This collection of journals, memoirs, and letters tells the remarkable story of Robert Falcon Scott's last journey to the Antarctic, as seen through the eyes of Charles S. Wright, the expedition's physicist and glaciologist.

When Captain Scott left Britain in 1910 on his second and last Antarctic expedition, he took with him the most comprehensive party of scientists yet to visit the continent. Among them was Charles Wright, a young Canadian. During the thirty-month expedition, Wright proved to be a keen observer, keeping an account of the adventure in his diaries and letters. Detailing both his scientific discoveries and his reactions to the hardships and wonders of the expedition, Wright's story culminates in the dramatic search for and discovery of Scott and two other members of the party who perished on their return to their base camp from an expedition to the Pole.

Wright's diaries, illustrated in brilliant detail by his daughter Pat F. Wright, have been edited by Pat Wright and by polar explorer and glaciologist Colin Bull. They provide an insider's view of a significant adventure in the advancement of polar scientific discovery.

Colin Bull, dean emeritus at The Ohio State University, has conducted extensive glaciological and geophysical research in the Antarctic and the Arctic over the last forty years.

Pat F. Wright is a nature artist and owns a wildlife artists' gallery on Saltspring Island, British Columbia.
“Silas” Wright on his return to Cape Evans from the Beardmore Glacier area, *circa* January 28, 1912. Photograph courtesy of John Katsufakis
The Antarctic Diaries and Memoir of Charles S. Wright

Edited by Colin Bull and Pat F. Wright

Illustrated by Pat F. Wright
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Charles Wright’s sighting of Captain Scott’s last camp on the icy Barrier revealed a story of heroism that inspired the British nation and the world. However, little has been written about Wright himself. Undoubtedly, he discouraged others from doing so.

His daughter, Pat, has now prepared his story of Scott’s expedition for publication. She adds greatly to the diary record with her charming drawings. Colin Bull, another well-known physicist and polar glaciologist, has added commentary and set the diary entries into the context of the expedition story. We are grateful to them both for this fascinating volume.

The epilogue gives a brief outline of Charles Wright’s full and active life, and the heavy responsibilities that he bore during and between two world wars for guiding relevant scientific research. Although he could have retired with honour and respect, his interest in natural phenomena kept him involved in research activities for a further twenty-five years. During this period, he became interested in rapid variations of the Earth’s magnetic field, the aurora, and other upper atmospheric phenomena. He seemed to have “green fingers” in experimental work, and pioneered the way (as he so often did) in the analysis of the early records, long before the advent of modern computers.

He always spoke affectionately of those people who were fortunate enough to have worked under him, particularly those of his Admiralty days. The encouragement, friendship, and scientific knowledge he so freely gave to all who came in contact with
him will never be forgotten. We welcome this volume, which tells us more about one period in the life of this remarkable man.

Jack Jacobs
Gordon Robin
In an earlier version of the manuscript of this book Miss Pat Wright wrote:

"I am very much indebted to the Scott Polar Research Institute, Cambridge, especially Harry King, Clive Holland, Terence Armstrong, and Kristin Killick, who have spent hours answering my letters and questions.

"I want to express my gratitude to the Canada Council for the grant that has enabled me to work on this fascinating project, and to my sponsors, Colin Graham, Philip Holmes, and the late Willard Ireland; to the British Museum for permission to use the illustrations in the Terra Nova Reports as reference to my drawings, and to D. T. Moore; to Dr. E. B. Spurr for allowing me to base drawings of Adélies on his penguin posture drawings; and to Mr. E. P. Wilson for permission to base many of my landscapes upon Dr. E. A. Wilson's superb drawings.

"My grateful thanks go to the late Major Tryggve Gran and to the relations and descendants of members of the Terra Nova Expedition who have generously let me quote from diaries: Barbara Debenham, Angela Matthias, Margaret Hubert, Oliver Simpson, Bill Taylor, Dr. E. N. Wright, and Angus McMillan.

"I am also indebted to Geoffrey Hattersley-Smith and A. G. E. Jones who have given me unstinted help and shared their formidable knowledge of polar history with me.

"My thanks are due to the Public Library Development Commission of British Columbia, especially Joyce Buchanan and Joan Mitchell, who have located and sent me endless reference books.

"The following people and institutions have also given me help: the Danish Archives; the British Columbia archives; the
ACKNOWLEDGMENTS

Alexander Turnbull Library, with John Sullivan and Dr. Michael Hoare; Kay and Michael Cullen; Eleanor Evans; Daphne Gifford; P. A. Goodchild; Dr. L. Harrison Matthews; Margaret Hastings; Professor Joel Hedgpeth; August Howard; Ran Ide; Anita McConnell; G. H. Macdonald; Eleanor MacLean; Theodore Mason; Captain Elliott B. Roberts; Bobbie Robertson; Ann Shirley; Shirlee A. Smith; Ann Todd; A. I. Tomlinson; Professor T. G. Vallance; Professor D. Walker; David Walton; Margaret Blatchford; Dorothy Bliss; Norman Bowring; B. C. Cuthbertson; A. L. Davies; Dr. Frank Davies; Sir George Deacon; Norm Dressler; Guy Guthridge; Professor C. Stewart Gillmore; R. R. Godden; David L. Harrowfield; Ray Hill; Dr. Alan Innes-Taylor; Dr. Gerald Kooymans; Professor Jack Jacobs; Dr. Bernard Stonehouse; Dr. J. F. Kidd; Neil Marsden; Michael Piggott; Rear Admiral H. F. Pullen; Brigadier Miles Smeeton; Professor K. Whitham; Dr. Tuzo Wilson; Joanna Hagar; and last, but by no means least, my brother-in-law and sister, Dr. and Mrs. James Raeside.

"Some of these people provided me with information that I was not able to include in this book; nevertheless, I am truly grateful for all their help."

Pat Wright has obviously carried out much of the research as well as the initial writing in bringing her father's diaries to publication. I would like to add my own thanks to those good people at the University of Washington Press, who expressed confidence in the publishability of an edited version of the very extensive manuscript that Pat had generated, and encouraged me to go ahead with the editing. Later, The Ohio State University Press also showed much interest in the manuscript and, because of my strong association with that university, I have worked with them in the publishing of this book. I would like to thank the personnel of the Institute of Polar Studies—now called the Byrd Polar Research Center (BPRC)—of which I have been a Research Associate since 1961; and especially David H. Elliot, Director of BPRC until December 1989, for a travel grant that helped me go to the Scott Polar Research Institute (SPRI) in 1987 to look at their extensive collection of material on Scott's last expedition—particularly that related to Charles Wright. At
SPRI, archivist Robert Headland was very helpful indeed in guiding me around the archives. John Nagy of BPRC helped greatly with the redrafting of many of the maps. Victoria Althoff of The Ohio State University Press has redrawn for the final version of the book the little drawings that Wright had included in his diary. Bob Finch and Rick Lee read parts of the manuscript and made useful suggestions for its improvement. I am grateful to Donald J. Evans for permission to reproduce his photograph of Sir Charles Wright, taken on Observation Hill, December 22, 1960; to John Katsurakis for the photograph of "Silas" on his return to Cape Evans after the journey to the top of the Beardmore Glacier; and to Guy Guthridge, of the National Science Foundation Division of Polar Programs, for locating the U.S. Navy photograph of Wright Valley.

Finally, it is with considerable pleasure that I acknowledge the help given during the lengthy processes leading to publication by many other members of The Ohio State University Press. Ann Elliot has been meticulous as copy editor, spotting inconsistencies and omissions, improving word order, and much more. Alex Holzman and Charlotte Dihoff have offered encouragement as well as practical help whenever I have needed it.

Colin Bull
Rolling Bay
Washington, USA
OFFICERS

Robert Falcon Scott, R.N., C.V.O., Captain (1868–1912); The Owner, leader. Died about March 30, 1912

Edward R. G. R. Evans, R.N., Lieutenant (1868–1957); Teddy or The Skipper; second-in-command. First year only

Victor L. A. Campbell, R.N., Lieutenant (1875–1956); Mr. Mate, Number 1, The Wicked Mate, or Father

Henry R. Bowers, R.I.M., Lieutenant (1883–1912); Birdie. Died about March 30, 1912

Lawrence E. G. Oates, 6th Inniskilling Dragoons, Captain (1880–1912); Titus, Soldier, or Spurs. Died March 15, 1912

G. Murray Levick, R.N., Surgeon (1887–1956); The Old Sport or Tofferino

Edward L. Atkinson, R.N., Surgeon (1882–1929); Atch; parasitologist

SCIENTIFIC AND TECHNICAL STAFF

Edward Adrian Wilson, B.A., M.B. (1872–1912); Uncle Bill; chief of the scientific staff, and zoologist. Died about March 30, 1912

