

GEOPHYSICS

Cosmic Rays in Air Make Two Radioactive Forms

► **RADIOACTIVE FORMS** of chlorine and sulfur formed by cosmic rays bombarding the earth's high atmosphere have been detected in rainwater for the first time.

Four scientists from Hanford Laboratories, Richland, Wash., operated for the U.S. Atomic Energy Commission by General Electric Company, reported details of their discovery in *Nature*, 205:790, 1965.

The radioactive forms were chlorine 38 and sulfur 38. Previously radioactive chlorine 39 and sulfur 35, as well as sodium 22, sodium 24 and phosphorus, have been found in rainwater.

The scientists who detected the radioactive chemicals were R. W. Perkins, C. W. Thomas, M. W. Hill and J. M. Nielsen.

• Science News Letter, 87:203 March 27, 1965

GEOLOGY

Instruments Improved To Detect Earth Waves

► **SCIENTISTS** are able to detect underground explosions and earthquakes with far greater precision than ever before.

Seismologists from many parts of the world, except Russia, reported to the Royal Society in London on new methods, instruments and progress which had "resulted in a complete transformation of seismology," *Science*, 147:1271, 1965, said.

Many countries are relocating sets of seismographs, delicate instruments that record shock waves when the earth trembles. These arrays are being moved to quieter sites in the hearts of continents.

Scientists report they can make rather sharp distinctions between wave patterns set off by bomb explosions and those by earthquakes. A new array of seismographs costing \$10 million is being set up near Miles City, Mont., where 22 clusters of instruments, each with 25 seismometers, will record waves picked up by sensors placed in holes 200 feet deep.

Scientists at the California Institute of Technology Seismological Laboratory have been measuring shock waves with a period longer than one minute by means of a new three-component pendulum system.

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Do You Know?

Rheumatic fever most often afflicts children between the ages of 5 and 10.

Of all methods used for controlling the intractable *pain* of advanced cancer, the use of analgesic drugs is the most common.

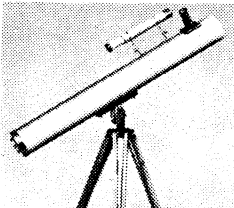
Exposure to *asbestos* dust, often experienced by asbestos workers and sometimes by city dwellers, causes two serious diseases, asbestos cancer and asbestosis, a disease of the lungs caused by inhaling asbestos dust.

Machinery causes 37% of all accidental farm deaths.

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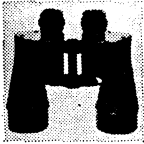
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