NORTHWEST -- OR NORTH?

St. Brendan, the Irish priest who sailed west from Ireland in the year 565 in a small coracle, was one of the early explorers in search of new land west of the British Isles. When you consider that a coracle is a small boat made of hides fastened to a wicker framework and is only about eight to ten feet long and almost equally wide, you can understand his most serious mistake. He landed on the back of a whale, thinking it was an island.

Columbus undoubtedly knew about Brendan's voyages, for tales about him were common in the folklore of ally seagoing people except the Arabs. The fast and easy way to Cathay eluded Columbus, and all he found was an extensive stumbling block. Immediately men strated looking for the detour around this barrier to the riches of the east. The Spaniards and Portugese took the southern route, and with the blesings of the Pope divided up the southern hemisphere between them. So the English and northern Europeans had to look to the north. Hudson and Cabot were among them, and their names are still attached to the evidences of their failure.

Continuing efforts to find the Northwest Passage came to a climax with the 1845 expedition of Sir John Franklin. This great expedition failed completely, but the search for Franklin sprked a tremendous amount of exploration in the Canadian Arctic. To him, therefore, must go much credit for large amounts of new knowledge.

Sir John Franklin, born in 1786, was a British naval hero, serving at Trafalgar and the battle of New Orleans. He led, or participated in, expeditions under the Admiralty to the Arctic in 1818, 1819-22, and 1825-27. He was governor of Tasmania from 1836 to 1843, and was recalled to lead what the Admiralty confiedntly expected would be the final and successful search

for the Northwest Passage. Commanding two ships, the Erebus and the Terror, Franklin left England in July, 1845

This was a particularly well equipped expedition. Both ships had been carefully rebuilt to withstand ice, were manned by unusually competent crews, and for once the British navy secured good supplies instead of the moldy bread and wormy meat usually given to such ventures.

The two ships were sighted off the coast of Greenland later that summer - and were never seen again, nor were any of the men, nor were any positively identified remains ever found.

Franklin was a capable and highly respected man. He had much experience in the Arctic, he came from a prominent family, and he had a particularly forceful as well as wealthy wife. When the admiralty wanted to abandon the search, Lady Jane would not permit it, and when the Admiralty finally summoned the courage to say no to her, she financed search and rescue expeditions on her own. In all, thirty-nine separate relief expeditions were mounted. the last one finally arriving back in England without positive results in 1859 - eleven years after the expedition itself was due to return.

One of the last of the expeditions sent out to find and rescue Franklin finally found some trace. But this was only enough to prove that Franklin himself had died in 1847, before the expedition itself had given up hope, and one year before the Erebus and the Terror were subsequently found to have succumbed to the ice. But on this final effort, the captain of one of the rescue vessels, Captain Leopold McClintock, did personally traverse the northwest passage. His ship was lost in the ice, crushed and broken as so many ships before and since, but McClintock walked a matter of twelve miles from where his ship sank to another ship which had come to the Arctic from the other direction. So, although a ship had not made the passage, a man had, on foot.

On another of these rescue operations, several ships were sent out to make a grand sweep. Three of them sank in the ice, and the survivors were successively in the loss of three more ships. They became real experts in Arctic survival.

In spite of the huge losses, knowledge of the Arctic was advanced at a rapid rate in the period of 1850 to 1859. Although the United States did take a small part in these Franklin rescue operations, most of the effort was British. These losses, however, rather tempered the British taste for the Arctic. By this time, too, it was realized that there undoubtedly was a northwest passage, but that it offered no easy path to Cathay, and traversing it would offer little more commercial advantage than climbing Mount Everest. So, from then on the mantle of leadership in Arctic exploration passed from the British, to be taken up primarily by the Americans and Norwegians.

Imperceptibly, and without any real intention on the part of anyone, the emphasis also changed. Gradually, men sought not just to find the northwest passage and to explore the Arctic seas, but they also sought to be the first man to walk upon the North Pole. At first, this was just a desire to advance the known Arctic frontiers. And in that part of the world there is no new place to explore except farther north. So, gradually, the desire became one of establishing new records of being farthest north.

The United States, of course, was occupied during the Sixties with the War Between the States, and with recuperation from that struggle, and later was concentrating on settling the West, subduing or killing Indians, finding gold and building railroads.

