rhythm. But when the tents were removed, the trees returned to their own rhythm.

• Science News Letter, 80:46 July 15, 1961

RADIO ASTRONOMY

Radio Telescope Will Scan Moon for Volcanic Action

➤ POSSIBLE VOLCANIC activity on the moon and the atmospheres of other planets are among a wide range of subjects to be studied by a small, versatile radio telescope at the University of California, Berkeley.

The ten-foot dish was given to the University by the Office of Naval Research. The new antenna will intercept radio signals of completely different wavelength than those received by large radio telescopes. It will tune in on four- to eight-millimeter waves (about a fifth of an inch) while the large instruments are designed for much longer waves.

• Science News Letter, 80:46 July 15, 1961