

The Norge flying over Svalbard with a combined crew of Norwegians, Italians, and an American. They became the first to fly from Svalbard over the North Pole and landed in Teller, Alaska.



Amundsen, deeply fatigued after the challenge and stress of expeditions and financial concerns, 1924.

Amundsen explained that he had no interest whatsoever in racing Byrd to the North Pole. They were good friends, and they had different goals. When Byrd and Bennett returned from their sixteen-hour flight, Amundsen and his crew were there to congratulate them on their success.

Two days later, on May 11, 1926, a light breeze was blowing, and Nobile was nervous about how it would affect the *Norge*.

Amundsen and Byrd

After the flying boat experience, Amundsen was convinced that the best way to fly from continent to continent—from Svalbard, Norway, to Barrow, Alaska, over the Arctic Ocean—was with the N-1 dirigible *Norge*. Lincoln Ellsworth purchased the N-1 from the Italian government and employed Colonel Umberto Nobile, the N-1's designer, to pilot the dirigible for the flight. Tensions developed, however, between the Norwegian and Italian crews, as both groups vied to be in control of the expedition.

Amundsen clarified his position for Colonel Nobile and explained that he and Ellsworth were the commanders of the expedition and Nobile had been hired to pilot the *Norge*. Nobile believed differently; he was the N-1's designer and he would be the pilot and he wanted to be the commander of the expedition and receive all the credit. Amundsen would later believe that Nobile was pressured by Mussolini to do this to gain acclaim for himself.

Nobile kept focusing on the goal of flying to the North Pole. Amundsen clarified the continent-to-continent goal, but when Nobile heard that Richard Byrd and Floyd Bennett, the Fokker's pilot, were on the beach in Svalbard making final preparations for the *Josephine Ford*, a Fokker Trimotor plane, to attempt the first flight from Svalbard to the North Pole, Nobile told Amundsen that they could have the *Norge* ready in three days, and they could reach the North Pole before Byrd.

He told Riiser-Larsen, Amundsen's pilot, that if he took responsibility for the *Norge*, he could fly the *Norge* out of the hangar. Riiser-Larsen accepted the offer and at 10:00 a.m. they lifted off from Svalbard. They flew 3,391 miles, crossed the Arctic Ocean, and landed in Teller, Alaska. The flight took a total of seventy-one hours.

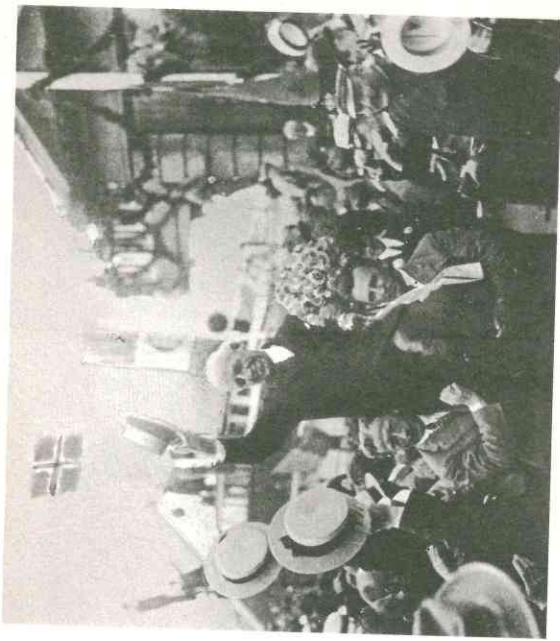
The disdain between Amundsen and Nobile grew as they vied for credit, and other disagreements ensued, until they would have nothing to do with each other.

Two years later, on May 24, 1928, Nobile and an international group of sixteen scientists and support crew attempted to fly to the North Pole on the *Italia*, an N-class airship. The *Italia* got caught in a storm on the return trip and on May 25 crashed onto the ice about twenty-five miles from Svalbard. Ten men were thrown onto the pack ice, and the *Italia* was swept skyward by the wind where it exploded, killing those still on board.

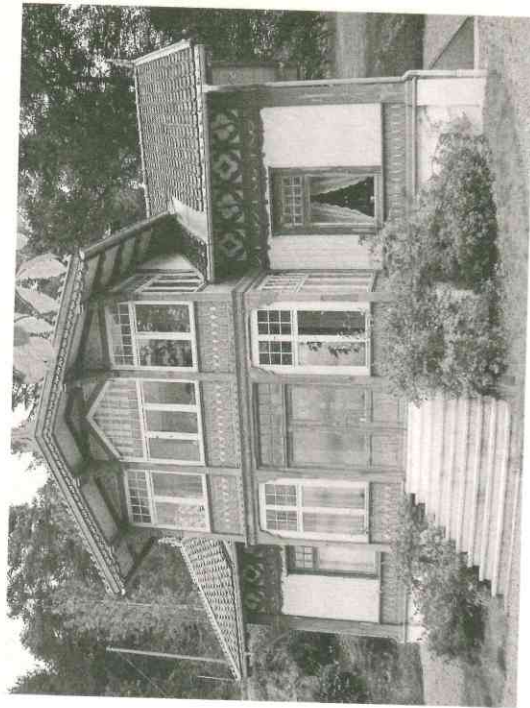
Many of the survivors were injured, including Nobile, who had a broken leg. The men managed to salvage a radio transmitter and a tent that they painted red to maximize visibility on the sea ice. They drifted on the ice toward Foyn and Broch Islands.