But in 1879 the United States became part of a group of nations seeking to establish thirteen observation stations in the Arctic. These stations were to observe various geophysical phenomena — an early geophysical year. One such

station was assigned to the United States, and an expedition was to be sent out to establish a camp as far north as possible on the coast of Greenland.

To lead this effort, the Army, in charge of the operation, picked a man with absolutely no Arctic experience. Lt. Adolphus Washington Greely was a signal officer, having served his entire career in the far west. He sailed with a crew of twenty-four men in July of 1881. All went exceptionally well, since 1881 happened to be a "good" ice year, enabling ships to sail farther north than usual. The observation post was set up at Discovery Bay, later named Fort Conger by Greely, at Latitude 81-44 North, the farthest north that But from the start any semi-permanent camp had been made. there seemed to be problems. Shortly before the supply ship was to leave, one of the crew members asked to be allowed to leave, since his enlistment period was up. He was allowed to go. Then the man who was second in command, Lt. Kislingbury, came to the conclusion that he and Greely could not work together, and he also asked permission to leave on the departing supply ship. Again permission was granted. He packed his gear and ran for the ship - too late, for alas the ship had sailed, was beyond hailing distance, and the reluctant Kislingbury had no choice but to remain with Greely. But he had already been mustered out of the Army, so had no official standing and no authority, and could not exercise the duties of an officer of the Army. It must be said, however, to the everlasting credit of both Greely and Kislingbury that both of them made the best of the situation. He became one of the most valuable members of the party, assumed leadership because of his natural ability, and was largely responsible for the fact that a few men survived, even though he himself died when rescue was almost at hand.

Another ship was scheduled to pick up the Greely party one year later - in the summer of 1882. But that was a bad year for ice, and the ship did not get through. So Greely stayed at Fort Conger through another winter. Another attempt to send a rescue ship was made in The following summer - 1883. This, too, failed, so late that summer Greely decided he must head south. It was knownthat supplies had been left at various places to take care of exactly this eventuality, and there were caches deposited by a number of previous expeditions, and for these Greely headed. None were found. Winter caught the retreating party when their supplies were practically exhausted. Hunting was unsuccessful, for they appeared to have found one of those comparatively rare parts of the Arctic not frequented by seals, polar bears or other animals. Even the Eskimos with the party could find nothing. A small cabin was built from rocks. roofed over with the one boat they had left. There was space in this cabin only for the men to lie down, crowded closely, and was high enough only to sit, not to stand. The hardships they endured that winter are unbelievable - little to eat, insufficient fuel to cook properly what little they had, no fire to keep them warm, clothing threadbare, blankets worn out. On top of the other problems one man was found to be stealing food, and was shot. Another drank from the dwindling supply of cooking alcohol. The doctor became mutinous and tried to destroy the authority of the officers. Near the end, there were only two men with sufficient strength to crawl on hands and knees down to the shore where they were able to collect a few small clams and snails - and this was the entire diet.

Finally, on June 22, 1884, almost three years after the expedition sailed, a relief ship under Captain Winfield Scott Schley found the seven survivors. Not one was able to do more raise his hand.

Little scientific data resulted from the Greely expedition. Most records, instruments and documents, with the exception of Greely's diary, were lost or abandoned in the final dash to leave the Arctic. But two members of the party did achieve

a notable "first". They succeeded in establishing a camp at the highest latitude yet achieved, on the north coast of Greenland at almost its most northern extremity. at Lat. 83-24 north, only 396 miles south of the Pole itslef.

Meanwhile, in the same year that the international geophysical year of 1881 was being planned, another exploratory mission had been organized. James Gordon Bennett, Jr., had apparently decided that the Arctic might provide headlines. He bought a ship - the Jeannette - had it completely outfitted and turned it over to the U.S. Navy for an entirely different attack on the Arctic. The navy placed Lt. George Washington DeLong in charge, and on July 8, 1879, he set sail from San Francisco, headed through the Bering Straits, and sailed west along the north coast of Siberia. Not far west, he headed north, believing that there was a current of warm water and consequently an ice-free sea that would take him far north, perhaps even to the Pole itself. He was right about the current, but fatally wrong about it being warm water and ice-free. The Jeannette was soon tightly beset in the ice, and for two years moved only as the ice moved. Finally, on June 13, 1881, after two fairly comfortable years on the ship, DeLong and his men had to abandon ship when it was finally crushed and sank. They had ample warning, and had moved a vast store of supplies to the ice. But they faced a difficult future. Not only must they battle their way over the ice carrying all the supplies, but they were also forced to transport three lifeboats to carry the party when they should finally reach the open sea north of Siberia. Often they had to traverse the same path seven times to relay all the supplies forward. There were days when the total forward progress was a mile or less. There were days when the ice moved north faster than they could struggle south, and they would end up, after much labor, farther away from the goal than when they started. But the entire party, without a casualty, finally reached open water. Sailors that they were, they rejoiced to be at last in an element they understood. Joy was short-lived, though, for within hours one of the boats was hit by a strong

