

Skate Proves Arctic Is Open To Year-Round Operations

By L. EDGAR PRINA

The Skate's second under-ice Polar voyage in less than a year was being hailed by the Navy today as proof its atomic submarine can operate in that once-forbidden area any season of the year.

The Navy announced yesterday that Skate completed another trip to the North Pole on Thursday, setting new records for distance and time in Polar under-ice operations. Skate is en route back to her home base at New London, Conn. She is due there April 6.

First reports indicate that the 2,383-ton submarine logged 3,090 miles in 12 days in the permanent ice area. She held the old mark, set during her summer voyage last year, of 2,405 miles in 10.5 days.

Scatter Wilkins' Ashes

Comdr. James F. Calvert and the 106 members of Skate's crew carried out a final wish of the late Polar Explorer Sir Hubert Wilkins "by scattering his ashes into the blowing snow in the half-light of the North Pole," the announcement said. Sir Hubert died last December 1, without having realized his life-long ambition of reaching 90 degrees north.

The Navy said it acted at the request of the explorer's widow, Lady Suzanne. Sir Hubert took part in 24 expeditions to the Arctic and nine to the Antarctic. He tried, without success, to take an earlier Nautilus under the Polar ice in 1931.

North Pole Ceremony

In a message received here by the Navy, Comdr. Calvert said:

"On March 17, 50 years after (Commodore Robert) Peary, Skate was on the surface of the North Pole. In a solemn memorial ceremony conducted by Skate shortly after surfacing, the ashes of Sir Hubert Wilkins were scattered at the North Pole in accordance with his last wishes."

Comdr. Calvert knew Sir Hubert personally. The veteran explorer had visited the commander aboard the Skate last year.

The memorial ceremony was held on the deck of the Skate, with the red light of a torch casting a glow on the scene. Flags of the United States, Great Britain and Australia (Sir Hubert's native country) were displayed. After a firing squad's farewell salute, the ashes were released into the wind.

Before the Skate submerged, its crew left on the ice a heap of stones containing notes and the American flag.

Vice Admiral Hyman G. Rickover, "father" of the nuclear submarine, said in an interview that Skate tried something new this time—she "punched her way through" relatively thin ice to surface at the North Pole. She carried no special equipment to break through, but simply used her weight and momentum to crack the several inches of salt-water ice.

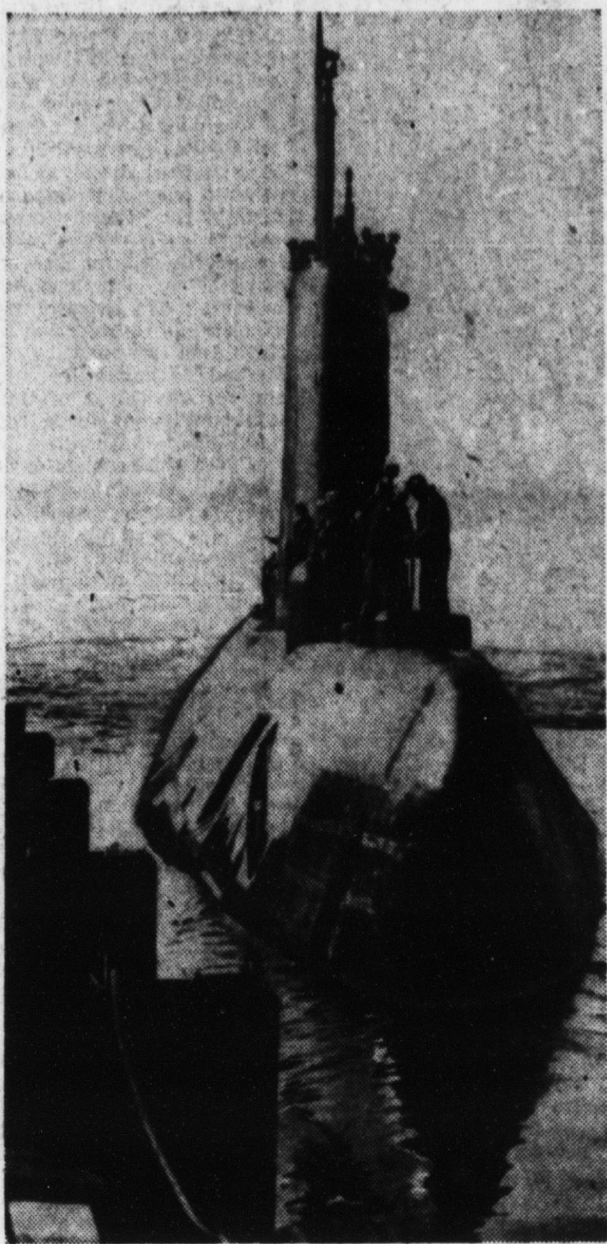
Can Do It Anytime

The admiral said the winter exploit of Skate under the Polar pack "demonstrates that we can do it at will," and added: "The meaning of this trip is that the entire Polar area is now open to military operations. The world is becoming an even more dangerous place in which to live as another huge area has been thrown open as a possible arena of war."