George C. Simpson, D.Sc. (1878–1965); Sunny Jim; meteorologist. First year only

T. Griffith Taylor, B.A., B.Sc., B.E. (1880–1964); Griff; geologist. First year only

Edward W. Nelson (1883–1923); Marie; biologist
Frank Debenham, B.A., B.Sc. (1883–1965); Deb; geologist
Charles S. Wright, B.A. (1887–1975); Silas; physicist
Raymond E. Priestley (1886–1974); geologist
Herbert G. Ponting, F.R.G.S. (1870–1935); Ponte or Ponko; camera artist. First year only
Cecil H. Meares (1877–1935); Mother; in charge of dogs. First year only
Bernard C. Day (1884–1952); Rivets; motor engineer. First year only
Apsley Cherry-Garrard, B.A. (1886–1959); Cherry; assistant zoologist
Tryggve Gran, B.A., Sublieutenant, Norwegian navy (1889–1980); Trigger; ski expert

MEN

W. Lashly, R.N., Chief Stoker (1868–1940)
W. W. Archer, late R.N., Chief Steward (18??–1944). Second year only
Thomas Clissold, late R.N., Cook (1886–1963). First year only
Edgar Evans, R.N., Petty Officer (1877–1912). Died February 17, 1912
Robert Forde, R.N., Petty Officer (1877–1959). First year only
Thomas Crean, R.N., Petty Officer (1876–1938)
Thomas S. Williamson, R.N., Petty Officer (1877–1940). Second year only
Patrick Keohane, R.N., Petty Officer (1879–1950). First year only
George P. Abbott, R.N., Petty Officer (1880–19??)
Frank V. Browning, R.N., Petty Officer 2nd Class (1882–19??)
Harry Dickason, R.N., Able Seaman (1885–1943)
F. J. Hooper, late R.N., Steward (1891–1955)
Anton Omelchenko (1883–1932); groom. First year only
Demetri Gerof (1888?–1932); dog driver
Northern Party (first referred to as Eastern Party), February 1911–November 1912: Campbell, Priestley, Levick, Abbott, Browning, Dickason

Depot-Laying Party, January–April 1911: Scott, Lieutenant Evans, Bowers, Oates, Atkinson, Wilson, Meares, Cherry-Garrard, Gran, Keohane, Crean, Forde, Demetri Gerof

Western Party, January–March 1911: Taylor, Debenham, Wright, P.O. Evans

Midwinter Party to Cape Crozier, July 1911: Wilson, Bowers, Cherry-Garrard

At Cape Evans, January–April 1911: Simpson, Nelson, Ponting, Day, Lashley, Hooper, Clissold, Anton Omelchenko

Polar Party: Scott, Wilson, Oates, Bowers, P.O. Evans

Last (Second) Support Party: Lieutenant Evans, Lashly, Crean

Summit Party (First Support Party): Atkinson, Wright, Cherry-Garrard, Keohane

Dog Party: Meares, Demetri Gerof

Motor Party: Day, Hooper, Lashly

Autumn Party for Support of Returning Polar Party, February 26–March 16, 1912: Cherry-Garrard, Demetri Gerof

Second Western Party, November 1911–February 1912: Taylor, Debenham, Gran, Forde

At Cape Evans, November 1911–January 1912: Simpson, Nelson, Ponting, Clissold, Anton Omelchenko

At Cape Evans, Second Winter: Archer, Atkinson, Nelson, Debenham, Wright, Cherry-Garrard, Gran, Crean, Forde, Lashly, Hooper, Williamson, Demetri Gerof

Mount Erebus Party, December 1912: Priestley, Debenham, Dickason, Gran, Abbott, Hooper

Search Party, October 29–November 25, 1912: Wright, Nelson, Gran, Lashly, Crean, Williamson, Keohane, Hooper, Atkinson, Cherry-Garrard, Demetri Gerof
THE UNVEILING OF ANTARCTICA

Today, near the end of the twentieth century, the Antarctic continent remains the least-known landmass on the planet. Very nearly all our knowledge of it has been gained since the early 1950s, when a Norwegian-British-Swedish expedition undertook the first “modern” scientific work on the continent, using reliable over-snow vehicles. This expedition did much to set the pattern of work conducted during the International Geophysical Year (1957–58), when expeditions from many nations established bases around the continental edge, on offshore islands, and deep in the interior—including one at the South Pole itself. The international work continues, becoming more and more sophisticated and expensive; under the aegis of the Antarctic Treaty, it has become perhaps the best example of international cooperation and exchange of information that our civilization has ever known. Yet it is still repeatedly acknowledged that we know more about the physiography of our face of the moon than we know about Antarctica.

In May 1910, when the Terra Nova sailed from Britain for New Zealand and on to the Antarctic, knowledge of the continent was sketchy indeed. James Cook, during his second great voyage, (1772–75), circumnavigated the continent and crossed the Antarctic Circle three times, but nowhere did he see the coast. However, his was a scientific expedition, and the published accounts of animal life on the sub-Antarctic islands soon led to sealing expeditions from Britain and the newly formed United States which progressively explored further south. In the summer of 1819–20, the continent was sighted from the ships of
the expeditions of Edward Bransfield (British), Thaddeus Bellingshausen (Russian), and Nathaniel Palmer (American), but controversy still continues on who sighted it first. In February 1823, blessed with a year of singularly little sea ice, James Weddell sailed into the sea—later named for him—as far south as 74°15'.

The next major phase in the unveiling of Antarctica came twenty years later. Three national expeditions discovered a great deal of the coast of East Antarctica. In January 1840, a French expedition under Dumont d'Urville discovered Terre Adélie and, by a strange chance, at the end of the month also sighted a part of Wilkes Land a few hours after Wilkes himself had seen it. The two expeditions saw each other but did not communicate. The U.S. Exploring Expedition under Charles Wilkes charted a number of landfalls between longitudes 160°E and 98°E; however, some were later found by James Clark Ross to be wrongly mapped. Ross, leader of the British expedition, was charged primarily with conducting magnetic observations. He penetrated deep into the sea that now bears his name trying to discover the South Magnetic Pole, as he had earlier discovered the North Magnetic Pole. In January 1841 he charted much of the Victoria Land coast, Ross Island, and the great ice barrier (later called the Ross Ice Shelf), along which he sailed for almost its entire length (450 miles), returning to the north along the eastern coast of the Ross Sea. Ross made a second voyage into McMurdo Bay (Sound) in the following year but because of heavy pack ice was unable to extend his explorations. In the following year (1842–43), he worked mainly in the Weddell Sea area and in Erebus and Terror Gulf.

The following years were marked with increased whaling, spurred by Ross's third-voyage observations on the number of whales and the hopeful prospects for whaling. Between 1893 and 1895, H. K. Bull made two whaling voyages into the Ross Sea; on January 24, 1895, he made—with C. E. Borchgrevink and others—the first landing in Victoria Land, at Cape Adare. Borchgrevink returned to the Antarctic with the British Antarctic Expedition of 1898–1900 with a group of Norwegian and British scientists. A party of ten set up a base at Cape Adare;
during the winter they carried out geological, magnetic, meteorological, and other observations. However, because of the unfortunate location of the base, they were unable to make extensive journeys on land. When their ship returned in 1900, Borchgrevink sailed south, landing on Coulman and Franklin Islands, as well as on Ross Island at Cape Tennyson. Near longitude 175°W, he and two others were the first to sledge across the Ross Ice Shelf. They travelled about 15 miles to reach, on February 16, 1900, a “farthest south” at 78°50’S.

In the same period at the turn of the century, four other national expeditions were engaged in work in different parts of the Antarctic. All found their origins in the International Geographical Congress of 1895, which emphasized the valuable information that Antarctic exploration could yield. The Belgica—of the Belgian Antarctic Expedition (1897–99), under Adrien de Gerlache de Gomery—became the first ship to winter in the Antarctic pack ice by being trapped in ice in the Bellingshausen Sea. The ship of the German Antarctic Expedition (1901–03) was beset off the newly discovered Kaiser Wilhelm II Land and von Drygalski accomplished rather little. The Swedish South Polar Expedition (1901–04) under Otto Nordenskjöld investigated the extreme northern and northeastern coasts of the Antarctic Peninsula. The fourth national expedition was British and led by Captain Robert Falcon Scott.

Scott’s expedition was sent out under the auspices of both the Royal Society and the Royal Geographical Society. The venture owed its existence to the driving force of Sir Clements Markham. As in the British Arctic tradition, most of the party were naval personnel, but a scientific staff of five under Dr. Edward A. Wilson was included. The ship—Discovery—was specially constructed for the expedition.

Following in the paths of Ross and Borchgrevink, Scott improved the mapping of the coast of Victoria Land and in January 1902 sailed along the front of the Ross Ice Shelf for its entire length to King Edward VII Land. Later in the season, he allowed the Discovery to become frozen in at a sheltered site off what is now called Hut Point Peninsula on Ross Island. A hut was built on land, but the ship served as the main base in the following
months. In the sledging season of 1902-03, Scott, Wilson, and Sublieutenant Ernest Shackleton sledged over the Ross Ice Shelf, for the most part fairly close to the coast of South Victoria Land; on December 29, 1902, they reached a new “farthest south” at 82°16′33″S. They had set out with nineteen dogs and five sledges, and a supporting party for part of the way. Owing to the failure of the dogs—due to their diet of spoiled fish and the inexperience of the drivers—and the appearance of scurvy symptoms in his party, Scott was there obliged to turn back. The party was forced to slaughter their remaining dogs. They returned safely to Hut Point by only a slim margin; they all showed signs of scurvy, Shackleton severely enough to require evacuation on the relief ship.