When Amundsen heard that Nobile was in trouble, as well as Amundsen's old friend Dr. Finn Malmgren, a Swedish meteorologist who had flown with him on the *Norge* and drifted with him on the *Maud* expedition, and that the Italian government had not initiated a rescue effort to save the men, Amundsen put all of his differences aside and joined an international team from Soviet Russia, Norway, Sweden, the United States, Italy, France, Finland, and Denmark to rescue Nobile, the scientists, and the crew.

On June 18, 1928, Amundsen flew with five aircrew on a Latham 47 flying boat, named for Hubert Latham, a French pioneer in aviation who had attempted to be the first to fly a powered aircraft across the English Channel. Latham's plane's engine failed when a loose wire was caught in the engine, and he made the first successful landing on the water.



Amundsen returned home to Norway to a hero's welcome, and his North Pole achievement was celebrated through the streets of Bergen, July 12, 1926.



Amundsen's home, Uranienborg, overlooking the fjord, as he left it. His study was filled with nautical charts and maps and books, a resistance cord to exercise his upper-body strength, and mementos, including a photograph of himself with the king and queen of Norway and one of Amundsen with Nansen. His study has a sextant and a bathroom designed like one on board a ship.

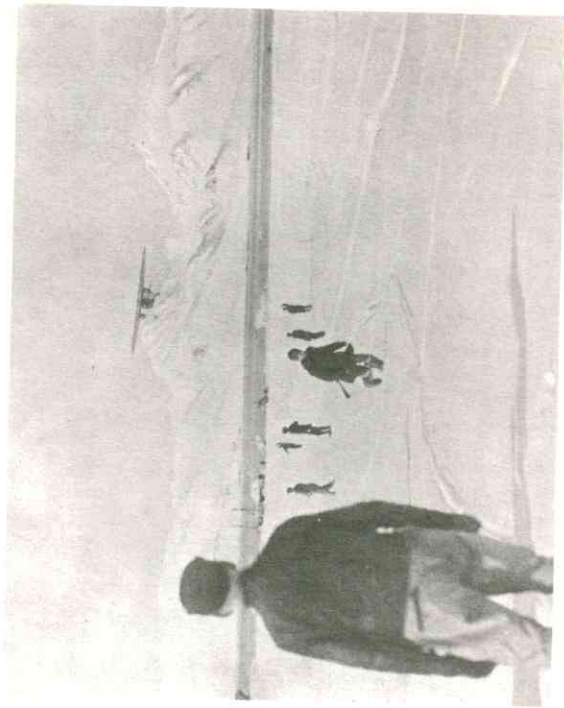


Roald Amundsen, standing in front of the French navy's Latham 47, before Leif Dietrichson, and the French aircrew of Rene Guilbard, Albert Cavalier de Cuverville, Gilbert Brazzy, and Emile Valtte used the aircraft to search for Nobile.

The day Amundsen and his crew took off from Tromsø, the weather was very foggy. The Latham 47 disappeared somewhere in the Barents Sea. The crew's last radio transmission was picked up on June 18, 1928, at 6:45 p.m., when they should have been about nineteen miles south of Bear Island.

A month after the *Italia* crashed, Lieutenant Einar Lundborg, of the Swedish air force, landed a Fokker ski plane and evacuated Nobile to Ryss Island, Svalbard, the base camp of the Swedish and Finnish air rescue crews. Nobile had argued with Lieutenant Lundborg to take the wounded men out first, but that was not Lundborg's orders. When Lundborg returned to evacuate another survivor, his plane crashed, and he was trapped with them. The Soviet icebreaker *Krasin* ultimately rescued the survivors.

Amundsen's body was never found. Like the artifacts from George Washington De Long's crushed ship that showed



The Fokker F-VIIA-3m Josephine Ford flying over Kings Bay, Svalbard, Norway. Byrd and Bennett claimed to be the first to fly to the North Pole. It is believed that Amundsen is the man in the foreground, watching the flight, 1926.

Nansen the way through the polar seas, a pontoon from Amundsen's plane rose from the depths and was discovered floating on Arctic waters.

It was as if the pontoon had been found as a way to underscore Amundsen's remaining vision—that flight was the way to explore the polar regions. Flight would give modern-day explorers the ability to see far beyond ships' masts and high above the dogsled trails. Flight would give them speed, allow them to cover expansive distances, and give them entrée into the unknown—the unexplored wilderness of Antarctica.

Amundsen shared this vision with Admiral Byrd on May 10, 1926, the same evening Byrd and Floyd Bennett returned from the first flight to or near the North Pole.