He called for many more exploratory voyages so that, "we can find out what is on the bottom, where we can hide—meaning, presumably, where ballistic missile submarines could be placed in the event of war."

Other Naval officers at a Pentagon briefing said there would be a series of additional Polar voyages, but declined to give details.

One of these officers, Comdr. R. D. McWethy, said Skate's task was to discover how to operate in lower temperature, find its way in the Arctic darkness and maneuver with fewer



CAST OFF—Members of the nuclear-powered submarine Skate gather on deck as she gets underway at New London, Conn., for her record-breaking trip earlier this month for the North Pole.—AP Photo.



JAMES F. CALVERT
Skate Commander
—AP Photo

openings in the ice than appear in summertime.

The commander, who serves on the staff of Rear Admiral Frederick B. Warder, Atlantic Fleet submarine chief, said Skate also surveyed the bottom contours of the Arctic and photographed the ice canopy above it on its submerged runs.

In reply to a question, Comdr. McWethy said that the "sail" or conning tower of all nuclear submarines had been strengthened with heavier plating after the Nautilus got banged up a bit by the ice in 1957. This protects the periscope, radar and communications equipment when the submarine breaks through ice to surface.

Carried TV Transmitter
The Skate was equipped with a retractable whip antenna and a very sensitive television transmitter.

The Electric Boat Division of General Dynamics Corp., which built the craft, said the antenna was composed of "two telescoping pieces for double duty as an ice-prober."

Electric Boat, in a news release, said the antenna was installed at the outset of the journey along with the television camera, which was mounted in a pressure-resistant container.

The statement said the television camera, once used on an Army tanker, was extra sensitive to light and ideal for the poor visibility near the North Pole at this time of year.

The camera transmitted pictures of the submarine's surroundings to receivers inside the ship, acting in effect as an improved version of the periscope.

Skate left New London on March 4 and went under the ice 10 days later.

Business Is Sweet

HONOLULU.—Sugar is Hawaii's chief business, producing one-fourth of the world supply.

Air Over Arctic Twice as Hot As Elsewhere

By the Associated Press

It's twice as hot high above the cold Arctic as it is at equal altitudes over warmer parts of the earth, scientists have learned.

This phenomenon has helped scientists visualize one of the world's newest discoveries, the Van Allen radiation belts that hover miles above the earth.

United States space probes first proved the existence of these belts.

Dr. Robert Jastrow, chief of the theoretical division of the National Aeronautics and Space Administration, yesterday described the experiments concerning temperatures and the radiation belts. Instruments on rockets measured the temperatures.

More than 100 miles above Churchill, in Canada's Northern Manitoba, readings of 4,000 degrees Fahrenheit have been measured. This is more than 20 times the heat of boiling water.

2,000 Degrees Maximum

But, at similar heights above rocket launching sites at White Sands, N. Mex., the highest temperature recorded has been about 2,000 degrees.

Dr. Jastrow explained that the difference depends on the shape of the Van Allen belts. Instead of circling the earth uniformly, they tend to bend toward the earth at the poles. In fact, they may not cover the poles at all, he said.

Scientists have described the shape as similar to the pattern formed by iron filings when placed near a magnet. They arrange themselves far from the middle of the magnet but close to its poles.

The radiation belts arrange themselves the same way around the earth. Over the Arctic and Antarctic, Dr. Jastrow explained, high energy particles from the belts apparently collide with the few air molecules at an altitude of 125 miles, causing the intense heat.

But over the rest of the earth, the Van Allen belts are too high for their particles to collide with air molecules. No extra heat results. That is why the air 125 miles above New Mexico is cooler than the air 125 miles above the Arctic.

Two Radiation Belts

Space probes and satellites have shown that there are two Van Allen radiation belts. One starts at 1,500 miles from the earth and extends to 3,000 miles. The second belt, considered more deadly, has an 8,000 to 55,000 mile range.

The significance and effects of the belts was discussed here yesterday at a NASA seminar by Prof. Thomas Gold of Harvard University, Prof. Eugene Barker of the University of Chicago and Prof. Nicholas Christofilos of the University of California.

Dr. Jastrow said the scientists attending the seminar agreed that the Van Allen belt had been misnamed—that they were not radiation belts at all but belts of tiny particles.

"These particles are electrically charged," Dr. Jastrow said. "We know that for certain, because the intensity of the particles follows exactly the configuration of the earth's magnetic field. That field acts on charged particles but not on neutral particles or light rays."

Agree on Origin

Dr. Jastrow said he and Dr. Gold, among others, agreed that the outer belt is of solar origin. He added that scientists are still arguing about the origin of the much more deadly inner belt.

Mr. Christofilos, originator of last summer's high altitude argus radiation tests, said he and Dr. S. Fred Singer of the University of Maryland believe that the inner belt is not of solar origin but is produced by the impact of cosmic rays on the earth's upper atmosphere, resulting in the emission of high energy neutrons or neutral atomic nuclei.

