

## GEOPHYSICS

# Swirls in Earth's Core

**Irregularities in earth's rotation rate explained by theory holding our planet's core contains jet streams and swirling currents similar to the atmosphere's.**

► JET STREAMS and swirling currents make the motion of earth's core similar to that of the upper atmosphere, the American Geophysical Union Meeting in Washington was told by Dr. S. K. Runcorn of Cambridge University, England.

Irregularities in the rate of rotation of the earth are explained by such motions of a liquid interior for our globe. The theory also accounts for the known rapid changes in earth's magnetic field.

Seeking to bring together several effects of the earth's rotation, Dr. Runcorn suggested that the earth's magnetic field may result from dynamo-like action, or that temperature currents, like those in a boiling kettle, might create thermo-electric currents in the fluid heart of our planet.

Between the liquid core and the solid mantle of the earth lies a transition layer revealed by earthquake waves, which was described to the geophysicists by Dr. Francis Birch of Harvard University. He urged better understanding of the nature of the material making up this layer under the great pressures at its depth.

Temperature differences from the upper rocky crust to the liquid interior of the earth probably vary between 1,300 degrees and 2,400 degrees centigrade, Dr. J. Verhoogen of the University of California, Berkeley, Calif., told the meeting. The three scientists spoke at a symposium on the earth's interior.

How a slight change in the amount of carbon dioxide in the atmosphere could and probably has changed the climate of the world was reported to the meeting's section of meteorology by Dr. Gilbert N. Plass of Johns Hopkins University. Carbon dioxide comes into the air with the breath of animals and from fermentation and decay of plants and burning of fuels. It is taken out of the air by plants in their growth processes and by the weathering of rocks and metals.

Although it makes up only a few hundredths of a per cent of the atmosphere, Dr. Plass calculates that half again as much as is now present would raise the surface temperature of the earth more than two degrees. He believes the influence of carbon dioxide in the air has been neglected by recent students of the earth's history.

Which way the wind blew at the end of the last ice age is indicated by wind-built terraces around Lake Bonneville in central Utah, described to the geophysicists by Dr. Ronald L. Ives of Cornell Aeronautical Laboratory, Inc.

Studies of the disastrous storms in the Irish and North seas on Feb. 1, 1953, made by Drs. H. W. Dubach and W. E. Maloney

of the U. S. Navy Hydrographic Office, explained to the scientists how one event after another built up the storm tides. Drs. R. E. Burns, L. B. Berthoff and C. C. Bates of the same office presented a similar study of the destructive storm surge of March 18, 1952, along the Gulf Coast.

Science News Letter, May 16, 1953

## RADIO ASTRONOMY

## Radio Stars Doubled; 200 More Discovered

► THE NUMBER of known radio stars has been doubled by a sky survey conducted at Ohio State University, Dr. John Kraus and Sol Matt told the joint meeting of the International Scientific Radio Union and the Institute of Radio Engineers meeting in Washington.

About 200 celestial sources of radio waves can be added to the 200 previously known, they reported. Radio stars are spotted by the radio waves they send forth, but in most cases they are not identified with any object visible with an optical telescope.

Some of the new radio stars are associated with galaxies, or island universes, at distances of millions of light years from the earth. They were spotted by a radio telescope consisting of 48 corkscrew antennas mounted on a steel framework 160 feet long that scans at 250 megacycles.

Science News Letter, May 16, 1953

## MEDICINE

## Allergy to Wheat Looks Like Mumps

► FOR NINE years, a young Texas housewife had what looked like mumps every few weeks. Cause of the painful and embarrassing condition was finally discovered to be an allergy to wheat. With this eliminated from the diet, the young woman has been free of her mumpsy state.

Her case, one of only about 15 such reported in medical literature, was reported by Dr. Boen Swinny of San Antonio at the meeting of the American College of Allergists in Chicago.

Science News Letter, May 16, 1953



**"WRITING FASTER-THAN-LIGHT"** — *With such equipment, Harold J. Peake of the Naval Research Laboratory, Washington, has made a spot move across the face of a cathode ray tube at faster-than-light speed. No matter is involved, and other physicists have approached such speed, although this is believed to be the first time the over-light-speed has been achieved. The spot, produced by an electron beam, moves across the screen at a speed of 13,000 inches in a millionth of a second. In this time, light, which has a velocity of 186,000 miles per second, travels 12,000 inches. To illustrate the phenomenon, play the hard stream from a garden hose against a large wall, carefully making jerky loops and kinks. These will show on the wall at a faster rate than the hose nozzle moves. A rapidly changing voltage gives the same sort of jerk to the electron beam moving toward the screen, thus producing the faster-than-light "writing."*