The following sledging season was spent in a three-pronged investigation. Lieutenant Royds and the magnetician Bernacchì travelled to the southeast, over the Ross Ice Shelf; Lieutenant Barne attempted a closer inspection of Barne Inlet and the later-named Byrd Glacier; and Scott set off to the west, initially accompanied by support parties, for an ascent of the Ferrar Glacier and a two-hundred-mile sledge journey across the inland ice of East Antarctica. On November 29, 1903, Scott reached 146°33′E, at an elevation of more than 7,000 feet, with Leading Stoker Lashly and Petty Officer Edgar Evans. On their return trip they made an excursion down the northern branch of the Ferrar Glacier, where they found themselves in a long, deep, ice-free valley, later called Taylor Valley. Both Lashly and Evans later enrolled with Scott’s Terra Nova expedition, as we shall see.

Later that season, the Discovery was freed with difficulty from her icy berth. She then sailed north in the company of the two relief ships, carrying home very comprehensive scientific and geographic discoveries.

The quickened pace of exploration continued in the next few years. The Scottish National Antarctic Expedition (1902-04) under W. S. Bruce made extensive oceanographic investigations in the Weddell Sea as far as 74°01′S, and navigated along the ice shelf for 150 miles to Coates Land. Two French expeditions under J. B. Charcot, in the years 1903-05 and 1908-10...
made extensive voyages down the west coast of the Antarctic Peninsula. They mapped the Loubet Coast in 1904, and penetrated deep into the Bellingshausen Sea in 1909, discovering Fallières Land and Charcot Land.

Of greater relevance to the present work is the British expedition led by Ernest Shackleton. He had spent the interval after the Discovery expedition trying to raise money for another British expedition to the Antarctic. It was largely due to the financial backing of Sir William Beardmore, a Scottish industrialist, that he was able to fit out the Nimrod and sail south in 1907. He took with him ten Manchurian ponies, a motor car with sledge runners and several sets of different wheels (which, however, proved useless on soft snow surfaces), and a few untrained sledge dogs. Shackleton’s shore party of sixteen men, based at Cape Royds on Ross Island, included two surgeons, Drs. A. F. Mackay and Eric Marshall; a biologist, James Murray; and three geologists, Edgeworth David, Douglas Mawson from Australia, and Raymond Priestley—whom we shall meet again.

On November 3, 1908, the Southern Party—Shackleton, J. B. Adams, Frank Wild, and Marshall—left Hut Point. They took four ponies, each pulling a sledge. However, to save weight, they left behind their skis. They travelled southwards across the Ross Ice Shelf, finding the surface more difficult than expected, but passing Scott’s “farthest south” on November 26. Two of the ponies had been shot as the loads diminished, and a third was killed at the base of the Beardmore Glacier on December 1. The party had great trouble with crevasses on the glacier, and the remaining pony was lost in one on December 7. Thereafter they man-hauled, a very difficult task without skis. On the polar plateau, progress was again slower than they had hoped. Despite cutting down their rations and abandoning one of the two remaining sledges, they had to turn back on January 9, 1909, at 88°23’S and an elevation of 10,500 feet. The hazardous descent of the Beardmore Glacier was assisted by the prevailing southerly wind but hindered by damage to their remaining sledge. Wild and Shackleton arrived back at Hut Point on February 28. The Nimrod had just arrived there from New Zealand. Shackl—
ton and three others returned to collect Adams and Marshall, who was suffering badly from dysentery, from the place where they had been left in a tent on February 27.

Meanwhile the Northern Party—Edgeworth David, Douglas Mawson, and Alistair Mackay—had set off on October 5 from Cape Royds, westwards over the sea ice towards the Victoria Land coast. There they carried out surveying and some geological work as far north as the Drygalski Glacier; taking frequent magnetic observations, they travelled up the Drygalski and over the inland plateau in a northwest direction for over 250 miles. They reached the South Magnetic Pole at 72°15'S, 155°16'E on January 16, 1909. On their return to the coast they were picked up by the *Nimrod*.

A third party—Bertram Armytage, Raymond Priestley, and Philip Brocklehurst—spent nearly two months in the area of the Ferrar Glacier and the (Taylor) ice-free valley before being picked up by the *Nimrod*.

This then was the status of the geographical exploration of Antarctica up to 1910. In that year, several national expeditions set sail. A German expedition under W. Filchner had plans to penetrate the Weddell Sea, and to sledge over the ice shelf (now named for him) to the South Pole and across the continent. In the event, Filchner explored the Weddell Sea off Luitpold Coast (Coates Land), and named the Filchner Ice Shelf. The ship was then beset in the ice and drifted for nine months in the Weddell Sea. The Japanese South Polar Expedition under Choku Shirase planned to establish a base in King Edward VII Land, which—as we shall see—was also an area that Scott hoped to explore. The Japanese failed to reach there, but visited the Bay of Whales area and sledged southeast to 80°05'S, 156°37'W. The Frenchman, Jean Charcot, on his second Antarctic expedition, considered that the Ross Ice Shelf belonged to the British explorers and planned to confine his work to the Antarctic Peninsula area (Charcot, 1911).

The other two expeditions of that year were the Norwegians under Roald Amundsen, and the British Antarctic Expedition, led by Captain Robert Falcon Scott. Again, most of Scott's party were from the Royal Navy, but the shore parties contained twelve
INTRODUCTION

civilians, eight of them scientists. One of the scientists was Charles Seymour Wright, nicknamed Silas.

WRIGHT’S EARLY LIFE

Charles Seymour Wright was born in Toronto in April 1887, the second son of Alfred and Katharine Wright. Alfred, the son of a doctor who immigrated from the English Midlands to Ontario, worked for the Canadian branch of the London and Lancashire Insurance Company and, by the time he retired, he was its head. Charles’s mother, of lowland Scot origin, died giving birth to her third son. Later, Alfred remarried and had three more children.

In 1899, Charles and his older brother Alfred were enrolled in Upper Canada College. Because he was short-sighted, Charles did not have much success in team games, but he did well in field sports. He was also very keen on outdoor activities and spent much of his spare time canoeing, camping, and prospecting for silver—usually with Alfred—in the areas north of Toronto, and as far afield as Lake Huron and Hudson’s Bay.

Charles relates in his memoir that quite early in his school days he told his father he wanted to be a research physicist. By 1903–1904, his last year at Upper Canada College, he had set his sights on the prestigious 1851 Exhibition Scholarship, which would allow him to take further education in Britain after he had completed his university degree. Charles left Upper Canada College “with regret and the Governor General’s Medal,” as he wrote.

He spent the summer prospecting with Alfred in northern Ontario where, running out of standard supplies, they had moose for breakfast, lunch, and dinner for two or three weeks. Then, in autumn 1904, Charles entered the University of Toronto to begin a four-year honours course in mathematics and physics. He had a small scholarship of one hundred dollars per year and remission of fees and, in his second year, he earned a little more as a demonstrator in a domestic science course. There he felt his main responsibility was to prevent the students from touching the 250-volt power source. During the summers
he worked as a chainman and surveyor in northern Ontario, initially at one dollar per day.

Charles concentrated on the experimental physics side of his course. Most of his experiments, with Professor John C. McLennan, were part of an investigation of the "penetrating radiation" which ionised the atmosphere and whose origins were then unknown. Now most of the penetrating radiation is known to be due to cosmic rays. The study would be a major part of Wright's scientific work for the next decade and his interest in cosmic rays continued for the rest of his life. With McLennan, Charles measured the electrical conductivity of air in metal containers using electroscopes, which needed a very stable base. He found that the conductivity was almost constant, whether the measurements were made at the top of the University Tower, on the ground beneath, or even deep in the earth in tunnels under Niagara Falls. On the other hand, the conductivity was appreciably less on the ice of Toronto Bay. Obviously the surface of the earth was responsible for some, but not all, of the measured radiation.

Charles wrote up the report of this work, sent it off to the Commissioners of the 1851 Exhibition Scholarship, then went on a canoe trip with his younger brother. They paddled up the Montreal River and through unnamed lakes to a remote post office where he received word that he had been awarded the scholarship and, the next day, that Gonville and Caius College of Cambridge University had accepted him as a student.

In Cambridge in autumn 1908, Wright moved into Gonville and Caius College and the Cavendish Laboratory, whose head was J. J. Thompson. Thompson had received the Nobel Laureate in Physics in 1906 for his work on the conduction of electricity through gases. He agreed that Wright should continue his investigations of natural penetrating radiation.

In the summer of 1909, Wright returned to Canada to attend a meeting in Winnipeg, and took advantage of the voyage to measure the radiation over the ocean. The ship was too unsteady for him to be able to use the electroscopes, so Wright used a different technique. He magnified the small electric currents by using a sufficiently high voltage to enable the charged particles
to ionise the air by collision, a method that he developed further after his return to Cambridge.

Before leaving Cambridge for the Antarctic in 1910, Wright wrote up the results of his research and his new techniques for the detection of ionization; he gave them to Thompson for final approval and transmission to the publisher. When he returned from the Antarctic in 1913, he found the paper still in Thompson's desk drawer. In the meantime a similar but more complete work had been published by Geiger, which resulted in development of the Geiger Counter, still used today for the measurement of radioactivity.