Dr. Jastrow said scientists still do not understand why the two belts of particles do not merge. In this connection, he

Briton Favors Exchange Of Science Knowledge

By WILLIAM HINES
Star Science Writer

The British government's top scientific adviser believes security classifications are "a very serious barrier to international communication" which "tightly in little channels."

Furthermore, a freer exchange of scientific information across the line that divides West from East would be of benefit to the whole world, Sir Alexander Todd told newsmen yesterday.

Sir Alexander, whose job as chairman of the Advisory Council on Scientific Policy in London roughly parallels that of Presidential Assistant James R. Killian, Jr., is in Washington for talks with scientific leaders of this country. He will be in the United States for about three weeks.

Minces No Words

The British scientist emphasized that his opinions about security restrictions were personal and not a reflection of official British government sentiment. However, he minced no words after having made that point.

"The whole growth of science shows us we can't hold things in little channels," Sir Alexander said. "Consider progress that has been made in the field of medicine. Can you imagine

Sees Ultimate Benefit

International interchange including the fruits of Russian science, even in this time of cold war, would be of ultimate benefit to mankind, Sir Alexander said.

Sir Alexander said his talks with American officials, including leaders of the National Aeronautics and Space Administration, covered areas in which Britain and the United States could co-operate scientifically. The British have no present plans leading to placing a man

FBI Investigates Hoax On Marine Reservists

The FBI today is investigating the strange case of a phoney Marine Corps call to the colors which sent four Reservists off from their homes to be mobilized. The whole thing was a hoax, but that's not the end of it. The person who sent the four telegrams faces military prosecution for impersonating an officer.

The investigation began late yesterday when Marine Reserve Sgt. Ronald E. Blake, 22, of Bristol, Pa., appeared at the Marine Barracks in the Naval Gun Factory bearing a collect telegram.

Signed by "Colonel"

The message, he said, had arrived at his home Thursday night. The paper mill employee said the telegram cost his mother \$1.06. It bore the signature of a non-existent Marine colonel and "ordered" Mr. Blake to report to his last active duty station at his own expense. He said that was 2½ years ago here in Washington, so here he came.

A second Bristol Reservist, who also received a telegram, was intercepted as he was about to leave for Portsmouth, N. H. A third was narrowly spared a futile trip to Camp Pendleton, Calif.

A fourth, Sgt. William Spangenberg, was told of the hoax as he boarded a train for Camp Lejeune, N. C., but decided to go ahead anyway to see some old buddies as long as he was packed.

Termed a Joke

"There was no Marine Corps mobilization," said Col. Donald R. Nugent, and the Marine Corps 4th Reserve District in Philadelphia termed it a practical joke.

But it's no joke to the FBI. Agents today are looking for Sgt. Blake, who was sent on his way by Marine officials

said, scientists are turning their interest to an irregularity in the earth's magnetic field—a hole over South Africa. He said it has been suggested that particles fall into the hole and descend to lower altitudes, where they hit more air and get taken out of the so-called radiation layer.

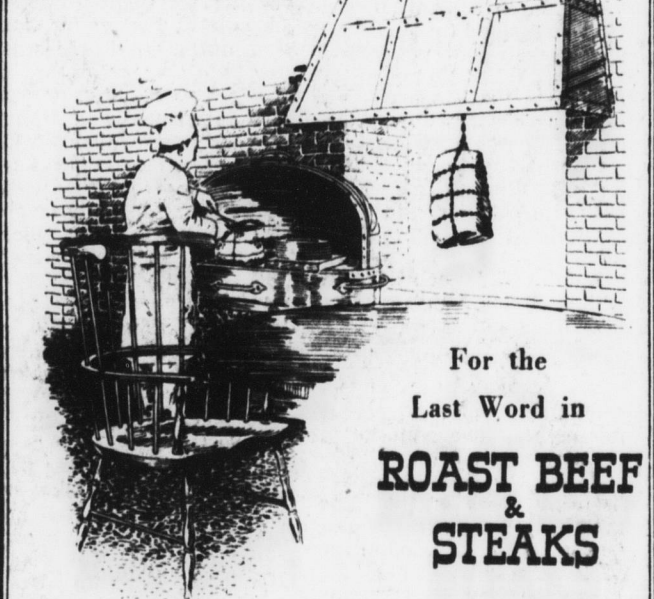
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In space, Sir Alexander said, Chief efforts in the space sciences include vertical rocket firings to altitudes of 100 to 200 miles and the tracking of satellites by the huge radiotelescope at Jodrell Bank, near Manchester.

No Space Race Plans
Eventually Britain's space program will branch out, he indicated, but he made clear the United Kingdom has no intention of getting into a space race such as is now on its significance.

"My own feeling is that there certainly are obvious dangers from this increasing fallout," he said. "But the chief concern lies in genetic effects, and I don't think we have enough information yet to base an opinion on its significance."

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