squall and capsized with the loss of all on board. The other two boats reached shore near the mouth of the Lena River, one of them near a small settlement, and the other, commanded by DeLong, some miles away. The men in DeLong's boat were too weak to travel, and had no choice but to set up a meager camp on the shore. Here they waited for help. The other boat had better luck and its occupants were nurtured and helped through the winter by the settlers they had been lucky enough to find. Search parties were sent out to look for DeLong. All came back emptyhanded, and it was not until the following spring that the bodies of DeLong and his party were found.

DeLong's expedition was a complete failure, as Franklin's had been. But as with Franklin's failure, perhaps the Delong failure was not so complete as it might have been, for some wreckage from the Jeannette turned up a few years later on the east coast of Greenland. It could have found its way there only by drifting in the ice all the way across the Arctic sea — and very possibly across the Pole itself.

The failure of DeLong, and the tragedy of Greely, did not put the complete damper on American Arctic activity that Franklin's failure had put upon British Arctic work.

Hardly had Greely and his companions returned when a young nav y engineer started his Arctic career. Robert E. Peary was employed in the Engineers offices in Washongton and in central America and appeared to have a successful career ahead of him. But it would be a relatively drab career and he would never achieve fame. Peary never could stand to be just another navy engineer, no matter how good a one. As a route to fame and fortune, he chose the Arctic.

Peary's first trip north was a short one in 1886. He went again in 1891-92, and in 1893-95. All of these trips were ostensibly for exploration, particularly of the north-west coast of Greenland, and to gain experience. But there can be no doubt that no later than the time of the third trip in 1893 his real ambition was to make a dash for the pole. His next

he wintered on the far northern coast of Greenland, and in the early spring of 1909 he was again on the path to the Pole.

This time he used a somewhat different tactic. Formerly, the usual procedure had been for the complete party to go all the way, carrying all the supplies necessary. This time, small advance parties established bases a few days journey apart. As each party advanced it was able to lay another base somewhat further along the road. When all advance bases were placed, the last party, with Peary and Henson who had thus been able to avoid much of the extremely tiring work started on the final lap.

On April 6, 1909. Peary, Henson, and four Eskimos reached the North Pole. His sixth trip culminated in success, and he lost no time in returning to civilization to announce his triumph. But to his bitter chagrin, he returned not to triumph but to a long debate. While Peary was on his way back from the Pole, and hastening to the nearest cable station, Frederick A. Cook announced to the world that he, Cook, had reached the Pole on April 21, 1908, with two Eskimos.

Frederick Cook was a physician, explorer and mountain climber. He had been a physician with Peary in 1891-92, had served with the Belgian Antarctic expedition of 1897-99, had made an initial attempt to climb Mt. McKinley in 1903, and had succeeded in climbing that peak in 1906. When not otherwise enaged he practiced medicine, saved his money and planned his next trip.

In July, 1907, he again went north. Since he paid most of the expenses of these trips, he was not particularly lavishly equipped. He had one companion, whom he left in Etah because he could not provide food or equipment for him. From there on, he had only Eskimos with him. Cook returned to Etah in the late spring, after Peary had started north, saying he had reached the pole on April 21, 1908, and had spent the intervening year getting back. He immediately got passage on a whaler bound for

Europe, leaving his companion once again in Etah. This man had all of Cook's equipment, all of his records, all of his diaries, all of his meteorological data, and all of the proof that he had been to the Pole. He tried to get passage for himself and this material back to the States. All efforts were unavailing until Peary's ship offered him passage. But the condition of passage, as determined by Peary, was that absolutely nothing of Cook's would be carried. So, all of Cook's material was left in a cache in Greenland, and has not been seen since.