They had dinner with Amundsen and Lincoln Ellsworth, who were preparing to fly in a few days in the *Norge* over Byrd's route and land in Barrow, Alaska. Near the end of the evening,



Byrd and Amundsen standing side by side on Svalbard Island, Norway, before Amundsen attempted his flight over the North Pole.

Amundsen asked Byrd what he was planning to do next. Byrd told Amundsen that he wanted to fly to the South Pole. Byrd wrote that when he told this to Amundsen, he was half serious and half jesting, but Amundsen took him completely seriously. Amundsen told Byrd that it was "a big job, but it can be done" (*Little America*, 24).

Amundsen took Byrd under his wing, as Nansen had done for Amundsen. He told Byrd that flight was the way to explore Antarctica: "The old order is changing. Aircraft is the new vehicle for exploration. It is the only machine that can beat the Antarctic." He advised Byrd to purchase the *Samson*, a ship, to launch his expedition, which Byrd did. He later renamed her the *City of New York*.

Before Byrd set off on the South Pole expedition, he needed to complete a different objective. He had been competing with Charles Lindbergh to become the first to fly nonstop across the Atlantic. During a test run, though, Floyd Bennett crashed the Fokker Trimotor airplane, the *America*, and was badly injured.

On May 20 to 21, 1927, Charles Lindbergh began his

attempt and took off from Roosevelt Field, New York, in the *Spirit of St. Louis*, a tiny single-engine monoplane.

As a child Lindbergh had dreamed of flying across the Atlantic. He had taken flying lessons, worked as a mechanic, barnstormed, and wing-walked. And he wrote a letter to his father to convince him that this was what he had to do with his life, and he offered to help his father run for Congress by flying him around Minnesota, from one campaign stop to another. His father supported Lindbergh's aspirations.

Lindbergh joined the army, and in 1924 he began flight training in the U.S. Army Air Service in San Antonio, Texas, at Brooks Field (now Brooks Air Force Base). Lindbergh graduated first in his class, earned his pilot's wings and a commission as a second lieutenant, and continued to fly with the Missouri National Guard. He convinced Ryan Aeronautical Company in San Diego, California, to build the *Spirit of Saint Louis* for his attempt, and he invested his own money in the venture.

Lindbergh, in his unpressurized, unheated monoplane, flew into the unknown over Canada, to altitudes of more than ten thousand feet to avoid thunderstorms. When the wings of the *Spirit of St. Louis* became iced up, the airplane dropped from the sky to within ten feet of the surface of the Atlantic, and the wind off the ocean waves buffeted the plane. Somehow he managed to stay in the air, but when he flew over Greenland his magnetic compass stopped working. He completely lost his sense of direction and couldn't see where he was going. The fuel tank positioned in front of him completely obscured his view. He flew over what he thought was Ireland, over the English Channel, and landed on Le Bourget Field in Paris. He became the first man to fly across the Atlantic, from New York to Paris; he did it in thirty-three and a half hours.

In order to test out his Fokker F-VII, on June 29, 1927, Byrd made his own bid to fly across the Atlantic with Bernt Balchen, a former lieutenant in the Royal Norwegian Naval Air Service who had been on the Amundsen-Ellsworth *Norge* expedition. They took off from Roosevelt Field, New York, along with two

other crew members, and on July 1, 1927, crash-landed on the shores of Normandy.

Byrd began to correspond with Amundsen and asked for more advice about his dream of becoming the first to fly to the South Pole. Amundsen took on the role of Nansen and wrote Byrd and told him the type of pemmican he would need, that he should hunt seals to provide fresh meat for his crew and the dogs. He told Byrd that he was trying to get all the equipment he needed, and he advised Byrd to bring chocolate and oatmeal crackers. He gave Byrd suggestions to wear good woolen underwear with a light windproof jacket over it. He cautioned Byrd against dressing too heavily and perspiring, and stressed the need to stay dry and warm. He also advised him to wear goggles to prevent snow blindness, and that they would make it easier to detect crevasses on sunny days.

Byrd and Amundsen continued exchanging letters and telegrams, and Amundsen did everything he could to help Byrd reach his goal of flying to the South Pole. Byrd wrote to Amundsen on June 7, 1928, to express his gratitude and friendship.

Unlike Amundsen, Byrd was able to secure the massive support he needed to cover the enormous cost of the South Pole expedition. His support often came from giants in the business world who had great vision; his backers included John D. Rockefeller Jr., Edsel Ford, Vincent Astor, the Daniel Guggenheim Fund, Harold S. Vanderbilt, Gilbert Grosvenor of the National Geographic Society, Adolph Ochs and Arthur Sulzberger of the *New York Times*, Joseph Pulitzer of the *St. Louis Post-Dispatch*, and the U.S. Navy.

Byrd required funds to pay for the cost and outfitting of three ships, the *City of New York*, *Eleanor Bolling*, and *C. A. Larsen*, and two aircraft, a Ford Trimotor and a Fairchild. He had to raise funds for the buildings that would be constructed at Little America—a mess hall, bunkhouse, photography laboratory, library with three thousand books, radio laboratory, hospital, and separate housing for the physician, geologist, meteorologist, and physicist, as well as buildings for the mag-

netic observatory, weather station, radio storeroom, aviation workshop, and machine shop. Byrd had to provide twelve hundred gallons of gasoline, seventy-five tons of coal, enough food for fifteen months, and supplies and equipment for fifty-four men, eighty sled dogs, and Igloo, his small white terrier.