Among the many friends Wright made in Cambridge was T. Griffith Taylor, an 1851 Scholar from Australia. He was a geologist, working on archaeocyathids that he had obtained in Australia. Taylor was a friend of Douglas Mawson, another Australian; as a member of Shackleton's Antarctic expedition, Mawson had made the journey to the South Magnetic Pole. In spring 1910, Griffith Taylor persuaded Mawson to talk to a small group in Cambridge. This talk inspired Taylor to apply for the post of physiographer and geologist on Scott's expedition, for which he was accepted.

Taylor then persuaded Wright to apply for the still vacant position of physicist. To his regret and surprise, Wright's application was turned down—whereupon Taylor proposed that they both go down to London to see Scott and Wilson, his scientific director, to put the matter to them directly. They set off next day, on foot, with a dozen hard-boiled eggs for sustenance, and with the secondary objective of seeing whether they could walk the fifty miles in ten hours.

Unfortunately, Wright recorded neither the interview with Scott and Wilson nor his subsequent acceptance to the post, the title of which remains uncertain. In his memoir written late in life, he referred to his position as that of “chemist and physicist;” in the introduction that he wrote to the published version of Wilson's diary (Wilson, 1972), Wright calls himself a “glaciologist.” Obviously he was expected to undertake—and did—a wide range of scientific investigations.
The expedition ship, Terra Nova, was due to sail from Cardiff early in June. The 1851 Scholarship Commissioners were kind enough to release Wright from the last few months of the duties of his scholarship so that he could undertake three scientific tasks before the ship sailed. The first was to review the meteorological equipment gathered by Dr. G. C. Simpson (Sunny Jim). Wright noticed the absence of wet-and-dry-bulb thermometers or any other method of measuring air humidity. Simpson explained the difficulties of measuring humidities at low temperatures; he considered it not worth attempting. Wright later regretted the absence of these instruments when he was measuring evaporation from ice surfaces.

Wright's next job, at Kew Observatory, London, was to learn to use various magnetic instruments. The third task was to visit the observatory in Potsdam, near Berlin, to become familiar with the use of the pendulum apparatus that the expedition was taking to measure the value of gravity at their southern hemisphere ports-of-call and in the Antarctic. When Wright returned the pendulums to Potsdam in 1913, it turned out that one pendulum had changed its period of swing. Wright was charged with the cost of manufacturing a new one. He kept the old one and still had it in 1975 when he was writing his memoir.

Wright also collected the equipment that he would need to continue the measurements of penetrating radiation in which he had been engaged since 1906. The apparatus included a new Wulf Electrometer, which he found to be relatively immune to modest rolling of the ship.

In his unpublished memoir, Wright gives some of the reasons he applied for a post on the expedition. He wanted to continue the measurement of penetrating radiation over the seas but his main reason, “was curiosity about conditions in the Antarctic continent, almost covered with ice and snow except where the land was so steep that ice could not get a foothold. And I wanted to see the icebergs and pack ice and mountains and the thick floating ice like the Ross Barrier which gives rise to the large tabular icebergs calving from the seaward face. In fact I wanted to go very badly and even at the preliminary visit to see Captain Scott I had some fear that I might find myself tied to Headquarters as assistant.”
The first-hand part of the account that follows is based on four main sources. In the Antarctic, Charles Wright kept two forms of journal. The first was a personal diary, in which he recorded the day-to-day happenings, his impressions of events, people, and so on. The amount of detail varies very considerably from time to time, depending of course on the interest of the events and the time that Wright had available to record them. Some other members of Scott's party obviously wrote their diaries with a view to future publication. These included Scott himself, Griffith Taylor, Tryggve Gran, and Raymond Priestley. Edward Wilson had kept a very full diary since boyhood, although there is no indication that he ever intended to publish any part of it. Wright's diary was obviously written for himself alone. By no stretch of the imagination can he be considered to have been a good diarist, but he was a careful observer, well trained as a scientist and interested in a wide range of subjects, both of nature and of human beings. However, some of his diary notes are very difficult to interpret; when he reviewed the diary while writing his memoir, he himself, with the passage of years, could no longer understand many of them. He strove to write daily but, as Taylor noticed during the first winter, quite often he had to catch up on a week's activities, and many of the entries are exceedingly brief.

The second journal was more in the form of a series of science notebooks. Usually he recorded observations, whether of instruments or of nature; most of his calculations and interpretations, however, were reserved for other notebooks, on which his publications were based, but which have not survived.

For some periods of time, as well as—or instead of—keeping his day-to-day diary, Wright wrote very long and detailed letters to his father in Toronto and kept carbon copies of them. His account of the voyage to Antarctica is almost entirely from a series of such letters, mailed home from the various ports visited by Terra Nova.

Lastly, in 1974, when he was 87 years old, Wright began to write his memoir, but he died early in November 1975, before he had completed it. He wrote extensively about his childhood, and in some detail about his life at Toronto and Cambridge Universities. The account of the Antarctic expedition amounts to about
two hundred hand-written pages, written in a strong hand. The memoir naturally lacks the spontaneity of the diaries, but provides additional insights into Wright's views of the importance of events and the characters of his companions. He starts the memoir with these words:

“I never kept diaries, except when it was necessary, so that dates may well be . . . astray. I must also confess that my memory of names of those with whom I have had dealings . . . is none the best.”

Despite the disclaimer, his memory seems to have been very good indeed. Where he gives dates in the memoir, they are usually accurate.

Late in Charles Wright’s life, his daughter, Pat Wright, transcribed his diaries and memoirs. For the most part, her father worked with her, using the originals and his memory to “translate” the documents. In places, as indicated in the following text, even he was unable to understand his diary entries. However, it is these transcribed versions that we have attempted to follow as faithfully as possible. Short editorial insertions for clarity are enclosed in square brackets.

In this account of Wright's adventures, we have usually followed his immediate accounts—that is, the diaries and his letters home. But several parts of his diary are missing and he kept only a very sketchy one at times during the winters. At those times, in particular, greater reliance has been placed on the memoir. When appropriate, material from published and unpublished diaries of other expedition members has been added.
Excerpts from the memoir are printed in italic. Text of the diaries is printed in roman immediately following datelines or rules and is indented. Editorial remarks and explanations are printed in larger roman and are not indented.
Departure
The launching of a major expedition of the kind that Charles Wright was now joining involved the work of many people over a period of years. Chief of these workers was Captain Robert F. Scott himself.

Following the return of the *Discovery* from his first Antarctic expedition in September 1904, Scott devoted much of his thoughts, time, and efforts to promoting a second expedition to that continent. The first expedition had been notably successful. Sir Clements Markham, Scott’s chief promoter, pointed out in his speech of welcome at dockside that the members of the *Discovery* expedition had discovered a new range of mountains east of the Ross Ice Barrier, the front of which had been charted for 350 miles. The mountain range, now called the Transantarctic Mountains, had been mapped as far south as 83°S and had been penetrated at one point; a long sledge journey had been made on the plateau beyond. The scientific accomplishments had been as great as the geographic discoveries. Much had been learned of the life history of the emperor penguin; Hartley Ferrar had made a good start on the geology of the area; two years’ continuous records of meteorological and magnetic observations had been obtained; and the first knowledge had been gained of conditions inland in Antarctica.

Scott had hoped to earn a knighthood for his work. Instead, he was given the lesser honour of appointment as a Commander of the Victorian Order, and was promoted to captain. His immediate duties were to lecture throughout the country, raise money, and write the book of the expedition—a task with which he did not feel comfortable. However, with help and encouragement from the publishers, Smith, Elder and Company, a two-volume book was completed and published in October 1905. This book, *The Voyage of the “Discovery”*, brought Scott a total of a little over two thousand pounds in royalties over the next few years.

Late in 1906, Scott went back to sea as flag captain of HMS *Victorious*, but by January 1907 he had decided to lead another expedition south if the necessary money could be raised. He had already contacted the Royal Geographical Society and several members of the *Discovery* expedition when, in February 1907,
Ernest Shackleton announced his intention of leading an expedition towards the South Pole. Shackleton had been promised twenty thousand pounds from William Beardmore, Heinemann (the publisher), and others. Both Scott and Shackleton maintained that they did not know of the other's ambition to go south again, but Shackleton's announcement that he intended to return to McMurdo Sound—to which Scott felt that he had some proprietary rights—without checking with Scott first, annoyed Scott very much. However, largely through the influence of Edward Wilson, who admired both men, an accommodation was reached in May 1907 when Shackleton agreed not to use McMurdo Sound, nor to sledge west of 170°W.

Shackleton acquired a small sealer, the Nimrod. He laid in stores, and recruited the members of his party—including Frank Wild and Ernest Joyce from the Discovery expedition in the shore party of fifteen men. He sailed from England on July 30, 1907. He failed, however, to find a suitable landing place either in the Bay of Whales area or in King Edward VII Land, and decided to turn westwards to McMurdo Sound. He landed there and established his winter quarters at Cape Royds. In the following sledgeing season, one party reached the South Magnetic Pole, and Shackleton—with three others—sledged to 88°23'S. The Nimrod returned in February 1909 and picked up all the shore party; it reached Lyttleton, New Zealand, on March 25. In the official account of the expedition, The Heart of the Antarctic, Shackleton made no mention of his agreement with Scott not to use McMurdo Sound as a base.