Peary arrived at Cape Sable, at the cable station, to send his history-making (he hoped) message to a waiting world, only to find that Cook had beaten him to the punch. Cook was being acclaimed in Europe as the first man to reach the Pole.

Peary was furious. The Pole was his - his, not Cook's. So then the battle was joined. Was Peary or Cook the first man to reach the Pole? The debate has hardly slackened from that day to this, and avid partisans on both sides do not cease to press their cause.

Today, when men get to the Pole almost at will and commercial airliners fly over it every day and atomic submarines cruise underneath fairly regularly, this might seem petty. But the debate raged in the press of the world, in scientific bodies and in the conversation of the man in the street in 1909. Peary had the backing, he had the support of the National Geographic Society, he had the records, he had the testimony of witnesses who could speak English, and he had the resources to push his case. It took some years, but the world has finally seemed to come to the conclusion that the victory was in fact Peary's.

Peary never went north again. Why should he? He had accompkished his objective, and "his" Pole was his. After much debate in Congress, which seemed to balk, Peary was made an Admiral in ghe Navy and died in 1920. Cook, on the other hand, went back to practicing medicine in a rather half-hearted way,

met with diminishing success, and finally was convicted of fraud in connection with an oil-well venture and served several years in prison. He, too, never ventured north again, and died a completely broken man in 1940.

But even now the debate is not over. There are still people who believe that Cook was the first to reach the Pole, and the last book on the matter was published in 1973. The bitterness of the battle is il ustrated by the fact that his friends visited him in jail, the respected explorers and scientists Steffanson and Amundsen among them. Amundsen was on his way to attend a banquet in his honour at which he was to be presented a medal, but when the sponsors heard that he had visited Cook in jail, the banquet was abruptly cancelled.

Nothing that happens in retic exploration ever seems to happen just by itself. When the story reached Norway that wreckage from the Jeannette had floated from the coast of Siberia to the east coast of Greenland, it impressed a young zoologist by the name of Fridtjof Nansen. Nansen had known that driftwood had been found on the coast of Greenland which could have come only from Siberia. It set him thinking and studying - he also was an oceanographer - and he came to the same conclusion that DeLong had - that there was a current in the Arctic which carried ice from the north coast of Siberia, across the Pole, and out into the Atlantic ocean east of Greenland.

Nansen had made his first trip north, to the islands of Jan Mayen and Spitzbergen and the ice north of them, in 1882, mainly to observe animal life. He and one companion crossed Greenland on skis in 1888. He was, by profession, a professor of Comparative Anatomy at the University of Christiana.

Nansen was completely convinced of his Arctic current theory. He studied oceanography in detail, and finally persuaded the Norwegian government and other backers to test his theory. He envisioned a boat specially built to rise up out of the ice when beset, rather than merely to be crushed. This meant a ship which was quite broad and shallow, with sides that flared out

sharply instead of rising vertically. He built his ship, the Fram, specifically to meet the conditions of being frozen in the ice, rather than of floating in the water. The result, of course, was a ship that was particularly uncomfortable when sailing, and was, some people claimed, just barely seaworthy.

The Fram was outfitted and provisioned with all necessary supplies to support a crew of eighteen men for as long as five years. Nansen's diary states repeatedly that they had all the comforts of home. They had a complete machine shop, a woodworking shop, sailmakers loft, plenty of food and enough coal both to drive the ship and to keep them warm. While they were surrounded by ice, sometimes twenty feet thick, and the temperatures reached sixty degrees below zero for days and weeks at a time, they were cozy and comfortable in their cabins. The main problem, of course, was boredom. Being a scientist and interested in all the natural phenomena surrounding them, Nansen directed a continual string of observations. Stations were set up on the ice, observations were made, and records meticulously kept.

But boredom finally got the better of Nansen. Besides, from his daily observations of latitude and longitude, it eventually became obvious to him that while the Fram was indubitably heading north and west, the track of the ship would not cross the north pole. He calculated they would miss the pole by some several hundred miles. The Fram's position at this time was 83-32.1 North, and in a direct line only 388 miles from the Pole. This was a distance that Nansen thought could be negotiated on foot. So Nansen and one companion, Johansem, left the secure comfort of the Fram and set out with dogs and sledges. They knew, of course, that this was an all-or-nothing proposition. Thry would be entirely unable to calculate the position of the drifting Fram, and there would be no chance of return to the Fram. They cut all ties, and henceforth could rely only upon themselves.

