

## From Page 103

marine, Dr. Meinesz dived into the Atlantic's depths, and later came forth with information that Cuba, one range of the Andes, and part of Mexico are geologically connected.

Undersea extensions of the great areas where earthquake movements and volcanic eruptions are most common have already been found, and the studies are only beginning.

Working from the data already at hand, Dr. Richard M. Field of Princeton University's department of geology suggested that there might be, under the Atlantic, a great ancient foundered continent, complete with hills and valleys, river beds and plateaus, just like any other continent. Under this theory, the great mid-Atlantic ridge might very well have once been that continent's backbone.

### Artificial Earthquakes

New methods of study are already at hand. Dr. Maurice Ewing, Lehigh University physicist, recently announced the successful completion of a series of machines for creating sea-floor earthquakes and studying them. Geologists on land, from studies of the waves of natural and artificial earthquakes, can locate structures buried too deeply to be found from any surface indications. At sea, the problem is more difficult, but if instruments could be placed on the sea bottom, there was no reason why the same facts might not be learned from them.

Dr. Ewing's problem was very simple. Just work out a way of using the machines several miles below the surface. Easy—well, not quite. Everything had to operate automatically, three miles below the surface. Recently, using instruments and bombs strung out along a cable, which can be lowered to the sea floor, and which will work without human attention after they are in place.

### Chemical Oceanography

Dr. Ewing found that the method actually could be made to work in practice. Time bombs, instead of being dread instruments of destruction in wartime, have become useful scientific instruments.

Chemical action in the oceanic depths also interests geologists, who hope to learn from its study just why oceanic deposits differ from land deposits. Perhaps we have, tucked away in some field notebook, the unrecognized evidence of an ancient sea that is now dry land.



### NOT VERY EASY

*Scientific work is sometimes hard labor. Here, sweating scientists are dragging the bit of a deep sea core gun aboard their ship. Later, the core will be taken out, dried, and carefully kept for study ashore at the end of the field season.*

Radium in the sea's depths is present in greater quantities than in any ordinary rock on the land. Microscopic life forms, like those that collect iron and manganese, may, far under the sea, absorb radium, causing this great concentration. Other minerals are present in quantities that are hard to explain. Gold, long known to be present in the sea, is only one of the many minerals that dissolve in sea water—given enough time.

Subsea research is the most recent and until a few years ago the most neglected geologic field. Many generations of work will be necessary before the depths of the sea are as well known as the land areas, but with their clever and costly remote-control instruments, the geologists, geophysicists and oceanographers are recovering lost chapters in earth's history from Davy Jones' Locker.

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### CLIMATOLOGY

## Years of Drought Coming To Great Basin, is Warning

**Y**EARS of drought, like the seven lean years of Joseph's Egypt, are due to grip the Great Basin area of the West, Dr. Ernst Antevs of the Carnegie Institution of Washington prophesies in a new publication of the American Geographical Society.

Dr. Antevs has made a special study of climatic cycles that swing over long periods of time. He finds that the downcurve in Far Western rainfall has already begun, and states that it is due to reach its climax in a terrific drought about ten years hence.

The region for which Dr. Antevs makes his forecast lies between the Wasatch mountains and the Sierras, comprising a total of about 175,000 square miles in the states of California, Nevada, Utah, Idaho, and Oregon. He feels that farmers and stockmen in this region should make long-range plans to meet the situation.

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### BIOGRAPHY

## American Institute Medal Awarded to Dr. Crocker

**T**HE GOLD medal of the American Institute was awarded to Dr. William H. Crocker, director of the Boyce Thompson Institute for Plant Research at Yonkers, N. Y., at a dinner in New York City on the evening of Feb. 3.

The Institute, which for a century has fostered science and invention in New York City, also granted fellowship awards to Waldemar Kaempffert, science editor of the *New York Times* and to Dr. Raymond L. Ditmars, veteran curator of mammals and reptiles of the New York Zoological Gardens.

Dr. Crocker received the gold medal for his contributions to the knowledge of life processes in plants and his leadership of research at the Boyce Thompson Institute. Mr. Kaempffert, who is also president of the National Association of Science Writers, received his fellowship award for "his scholarly interpretation of scientific advances and for his editorial wisdom." Dr. Ditmars, who is widely known for his popular books on reptiles and other animals, was granted his fellowship award for "his 37 years of distinguished service in the care, understanding and interpretation of the reptile world."

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