On September 1, 1928, when it was presumed that Amundsen was dead, Byrd wrote a letter for the *Aftenposten*, the newspaper in Oslo (as Christiania had been renamed in 1925), Norway, and the letter appeared in the newspaper on September 3, 1928:

Amundsen was my close friend. He was a lionhearted man and one of the greatest explorers of the ages. America shoulders this sorrow with Norway. He died nobly going to succor those in distress. In Amundsen's honor I shall carry a Norwegian flag with us to the Antarctic continent.

R. E. Byrd

On January 2, 1929, the *City of New York* reached Little America, Byrd's base in Antarctica on the Bay of Whales, on the Ross Ice Shelf, four miles north of where Amundsen had established Framheim. Byrd and his crew wintered over in Little America and discussed how they would achieve the first flight to the South Pole. They had to consider every detail: How much fuel and oil would they need to complete the flight, and how much of a reserve? If they had to make a forced landing, how much food and clothing, sledge equipment, and repair equipment would they need to carry for their survival?

They contemplated how they would attempt the flight: as a nonstop flight or with two stops. Dean Smith, one of the pilots, was concerned that if they hit a headwind, they wouldn't be able to reach the South Pole and return to Little America, and if they landed twice for refueling, in unknown places, they increased the risks of crashing by 20 percent. They decided to run fuel and altitude tests to see how the aircraft performed. Byrd also had his crew itemize and weigh everything they were carrying on the aircraft—emergency food, sledges,

medical supplies, tents, radio, scientific equipment—and they did the same for the sledges. They removed what was deemed unnecessary and reduced the weight of everything they could.

Byrd planned two flights: the first, to place fuel and supplies in a depot at the base of the Axel Heiberg Glacier for the return flight from the pole, and the second, to make the South Pole attempt. They would also lay down depots as emergency rations for the aircrew if they were forced to land.

The sled dog teams were essential to laying down the depots. They struggled alongside their handlers across the ice in the brutal cold and weathered numerous blizzards. To Byrd and his men, the dogs were far more than work animals; they were dear friends. Norman Vaughan, who was the expedition's best dog handler, had a favorite dog named Spry. Byrd noted that Vaughan loved Spry as a brother. Spry had worked so hard unloading supplies that his joints were so inflamed when he finished he could barely walk. Vaughan considered shooting Spry to put him out of his pain. Instead Vaughan and Byrd brought him inside, and Byrd kept him in his room where it was warm and gave him a canvas to sleep on. They fed him a special diet. A couple of days later, they took Spry outside for exercise just as his old dog team was running by. Spry saw his teammates Watch and Moody frolicking past, and he went after them in a burst of speed, overtook them, and summoned something from deep within to force his way to his position in the team.

Byrd wrote that it was one of the most beautiful things he had ever seen: "The whole camp stopped working at the sight, and watched with wonder how Moody and Watch muzzled the veteran, and laid their paws on him in a most extraordinary gesture. That these wild and untrammelled animals should be capable of harboring so deep and lasting a sentiment was beyond understanding." Spry gradually regained his strength, rejoined his team, and together with the men worked toward opening the Antarctic continent by dogsled and by aircraft.

Laurence Gould, second in command of the expedition, conducted the first geological survey of the Rockefeller Mountains from the air. Byrd and his aircrew photographed the first

aerial survey of the Bay of Whales, and they monitored and tested the aircraft.

Throughout the expedition, the scientists, especially the magneticians and meteorologists, and the radiomen, were constantly problem solving and trying to determine the best day for the flight, and how they would maintain radio communications and help the aircrew navigate.

William Haines and his team of meteorologists made surface observations—temperature, wind, and so on—and sent pilot balloons up to thirty thousand feet, making some of the first observations of atmospheric circulation in Antarctica. They discovered that the upper atmospheric observations were the only reliable sources for indicating immediate changes in the weather.

And they also discovered that the earth's magnetism affected radio communications. Byrd's three radiomen, Malcom P. Hansan, Carl O. Petersen, and Howard F. Mason, created a radio system that operated on high and intermediate frequencies, which were less affected by physical disturbances, and they were able to provide the aircraft with a radio compass and a directive radio transmitting beacon for navigation. In a building they called Ochs Radio Station, the radiomen—along with Fred Meinholtz, the radioman with the *New York Times*—kept the men in touch with the outside world, but after living months in cramped quarters, in the bitter cold and gray diffuse light, they longed for spring.

