

## GEOPHYSICS

# Russia Studies Arctic

► THE FLOOR of the central part of the Arctic Ocean resembles that of the Mediterranean Sea, Russian explorers claim. This and other findings, made during the extensive and much publicized Red polar expeditions of 1954, are reported in *Vokhs* (Jan.-Feb.) a Russian cultural magazine.

In their ocean bottom surveys, the Russians found that the central part of the Arctic Ocean is not a single depression, but its pattern is complicated, like that of the Mediterranean.

They also state that the central Arctic ice is not a solid mass of very old pack-ice, but consists of blocks and fields of ice of different thickness and age. V. F. Burkhanov, head of the Central Northern Sea Route Administration, reported that when the ice moves from the south to the north, it usually increases in thickness.

The Russians established two research stations on floating ice islands last year, known as North Pole-3 and North Pole-4.

They now report that the island ice appears to thaw and accumulate both at the top and the bottom, in different amounts under different conditions. As a rule, the ice thaws on the top during the summer, and accumulates at the bottom during the

winter. In this way, it is gradually renewed.

This finding tends to support a hypothesis suggested by Dr. Frank Debenham, emeritus professor of geography at Cambridge University, England, who first presented the upside down ice island formation theory in November 1954. The United States has also manned floating ice islands in the northern regions.

The 1954 explorers also discovered the Arctic to be rich in animal and plant life, "even at the North Pole itself." One group reported seeing "ruby-red ice-floes," that appeared to be covered with a countless number of "tiny vegetable organisms of a red color."

The Russians, who have long been interested in the polar regions, are still maintaining their floating ice island bases and continuing to explore the vast northern reaches. Along with supplying weather reports for the whole of the Soviet Union, the Reds claim that their explorations have extended the period of navigation over the Northern Sea Route and that "more and more vessels sail along this great route every year."

Science News Letter, June 4, 1955

## ATOMIC PHYSICS

# Reduce A-Power Danger

► A DESIGN to reduce dangers from nuclear power plant explosions by confining radioactive by-products to the premises has been put forth by a Dayton, Ohio, engineer. The plan might "save the major portion of the plant from contamination."

Charles C. Littell Jr. proposes that reactors be built of massive construction as to tensile strength and mass of the walls and top, the floor of the building housing the reactor being of similar construction.

"If the whole were hermetically sealed, with the floor of the reactor relatively weak, blow-out and gravity would express the contents downward," he wrote in the journal, *Science* (May 20).

Underneath, according to Mr. Littell's plans, a large water trap would receive the debris and gas, the walls of the building extending well down into the reservoir, with a moat of sufficient dimensions around the building to accommodate the water displaced from the reservoir.

Air-filled space above the water in the reservoir would act as a pneumatic cushion during the initial surge, permitting displacement of the water mass without undue shock.

"Dimensions," he said, "should be such that all gases would be confined to the inner chamber."

Excess volume and pressure would reduce the reservoir level to the point where

it would pass under the intervening wall and up through the deep water in the moat. Condensation by cooling and by going into solution under conditions of turbulence and pressure from the explosion would cut down the initial volume of gas produced.

"Confining the radioactive materials to the underground chamber, with only flat surfaces to be decontaminated," Mr. Littell cluded, "would greatly facilitate reconditioning."

The floor and tunnel across the moat of heavy construction would insure maximum protection for personnel and would permit early reactivation of the reactor after an explosion.

Science News Letter, June 4, 1955

## PSYCHIATRY

## Inner Life Problems Cause "Dry Drunk"

► PROBLEMS OF the "inner life" are the most potent cause of the "dry drunk," Drs. James A. Flaherty, H. Thomas McGuire and Robert L. Gatski of the Governor Bacon Health Center, Delaware City, Del., reported at the meeting of the American Psychiatric Association in Atlantic City.

The "dry drunk," they explained, is a term used by alcoholics to describe an emotional state they must cope with while

keeping sober over an extended period.

Depression, impatience, intolerance, irritability, nervousness, occasional confusion and an irrational desire to resume drinking are symptoms of this state.

During a dry drunk, the former alcoholic tries to avoid people and is sarcastic and critical toward those who cannot be avoided.

The dry drunk may last from an hour to four months. The depression may be so great that suicide is planned. Return to drinking almost always follows a dry drunk.

Effective means of fighting the dry drunk are to attend meetings of Alcoholics Anonymous and to consult members of this organization outside of meetings, the psychiatrists advise.

Spouses and other members of the family, friends not in A.A. and non-understanding persons are least helpful during a dry drunk.

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## MEDICINE

## Calming Drugs Help In Severe Itch Cases

► WHEN THE patient is frantic because of uncontrollable itching, two relatively new calming drugs help, Drs. Theodore Cornbleet and Sidney Barsky of the University of Illinois College of Medicine declared at the meeting of the Illinois State Medical Society in Chicago.

The drugs are reserpine and chlorpromazine. Both have been used effectively to treat high blood pressure and mental sickness.

Because they calm the patient and make it easier for him to bear the itching, the dermatologist, or skin specialist, can focus attention on treating the skin trouble itself.

"These tranquilizing drugs," Dr. Cornbleet said, "can be to the dermatologist what the anesthetic is to the surgeon."

Science News Letter, June 4, 1955

## MEDICINE

## Cut Sac Away From Heart in TB Cases

► AN OPERATION to cut away the sac that surrounds the heart was reported by Dr. Herbert C. Maier, Lenox Hill Hospital, and Dr. Howard D. Sirak, Bellevue Hospital, both in New York, at the meeting of the National Tuberculosis Association in Milwaukee.

The operation is done in the relatively rare case when tuberculosis attacks this sac, called the pericardium. In such cases the sac may rapidly thicken and this interferes with heart function. Drug treatment of the tuberculosis may not be enough to overcome the condition.

When anti-TB drugs are given, however, the operation may be done with much more success than previously.

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Three out of four *traffic accidents* occur in clear weather on dry roads.