The story of the journey toward the Pole - and eventually home again - of these two men is an ubelievable tale of adventure, combined with a daily acceptance of the inevitable and a calm belief in their own ability to conquer whatever hazards were placed

in their path. At one point they were standing on the brink of the ice next to a rather large lead of open water when their two kayaks, tied together, sudenly floated away. Knowing that the loss of the two boats, carrying all their supplies and even their rifles, would unquestionably be fatal, Mansen lost no time in diving into the frigid water and swimming after them. After a terrible ordeal, he retrieved towed them back to the edge of the ice and climbed out. The temperature of the water was probably about 28° and of the air about 10°. Meanwhile, Johansen had been pacing along the edge of the ice, doubtless wondering what his fate would be, stranded with no boat, no gun, no supplies, no tent, no food and no companion. As soon as Nansen brought the boats back, Johansen stripped all of Nansen's clothes off, wrapped him in a blanket, put both sleeping bags around him and wrapped him ina tent. Soon all was well again, and they resumed the journey.

But even for this kind of intrepid traveller the Pole was beyond reach. On April 1, 1895, two months after starting from the Fram, Nansen finally decided that they must head south, having reached a latitude of 86-15 North - 225 miles from the Pole. On August 25, 1895, they finally reached land - the northern shore of a small island lying to the north of Franz Joseph Land, in latitude approximately 82-0 N., and made preparations for the winter.

Nansen and Johansen first built a small hut of stone, covered with a roof of walrus hides. Fortunately, they had landed in an area where the walruses, po lar bears and seals were plentiful, so every moment that could be spared from hut-building was spent in hunting. They soon had the carcasses of seals and walruses stacked like cordwood outside their hut, and were assured of a plentifuk supply of food and fuel for the winter.

Nansen believed, with Steffanson, that a diet composed entirely of fresh meat was an adequate prevention against scurvy - usually one of the greatest dangers of Arctic travel - and provided all the dietary elements needed. Neither Nansen nor Johansen suffered

in any way from malnutrition, and exhibited no signs of scurvy, and meat was all they ate for over a year.

Necessarily, the winter passed somewhat slowly. They chopped walrus meat for food, melted fat for use in cooking and heating, repaired kayaks and sledges, sewed their torn clothes, mended boots, and got ready for the next spring's return to civilization.

After journeying south the next spring, they finally met a party of English naturalists on the southern shore of Franz Spigling Joseph Land on June 17, 1896. This English party was expecting a supply ship during the summer, so Nansen and Johansen waited for it, and were given transportation back to Norway.

Perhaps the oddest coincidence of the whole expedition was that Nansen landed back in Norway on August 13, 1896 - the very same day that the Fram finally broke out of the ice north of Spitzbergen. Nansen and Johansen, who had spent seventeen months walking around the Arctic, were reunited with the eleven men who remaoned on the Fram within one week. Surely, this must have been one of the more remarkable Arctic voyages!

Although Nansen himself never again engaged in an attempt to reach the Pole, headid make several subsequent trips to the Arctic. He became active in the independence of Norway, and was the first Norwegian ambassador to the court of St. James. He was awarded a Nobel prize in 1922 for his work in repatriating prisoners of war and for steps to alleviate the famine in Russia in 1921-23.

But his ship, the Fram, did achieve success, for it was bought' by Rpald Amundsen and used in his successful attempt to conguer the south pole, which he reached on December 14, 1911 - thirty-four days ahead of Robert F. Scott.

Roald Amundsem, in the ship Gjoa, was the first man actually to achieve a passage of the Northwest Passage some years later, on a voyage in 1918-20. Later, in 1926, he flew across the North Pole in a semi-rigid dirigible, and in 1928 he died in the Arctic while

searching for the Italian explorer Nobile.

In 1973 a book was published claiming that neither Cook nor Peary had come anywhere near the North Pole. Well documented, with reconstructions of his navigational data, excerpts from his rather sparse diaries tending to show that his rate of progress was not commensurate with the distance he claimed to travelled, this author doubts that Peary ever got closer than 140 miles to the Pole, and certainly could not have been closer than twenty miles. Cook he discounts entirely as being nothing more than a swindler who never left the shores of Ellesmere Island.

