

# BEYOND THE POLE

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## BEYOND THE POLE

by MAYNARD M. MILLER

WE, DR. TERRIS MOORE, MAJOR LAWRENCE KOENIG AND I, took off from Eielson Field, Alaska, in mid-morning on August 1, 1951, to take part in a B-29 "Ptarmigan" flight to Ellesmere Island and from there northward to the vicinity of the geographic Pole. I had just come in from the Juneau Ice Field in southeastern Alaska at the invitation of Lt. Colonel Joseph O. Fletcher, Commanding Officer of the 58th Strategic Reconnaissance Squadron, who hoped that I might provide some "glaciological" interpretations regarding some huge floating ice features in the Arctic Ocean, which we hoped to see on this flight.

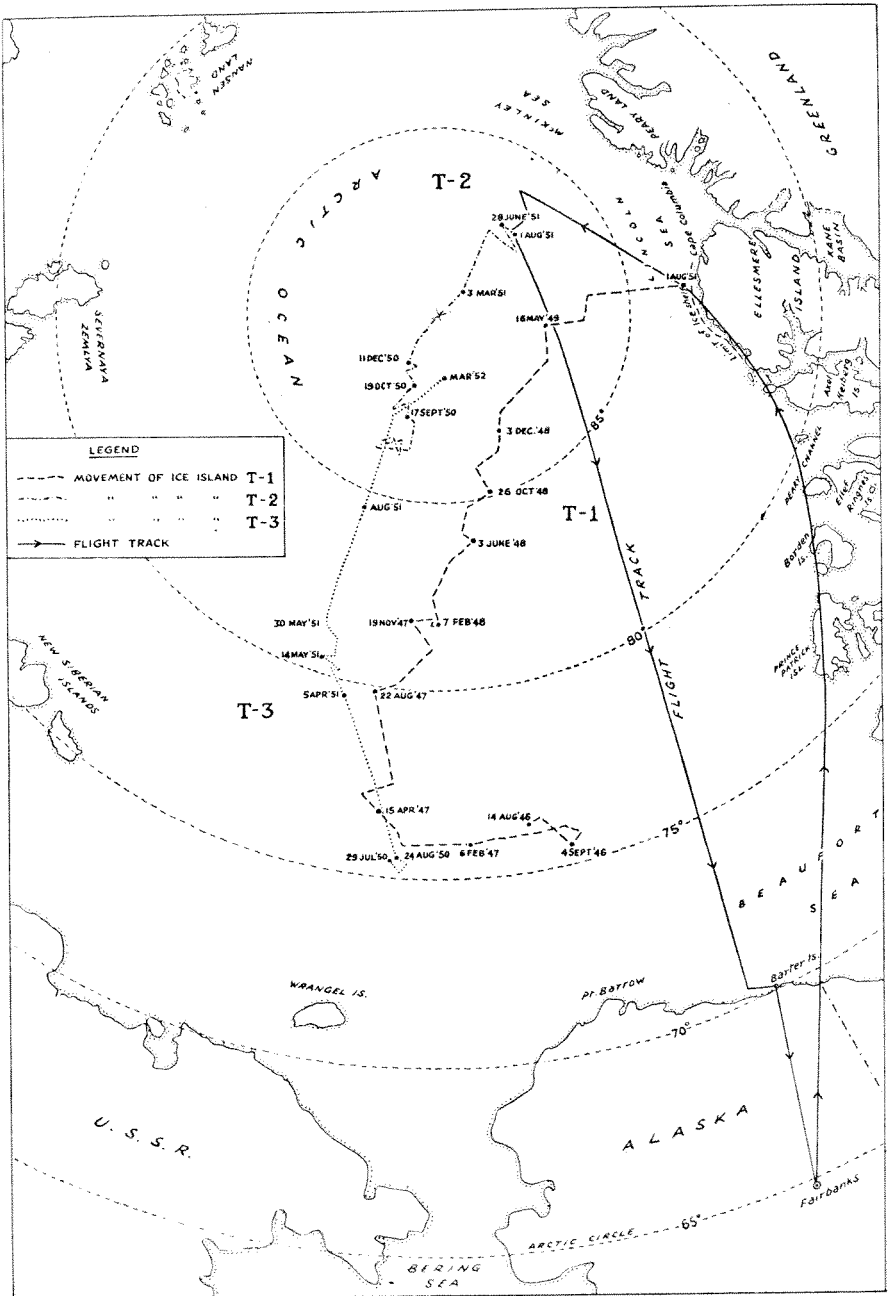
The track of our flight followed northward to the valley of the Yukon River, in the vicinity of Fort Yukon. From there, we flew over the eastern end of the little-known Brooks Range and headed out across broken and sporadic drift ice of the Beaufort Sea. The weather was clear, and we could see that the waters of the Arctic Ocean, for a distance of forty or fifty miles off the mainland of Alaska, were fairly free of floes. Then, flying at an elevation of 10,000 feet, we were in and out of cloud banks until, about 100 miles off Cape Prince Alfred, vision was completely obscured.

