

AERONAUTICS

Altimeter Misreads on Ice

IN THE BLINDING whiteout that occurs in arctic blizzards, a pilot was seeking to land his plane in Greenland. His radio altimeter registered 2,000 feet. Suddenly there was a bump and the plane seemed to skid and careen. Through the swirling snow the pilot saw a figure straight ahead waving his arms. It was a ground-man signaling the pilot to cut off his engine.

This story, written into the history of the U.S. Army's Camp Century in Greenland, had a happy ending. But others like it ended in tragedy. Through such experiences Army engineers learned that radio altimeters may be used to measure the thickness of glacial ice. An altimeter may be able to do the job instantly and may replace the laborious and time-consuming process now used in the setting off of explosives and measuring seismic shocks.

Dr. Paul Siple, scientific adviser to the U.S. Army's research office, reported that several airplane crashes at the Army's arctic research outpost, Camp Century, are believed to have been caused by similar altimeter readings.

The radio wave sent out by the altimeter is supposed to be reflected from the ground to the plane. The elapsed time for this to happen is converted into feet of altitude for the pilot.

But when the plane flies over glacial ice, the altitude-measuring pulse appears to penetrate the glacier rather than be reflected from it. The wave appears to plunge

through the entire glacier and bounce off solid ground beneath.

If the plane is actually only ten feet over a glacier, the altimeter may read about 2,010 feet due to the fact that solid earth lies 2,000 feet beneath the glacial ice.

Army scientists now are checking the feasibility of using radio altimeters as a fast, accurate way to measure the thickness of glaciers.

Science News Letter, March 26, 1960

MEDICINE

History of Heart Disease Includes Three Factors

THREE FACTORS appear to influence the answer to the often-asked question: "What kind of people are likely to get heart disease?"

In a research program known as the Los Angeles Heart Study, now in its tenth year, the three factors are:

1. An elevation in blood pressure
2. A family history of heart disease
3. Elevated blood cholesterol

The study has been carried out under the direction of Dr. John M. Chapman of the School of Public Health at the University of California, Los Angeles, together with Drs. L. S. Goerke and Leo G. Reeder, assisted by Mrs. Anne Coulson and others.

It is a cooperative one with the National Heart Institute of the U.S. Public Health

Service, the California Health Department, and other local agencies.

The project consists of a study of 1,859 men now or previously employed by the City of Los Angeles. These men, ages 20 to 70 at the initiation of the study, were in all types of jobs ranging from heavy manual labor to desk jobs.

They received detailed examinations between 1950 and 1954 and since that time have been contacted annually to determine whether or not heart disease has been diagnosed by their personal physicians.

During the decade 135 have died from various causes, including 59 from coronary heart disease. A total of more than 100 cases of this disease has occurred, including the fatal cases. The incidence is highest among the men who had high blood pressure, a family history of heart disease, or elevated blood cholesterol.

There did not appear to be any relationship between the type of work or socio-economic status of the individual in the development of heart disease. The disease struck alike among those in executive positions and in unskilled labor, among those in sedentary jobs and those involving heavy exercise.

Science News Letter, March 26, 1960

ROCKETS AND MISSILES

USSR Mars Shot Expected Soon

A POLISH specialist in astronautics believes Soviet scientists may shoot a rocket to Mars within a few months. The Polish news agency PAP reports that Prof. Jan Gadomski said the USSR's rocket tests in the Pacific are a preparation for the Mars thrust. Prof. Gadomski pinpointed April 16 as the best time for the shot. The rocket would then reach Mars on Dec. 30 when the planet is closest to the earth. The PAP report was included in a group of items dealing with the Soviet Bloc International Geophysical Cooperation for 1960 in a document prepared by the U.S. Department of Commerce.

Science News Letter, March 26, 1960

ASTRONOMY

Nova Shines in the Eagle For the Early Bird

A NEW NOVA that can be seen as a faint object with the naked eye or binoculars was discovered March 7.

A nova is a star that suddenly increases its light and becomes prominent in the sky for a time but later diminishes its light and becomes obscure.

The nova has a brightness of fifth magnitude. It can be seen from about 1 a.m. in the southeastern sky until morning when it will have moved up high in the southern sky. It is located in the Milky Way on the border between two constellations: Hercules, and Aquila, the eagle.

The find was reported by Miss J. M. Vinter-Hansen, Danish astronomer, to Harvard College Observatory, Cambridge, Mass., clearing house for astronomical information in the Western Hemisphere.

Science News Letter, March 26, 1960



RE-ENTRY VEHICLE—This experimental missile re-entry vehicle of the Air Force Research and Development Command's Cambridge Research Center contains instruments for measuring meteor sizes and electrical energy in space. Engineer Joseph Frissora of Geo-Sciences, Inc. is pointing to his self-designed meteor detector. The "ears" on each side of the vehicle measure ion densities and the electrical potential of the re-entering vehicle.