In a trip taken by a group of zealous outdoorsmen, all of them admittedly amateurs, the North Pole seems to have been definitely and without any possible question reached on April 19, 1968. Four men, using snowmobiles, were photographed by a reconaissance airplane of the U.S. Air Force camped on a spot which the Air Force certifies to have been the exact location of the Pole. This expedition was copiously supplied by airdrops at frequent intervals. The claims of Cook rest entirely on his unsupported word, those of Peary rest on very slim scientific proof - but Ralph Plaisted of St. Paul had his picture taken there!

Before dismissing this effort merely as a public relations stunt to promore snowmobiles, which in part it was, remember that every previous explorer in every part of the world has always used the assistance of every device, trick, or piece of equipment known or suspected to have any value. Every explorer <u>must</u> use all the resources at his command. It just happens that the resources available to an explorer in 1968 were vastly superior to those available in 1908. A man would be foolish to walk to the North Pole, without even such an elementary contrivance as a compass, when he could ride in a snowmobile and have his position verified by the inertial guidance equipment and other sophisticated instruments of the Air Force.

At the same time that Plaisted was setting out to go to the

Pole in the winter of 1968, another expedition, British this time, set out from Point Barrow, Alaska. The purpose of this expedition, led by Wally W. Herbert, was largely scientific. Herbert hoped to reach the Pole, but primarily he wanted to study such scientific matters as the drift of ice across the Polar seas, wind currents, rate of ice melt, ice thickness, formation of pressure ridges, and all manner of meteorological phenomena. Herbert was, and is, one of the true breed of Arctic explorers, because although he made much of the scientific advantages, what he personally wanted to do was simply to walk across the Arctic from Alaska to Spitzbergen.

To prepare for this major effort, he and one companion spent most of the previous year, 1967, sledging across Ellesmere Island, from Greenland to Resolute Bay. This by itself was just a preliminary practice jaunt, to perfect the equipment, try out sl dging techniques and different kinds of food. Even so, if it had not been for the fact that Plaisted was in the general neighborhood with vast stores of supplies and an airplane, Herbert would probably havestarved.

The problems of sledging across the Arctic are, of course, many and difficult. Bur one of the worst problems is encountered right at the start, for the Arctic ice-pack does not come all the way to the north coast of Alaska. The solid ice-pack is about eighty to one hundred miles off shore, and the intervening ocean is just small floes, drift ice, sea ice and slush. None of it is firm enough to support a man, let alone sledges twelve to fifteen feet long, three feet wide, loaded with nearly awton of supplies. Periodically, a strong wind from the north will push the ice-pack further south, compressing this slush, and temperatures of 30 to 40 degrees below zero will freeze it into a fairly compact mass. The other problem, of course, comes' when you get to the other side and try to come back south over the same sort of treacherous footing to make a landing on Spitzbergen. The same situation, of course, was met by every other Arctic expedition, whether leaving from the north coast of Greenland, Siberia, or Ellesmere Island.

Starting in February, 1968, Herbert and his party of three companions crossed this hurdle, sledged north across the relatively stable ice-pack until summer began to melt the ice to the point where where travel was impossible, and then set up camp for the summer. This, too, is a hazardous proposition, for at thisseason large cracks develop with a suddenness that brings men out of a deep sleep to confront crevasses that suddenly are ten of twelve feet wide, and which may spread so rapidly that men, supplies and tents are separated on individual islands.

After starting again when the ice began to freeze up in the fall, Herbert travelled north for some miles, although not as far as they wished, when one man badly damaged his back.

During all this time, and for the rest of the trip, supplies were dropped to them by airplane, and there was much discussion about evacuating the injured man. But it happened that he was one of the most experienced. He had spent much time on Arctic and Antarctic expeditions, was thoroughly familiar with this work, and was relied upon, along with Herbert, the leader, to carry the expedition to success. So they wintered where they were, in spite of the strong objectuons, frequently voiced, of the British army doctor accompanying them. The doctor never ceased to insist upon evacuation, in spite of the obvious difficulties of landing a light plane on the rough ice, and Herbert never ceased to resist. Feelings ran rather high. The injured man himself insisted on staying. been running beside his sledge when he stepped into a hole in the ice, fell awkwardly and either sprained his back or slipped a disc. At any rate, he was immobile.

