

## GEOLOGY

# Unknown Interior of Earth Invites Future Explorers

**C**OLUMBUSES and Byrds of the future will have to seek their exploration territories within the earth, now that the surface has all been scanned and traced on maps. For though Africa is no longer an unknown continent and the poles no longer inaccessible, the earth a few miles under our own feet is still as secret as was the Western Hemisphere before Columbus.

The possibilities of earth-interior exploration and some of the means for its achievement were discussed by Prof. W. T. Thom, Jr., of Princeton University in an address given in New York City under the auspices of Science Service.

An oil well two miles deep is the longest probe man has ever made into the earth's crust, Prof. Thom said. A gold mine a mile deep is the farthest man has ever penetrated in person. But these are mere pin-pricks when compared with the four thousand miles that lie between earth's surface and its center.

It will not be necessary to pierce a fabulous tunnel through the earth to learn about its interior. Much knowledge can be gained by less direct methods, just as a doctor can use X-rays to learn about his patient's insides without having to cut him open.

## Airplane a Tool

One of the possible aids for explorations of the interior is the airplane. The apparent paradox in this suggestion disappears when air photographs taken at great heights are examined, for they disclose interrelations between widely separated geological structures that are not at all evident to a geologist on the ground.

Other tools for earth-exploration can be borrowed from the oil prospector and the military engineer. They consist of delicate gravity balances, which disclose massive rock formations buried under less dense deposits, and devices for "listening in" on explosion-waves started through the earth by setting off large charges of TNT, which by their speeds of travel tell the character of the strata through which they pass or off which they are reflected.

In several parts of the earth, studies of entire mountain systems as geological unities are beginning to yield information about the nature of their rock layers where they are buried deep beneath adjacent plains. Similar studies are being made of mountain ranges sunk deep beneath the sea, and their relations to the structure and movements of the nearest land masses.

Dr. Thom's address was sent out over the network of the Columbia Broadcasting System.

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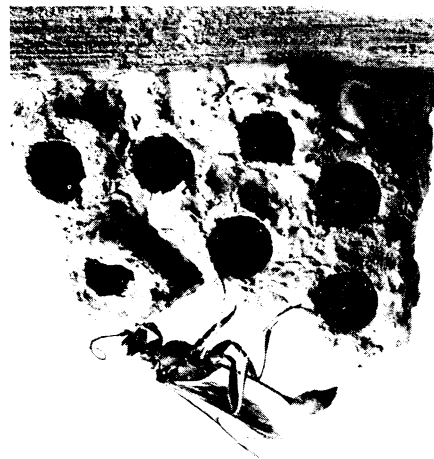
## REFRIGERATION

# Dry Ice Strengthens Ice Box Against Electric Refrigerator

**T**HE ELECTRIC refrigerator, which has taken the place of natural or water ice refrigerators in millions of American homes, may yet have a fight on its hands to hold the ground that it has gained so rapidly. The rumor that the old icebox may come back into its own, but with modern "dry ice" or solid carbon dioxide as the refrigerant, has aroused the interest of engineers and housewives alike.

Dry ice is a solidified gas, frozen carbon dioxide. Its melting point is 78 degrees Centigrade below that of ice. The uninitiated might say, "Fine, that will make it all the better for home use," but such is not the case. A refrigerator may easily be too cold. Foods are best preserved at temperatures a little above the freezing point of water. A "dry ice" refrigerator without some radical changes from the ordinary ice box would do its job too excessively well.

But granting that this difficulty can be overcome—and it does not appear too difficult for engineers to solve—what are the advantages of using solid CO<sub>2</sub>? The fact that one pound of it is equivalent to nearly two pounds of water ice would mean a smaller storage chamber for the refrigerant. Its popular trade name suggests another important advantage: it is dry. The new ice



(Cornelia Clarke Photo.)

## HOUSE FOR INFANTS ONLY

does not pass into a liquid but into a gas which is claimed to have preservative properties. The smaller quantities of ice can be handled easier because they are dry.

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## ENTOMOLOGY

## Mud-Dauber Wasp Pioneer Among Masons

**M**ANY thousands of centuries before the first mud huts rose on the Mesopotamian plain or the banks of the Nile, before the first adobe houses were built in Mexico, mud-dauber wasps developed their art of building upside-down pueblos in sheltered corners and crannies.

The mud-dauber's nest is not an analogue of the human house, nor even of the communal dwelling built by her kin-insects the paper-wasps or hornets, for she never lives in it. She merely deposits an egg in each cell, stores a provision of sting-stunned insect or arachnid victims, and seals up the entrance. Next spring the coming generation of mud-daubers will emerge, ready to take up the family tradition of skilled workmanship in clay.

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