Meanwhile, Scott was flag captain of HMS Albermarle. In February 1907, during manoeuvres near Gibraltar, his vessel collided with another battleship. Scott was worried that his naval reputation would be harmed, but at the official enquiry no one was reprimanded. Scott was soon back at sea as captain of the Albermarle and, from January 1908, of HMS Essex, a battle cruiser of the Home Fleet. During much of this time he was courting Kathleen Bruce, whom he married in September 1908 while continuing to plan for the polar expedition. Kathleen gave him much moral support and insisted that he include the attainment of the Pole in his goals.
At this stage, however, for the most part, the plans had to await the outcome of Shackleton's efforts. After landing the shore party, the Nimrod had returned to New Zealand, whence Scott learned of Shackleton's change of plans and—to his intense annoyance—of his use of McMurdo Sound.

When Shackleton returned to London in June 1909, Scott was in two minds whether or not he should go to meet and congratulate him. In the end he did, and joined with all the others who were according Shackleton a hero's welcome. Shackleton received a knighthood and several other honours that had been denied to Scott—and the government gave him a grant of twenty thousand pounds to pay the expedition's debts. However, despite the considerable successes of the expedition, Shackleton had not reached the Pole. Scott was convinced that no one but an Englishman should get to the South Pole (Scott, 1909) and that he was the man to do it. His plans went ahead.

Commander Robert E. Peary and Dr. Frederick Cook, both Americans, claimed to have reached the North Pole in 1909 and 1908, respectively, to the disappointment of Roald Amundsen, the Norwegian, who had hoped to reach there first himself. He was planning a northern expedition for this purpose, but when the Americans claimed precedence, he decided to change his objective to the South Pole, but without telling anyone.

Scott gained much national support in his public appeal for his British Antarctic Expedition, although the funds themselves were slow in arriving. In January 1910, however, the government granted him twenty thousand pounds, which enabled him to buy a ship. The Hudson's Bay Company, which had bought the Discovery at the conclusion of Scott's first expedition, refused to part with her, so Scott was obliged to settle for the Terra Nova, a large, strong, Scottish whaler built in 1884. He paid five thousand pounds cash down, with seventy-five hundred pounds more to be paid when funds became available. She had been in the Antarctic once before, in 1903, during the relief of the Discovery expedition. For work with the present expedition, her blubber tanks were removed, an ice-house and laboratories were constructed, and she was barque rigged. She proved seaworthy but consumed excessive amounts of coal. The Terra Nova was reg-
istered with the Royal Yacht Squadron to avoid mercantile regulations, especially those concerning seamen's quarters and loading to the Plimsoll line. As Bowers wrote in a letter to his mother (SPRI archives): "Still, 'Risk nothing and do nothing'. If friends could not supply another ship we simply had to overload the one we had, or suffer worse things down South." Before Terra Nova left New Zealand, Lieutenant Evans painted over the Plimsoll line. When the ship sailed, Evans said the line was nearly one foot under water. Captain Scott maintained it was still three inches above the waterline.

Scott was also recruiting the party that would accompany him to the Antarctic. R. W. Skelton, who had been with Scott on the Discovery expedition, was miffed when Scott offered the position of second-in-command to Lieutenant Edward R. G. R. (Teddy) Evans; Evans "demanded" this appointment in return for abandoning his own venture to the Antarctic. Subsequently, Evans helped Scott with the fund-raising lectures and meetings, and he also took on the responsibility of overseeing the refurbishing of the Terra Nova. During a trip to Norway in March 1910, to test his experimental motor sledges, Scott recruited Tryggve Gran—who also had plans for an Antarctic expedition—as the ski expert with his expedition. More than eight thousand men volunteered for positions on the expedition. Among those accepted by Scott were six members of the Discovery party: Cheetham (the Bosun), Thomas Williamson, Edgar Evans, Thomas Crean, William Lashly (sometimes spelled Lashley), and William Heald.

As early as March 1904, Edward Wilson had shown his willingness to go back to the Antarctic with Scott and by 1907 it was well understood that if Scott did return, Wilson would go with him although, at that stage, Scott had nothing definite in mind. In order to continue with his work on diseases in grouse, Wilson reluctantly had turned down Shackleton's offer of a position on his expedition. After his return, Scott told Shackleton of his plans and, in July 1909, obtained from him an assurance that Scott's plans in no way disconcerted any of his own. Shortly after that, on September 16, 1909, Scott sent Wilson a telegram ask-
ing him to organize and lead the scientific staff of an expedition due to leave England in the following June.

The Royal Geographical Society, with Sir Clements Markham as its president, had been generous in its support of the *Discovery* expedition. However, it provided the *Terra Nova* expedition with a sparse five hundred pounds and President Leonard Darwin and others contended that scientific research should be given more importance in the plans, with the attainment of the South Pole correspondingly less. Consequently, Wilson was careful to consult with the Royal Geographical Society, as well as with the Royal Society and other institutions, in the choice of his team. There had been strong criticism of the meteorological work of the *Discovery* expedition, mainly by Dr. Napier Shaw, director of the Meteorological Office. Scott resented the criticism but must have realised it was justified, at least in part, for he wrote to his friend, Dr. George Simpson, at the Indian Weather Bureau in Simla, acknowledging that the meteorological volume was full of inaccuracies and insupportable theories. He wrote, "It's a pity some of your Indian efficiency cannot be imported into the London office." Soon afterwards, Simpson joined the scientific staff of the expedition.

On the *Discovery* expedition there had been one geologist, Hartley Ferrar. For the new venture, Wilson selected three: Frank Debenham and T. Griffith Taylor, both Australians; and Raymond Priestley, who had been with Shackleton on the *Nimrod*. As his assistant zoologist, Wilson chose Apsley Cherry-Garrard, whom he had met with Scott in 1907. Edward Nelson and Dennis G. Lillie were selected as biologists. One of the volunteers for the position, rejected because of his youth, was Julian Huxley. Among the last of the scientists to be appointed, was Charles Wright. He, like most of the other scientists, was to be paid a flat rate of four pounds per week, although this was changed for the second year of the expedition, as we shall see.

We go now to Wright's narrative. The account of the voyage in *Terra Nova* to New Zealand is taken from a long letter Wright wrote to his father in Toronto, and which he mailed in several installments.
On [Friday,] June 15th [1910] we left Cardiff amid great excitement, [and boats] packed with people accompanied us about ten miles on our way. All that day we steamed down the Bristol Channel shedding literature as we went. This literature consisted of tracts and periodicals left on board by well-meaning people.

There was a most exciting time during the last few days in Cardiff. The day before I arrived there was a dinner for the officers of the *Terra Nova* at which fifteen hundred pounds was raised at one shot. One old chap who gave five hundred pounds ended up the evening by walking (with assistance) down the centre of the table.

Next day we got a bit of a breeze and raised the sails which we have used almost continuously (with steam also) to date.

There are fifteen officers here on board, including scientific staff. In my cabin (The Nursery) there are four of us. The cabin is 15' long and almost 6' wide and contains in addition, the pianola, the library and about five hundred or more rolls for the pianola.
The boat is, I believe, a barque. At any rate the two foremasts are square rigged and the third is thus . There are also quite a number of jibs and small sails. It is great fun guessing which rope to pull when they say haul on the “main t’gallant halliards”. Exciting is not the word for it.

Whenever we want to do some work in our lab. we have to take out a whole lot of boxes of apparatus and put them on the deck in order to get in ourselves.

Sunday, July 10

We are now in the “Doldrums” and have sails down and steam up. Yesterday was my first day aloft and taking in the sails. I must confess most of my energy was directed towards holding on rather than pulling at the sails. Our “scientific” work is very varied and runs the whole gamut of splicing ropes, hauling sails, coal trimming, stoking, paint-washing and many other forms of exercise and amusement. In the coal trimming and stoking the amusement end of it is not easily found. The reason for the stoking is the sickness of one of the stokers.

One of the biologists [Dennis Lillie] managed to contract measles when we left Madeira but is almost well again now. One of the main objections to our slow method of travelling is the fact that our tanks will not hold enough water. Consequently we are all in a most filthy state as sea-water is quite useless for washing purposes. Pity the poor washer-women at Cape Town!

Another result of the shortage of water is the lack of something decent to drink. One does pall of champagne, beer and ginger ale in the course of time. Indeed I can think of nothing more calculated to turn a man a rabid T.T. [teetotaller] than a voyage on the Terra Nova, R.Y.S. [Royal Yacht Squadron].

Yesterday a most exciting happening happened—to the number of dogs on board was added a further two. The dogs, four in number, (now six) are descendants of the dogs brought back by Nansen from the North. Poor devils—they must feel the heat terribly. We ourselves are going about clothed in the irreducible minimum.

Only two of the four dogs were Eskimo and pups of the dogs that Peary had used on his North Pole journey. They were named Cook and Peary. The other two were English-bred Samoyeds.
Oates wrote his opinion of the dogs in a letter to his mother (SPRI archives): "A more useless lot I have never seen. Each is blessed with flat feet and a weak back. Three won't eat, and the other eats everything it sees, including rope ends, which disagree with it." The Samoyeds and their pups were given to friends in New Zealand. Cook and Peary were used in a three-dog outfit by Clissold, the cook.