On October 9, 1929, Byrd and Russell Owen, a journalist with the *New York Times*, stepped outside their building, and, as Byrd wrote:

The air suddenly became charged with ice crystals, which fell like rain. The sun broke through the shattered cloud fabric which turned yellow and opalescent in its growing power, then arched more beautiful than any rainbow I have ever seen swept upward, curved, and in a moment the sun was crossed by two great shafts of brilliant light, in the center of which it burned with leaping



Portrait of Russell Owen (New York Times). Owen's coverage in the New York Times of Byrd's Antarctic expedition won a Pulitzer Prize in 1930. Owen and the New York Times opened radio communications into the interior of Antarctica and from Antarctica to the world.

tongues of flame. On either side could be seen the trembling halos of the mock suns, each impaled on its shaft of prismatic light. Directly opposite the sun was the antihelion, the reflection of the outstretched reach of the cross, a luminous pillar rising from the snows of the Barrier. For nearly an hour we watched this gorgeous display, while the ice crystals that caused it fell in sparkling showers. (Little America, 279-280)

Owen wrote that night, "We went indoors deeply affected by the beauty and grandeur of this great vision" (Little America, 280). They took this display as a favorable sign.

On Thanksgiving Day, 1929, Laurence Gould with the geographic party radioed that the weather was unchanged with perfect visibility. Harrison set off his weather balloons, and Haines checked the weather charts and told Byrd that he would never have another day as good as this.

Just after 3:00 p.m. on November 28, 1929, Richard Byrd, the navigator; Bernt Balchen, the pilot; Harold June, the copilot-radioman; and Ashley McKinley, the aerial surveyor-photographer, climbed into the Ford Trimotor *Floyd Bennett*, filled with rows of gasoline cans, piles of clothes, and sacks of food. They took off at 3:29 p.m. from Little America on the

BYRD OPENS SPRING DRIVE OF DISCOVERY AS HIS SUPPORT PARTY GIRDS FOR START ON 200-MILE BASE-LAYING TREK SOUTH

WARM SUN FAVORS EFFORT

Four Men With Three Dog Teams Will Blaze Trail to Mountains.

FIRST LAP TO BARRIER EDGE

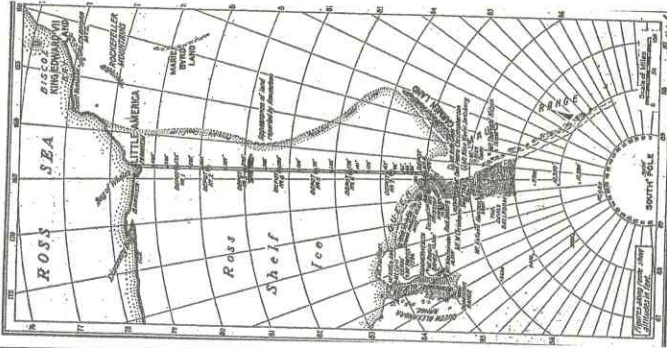
Then, After 900-Foot Ascent, Sledgers Face Peril of Crevasse on Slope to Goal.

TO SHUN AMUNDSEN'S TRAP

They Will Set Up Four Outposts, 50 Miles Apart, to Enable the Geologists to Go Rest of Way.

By RUSSELL OWEN, Special Staff Writer, New York Times.

Little America, Antarctica. The supporting party of four men with three dog teams, say the geologists, will blaze a trail to the mountains. There is a worst case scenario, says Byrd: a blizzard that would trap the party on the slope of the barrier, where it will be necessary to dig out. The men will probably be five or six days on the way.



ROUTE OF BYRD'S PIONEERS TOWARD POLE. Map shows line of depots to be laid to the Queen Maud Mountains, and the route of the party. The party will be supplied by the geological party which will then be enabled to complete the journey.

New York Times (October 16, 1929) story and map of Amundsen's achievement of the South Pole.

first flight toward the South Pole. Their major question was: would they be able to gain enough altitude to fly over the "Hump," the critical place in the route where they would have to climb to eleven thousand feet, high enough to fly above the Polar Plateau?

At 3:29 p.m. they took off from Little America and flew along the depot trail but lost sight of it off and on as they flew through a confusing haze.

The wind was gusting from the east, and Balchen had to correct 10 degrees to the left to maintain a straight line for the South Pole. He was calm, but eager to reach the Hump. June was working the radio, McKinley was using the mapping camera, and Byrd was studying the chart and navigating.

The men were shouting above the sound of the engines to communicate. They were hot in their bulky parkas and clothes, but a cool breeze blew through the cabin, and when the sky cleared, it was flooded with golden light.

Byrd noted their position and remembered that Amundsen had been delighted when they accomplished twenty-five miles per day; Byrd and his crew were now averaging ninety miles an hour over the barrier. Byrd also realized that in an aircraft he had the advantage of speed over Amundsen and his sled dogs, but if the aircraft had a mechanical failure or encountered strong headwinds, things beyond Byrd's control, these factors could destroy their attempt, and take their lives.

They spotted Laurence Gould and the geological party one hundred miles from the base of the Queen Maud Range. Gould radioed Byrd and he confirmed the aircraft's position. When they reached the Queen Maud Range, Balchen opened the engines up to full throttle—1,750 rpms. Byrd watched the altimeter and used a sun compass for navigation. The *Floyd Bennett* climbed steadily to forty-five hundred feet. When they arrived at the spot where the Axel Heiberg Mountains and the Liv Glacier came into view, they had to choose a direction, and they had to decide quickly—wasted time meant wasted fuel.

