

## HYDROGRAPHY

# Iceberg Menace Grows

The iceberg danger in the north Atlantic may soon be the greatest since 1939. The Ice Patrol is at work charting the bergs and radioing "ice" information.

## See Front Cover

► ICEBERG conditions in the North Atlantic may be worse in coming months than in any year since 1939.

For Holy Year pilgrims and other Europe-bound tourists, the dread marine warning "Ice" has already begun to mean a longer, round-about voyage to British or continental ports.

Passenger and cargo ships alike first swung south around the dangerous, iceberg-studded Grand Banks of Newfoundland on March 24, it was learned from the U. S. Navy's Hydrographic Office. Normally they do not adopt emergency "Track B", 150 miles south of the shortest great circle route to Europe, until April 10.

To the north, groping by radar through silent, solid fog more days than not, a U. S. Coast Guard cutter has been on station since late February. It mans the front lines in a cold war which 14 nations have fought for 38 years—the International Ice Patrol.



**CHILE COPPER CACHE**—A big blast loosens thousands of tons of ore at the head of the Chuquicamata mine in Chile. Huge shovels will then move in to load the ore cars. The "Valley of the Moon," the world's richest mineral reserve, comprises a \$100,000,000-a-year industry and is the source of 70% of their U. S. dollar income.

With the exception of the war years 1917-18 and 1942-45, the Banks have been patrolled each spring, from March into July, since 1912.

On the night of April 14-15 that year the trans-Atlantic liner Titanic, trying for a speed record on her maiden voyage, smashed into an iceberg and went down with 1,731 passengers. The disaster startled the world. It brought two Navy cruisers that year to begin the ice patrol, and in London, an international conference on safety of life at sea.

Belgium, Canada, Denmark, France, Germany, England, Italy, Japan, Netherlands, Norway, Spain, Sweden, Russia and the U.S. signed an agreement to establish a permanent patrol of the iceberg area. The ships have always been U. S. Coast Guard cutters. The cost of maintaining them is shared by the participating countries in proportion to the tonnage of their shipping across the North Atlantic.

Now, from Ice Patrol Headquarters at Argentia, Newfoundland, both planes and ships go out. They are equipped with war-developed radar to spot the mountainous icebergs in the thickest fog, and long range navigation (Loran) receivers to give the exact location of the ice.

Special B-24's and B-17's are used in the air. On the ocean, the 254-foot cutters rotate on 15-day tours of duty. They can crack through field ice, shell or put demolition teams aboard icebergs, or answer with the most modern rescue equipment available any calls of distress.

They chart the drift of field ice, icebergs and "growlers," smaller pieces which break off the bergs. The Labrador current and the Gulf Stream meet over the eastern shelf of the Grand Banks at the so-called "cold wall." There the ice drifts erratically as much as 60 miles a day.

Twice daily the Ice Patrol commander broadcasts bulletins to Washington.

"Some idea of the importance which mariners near the Grand Banks place on ice information is indicated by the fact that practically all commercial radio transmission ceases during these periods," the Coast Guard notes in a detailed description of the Ice Patrol.

Each year the icebergs come down from the great glaciers on the western Greenland coast of Baffin Bay. They journey about 1,800 miles in the Labrador current before they become silent white specters to U. S. - Europe shipping.

A giant eddy of the two great currents sends them south in a probing finger across the normal shipping lanes. Sometimes they

melt quickly, and the year is reported a light one by the Ice Patrol in its final summer report.

An iceberg nearing the disintegration point rests on a placid Arctic sea as shown on this week's cover of SCIENCE NEWS LETTER while the sun forms radiant incandescent patterns on the edges. A short while before, this "disintegrating destruction," while slicing through the seas, could have ripped a gaping hole in any ship. The Ice Patrol has done much to conquer the rambling fury of such ice packs.

Not since 1939, when icebergs remained a menace into August, has there been an above-average ice year, the Hydrographic Office said. (Although there was no regular ice patrol in the war years, the Navy and Coast Guard kept sharp tabs on ice when guarding huge convoys across the Atlantic.)

This year, however, "early indications are that there will be more icebergs in the danger area than in at least ten years," William G. Watt of the maritime security branch of the Hydrographic Office said. A great deal depends upon wind and weather, he said. These variable factors control the lifespan and the travel of the mountainous ice.

Navigators, listening closely to the broadcasts of the Ice Patrol, know this: Not since the patrol was inaugurated has a ship been lost in the policed lanes through collision with an iceberg.

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## PHYSIOLOGY

## First Nerve Impulse Clears Way for Others

► LIKE a motorcycle police escort, the first in a series of nerve impulses racing through the human body clears the way for those that follow and enables them to go faster.

This is indicated in the results of a study of fundamental mechanisms of the nervous system by Dr. Theodore H. Bullock and Lillian R. Berkowitz of the University of California at Los Angeles zoology department.

The study shows that in many cases when a nerve receives an impulse, subsequent impulses travel at a faster rate through the nerve fibers for a short time. This acceleration continues until fatigue slows down conduction.

An investigation was made of the rate at which impulses are conducted through the single nerve fibers of sea worms, earthworms and whole nerves of frogs. The rate of conduction was actually increased up to 20% in all these cases after a "conditioning" impulse.

Until these results were observed, it had been thought that an impulse slows down subsequent impulses until recovery to a normal rate is complete.

These observations may greatly simplify the search for the basic mechanism of nervous function.

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