

GEOLOGY

Electrical Prospecting

Improved prospecting methods for getting at ore in earth expected from electromagnetic model laboratory. Fills same need as wind tunnels for aeronautics.

➤ IMPROVED METHODS of "scientific prospecting" may result from a new electromagnetic model laboratory just completed by the Institute of Geophysics on the Los Angeles campus of the University of California.

Under the direction of Dr. Louis B. Slichter, director of the institute, research is aimed at increasing the efficiency by which ore bodies below the surface of the ground can be located.

The new piece of equipment, only one of its type in the world, resembles an immense bath tub or small swimming pool, 12 feet long, 7 feet wide and 4 feet deep. Running lengthwise over the top of this concrete tank is a wooden track which supports (1) the measuring devices, (2) the electrical equipment and (3) the ore body to be studied.

Actually, the tank is an electromagnetic model of the earth, although its appearance is far from the familiar round shape. Nearly any condition, so far as relative electrical conductivity of ore and earth is concerned, can be simulated inside the tank.

Support for this important work has come from such interested agencies as the New Jersey Zinc Company, the United

Geophysical Company of Pasadena, the United States Steel Corporation and the Shell Petroleum Company.

In electromagnetic prospecting, an electrical generator creates an oscillating magnetic field, which fills the surrounding space, just as the earth's steady magnetic field on a larger scale everywhere directs the compass needle.

When an electrically conducting ore body gets in the way of the oscillating field, the ore distorts the "flow lines" of the field, just as a large rock on the bottom of a stream deflects the current and causes a permanent ripple or wake at the surface.

The scientific prospector looks for the "electrical ripple" and so finds the conducting ore below which produces the ripple. Each ore body sends up a recognizable kind of ripple.

Science News Letter, April 28, 1951

ASTRONOMY

European Astronomers Act to Cancel Meeting in U.S.S.R.

➤ DECISION of world astronomers not to go to Leningrad the first week in August for the long-scheduled general assembly of the International Astronomical Union was a European decision, not an American one.

But it is no secret that the vigorous and continuing Soviet campaign against western science made the astronomers reluctant to hold their sessions in Soviet territory.

The official reason for the cancellation of the Leningrad meeting and symposia to be held in Stockholm was "present uncertain political conditions." The international committee that announced the cancellation was headed by Dr. Bertil Lindblat of Stockholm with Dr. Bengt Stromgren, Danish astronomer who has just come to America to head the University of Chicago's Yerkes Observatory, as secretary general.

The Soviet government had extended lavish invitations to the astronomers, promising to pay all expenses within the Soviet Union.

Science News Letter, April 28, 1951

NEUROLOGY

Locate Part of Brain Which Does Worrying

➤ THE PART of man's brain with which he does his worrying has now been located. It consists of fiber projections from the frontal lobes of the brain. The exact location of these worry fibers was reported by Dr. John F. Fulton of Yale University at the meeting of the American Philosophical Society in Philadelphia.

For the benefit of neurosurgeons operating to relieve excessive anxiety, other abnormal mental states and unbearable pain, Dr. Fulton identified the worry fibers as projections which "pass caudally in the medial ventral quadrant of the frontal lobe."

The first cutting of these worry fibers to relieve anxiety was done by Dr. Egas Moniz of Lisbon. He got the idea for this, Dr. Fulton related, by a report that chimpanzees no longer showed anxiety or signs of frustration after their frontal lobes had been removed. This discovery was made in Dr. Fulton's laboratory by Dr. Carlyle Jacobsen. Exploring the problem in greater detail led to identification of the exact fibers for the surgeon to cut in operations to relieve anxiety.

Science News Letter, April 28, 1951

MEDICINE

Protein in Blood Higher For Patients with Cancer

➤ SUGAR-CONTAINING proteins in the blood may rise as much as 500% in the blood of cancer patients over the normal amount, Dr. Richard J. Winzler of the University of Southern California reported to the American Cancer Society meeting in Los Angeles.

Increases in these chemicals are also found in the blood of patients with inflammatory conditions and in the late stage of pregnancy. If the rise in any particular one of the sugary proteins proves specific for cancer, it might serve as the basis for a future diagnostic test.

Science News Letter, April 28, 1951



PROSPECTING TOOL—Dr. Louis B. Slichter, right, of the University of California's Institute of Geophysics and Fred R. Tesche use the "earth model" to record electrical "ripples" sent up by aluminum test sheet. Mr. Tesche helped design the equipment.