We are getting some quite interesting results (Physical) already. We have been getting the amount of radium in the sea and air and measuring their effects. I will be writing to McLennan shortly [Professor John C. McLennan, Toronto University] and will give him first-hand information on the subject [penetrating radiation] towards which Canadians have contributed almost the whole of the work to date.

[Friday,] July 15

Just over the equator and am now initiated into the mysteries of Neptune's domain. The initiation ceremony was a most exciting ceremony. It went thus: Neptune, his wife, clerk, court and retinue—policeman, barber etc. appeared over the bows, hailed the Captain and ordered him to stop the ship, which was done,—for a moment. They then proceeded aft, Neptune being received by the Captain and speeches of welcome, etc. were delivered on both sides after which Mrs. Neptune "Amphitrite" was presented with a bouquet of paper flowers and Captain Evans [Lieutenant E. R. G. R. Evans, captain of the Terra Nova until Scott joined the ship in Cape Town] was made a member of the Most Ancient Order of Flying Fish and presented with a specimen of that most rare fish—the flying Bulgie. The Bulgie was made by the carpenter and painted all the colours of the rainbow by the artist [Dr. Edward Wilson] of the Expedition. It looked a sort of cross between a sea serpent and a dragon. The ceremony of initiation then proceeded. All who had not yet crossed the line were presented to Neptune and had to be examined by his doctor, shaved and washed. The doctor took the patient's temperature with a wooden thermometer which could just be forced into a man's
mouth if stretched a bit. The doctor found my temperature was 
-70° and said I was in a bad way. He next thumped me all over 
the chest and back making me say ninety-nine at each thump and 
prescribed and made me take, first a wine glass full of a mixture 
of vinegar, cayenne pepper and a few other things of consider­
able warmth. A pill of dough and cayenne pepper came next, the 
pill being the size of a large hen's egg.

I next proceeded to the barber and assistant, was lathered by 
the latter with a mixture of flour and water and soot—chiefly 
soot—and then shaved with a wooden razor two feet long. The 
barber lathered one all over as far down as the waist and includ­
ing the top of one's head. One being pronounced shaved by the 
barber, one was next consigned to the deep for washing. The 
washing (under water) was performed with great thoroughness 
by the "four trusty sea dogs" in the bath below. The bath was a 
big sail cloth box 10' high and 12' square filled with water to a 
depth of four feet.

The costumes were simply ripping particularly the doctor 
and Amphitrite. I will send you some photos shortly. The photos 
are of course private. We had before signing on to undertake to 
have no photos or writings printed and to give no lectures for two 
years (I think) after the return of the Expedition.

There were of course the official press releases and the Aus­
tralian, Griffith Taylor, wrote despatches for the Melbourne Argus 
during 1911.

Another exciting thing happened a short time ago. The fool car­
penter left a lantern lit in the lazarette, and the roll of the ship 
naturally upset the thing and started quite a little blaze, which 
was however got under hand in about five minutes by the help of 
water and fire extinguishers.

Lat 3°S Long (abt) 27°W.

We have been steaming through the Doldrums the last week or 
so and should have picked up the S.E. trades three days ago for 
our run down to South Trinidad. It has been fearfully hot down 
in the cabins and wardroom which incidentally leak when it rains.
It has also been raining most of the time, so you can imagine the nights have not been very pleasant. Incidentally our cabin (The Nursery) is next door to the engine room and boilers and it is a perfect little hell. The ports of course can not be opened also lest the sea enter and everything get wetter still.

The breeze has just got up now. Let’s hope it is the S.E. trades at last. If so that means steam down and that means much pumping. When we got steam up last time we were all very glad to get rid of the necessity of pumping. Personally I will be rather glad to get some exercise again.

Sunday, July 31

The only excitement of the last few days has been our visit to the island of South Trinidad. Trinidad is an old volcanic island about 2000’ high at the top and some two miles diameter—no harbour of any kind. It is said that pirates’ buried treasure is hidden somewhere on it and in fact two or three expeditions have been got up to look for it.

A remote Brazilian island, South Trinidad is about four miles long by two miles wide, situated 750 miles from the mainland at Lat 20°30’S, Long 29°20’W.
The cause of our landing there was to afford the geologists, biolo-
gists and birdologists to make collections in their respective de-
partments. Two previous expeditions have landed for the same
purpose including Scott’s previous one. But both have lost their
collections on account of the difficulty of landing and embarking.
In fact I believe that we are the first ship which ever stayed over-
night in the anchorage (we had steam up all night though).

We arrived about six one fine morning and were immediately
surrounded by swarms of sharks, trigger fish, swordfish, etc. I
think it is no exaggeration at all to say one could see often twenty
sharks at one time. Someone was always fishing on board (day
and night) and we caught several small sharks and about 10 other
kinds of fish of all imaginable colours, black, blue, white, yellow,
red and mixtures of the same.

This was the first time I observed the great contrast between northern
and equatorial fish life—the contrast between the range of varieties co-
existent near South Trinidad and the vast numbers of [only a few
kinds] in northern waters.
About ten o’clock most of the officers proceeded to land, together with innumerable bottles, test tubes, bags and a huge hamper containing lunch and weighing some 200 lbs. There was very little surf at the time and we managed to get everyone and everything ashore with only a slight wetting. We then parted on our respective tasks. For myself I was helping the bug collector. Two went off to shoot birds—gannets, petrels, frigate birds and terns. One to collect land crabs. Two to go shore collecting—anemones, etc., and so on.

The two men who hated spiders, Birdie Bowers and Silas Wright, were appointed bug collectors. Birdie wrote in a letter home (SPRI archives): “Talking about spiders—I have to collect them as well as insects. Needless to say I caught them with a butterfly net and never touched one….” He also wrote of the land crabs: “No matter how many are in sight they are all looking at you, and they follow step by step with a sickly deliberation.”

The island itself I should have mentioned before is not wooded at all until one reaches the extreme top where there are a few tree ferns about 15’ to 20’ high.

The rest of the island is rugged lava and basalt—very crum­bly. The fauna consists chiefly of white terns and innumerable crabs—yellow land crabs and greenish shore crabs of the most repulsive form and anything up to 6” diameter.

In the excitement of our run on shore and scientific work nobody had noticed that the swell had got up and on our recall (by rocket) to the ship we found that the circumstances attending our return to the ship were going to be exciting. After much sig­nalling between ship and shore, one of the whaleboats and the small Norwegian “pram” were sent to take us off.

The first and second men swam out on the crest of a retreat­ing swell to the pram and carried a small line with them which was tied to a lifebuoy and thick hawser paid out by the whaleboat and which we hauled in to shore by the thinner cord. Unfortu­nately a few heavy swells came along then and fouled the hawser on the rocks and it took the best part of an hour to disentangle it.
After that all went swimmingly, all we had to do was seize the proper moment (one came every five minutes or more) and swim out to the boats—the line was for those who could not swim. Two men were left on shore—one of the doctors and his patient [Surgeon-Lieutenant Atkinson and Seaman Brewster] and of course all the cameras and scientific gear.

Next day instead of the swell having subsided it was possibly a trifle worse and it took half the crew four hours to get the gear and two men off. I had gathered sixteen tern's eggs, of which I had intended to keep a couple for Ben [Wright's brother, Benson]; two only, which I had put into a heavy glass jar survived and were pounced on by the birdologist of course. To tell the truth we all came off darn well.

Apparently the Captain and I were the only ones who noticed the sharks swimming round of which one could see at one time three fins along the short stretch we had to swim to reach the boat. I was very pleased with myself later for saying nothing about them till we were all off and Captain Evans of course said nothing either.

In fact, Edward Wilson reported in his diary (Wilson, 1972) that he also saw the sharks but forgot about them during the swim out to the boat.

It was really quite exciting work while it lasted. At one time when we were trying to clear the hawser line from the rocks a big swell
came up one time and completely buried five of us. However we each held on to the man lower down and all that we got were a few cuts from being banged against the sharp rocks.

Some of the men are getting quite worried about the slowness of the ship, we will be at least three weeks overdue in reaching Cape Town and they are afraid their people will be getting worried about our nonarrival.

Simpson and I have been having a long powwow with the authorities. They say we have too much gear and can not take our own hut with us. That means we will have to use a corner of the main hut for our lab and that may mean we will have to jack [abandon] some of the work—which Heaven forbid.

We have turned East since leaving Trinidad and may meet one of the westerly gales at any time now. As our speed under steam alone is only 5½ knots, a gale is the very thing needed to hustle us up.

[Tuesday,] August 9, 1910

Have had our westerly gale now the last three days and have beaten our steam records all to smash. We would do much better if it were not so squally, as the t'gallant sails are taken in every night as a precautionary measure. Those t'gallants have had quite an exciting time of it lately as they go up and down several times in the day as the squalls come and go. The ship is very steady and seldom rolls more than 30° each side, though the green seas are washing over her occasionally even up on the poop. Have lived in oilskins the last days and now have hopes of reaching Cape Town within ten days.