Our radar operator could pick up land ahead, so we knew we were on course. But it was disappointing not to obtain a completely clear view of this seldom-seen coast. Also, we were afraid that by the time we reached Peary Channel, a hoped-for view of Ellesmere Island to the northeast would likewise be obscured. As more than a month of cautious scanning of weather reports had given promise for this particular day, we held to our hopes.

At Latitude 80°N., the pilot swung to a more northerly course. About this time on the horizon, one to two hundred miles ahead, appeared a startling view of brown snow-crested highlands, glistening with glaciers. These were the Challenger Mountains and other ranges of Ellesmere Island. And in answer to our highest expectations, we saw it all now under a magnificent clear blue sky. We were especially pleased because we knew how unusual such perfect weather is in this region. Below, the strangely arid terrain of Axel Heiberg Island shimmered into view. With both my cameras working, I was able to catch a record of land ice, deep blue melt-water lakes in depressions on several glaciers, and then the steep sedimentary scarp which delimits the southern edge of an ice-choked channel, Nansen Sound.

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Sketch showing route of Peary Special Flight of Aug. 1st-2nd, 1951, and drift of floating ice islands in the North Polar Sea in the 5-year period 1946-1951.

For the next two hours, we traversed and circled the deeply cut and narrow re-entrants of fiords and glaciers along this vast and spectacular Ellesmere coast. It was a remote arctic land of unbelievable beauty spread out below us in the brilliant twenty-four-hour sun.

Between Phillips Bay and Markham Bay, along the shore of the Polar Sea, we found an unmistakable fringe of very interesting landfast ice. Between Yelverton Bay and Disraeli Bay, we could see fifty or more miles of continuous "ice shelf," some of it extending offshore ten or fifteen miles. All of the "ice shelf" showed a striking series of low surface undulations with their axes running northeast, most of them strangely parallel to the trend of the outer coast line. This welt and furrow effect looked like a gigantic plowed field, with clean snow on the ridges and blue ice and melt-water showing as long dark lines in the depressions.

And then, twenty miles north of Ward Hunt Island offshore from Disraeli Bay, we made a most startling discovery. There, within sight of land, drifting freely in the shifting maze of pack, was a huge chunk of triangular-shaped flattish ice—about twenty-three miles by twenty miles. There could be no doubt what it was. We had sighted one of the large, tabular bodies of ice which had been reported in the Polar Sea during the last several years and which had been christened, for lack of a better name, floating "ice islands."

Major Koenig was shuffling photographs in his hands and soon announced, "This is 'T-1,' the 'ice island' which has been lost from our view for the past two years."

We made several low passes over the "island," one for photographic purposes down to less than 100 feet above its surface. This surface showed strange corrugations similar to those which we had been viewing with such interest on the landfast "ice shelf" along the nearby coast.

Then we headed once again on to a northerly track and settled down for two hours of uneventful flying. Part of our mission had been completed, we had sighted one of the floating "ice islands." But pleased as we were with this success, we were not satisfied because now we hoped also to re-locate T-2, another and even larger "ice island" which had been last sighted in June.