They recalled that Amundsen had said that the highest point of the pass on the Axel Heiberg Glacier was 10,500 feet. June calculated the fuel consumption and the weight of the airplane, and then they determined how high they could fly. They realized the towering peaks on either side of them, surrounding the pass, were higher than the aircraft could fly. But they weren't sure how wide the pass was, or if they would be able to fit through it or turn around if it was necessary.

Balchen noticed a thin cloud capping the Axel Heiberg Gla-

cier, perhaps indicating a change in weather, so they chose to fly through the pass on the Liv Glacier, named after Nansen's daughter. Byrd judged it was not quite as high as the Axel Heiberg Glacier and perhaps a bit wider.

At 9:15 p.m. June tore open the fuel cans and poured the contents into the main tank and dropped the two-pound cans overboard to reduce weight. June calculated the fuel usage. They had encountered headwinds so the flight took longer and used more fuel than they expected, but they had taken aboard extra fuel just before they departed. They reached the face of the Liv Glacier and caught sight of what they thought might be the Polar Plateau.

Byrd noted that the glacier rose sharply in a series of terraces, some of which rose high above the altitude of their airplane. And there were glacial waterfalls up to four hundred feet high that were more beautiful, Byrd noted, than any stream he had ever seen. But beauty gave way to concern.

Air was rushing through the pass, and the airplane's wings were shivering and teetering and bouncing in the air. The air grew so rough that they had to change course over a scary sequence of crevasses and into downdrafts that nearly stopped their climb. The winds were so strong that they were creeping through the narrow pass, unable to turn around. They knew that if they lost power for a moment or if the air became violently rough, they could only go forward or down.

Balchen struggled to get the airplane to continue to climb, but it wasn't gaining altitude, and he shouted to the crew that they had to toss two hundred pounds overboard. Byrd had to decide between food and fuel. If it was fuel, they might not have enough to get to the pole and back; if it was food, and they crashed, they would have nothing for survival.

Byrd ordered June to throw a sack of food overboard, and the airplane began to climb again, but the downdrafts pressing on the aircraft increased, and so they threw out a second bag. The airplane immediately gained altitude, and they managed to clear the pass with five hundred feet to spare. They climbed



Admiral Byrd landing in Antarctica, 1929.

over the Polar Plateau and slipped past peak after mountain peak on the eastern horizon. And they continued their flight on the 171st meridian.

On the floor of the airplane was a drift indicator that showed the plane's drift to one side or the other. McKinley and Byrd were constantly checking it. Byrd was using that information along with a sun compass to guide Balchan.

Byrd took a sun shot, and at 1:14 a.m. Greenwich civil time their calculations showed that they had finally reached the South Pole. They crossed the pole a second time, and Byrd noted that they were over the spot where Amundsen and Scott had stood, and in their honor the flags of their countries were carried over the pole. Only a white limitless plain lay below.

They headed back toward Little America; the mountains that had been vibrantly clear were now covered in fast-moving clouds. Time moved slowly, but a tail wind pushed them along, and they flew at 125 miles per hour at an altitude of between 11,500 and 12,000 feet.

When they reached Mounts Ruth Gade, Nansen, and

Christophersen, Balchen smiled, and they flew between Ruth Gade and Christophersen. They were making great progress, but suddenly the mountains didn't look familiar to Byrd, and then he remembered what Amundsen had warned him about. The mountains change appearance from the position from which they are viewed. Byrd realized that they had been flying at a different altitude and suddenly recognized Mount Nansen and the Liv Glacier, where they landed smoothly and refueled. After taking off again, they finally saw the Bay of Whales and the radio spires of Little America. They landed at 10:08 a.m., November 29, 1929, and having completed the first flight to the South Pole in eighteen hours and forty-one minutes.

Richard Byrd coordinated four more pioneering expeditions into Antarctica, and in 1956-57 he commanded the U.S. Navy's Operation Deep Freeze I and established permanent bases in Antarctica at McMurdo Sound, the South Pole, and the Bay of Whales. The bases would open Antarctica for further exploration.

Navigating

How could I explore Amundsen's vision and Byrd's legacy? Who would know how to fly to the interior of the continent and the South Pole? It occurred to me: the navigator that I'd met in Greenland before the swim in Illussat. Samantha East would know. I remembered she lived somewhere in New York State. I looked through my files. We had exchanged e-mails, but I couldn't find her e-mail address in my computer. I tried different name-and-letter combinations. The e-mails bounced back. I began searching, trying to find a scrap of paper with her handwriting and her e-mail address. I searched for hours and sat down and looked at the wall in front of my desk. There right in front of my face was a beautiful photo calendar of Antarctica. Samantha had sent it to me. She had sent a note. I had saved it. She said the calendar was to show me some of the places she flew with the 109th Air Wing and to remind me of the swim that I once did there. I had her home address! It was in a small pile of notes on my desk. I wrote to her and waited.

