

• RADIO

Saturday, Feb. 7, 1953, 3:15-3:30 p.m., EST
"Adventures in Science" with Watson Davis,
director of Science Service, over the CBS Radio
Network. Check your local CBS station.

Dean Rusk, president of the Rockefeller Founda-
tion and General Education Board, New York,
discusses "Stimulation of Research."

ENGINEERING

Ocean Cable Fulfills Engineers' Dreams

► A NEW, tough, lightweight ocean cable that can be lowered to the trackless depths of the sea seems to fulfill one of the marine engineer's fondest dreams. It is easier to handle and less expensive to lay than the present steel-jacketed cable now used to link continents.

The cable uses a 10-strand cadmium bronze wire insulated with polyethylene, a relatively new insulating material, C. S. Lawton of Western Union Co. and L. H. Hutchins, Jr., of the Simplex Wire and Cable Co., Cambridge, Mass., reported to the American Institute of Electrical Engineers meeting in New York.

Stress and strain problems that ordinarily require ocean cables to be heavily sheathed in steel jackets have been resolved through new splicing techniques and new methods of paying out the cable. This reduces one of the biggest operating costs that cable companies encounter. Once a cable comes to rest on the ocean floor, it is subjected to little wear and tear because it lies in soft ocean silt. Thus heavy armor is useful only when the cable is being lowered or raised.

About 20 miles of the new cable already have been spliced into a New York-Nova Scotia cable off the coast of Long Island in an experimental test, the men reported.

Science News Letter, January 31, 1953

BIOCHEMISTRY

Antibiotics Affect Activity of Gland

► A THIRD effect of antibiotics, the so-called mold remedies, has been discovered by Prof. W. R. Breneman of Indiana University.

This effect is a stimulation of the endocrine glands of the body. These glands include the pituitary gland in the head, the thyroid in the neck, the sex glands and the adrenals, source of cortisone.

Working with White Leghorn chickens, Prof. Breneman finds that the antibiotics not only quicken growth of the glands but also cause a marked increase in their secretion of hormones.

Antibiotics, from penicillin to terramycin, first were known for their ability to stop disease germs. Next scientists found that they could hasten growth of animals. The gland-stimulating effect adds a further activity.

Science News Letter, January 31, 1953

TECHNOLOGY

Process Arctic Snow?



SNOWFLAKE CAMERA — *Snow particles, enlarged three times, photograph like this with the Army's new camera.*

BIOLOGY

Sterile Plants Give Key to New Hybrids

► STERILE MALE plants that cannot possibly reproduce themselves are one of the chief instruments for producing new and better varieties of sugar beets.

In the search for beets with a higher sugar yield and a uniform shape and size for mechanical cultivation, the U. S. Department of Agriculture has been hard at work trying to develop new hybrid strains. But the hunt for new hybrids was tremendously complicated because there was no easy way to separate males and females of the same variety, to avoid interbreeding.

The development of sugar beet strains in which all the male offspring were sterile may have solved the problem.

As the offspring of these strains cannot interbreed, the fertile female plants can easily and safely be cross-bred with pollen from other varieties of sugar beets. This results in pure hybrid varieties.

This technique, which follows the same principle used in making new corn hybrids by removing the pollen-producing tassels, promises to open the way to great advances in the sugar beet industry, the Agriculture Department said.

Science News Letter, January 31, 1953

► THE ARMY has hinted that its scientists are considering the possibility of "processing" snowflakes to make them stick together better.

The hint came in the announcement of a new camera which has been devised to photograph snow crystals. Scientists hope the pictures will help them learn more about snow and how to pack it so that air-strips, buildings and roads can be constructed better in the Arctic.

Although much of the story is cloaked in security, it already is known that military scientists are searching for more facts and figures on the far north. The Arctic is becoming increasingly important as a possible battlefield in a future war. It also is becoming more important as a possible route for globe-girdling commercial airlines. In the absence of usable land, runways, barracks and roads will have to be built on hard-packed snow.

Experimental construction in the Arctic has been going on for several years. Much of what has been learned still remains secret. But it is known, for instance, that buildings sometimes sink annoyingly as heat seeps through the floors and melts the snow foundations below them.

Devised at the Engineering Research and Development Laboratories, Fort Belvoir, Va., the new camera may help to reveal some of the snowflake's innermost secrets. It may provide scientists with a new tool for making the Arctic serve man.

The camera operates in the field from a six-volt jeep or truck battery. It photographs snowflakes in a special chamber before they melt in the heat of its internal light source. It also can magnify the crystals up to 11 times, although it is pre-set to enlarge them only three times.

Science News Letter, January 31, 1953

ENGINEERING

Microbes Eat Insulation Of Underground Cables

► HUNGRY MICROBES, apparently looking for food, will munch on the insulation of underground electric cables covered with natural rubber or GR-S insulation, unless the cable jacket has been treated with a fungicide.

The tiny fungus-like organisms destroy the electrical insulation slowly and can cause eventual cable failures. Two typical organisms found in tests by the Simplex Wire and Cable Company were identified as *Spicaria violacea* and as a species of *Fusarium*.

Results of the tests were reported to the American Institute of Electrical Engineers meeting in New York by Simplex engineers John T. Blake, Donald W. Kitchin and Orison S. Pratt, all of Cambridge, Mass.

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