Between latitudes  $83^{\circ}$  and  $85^{\circ}$ N., we passed over the tightest pack ice yet seen on this flight—giant floes and much pressure ridging everywhere we looked. North of Latitude  $85^{\circ}$ , we flew into another broad area of thick and solid undercast which fostered doubt of our ever re-locating "T-2" on this flight. It was then three hours before midnight, Alaska time, which meant we had been air-borne for eleven hours. Soon the plane would reach the

outer safety limit of its fuel supply, and we would be forced to turn back.

At 87°N., less than 250 miles from the North Pole, the under-cast gave way to a cold front. Beyond, reflected light from the mid-night sun gleamed from the endlessly flat and slightly broken pack. I was interested to note that so near the Pole there were many leads of open water. It looked as if luck was indeed on our side that day. And then came the expected announcement that our fuel radius had been reached; that we must give up the search and head for home. The plane turned, and we settled on a south-westerly course, Alaska bound.

I decided to strain through just one more tedious round of horizon scanning with my binoculars before we crossed a cloud bank ahead and became obscured in mists. I did not have much hope because we were only three miles from the edge of an endless and solid bank of fog. Then I picked up an unconformity on the horizon in the clear area on our starboard beam. I nudged Captain Bass and pointed.

He veered our course slightly for a better look. The whiter patch I had seen soon proved to be something quite different in nature and texture from the surrounding pack.

The nose of our plane was swung through an arc of 120 degrees in order to close in on "T-2."

We were then 150 miles beyond the North Pole, on the other side of it from Alaska. We maneuvered down for a closer look. Its identity was incontestably verified by previous photographs, now again in Major Koenig's hands. The appearance tallied with previous estimates of size and shape—roughly circular in outline, 400 to 500 square miles in area, and showing the characteristic linear surface structures of "T-1" and of the Ellesmere "ice shelf."

The navigator advised us there was fuel enough in the tanks safely to make only one low pass over the surface. To make it a good one, our pilot brought the plane down to fifty feet above these seeming broad surface undulations. As we roared over the farther end and began to circle slowly upwards for a long, last view, two large seals slithered off the edge and disappeared into a lead of open water along the low frontal cliff of "T-2."

As we leveled off for the long homeward flight on a straight line toward Alaska, we thought about "T-3," another slightly smaller "ice island" which had been first discovered in the Alaskan sector in July of 1950. "T-3" had by now drifted to a position within a few hundred miles the other side of the Pole from us. How we wished that our fuel supply was enough to get a look at it on the way home. But on this day we felt that we had indeed been blessed with opportunities of a lifetime, especially the sighting of "T-2" and the remarkable view of "T-1" within a few hours of each other.

At 6:00 A.M., on August 2, our plane reached the Alaskan Coast and made a landing on the short gravel airstrip at Barter Island. An estimated two hours of gasoline was left in the aircraft tanks. We had used the rest in nearly twenty hours of non-stop flying. Ours had been the longest "Ptarmigan" flight of the more than 500 weather missions completed to the Pole by this Squadron up to that time. And both pilots and members of the crew, all veterans of a number of such flights to the north, told me that this had also been the most interesting of any in the Squadron's record.<sup>1</sup>

A few hours later we were airborne again, coursing over the Brooks Range in brilliant sunshine in the direction of Fairbanks. There had been no night on this flight, and I had been too excited and interested to try to catch any sleep en route. But when we arrived at Eielson once again, both Terry Moore and I knew we were exhausted. But our pilots on this last lap of a most memorable and continuous 4,100 mile journey, calmly landed the plane just as if they were homing it in from another "routine flight to the Pole."

We were able to make some interesting observations as a result of this flight and to draw some significant conclusions. We had obtained information of very great importance which had not, to our knowledge, been reported before. This was the fact that the mass of land-fast ice on the northern shore of Ellesmere Island gave birth to these giant floating bodies of solid ice, one to three hundred feet thick. (This source we designated as a fringing "ice shelf," the only one known to exist in the northern hemisphere.) From there, after breaking free, the "ice islands" have drifted westward in the Beaufort Eddy, a broadly circular and clockwise-churning current of the Arctic Ocean, which passes from Canadian, to Alaskan, to Siberian waters, and eventually back again to northern Greenland and its neighboring seas. How many turns they have made in this giant slow-moving whirlpool is still a matter of conjecture. As are the answers to many other questions.<sup>2</sup>