Have had the albatrosses with us also the last week—big chaps with a spread of eight feet across the wings. (They grow up to twelve feet across.) Have just had a big roll accompanied by the sound of breaking glass from the wardroom—cheers from the men at the pump and a general rearrangement of all the articles and some of the instruments in our lab where I am now writing. Talking of the albatrosses reminds me that I forgot to tell you how we caught the gannets on Trinidad. I and Bowers first sneaked up to one of the sleeping beauties and slipped a butterfly net over him which he promptly tore to pieces before
we got him tight. After an animated discussion as to ways and means we decided to stick a knife into his head as the best means of doing away with him. I then tied him on my back and was recounting the tale of his capture and death to the ornithologist and artist [Dr. Edward Wilson] when he came to life again and had to be despatched again. The tale of his capture evidently excited great envy in the ornithologist’s mind for he promptly went off and caught two more in his hands. Later on the Norwegian [Sublieutenant Trygge Gran] caught another in the same way, and almost on the summit of the hill. Since however it pecked him before being finally subdued, he for some unknown reason determined to bring it down alive. With a big rucksack full of rock specimens on his back, a camera and a few rifles in one hand and the beast clasped tightly to his breast by the other he proceeded gaily down to the point of embarkation. When we saw him he was stumpling [sic] along struggling with the damn bird which was actively trying to peck holes in him, and swearing in Norwegian at every step. But the beauty of the whole thing was that on his return, the ornithologist informed him that he had already got enough. The amiable beast was therefore allowed to depart, which he did with a parting squawk of derision.

Another incident that happened in Trinidad was the puppies going crazy with joy on landing and taking fits. One of them has since died for the same complaint.

On August 2, Wilson recorded in his diary: “Oussa, one of our white Samoyede pups, . . . had fits today, evidently from parasitic worms, and died” (Wilson, 1972).

This boat is rather a remarkable one in some respects. We can not set the sail on the mizzen mast (the one farthest aft) if the wind is blowing at all, as she then carries so much weather helm that she would broach-to almost at once.

This was the day that Amundsen in the *Fram* left Norway, ostensibly for the North Polar regions but in fact bound for Antarctica.
[Wednesday,] August 17

Came into Simon’s Bay on the tail of a gale. Am starting up country tomorrow to do some scientific work.

This scientific work consisted of experiments on penetrating radiation.

Matjiesfontein was the small town where I set up my gear. Everybody was very kind and showed a great deal of interest in the Expedition and its plans. Matjiesfontein, in the middle of the Karroo, was something more than a day’s journey north of Cape Town and I had my first taste of a really well-run Government railway.

The radiation experiments showed much greater activity that I had observed in Canada or in England and much greater than any of my previous measurements at sea.

At the end of my time in Matjiesfontein, I returned to the ship in Simonstown, finding to my relief that I had avoided the large number of dinners and lunches which were laid on by the very friendly people of Simonstown and Cape Town. The Terra Nova had, in this interval, undergone a small refit at the Naval Dockyard and shone with dockyard paint and varnish. So generous was the dockyard that I heard later that the last items put aboard the ship were brought on a wheeled dockyard trolley and that the trolley also came aboard and stayed there.
Lieutenant Evans comments in *South With Scott* on the great assistance rendered to the *Terra Nova* by HMS *Pandora* and HMS *Mutine* in helping to refit by sending over their working parties.

"The Owner," Captain Scott, joined the ship at Simonstown and Wilson left by steamship for Australia to recruit more scientific staff.

*We left Simonstown on September 2, 1910.*
South Africa to Australia
THE VOYAGE SOUTH, 1910

Showing the *Terra Nova's* route to the Antarctic

The Voyage South, 1910. The route of the *Terra Nova* from Cardiff to the Antarctic.
The voyage from Cardiff to South Africa had taken two months, much longer than had been expected. During that time, however, the scientists, the officers, and crew had learned to work together and the ship was a happy and busy place. As quoted in Elspeth Huxley’s *Scott of the Antarctic*, Wilson wrote from Madeira to Scott, who was still in England completing his organising and money-raising, “You have got a crew of pirates that would be exceedingly difficult to beat—or equal. I have never been with such a persistently cheery lot before.”

To a large extent, the cheerfulness arose from the amount of communal work that had to be done on the ship. The *Terra Nova* leaked so, whenever the ship was under sail, the hand pumps had to be manned about every four hours. When the engines were being used, the afterguard—the scientists and officers— took turns as stokers, in trimming the bunkers, and so on. In the tropics this was especially demanding and unpleasant work but they all seemed to thrive on it.

In addition, the scientists undertook work in their own disciplines. Wright and Simpson spent much time with their experiments on penetrating radiation and atmospheric electricity, as well as with the more normal meteorological work. Wilson continued with the preparation of his report on diseases in grouse on which he had been working for the five years before he joined the expedition, and he also sketched scenery and wildlife. With Cherry-Garrard, he sketched, caught, and preserved seabirds whenever the opportunity presented itself.

The wardroom was a particularly happy place. With Scott still in England, Lieutenant Evans had been in command of the *Terra Nova* on the outward voyage to South Africa and usually he was in the forefront of the boisterous behaviour in the mess. Wright was one of the more reserved members of the afterguard but he also took part in the periodic games and roughhouses.

In Simonstown, Scott joined the ship and took over its command from Evans. He asked Wilson—with Mrs. Wilson, and also Mrs. Scott and Mrs. Evans—to go ahead to Australia on the *RMS Corinthic* to recruit a third geologist, and to try to persuade
the Australian government to contribute five thousand pounds to the expedition as they had originally indicated that they would do. Later, the government decided to withdraw the offer, preferring to support Douglas Mawson, who was organising his own Antarctic expedition.

On the voyage of the Terra Nova from South Africa, one of Scott's tasks was to get to know his crew in order to select the members of the two wintering parties, the Main Party and the Eastern Party. As a result of his interactions with Bowers, who was originally scheduled to remain with the ship, Scott invited him to join the shore party.

**Sunday, September 25, 1910**

Three weeks out from South Africa, most of the time under steam and sail in order to catch up on our programme. The roaring forties however have not roared nearly as much as everyone expected and on only two days have we exceeded a total of two hundred miles. We have had two full gales to date but they only lasted a few days each and [we] have made on the whole rather bad time.

In order to keep sail on as long as possible some of the scientific staff are taking watches. Mine is from midnight to 4 A.M. and as we still have our scientific work to do, my time is fairly well filled up. I find though that seven hours sleep is quite enough unless we have a heavy day in the bunkers trimming coal.

It is really rather fun at times going aloft in the blackness at 2 A.M. to reef sails or furl the same. If there is a big swell on and one is perched on the t'gallant yards, every roll moves one through a distance of 70 feet or more. With a dark night one can see big patches of phosphorescence two or three hundred yards away from the ship, appearing and disappearing as a wave intervenes and hides them from sight.

Then there are other nights when we are scudding along almost under bare poles and the air is filled with spray or rain or hail driven along by the force of a 70-mile[-per-hour] wind, when one can't see the man four feet away on the yard, or hear the orders for the flapping of the sails and the screeching of the wind and when every few minutes one has to warm one's fingers again by banging them against the sails.
Other nights again there is nothing to do but make cocoa and pump and talk philosophy on the bridge with the Officer of the Watch.

I think I can at last say I know the names, positions and use of the thousand and one ropes on board. But I still find it a trifle difficult in the darkness to tell a buntline from a clewline or a leechline or a brace or something else, as we suffer from a lack of belaying pins and two ropes are often belayed on the same pin for that reason.

We had hoped to land on St Paul's Island a few days ago, but just as we sighted it a heavy squall came up and made landing impossible, so that all our preparations for trawling and bug catching and shooting were in vain. I had particularly wanted to test some of the hot springs for radium content in order to settle a few interesting points but all preparations were in vain.

St Paul is a volcanic island about the same size as [South] Trinidad but not very active lately and is inhabited by wild goats and pigs, so you may be sure we were disappointed in being unable to land.

We all tried the sledging biscuits the other day. They look very much like dog biscuits only much smaller and taste according to looks. They are however very filling—in fact after three bites or rather gnaws I quite felt I had had enough for one day.

The biscuits were made by Huntley & Palmers, with the following formula: 80 pounds flour, $13\frac{3}{4}$ pounds rice gluten, 20 pounds wholemeal flour, $2\frac{1}{2}$ pounds lard, salt, bicarbonate, and water. They were baked to a final water content of 5 percent and weighed 2 ounces each. Wright comments in his memoir:

*My views on these biscuits changed completely when we used them later on sledging journeys in Antarctica.*

Another of our dogs is dead, thank Heaven, and I have hopes the other two will not live either. They are awful cowards and can be of no use for sledge pulling and in any case if they do get south will be killed by the dogs at the first opportunity.

The beasts can not even now stand the cold and are therefore kept in the photo and chemical lab where they have smashed some of my chemical apparatus.
Sunday, October 2

Another uneventful week. The “Westerlies” have turned to Easterlies, Northerlies and Southerlies and we have averaged only 110 miles a day under steam for the last week. It is abominable.

The party for depot-laying has at last been chosen. I wish we had not undertaken so much physical work and I would then no doubt have been on the party.

