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# SCIENCE NEWS LETTER



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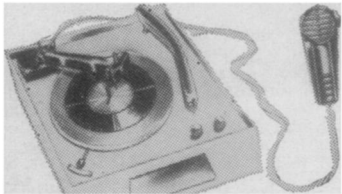
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# Questions

ASTRONOMY—How many short-period, variable stars have been discovered? p. 8.

BIOLOGY—What countries touch upon the grassy "meadows" of the Pacific? p. 6.

NUTRITION—What nutrients do clay and cornstarch supply to an inadequate diet? p. 5.

PUBLIC HEALTH—What percentage of veterans are said to be receiving medical care for disabilities not received during service? p. 3.

ZOOLOGY—How could a seaweed nest benefit the kelp crab? p. 7.

Photographs: Cover, American Cyanamid Company-Lederle Laboratories; p. 3, National Bureau of Standards; p. 5, University of Notre Dame; p. 7, Atlantic Research Corporation; p. 10, Westinghouse Electric Corporation; p. 16, E. I. DuPont Company.

## Do You Know

A solar flare, one of a group of phenomena comprising "solar activity," is a sudden, short-lived brightening of the solar surface in the neighborhood of a sunspot.

The screwworm in the past has caused a loss to agriculture in the U. S. conservatively estimated at \$20,000,000 in the Southeast and \$25,000,000 to \$35,000,000 in the Southwest.

The National Institutes of Health awarded 1,040 research grants and 165 fellowships totaling \$18,573,592 during October, 1959.

Rats rarely forage for food or water more than 100 feet from their nesting or hiding places.

A form of typhus fever is the primary rat-borne disease in the U.S.

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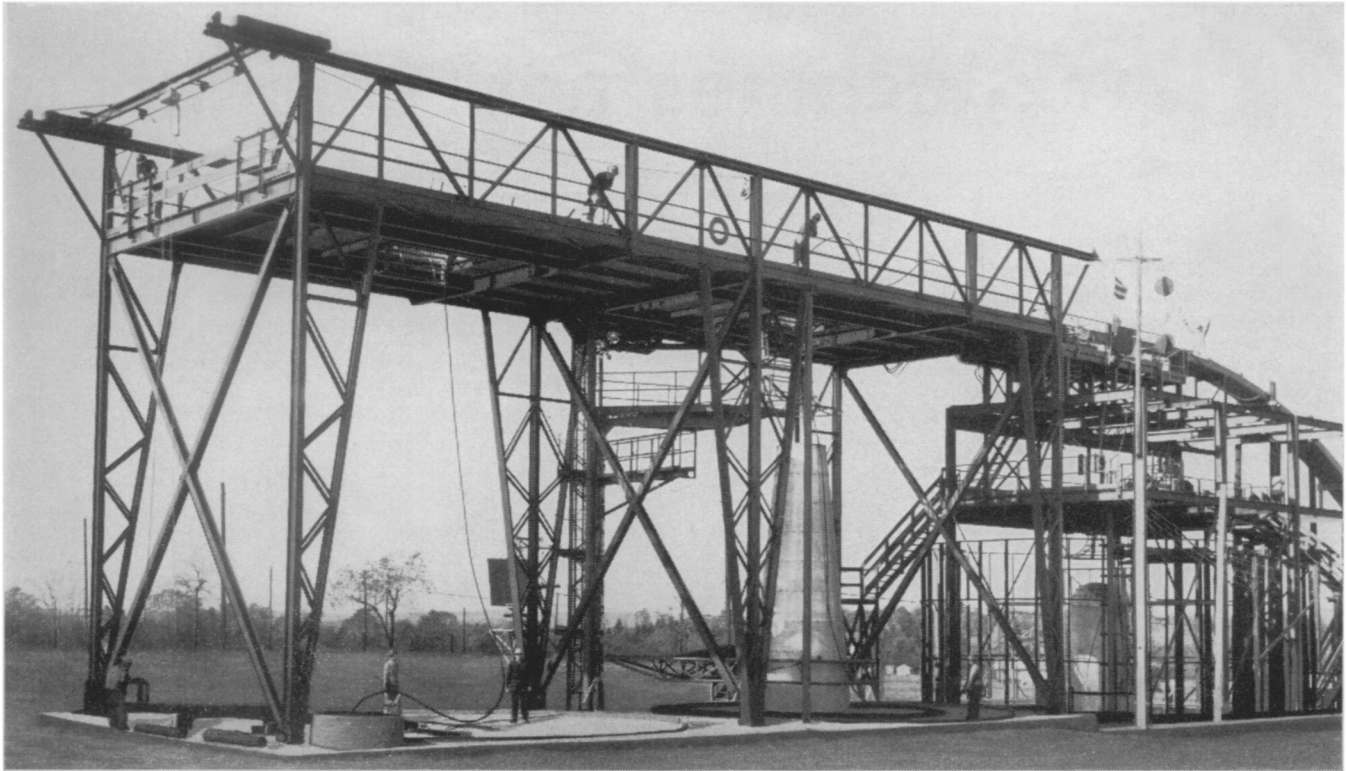
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## SHIP WITHOUT AN OCEAN

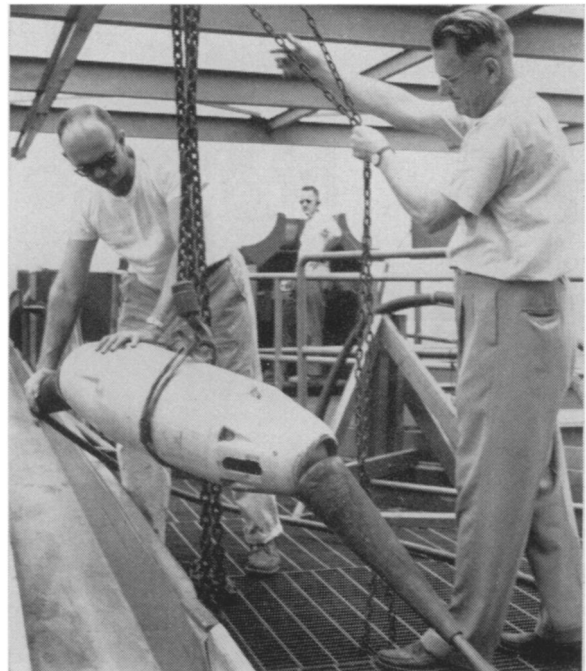
How do you lay a cable on the ocean floor—a cable that is connected to scores of large, heavy amplifiers? How do you “overboard” such a system in a continuous operation, without once halting the cable ship?

Bell Telephone Laboratories engineers must answer these questions in order to lay a new deep-sea telephone system designed to carry many more simultaneous conversations. They're experimenting on dry land because it is easier and more economical than on a ship. Ideas that couldn't even be attempted at sea are safely tested and evaluated.

In one experiment, they use a mock-up of the storage tank area of a cable ship (above). Here, they learn how amplifiers (see photo right), too rigid and heavy to be stored with the cable coils *below* decks, must be positioned *on* deck for trouble-free handling and overboarding.

Elsewhere in the Laboratories, engineers learn how best to grip the cable and control its speed, what happens as the cable with its amplifiers falls through the sea, and how fast it must be payed out to snugly fit the ocean floor. Oceanographic studies reveal the hills and valleys which will be encountered. Studies with naval architects show how the findings can be best put to work in actual cable ships.

This work is typical of the research and development effort that goes on at Bell Laboratories to bring you more and better communications services.



Experimental amplifier about to be “launched” from “cable ship.” Like a giant string of beads, amplifiers and connecting cable must be overboarded without stopping the ship.



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