



**DAWN LAUNCHING**—This cosmic ray balloon is being released from the deck of the *Eastwind* near Cape Parry off the Greenland coast. The purpose is to measure cosmic radiation in the vicinity of the northern geomagnetic pole.

## PHYSICS

## Cosmic Rays Captured

Balloon-borne rockets shot to altitudes of 40 miles above the top of the world brought back Geiger counter records and photographs of particles from outer space.

➤ A GROUP of scientists have just completed work on top of the world where they have been gathering information on cosmic rays amid the rumble of cracking ice and the menace of drifting icebergs.

Sponsored by the Office of Naval Research and the Atomic Energy Commission, the arctic project was aimed at revealing more about the nature and origin of the mysterious particles that continually bombard the earth from somewhere in space, and that some day may present a hazard to space-travelers.

The scientists launched 14 small-sized Navy "Skyhook" balloons from the deck of the U. S. Coast Guard Icebreaker *Eastwind* which crunched its way to within 442 nautical miles of the North Pole, the most northerly latitude ever reached by a ship under its own power.

Some of the Skyhook balloons carried Deacon rockets, slender missiles only about eight inches in diameter and 10 feet long. Originally designed for gathering information on the weather, the rockets were lifted high into the air and then fired. Under

their own power the rockets roared to altitudes of about 40 miles.

Sensitive instruments in the rocket noses radioed information back to the Coast Guard cutter as primary cosmic particles collided with Geiger counters or ionization chambers cached in the rocket war-head.

Primary cosmic rays are the original nuclear particles from space. Most of them collide with elements of the atmosphere, shattering the atoms and producing secondary cosmic rays. The secondary rays are the ones most frequently detected on the earth.

Other Skyhook balloons carried photographic plates which recorded tell-tale tracks of the cosmic rays at different altitudes. The balloon-borne photographic plates reached altitudes of about 17 miles.

One such set parachuted to Ellesmere Island and another to the Greenland icecap within 10 miles of the geomagnetic north pole. But blustery August blizzards prevented Navy helicopters from recovering the equipment. However, the scientists hope Greenlanders and Eskimos will find

the instruments and return them for the \$100 reward.

Baffin Bay, bordering Canada's northeast coast, was selected as the site because of its nearness to the geomagnetic pole. Weak primary cosmic rays that otherwise would be deflected by the earth's magnetic field could be studied there. Gathering data on the weak rays rounds out a Navy program of basic research aimed at revealing more about the origin and nature of the mysterious rays.

Helping the Navy and the AEC in the arctic project were General Mills, which made the Skyhook balloons out of a polyethylene plastic film only one one-thousandth of an inch thick; New York University, and the State University of Iowa.

Scientists must analyze the collected information for about two or three months before any findings can be revealed, the Navy reported.

Science News Letter, October 25, 1952

## VITAL STATISTICS

### Death Rate Low for Fourth Consecutive Year

➤ THE DEATH rate in the United States has been less than 10 per 1,000 for the fourth consecutive year, statistics compiled by the U. S. Public Health Service show.

The figures, latest available, show an estimated death rate of 9.5 per 1,000 for 1951, which is practically the same as the 1950 final figure.

Nevertheless, heart and circulatory diseases claimed 17,300 more lives in 1951, cancer 8,500 more and accidents 4,800 more than in 1950.

Death rates for tuberculosis, syphilis, poliomyelitis, chronic nephritis and other causes decreased in 1951. The tuberculosis death rate hit a record low of 19.2 per 100,000 population.

Science News Letter, October 25, 1952

## INVENTION

### Cyclotron Inventor Gets Color TV Patent

➤ DR. ERNEST O. LAWRENCE, Nobelist inventor of the cyclotron, and Lin Yutang, Chinese philosopher, both received patents from the government in Washington.

Dr. Lawrence, head of the radiation laboratory at the University of California, Berkeley, received a patent for a color television tube which has been hailed as a simple method of receiving color television broadcasts. The patent is numbered 2,614,231 and is assigned to Chromatic Television Laboratories, Inc., San Francisco.

Lin Yutang, who has written several books in English, received patents on a typewriter that will type Chinese characters, and a visual selecting device for Chinese typewriters. Numbered 2,613,795 and 2,613,794, respectively, they were assigned to the Mergenthaler Linotype Company, Brooklyn.

Science News Letter, October 25, 1952