

however, the beneficial or curative effect of fever has been known for thousands of centuries.

Almost 2,300 years ago, the Greek physician, Hippocrates, wrote: "Those diseases which medicines do not cure, iron (the knife) cures; those which iron cannot cure, fire cures; and those which fire cannot cure are to be reckoned wholly incurable." For centuries thereafter physicians regarded fever as one of nature's ways of combatting and preventing the spread of disease. Modern physicians owe their revival of interest in fever as a means of treatment to Wagner-Jauregg, an Austrian physician, who noted that when patients who were affected by syphilis of the nervous system accidentally contracted fever of some sort they were often remarkably benefited. He therefore boldly began to inoculate such patients with malaria and he noticed that in the fires of malarial fever the system was actually often "purified."

Physicians then recalled that, since the sixteenth century, the Japanese had been in the habit of bathing frequently in very hot volcanic water, with apparently curative effects on syphilis and various forms of rheumatism. Thus in the last seven years a "new" and rather amazing form of medical treatment has arisen. In 1928 the press carried dispatches concerning the curious discovery of Dr. W. R. Whitney of the General Electric Company that workers exposed to high frequency radio waves developed fever. Realizing the possible value of this observation to medicine, Whitney and his colleagues developed "radiotherapy." Other methods of producing a safe form of fever in human beings have been developed, such as diathermy, the use of special hot baths, and more lately of the heated air-conditioned cabinets elaborated by Charles F. Kettering of the General Motors Corporation.

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● RADIO

Tuesday, June 25, 3:30 p. m., E.S.T.
POISON IVY, By Dr. James F. Couch,
 Bureau of Animal Industry, U. S. Department of Agriculture.

Tuesday, July 2, 3:30 p. m., E.S.T.
THE PUBLIC HEALTH LABORATORY—ITS VALUE TO MR. AND MRS. CITIZEN, By Dr. Fred O. Tonney, Director, Technical Service and Research, City of Chicago, Board of Health.

In the Science Service series of radio addresses given by eminent scientists over the Columbia Broadcasting System.

OCEANOGRAPHY

Fossil-Bearing Rocks Picked From Cliffs Under the Sea

Period of Rocks Recovered Shows The Crustal Movement Occurred Only 30,000,000 Years Ago

EVIDENCE completely upsetting existing theories about the long geologic period of stability and quiet supposed to have continued unbroken along the North Atlantic seaboard since the Palaeozoic age, 160,000,000 years ago, has been discovered by a joint Harvard University and Woods Hole Oceanographic expedition. This is the first time scientists have succeeded in taking fossil-bearing rocks from the cliffs of the North American continental shelf.

Dredging more than 2,000 feet below the surface of the Atlantic ocean was conducted on Georges Bank, about 120 miles east of Nantucket Island, Massachusetts, under the direction of Henry C. Stetson, research associate in palaeontology at the Harvard University museum of comparative zoology.

Fossils already found indicate that the last major crustal movement of the North Atlantic American coast occurred since the Upper Cretaceous period, 105,000,000 years ago, and possibly since the Miocene age, 30,000,000 years ago, since the valleys are cut in rocks assigned to these periods.

The evidence obtained by the submarine quarrying seems to confirm the generally accepted theory that the deep ocean valleys in the continental shelf were formed by rivers which flowed into the Atlantic before the shelf sank below the ocean. These valleys are now more than 6,000 feet below sea level at their greatest depths on Georges Bank and an upheaval sufficient to lift them above present sea level would have raised the highlands of New England and New York to current Alpine heights. It is also believed that a cliff about 7,000 feet high must have existed along the New England coast at that time.

Many fragments containing fossils have been dredged previously in this area, but no rock had been broken from the sides of these ocean valleys and immediately carried to the surface from exactly known depths previous to this Harvard expedition.

Working from the deck of the Atlantis of the Woods Hole Oceanographic In-

stitute, Mr. Stetson made eleven successful hauls. The middle and upper parts of the valleys between 2100 and 600 feet were found to be the best areas. Here the walls were either steep enough to prevent the deposition of recent sediment or else the mantle was thin enough to be penetrated. The lower parts of the valleys have gentler grades and the fill of debris material covers the bed rock so deeply that no rock was found exposed.

In one of these valleys the expedition dredged at a depth of 1956 to 1578 feet a coarse sandstone containing fossil molluscs, which Dr. Lloyd W. Stephenson, of the United States Geological Survey, has assigned to the Upper Cretaceous period, about 105,000,000 years ago.

Other evidence indicates that Georges Bank is fundamentally an extension of the coastal plain with a covering of glacial debris.

The work is to be continued this summer in the Hudson River submarine channel off New York harbor and in the newly discovered submarine river valleys off the Maryland coast. One of these latter valleys is the deepest yet found along the Atlantic coast, dropping 9,000 feet below sea level.

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RADIO

Police Radio Transmitter Viewed By the Camera

See Front Cover

POLICE are not concerned with the beauty of their weapons against the criminal world. But beauty is nevertheless present in the camera view of the hundred-watt radio transmitter for police use depicted on the front cover of this week's SCIENCE NEWS LETTER.

The transmitter was designed by the Bell Laboratories for the Western Electric Company.

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Among the rare animals of China are the golden-haired monkey, the blue sheep, and the Chinese red wolf.