Some of these answers will be given from a detailed scientific study of the features themselves. During the last two years, such a

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<sup>1</sup>Members of the aircraft crew were Capt. P. H. Bass, pilot; 1st Lt. N. J. McSwane, co-pilot; Capt. D. P. Bloom, navigator; 1st Lt. A. S. LeJole, Jr., navigator; 1st Lt. R. T. McFalls, radar observer; Sgt. E. W. Miller, chief engineer; T/Sgt. R. C. Campbell, assistant engineer; S/Sgt. C. H. Penn, radio operator; Cpl. B. J. Cook, meteorologist; Cpl. P. P. Jones, radio operator; Sgt. C. Bennet, photographer.

<sup>2</sup>A general discussion of the Floating Arctic Ice Islands is given in a series of articles by several authors recently published in the Journal of the Arctic Institute of North America, see: Koening, L.S.; Greenaway, K.R.; Dunbar, M.; and Hattersley-Smith, G., "Arctic Ice Islands," *Arctic*, Vol. V, pp. 67-103 (1952). Also see Montgomery, M.R., "Further Notes on Ice Islands in the Canadian Arctic," *Arctic*, Vol. V, pp. 183-187 (1952).

study has been initiated by several American research groups.<sup>3</sup> Thus we look forward with great interest to the results of these even more recent events in the scientific exploration of this fascinating polar problem. On March 19, 1952, the first exploratory landing was made on "T-3" in a twin-engined C-47 flown from Northern Greenland. This landing was directed and participated in by Colonel Fletcher who, from the start, has been so keenly interested in learning more exactly what these objects are and where they originate. With him on the first landing was General W. D. Old, Commanding General of the Alaskan Air Command, whose enthusiasm and energetic interest in the Arctic was proved to me at the time he co-piloted one of the landings of a similar Air Force plane in support of the Juneau Ice Field Research Project, in which I have been engaged during the past seven years. Until their visit to "T-3," no man had ever explored these "ice islands." Colonel Fletcher and a small group of observers remained there for several months to test the feasibility of setting up a weather station on this huge cake of ice. A weather station has been maintained on "T-3" ever since.<sup>4</sup> On the day of the first aircraft landing, "T-3's" position was charted as 103 miles from the North Pole. It drifted almost across the Pole in the following few months. If future year-around weather stations are maintained near the Pole and elsewhere in the Arctic Ocean, here will indeed be a valuable source of continuous information on Polar meteorological conditions, which will help greatly in every day weather forecasting in the northern hemisphere. To me, the international interest in any such endeavor is of least import. Of more basic value would be the wealth of new scientific information which could be gained by a research station, which year after year would be drifting through this still relatively unknown region. The information would be of great interest and significance not only to climatologists, but to oceanographers, glaciologists, geophysicists, and other Polar geographers.

Remote Arctic regions have long held a mysterious lure for men of pioneering spirit. Only a few have personally known its immensity, its friendlessness, and its intangible beauty. Now a new lure and a new excitement are added with the realization that here also is an unexpectedly rich and almost untouched harvest of new and continually significant scientific information.

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<sup>3</sup> See Crary, A.P., Cotell, R.D. and Sexton, T.F., "Preliminary Report on Scientific Work on 'Fletcher's Ice Island' T-3," *Arctic*, Vol. V, pp. 211-223 (1952).

<sup>4</sup> Fletcher, Joseph O., "Three Months on an Arctic Ice Island," *National Geographic Magazine*, Vol. CIII, pp. 489-504 (April, 1953).



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MCCLINTOCK FIORD AND THE MOUNTAINS OF NORTHERN  
ELLESMERE ISLAND



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THE BROOKS RANGE, NORTHERN ALASKA





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### ICE ISLAND, T-1 IN PACK ICE

View from 7,000 feet at thirty miles distance on August 1, 1951. Coast of Northern Ellesmere Island in distant background.



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### SURFACE OF ICE ISLAND, T-1

Drainage streams in the linear depressions between the low undulations on T-1, August 1, 1951