

OCEANOGRAPHY

Heavy Iceberg Year

Icebergs will invade ocean traffic lanes south of Grand Banks in larger numbers than usual, an oceanographer predicts on basis of temperature measurements of Gulf Stream.

► THE ICEBERG menace this year will be heavier than usual, Louis A. Post of the U. S. Navy's Hydrographic Office has predicted.

Usually 400 or so of the towering white mountains drift south of Grand Banks to threaten shipping by invading ocean traffic lanes. Mr. Post's prediction of a heavy iceberg year results from temperature-takings in the Gulf Stream.

The warmth of the Gulf Stream off Key West, Fla., he has found, is a key to both the number and the southerly drift of icebergs in two ways. Over a short, three-month period, a warmer-than-usual current will tend to stop the southerly drift of the bergs. Over a longer period, the temperature takings indicate the strength of the Labrador Current as it will sweep the bergs southward three years from then.

Mr. Post said that Gulf Stream readings from three years ago showed that this would be a bad year for icebergs. Since the first of the year, however, the Gulf Stream has been stronger than usual. Thus, the two streams are fighting each other, the Labrador Current to carry bergs far southward, the Gulf Stream to block them.

Since the two forces are opposing each other, it is difficult to forecast just how much worse than usual the icebergs will be this year, Mr. Post pointed out. If the Gulf Stream had been weaker than usual since the first of the year, he said, then we really would be in for a bad year.

Icebergs are Greenland's largest export. They are huge hunks of snow so hard packed that pressure has changed them to ice. They break off from Greenland's west coast glaciers to start a leisurely trip that usually ends off the fog-bound Newfoundland coast.

In this region, known as Grand Banks, the Labrador Current meets the Gulf Stream. There the cold wall, the boundary between the two streams, is nearly straight up and down, sometimes as deep as 1,500 feet.

Sailors have been known to go swimming in the warm Gulf Stream, while within sight of their ship floats an iceberg. This region, where Arctic and tropical waters meet, exhibits the greatest temperature contrasts to be found anywhere in the world.

Icebergs are deceitful in appearance. The amount seen above water is small. About 85% of their bulk lies hidden within the ocean. Jagged edges of ice that jut far beyond the visible white mass are the berg's deadliest weapons.

The sinking of the Titanic by an iceberg on April 14, 1912, gave rise to the International Ice Patrol, which is supported by the main shipping nations of the world. It spots icebergs and tracks the big ones as they wander. Radar and loran, as well as visual patrol by plane or ship, are used. Shipping lanes are shifted southward if bergs menace ocean traffic.

Science News Letter, May 1, 1954

PHYSICS

Test for Ether Drift

► A NEW test to check whether or not there is an ether drift will be made soon at the National Physical Laboratory, Middlesex, England, Dr. L. Essen has revealed.

Radio waves instead of light will be used to detect the presence or lack of an all-pervading fluid, called the ether. The proposed experiment could have "an accuracy at least ten times as great" as previous experiments, Dr. Essen said.

In the last century, the ether seemed necessary to explain how light and electromagnetic radiation operated. It was supposed to be in perfect vacuum everywhere, but at each point in empty space it would have a velocity less than that of light. If this were so, there should be an ether drift, that is, a relative motion of matter with respect to the ether through which it moves, just as when walking through still air, you experience a wind.

Michelson and Morley, and later other scientists, failed to detect such an ether drift.

The idea of a universal ether was abandoned after Einstein proposed his theory of relativity, which requires all directions to be equivalent.

The method Dr. Essen proposes to use would send a radio wave down a metal tube, reflecting it backward and forward between the two ends. When the time of travel between the ends equals the time interval between the successive radio waves, they build up to produce an electrical resonance.

The metal tube, known as a cavity resonator, would be used to control the frequency of the oscillator that sends out the radio waves. Anything causing a change in the resonant frequency of the metal tube would change the oscillation frequency by

almost exactly the same amount. Thus, when the tube was rotated through a 90-degree angle, the oscillation frequency would change if there were an ether.

"Some physicists," Dr. Essen concludes, "have felt that the Michelson-Morley experiment formed a rather unsatisfactory basis for a theory as important as that of relativity."

Therefore, he proposes in *Nature* (April 17) another try by the radio wave method.

Science News Letter, May 1, 1954

STATISTICS

Having Babies Safer Than Ever in U. S.

► IT IS safer than ever for American women to have babies. Even those in their late 30's now can have babies more safely than women in their early 20's about a decade ago.

Instead of dying at the 1940 rate of 34 per 10,000 live births, mothers having babies in 1953 died at the rate of only about six per 10,000 live births.

This improvement, statisticians of the Metropolitan Life Insurance Company say, is due to "the greatly increased proportion of hospital confinements, more women seeking prenatal care early in pregnancy, better obstetrical care, and—of particular import—the advances in medical science, especially as regards the control of infection through chemotherapy and the antibiotics."

Science News Letter, May 1, 1954

NUTRITION

Food Fads Blamed for Half Billion Dollar Waste

► WASTE OF at least half a billion dollars in the United States has been blamed on food fads. The charge was made by Dr. Charles Glen King, scientific director of the Nutrition Foundation, at the spring meeting of the foundation's board of trustees in Chicago.

"Food faddists and nutrition quacks are doing great damage to the public by misleading propaganda," Dr. King declared. "Their efforts cause economic loss in wasted expenditures on food fads reaching about half a billion dollars per year. What is more serious is the confusion they cause in preventing the public from learning and having confidence in sound nutrition practices."

"One of our greatest national needs both economically and health-wise is an educational program that will be effective in an economic sense and in the protection of public health."

"We are now in an almost unbelievable position, with a so-called surplus of foods of high nutritive value and a population that is far below the economic and health level they could reach if we had an adequate education program underway," he said.

Science News Letter, May 1, 1954