But time was passing. It was June 2008, and I knew that December and January were the months when people traveled to Antarctica. It was a narrow window of time, and I found on a Web site that the National Science Foundation had an office of polar programs for artists and writers who could propose various writing or artistic projects and compete for NSF grants that would enable them to travel to Antarctica and pursue their project. The problem was that it was too late to apply for the

2007-8 season. I couldn't fit in the NSF time frame, but I needed to go to Antarctica to write about the men and women who were fulfilling Amundsen's vision.

When I heard from Samantha East, she advised me to get in touch with Sarah Andrews, her friend who was an author and had been to Antarctica a couple of years earlier. Sarah immediately responded and suggested that I get in touch with Colonel Ron Smith, who was the in-theater joint task force commander for Operation Deep Freeze. Sarah explained that Colonel Smith was in charge of all the C-17s, LC-130s, icebreakers, and other ships that resupply the Antarctic bases and back-haul retrograde and waste materials.

The route the U.S. Air Force flies from McMurdo to the pole does not overlay Amundsen's route; he traveled farther east, but the LC-130 flies from the Ross Ice Shelf over the Transantarctic Mountains to the Polar Plateau.

Sarah wrote an introduction to Colonel Smith for me, and she gave me more details on his background. She said Colonel Smith was known as the Ice Ambassador. He was the U.S. Air Force representative as well as commander in Antarctica for Operation Deep Freeze. His mission was to work with the National Science Foundation and to support the scientists in Antarctica. He worked with the forty-four countries—their scientists, representatives, and support personnel—who operated under the Antarctic Treaty. The central theme of the Antarctic Treaty was that the Antarctic continent would be used only for peaceful purposes. No country could make new territorial claims within Antarctica, and there would be mutual cooperation. And the environment in Antarctica would be preserved. In addition, he was in charge of all U.S. Air Force rescue operations in Antarctica.

When I heard about Colonel Smith, I realized that he was the man fulfilling Admiral Byrd's legacy as the commander in Antarctica. It took me a while to figure out how to write to him.

On June 22, 2008, I was on the Seal Beach Pier in California, staring out across the choppy waters of the Pacific Ocean at

sunset, watching bright orange-gold sunlight spread along the shoulders of the waves, and illuminating the larger three-foot-high waves that were curling and sliding onto the soft sand, releasing energy like an exhaled breath. I was trying to figure out how I could get to Antarctica to write about Amundsen and the 109th Air Wing when my cell phone rang.

"Hello, this is Ron Smith," a man said in measured way, with a wonderful Baltimore accent. It was the air force. I thought, I've got to tell him everything in three minutes or less. He's probably so busy. I told him that I needed to fly with the 109th and write about its mission in Antarctica and how it connected to Amundsen's vision. He asked some questions about the deadline for my book and understood that I could not make the NSF application deadline for the artists' and writers' program that year, and that the following year would be too late. He advised me to get in touch with the air force's public affairs office. If they thought it was a good project, they would send my book proposal to the secretary of the air force to request support for it. Thrilled that the air force would consider my request, I did a little dance on the pier.

As soon as I got home, I wrote the proposal and sent it off to the public affairs office and waited for its approval. On July 28 the approval came through from the Pentagon. I was elated. Piece by piece the project was coming together. I passed the approval letter from the Pentagon to the 12th Air Force public affairs office, and they in turn forwarded it to the National Science Foundation. Since Antarctica was a joint mission between the U.S. Air Force and the National Science Foundation, I needed approval from both groups.

Weeks passed.

Then one day I received a call from Ron Smith. He said that he had e-mailed a satellite photo of Antarctica. He wanted to know if I could open the file and take a look at the image.

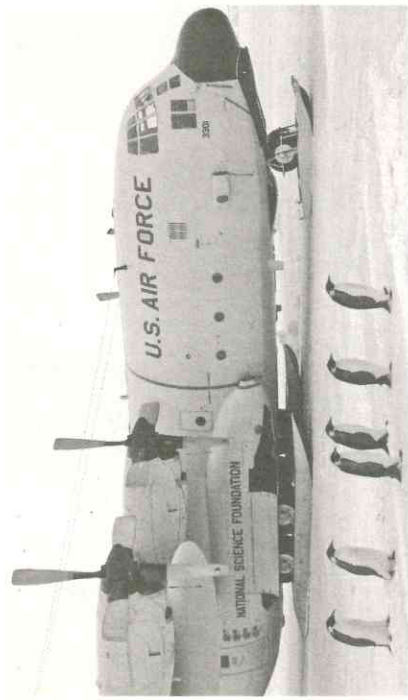
He began by explaining that the LC-130s and C-17s that supported Operation Deep Freeze flew from Christchurch, New Zealand, to McMurdo Sound. The flight from Christchurch to McMurdo Station took ten hours. I looked at the



USAF colonel Ron Smith, left, and Lieutenant General David Deptula, the commander of Joint Task Force Operation Deep Freeze, landing in Antarctica, January 2006.

satellite photo. The Antarctic continent was the size of the United States and Mexico. Antarctica was shaped like an enormous stingray with the tail of the stingray pointing up toward the southern tip of South America. Ross Island, home of the U.S. base at McMurdo Station, was located on McMurdo Sound, and 730 miles south of McMurdo Station, near the stingray's head, was the South Pole.