Apparently a winter on the ice of the Arctic is a good treatment for a slipped disc. The temperature at times reached as high as eighty degrees at the roof of the cabin, but at floor level it rarely got above freezing. This cabin was about fifteen feet square, built of wood in prefabricated sections which had been dropped to them by parachute. But Allan Gill, the injured man, thought it was too crowded for four men, and Foo warm, so all winter he spent part of the day in the warm cabin but at night

retired to his tent where the temperature was usually about ten degrees below zero. This undoubtedly is not the treatment of choice for an orthopedic surgeon with access to all the traction apparatus and other torture machinery of a modern hospital, but in this case it worked, for by spring when the party was ready tom ttravel, Gill was once again loading sledges, harnessing dogs, carving paths across pressure ridges, and carrying his full share of the load.

In Herbert's account of this trip there is one of the few detailed descriptions of the clothing used on such expeditions. Each man wore two pairs of woolen long-johns, and down-filled full-length pants, covered by wind-proof trousers. On the upper parts of his body he wore a thin woolen vest, a thick long-sleeved abd long-tailedwoolen shirt and a thick woolen sweater. On his feet he wore two pairs of thick woolen socks, two pairs of duffle socks and mukluks. On his hands he wore two pair of heavy woolen mittens and soft leather outer mitts. On top of all this he had an anorak - an Eskimo garment which is a sort of windbreaker with a hood and a muff around the face, and extending almost to the knees. He had two of these - one light-weight and only single-lined, and another double-lined with a wolverine fur collar. He also had a down-filled jacket, and on top of everything else a wolfskin coat. Rarely would more than one anorak, or the down jacket, be worn on the trail, but for short wxcursions out of the cabin or tent he might wear all of them. But as Herbert says, in spite of all this clothing, the body temperature fell steadily all day. By the end of the day the hands would be so numb that they couldn't hold a knife and would have lost all feeling, and the mitts would be frozen stiff.

So in spite of mountains of clothing, in spite of airdrops of food and fuel, travelling on foot in the Arctic is still a hazardous and strenuous occupation not to be undertaken lightly.

All writers of the Arctic have spoken of the immensely increased caloric intake, caused by the low temperaturea and the necessity to work in these low temperatures. Apparently

the demand for fats is insatiable. Both Herbert and Plaisted, whose expeditions were fairly lavishly equipped, and who had no reason to economize on food consumption since they could get more at any time by airdrops, mention that they consumed about 5500 to 6000 calories per day, a large part of which was fat. Even the dogs ate a diet of prepared foods especially rich in fats — and at times were even fed straight butter.

Herbert did reach the Pole on May 5, 1969, and six weeks later made a landfall near Spitzbergen. They could not get ashore because of the broken ice, so were taken off by helicopters from a British naval vessel. They had not on ly reached the Pole, but had also made the first trip across the Arctic on foot from Alaska to Spitzbergen. This, it is noted, is the long axis of the Arctic, and is far longer than from Greenland across the Pole to the islands north of Siberia.

So now the Northwest Passage has been discovered, and the North Pole has unquestionably been reached. Who got there first remains a matter of argument — but anyone going there now will beyond all question be at least third. The Northwest Passage is traversed regularly by ships of the Canadian Coast Guard, and was in fact used recently by a supertanker in an effort to determine whether that was a practical route for bringing the oil down from the north slope of Alaska. The ship did get through, but it proved primarily that this is not a feasible commercial route. What remains? Mount Everest has been climbed, several times, but almost every year yet another expedition sets out to do it again.

There is still the very plausible excuse of Arctic exploration. In spite of the litterrally hundreds of expeditions to the Arctic, the factremains that most of them have followed certain fairly well defined routes. Most have gone north over what has come to be known as the American route - straight north from the northeast shore of Ellesmere Island, or from the north coast of Greenland. There have been some trips from Alaska, but by and large these are t

the only routes used. There remains a fairly vast area of the Arctic virtually unknown. It is flown over almost daily, there are ice islands manned by U.S. or Russian scientists and military personnel, submarines cruise around there under the ice, and it is fairly well established that there is no undiscovered land up there.

But what man bitten by the Arctic bug has ever lacked an excuse? It is there, it is cold, it is forbidding, and it is a formidable challenge. Men will go again - on foot, on dog-sledges, or by snowmobile.

Francis A. Lackner Cedar Rapids Literary Club January 27, 1976.