From McMurdo Station, 920 miles to the left wing of the ray was the WSD, an acronym signifying the WAIS (West Antarctic Ice Sheet) Divide research site. On the right wing of the stingray was a new station for Antarctica's Gamburtsev Province (AGAP), a research project studying the Gamburtsev mountain range, which is buried under the glacier. It was in a very remote area. It had never been explored. I wondered if we knew more about the surface of the moon than we did the continent of Antarctica.



Emperor penguins with LC-130—flight through the water and flight through the air.

As Ron briefed me on Antarctica, I thought how fortunate I was to have a colonel who had spent eleven seasons there briefing me about the place, describing the satellite image and what I was viewing. Maps and charts always fascinated me. My experience, though, was with nautical charts. An aeronautical chart was so different; it was an entirely different perspective, looking down from space upon the Antarctic continent.

Ron knew Antarctica. Long before he was a colonel, he was an LC-130 navigator, and he was trained to be clear, concise, and descriptive to help guide the pilot and copilot. But he was also a poet, and he selected his words in a way that was very much like the way a fine artist mixed his paints to find just exactly the right shade of a color to apply to his canvas to share his vision. He was describing Antarctica to me as a vast breathtaking wilderness, an icy desert where temperatures dropped to minus 120 Fahrenheit degrees in winter, and where massive mountain ranges rose to more than fourteen thousand feet. It was an environment that was intensely harsh and unpredictable, and it could become very dangerous. One dumb oversight or stupid mistake could make life suddenly very tenuous.

Ron redirected my attention to the satellite map, to a place

near the back of the stingray's right wing. This area was where McMurdo Station was built. It was on Ross Island, a volcanic island with two predominate mountains, Mount Erebus, an active volcano, towering 13,282 feet above McMurdo, and Mount Terror, an inactive volcano with a height of 10,597 feet. Mount Erebus constantly emitted a sulfurous plume thousands of feet into the air.

Ron explained that the United States shared Ross Island with the New Zealanders. The New Zealanders' Scott Base was located about four miles from McMurdo Station. The U.S. Air Force and the Royal New Zealand Air Force were great friends and colleagues. Within walking distance of McMurdo Station were the two huts Scott and Shackleton had built before they made their attempts to reach the South Pole. Because of the cold, dry air, both Shackleton's and Scott's huts were well preserved and looked pretty much as they had one hundred years ago, when the two men had camped out in Antarctica.

The main mission for the 109th Air Wing was to fly scientists, support personnel, and equipment to various research stations throughout the Antarctic continent. Critical to achieving the mission were the runways.

In most parts of the world, pilots preferred taking off and landing on runways that were free from ice and snow, but as a way to illustrate how different flying in Antarctica was, the only two runways that the U.S. Air Force used were made of either ice or snow.

Pegasus was a glacial-ice runway about a forty-five-minute drive from McMurdo Station, and it was used by C-17s, enormous cargo aircraft, and LC-130s, smaller aircraft. The C-17 and LC-130 landed on Pegasus on wheels. The other runway was Williams Field—a skiway where the LC-130s landed on the snow using their skis. Williams Field was about thirty minutes from McMurdo.

For years the U.S. Coast Guard supported Operation Deep Freeze by preparing the sea ice for an ice runway. The coast guard used an icebreaker to create a smooth path of open water that refroze and became the ice runway. But before the ice

refroze, the coast guard played the critical role of "pathfinder" for the soon-to-follow tanker vessel and cargo vessel from the Military Sealift Command. Without the icebreaker there would be no bulk fuel or supplies getting into McMurdo to carry out the yearlong mission. Because of the low funding priority of the U.S. icebreaker fleet, the U.S. Coast Guard can no longer operate autonomously in the Antarctic mission and must rely on foreign-contract icebreakers.

At the end of our conversation, I realized how important it was for the United States to have more icebreakers for Antarctica and also for the Arctic. As the sea ice melts during the next ten years, Arctic waters will open and there will be an increase in shipping, commerce, and exploration. There will be increased pressure on the Arctic environment, and a dire need for the United States to be able to respond to potential problems. It also occurred to me that there would be a greater need for the U.S. Senate to ratify the Law of the Seas treaty, a treaty that defines the rights and responsibilities of the world's nations concerning the world's oceans and also sets guidelines for territorial limits for business, the environment, and management of the ocean's resources. The Law of the Seas treaty could help lead to mutual cooperation between the nations of the world, like the Antarctic Treaty, which focuses on scientific research, collaboration, and peace.

Sitting back in my chair, I realized how fortunate I was to learn about Antarctica from a man who had spent a large part of his career working on and above the continent and who was carrying on Byrd's and Amundsen's legacy.