Scott proposed to undertake a sledge journey soon after disembarking, to lay a depot as far south on the Barrier as possible.

We are now writing up some of our physical results to date. They are quite good. The unfortunate part of it is that most of the work has been Simpson’s special department and so he gets practically all the glory, though at least half of the work is mine. However it can’t be helped.
I have said nothing about my experiments on penetrating radiation and Simpson's parallel measurements of radioactive material collected from the atmosphere. Penetrating radiation not only increased [while we were near the land] but [then] died away slowly to its normal figure at sea, but not to zero, after leaving the [South Trinidad] Island. The reasonable explanation of this is that there was a greater amount of radioactivity in the atmosphere which deposited radioactive material on the ship’s deck, rigging, etc; the penetrating radiation due to this radioactive deposit on the ship slowly decreased with time at a rate determined by the decay of the radioactive products.

It has just struck me that I have said practically nothing about the fellows on board.

Captain Scott—“The Owner” has a thirst for scientific knowledge that cannot be quenched. He takes no part in the skylarking—but always looks on with a grin.

Lieutenant Evans—“The Skipper” has a taste for rowdyism and skylarking.

Lieutenant Campbell, alias Mr. Mate or No. 1 or “Father”—supposed to be a martinet and tries to live up to it. Has a great horror of “sad” music and a great love for “The Merry Widow.” Always has a fat head when wakened for his watch at 4 A.M.

Pennell—“Penelope” has a taste for dancing hornpipes at inopportune moments, suspected of being in Love.

Rennick—“Parney” [has] no peculiarities save a love for the wretched curs we have aboard.

Bowers—“Birdie” gets sunburned even if it rains or is clouded over. Goes about with next to nothing on even when snowing.

Riley, the Engineer—always sad. Has a supreme contempt for sails.

All the above are naval officers.

Simpson’s journal (SPRI archives) relates: “Riley our engineer has not been equal to the strain, he has had bad health all the way out.” On arrival in Australia, he was invalided out of the expedition.
Scientific staff consists of:

Simpson—"Sunny Jim" on account of the smile, has a supreme contempt for everything but Meteorology, and a taste for socialism with something more than a taste for argument on any subject whatever.

Wilson—"Our Bill" no peculiarities save that of teetotalism. The penguin expert of the Discovery expedition.

Nelson—at first called "The Immaculate One" on account of his care in dressing. Since his falling off has been named "Marie Ducas". Has a taste for gin and bridge.

Lilley—"Hercules" or "Sequins" is rather a dreamer and asserts he can remember his former existences in this world. Much fun can be got from him if handled properly.

Cherry-Garrard, called "Chewwy" has an ever-ready laugh and a penchant for clocks. Keeps three and a couple of watches above his bunk.

Gran, the ski-expert, called "Dr. Grams"—delights in speech-making and in telling tales of his exploits on ski—our strong man—at any rate by his own accounts.

Dr. Atkinson, no nickname, is an expert on parasites and abettor of Oates "The Soldier" or "Spurs", an expert on dogs and ponies, also with Atkinson, on methods of annoying No. 1. Atkinson and Oates are the two snotties or midshipmen and affect a nautical dress and language....

Surgeon Atkinson appears later in the diary under the nickname "Atch." On the subject of nicknames, Bowers wrote in a letter to his family (SPRI archives): "Silas struck me one day on the ship as a typical Yankee name and in a happy moment I called him Mr. Silas P. Wright of the Philadelphia Educational Seminary. Since then he has never been called anything but Cousin Silas or Silas. He is a charming fellow—one of the best—and should have been an athlete and not a scientist."

Everyone is pretty busy now drawing up instructions for the use of the Eastern Party to guide them in taking observations in their
own special departments. Oates has just drawn up a most re­markable scroll to say what is the best thing to do if the ponies get toothache or have to be shot.

The Eastern Party was a six-man party, comprising Lieuten­ant Campbell, leader; Priestley, (a veteran of Shackleton's 1907–09 expedition), geologist and meteorologist; Levick, surgeon, zoologist, and photographer; Petty Officers Abbott and Brown­ing; and Seaman Dickason. Campbell was to set up a scientific base for exploring King Edward VII Land. The plans were changed drastically, however, when it was found that Amundsen had already anchored the Fram in the Bay of Whales. On their return to Cape Evans, McMurdo Sound, it was decided that the party, now called the “Northern Party,” would explore the coast west and south of Cape Adare. In 1911 they erected their base close to the old hut of Borchgrevink’s expedition. Oates instructions were never needed. The two ponies allotted to the party, Jehu and Chinaman, were returned to Cape Evans, Borch­grevink’s experiences having shown that the terrain near Cape Adare was unsuitable for ponies or dogs. At Cape Evans the ponies swam ashore from the Terra Nova, an experience from which they never fully recovered.

Dr. Levick “The Old Sport” or “Tofferino” has been trying since leaving England to get into his head the elements of Navigation. Has not succeeded and will not—is learning to bake bread for the Eastern Party. Is great at “attempts at” photography. On being asked to photo some of the chaps who had been down coal trimming he kept them shivering in their light (and black) clothes for a full half hour, while he got the instrument ready for use.

Murray Levick became a skilled photographer. He contrib­uted eighty-two photographs to the glaciology report of Wright and Priestley, and photographically illustrated his sympathetic account of the social behaviour of Adélies in his book, Antarctic Penguins.
[Tuesday,] October 11, 1910

With luck will reach Melbourne tomorrow. There is the usual excitement on board attendant upon getting the ship painted, the brass cleaned and the white paint washed. I have been putting in a most energetic day washing the wardroom paint with “soogee.” A very strong mess of hot water, soft soap and caustic soda guaranteed to take a considerable amount of paint off with the dirt.

We have just lately emerged from another gale. The only remarkable thing is that the Norwegian Gran dreamed about its being on the proper date about three months beforehand. I made a mental note of it at the time and there was no mistake at all.

We have lately had the company for short periods of time, of a school of whales. I spent a lot of time and films photographing them, but I don’t suppose with any great result, as my camera is not adapted to taking photos of an animal which may arise from a plane at any point on that plane and at some unknown time. However I expect that I have got our friends in one at least of the snapshots.

Albatross-catching has also been rather fun though our bag to date is one solitary one. They may be caught by a floating hook, by throwing a weighted line over them as they fly past, or by letting them tangle themselves in a line towing astern and fastened where the flag is usually put.

Wednesday, [October 12] 2 A.M.

I have just been assisting (chiefly in the french sense of the word) at the sounding for proximity of Australia with our Kelvin sounding machine. We are now within fifty miles (by soundings) of
Ottawa Head and before the end of the watch should be able, from the crow's nest, or at any rate from the mast head be able to see the light on the Head. As usual just before getting in to port we are going at high pressure in order to make it before nightfall tomorrow (today, rather).

We have just been called out to trim sails in a rain squall—the same being rather poor sport.

Will spend the rest of the morning till daylight writing up my belated correspondence. The way I manage to leave everything till the last day is very sad. After writing about two letters I get absolutely devoid of ideas and parrotlike repeat the same things and same phrases in each letter. Had a fine Aurora Australis the other night. Must bring myself to start a diary after leaving New Zealand. Have just got permission to take a week or so off in New Zealand to go and study glaciers on Mt. Cook—no connection with he of Arctic fame. It should be quite a nice trip and I expect to get a few decent photos. I am sending you prints of a few photos taken up to date. The camera has really quite a good lens, but I have not yet quite mastered the technique of the thing.

Simpson is leaving the Terra Nova at Melbourne and going direct to New Zealand by mail steamer in order to save time. I am not at all sorry. It is rather a difficult position, to be under a man of about thirty-five (at any rate in the Physical part) who is a meteorologist right through and who, as far as I can see, always works in a meteorological way. That is, he takes observations al-
most without considering to what end. The Physical idea is to form your theory on known data and test it by taking special observations which will prove or disprove it; the meteorological idea is to do something new—any old thing—and then analyse the results and see with what factors (temperature, pressure, wind velocity, etc) your observations vary. There is quite a future for meteorology if physicists took it up and treated it physically.

I wish you would send this [letter] on to Alfo and Brown [Charles Wright's two brothers] when you have read it. I am writing a short note to each but if I attempt a real letter (if I could concoct one, which I can't) I would only repeat myself right through.
Australia, New Zealand, and South to the Antarctic Circle
The *Terra Nova* anchored off Port Melbourne shortly before 9 P.M. on October 12. Edward Wilson and the three wives (Mrs. Wilson, Mrs. Scott, and Mrs. Evans), along with a bag of mail, had spent a wet evening in a motor launch in the harbour, waiting and looking for the ship. When they did find her, they had an exciting time in the dark, in rough seas, with their boat dancing about like a cork, trying to come alongside so that they could deliver the mail. Eventually they managed. Wilson took the mail aboard, then returned to the launch together with Captain Scott and Lieutenant Evans.

Amongst the mail that Scott received was a telegram written by Amundsen in Madeira, about September 10, but sent from Oslo by Amundsen’s brother on his return from Madeira (Gran, 1984):

BEG LEAVE TO INFORM YOU FRAM PROCEEDING ANTARCTIC

There is no record of how Scott reacted. He did not make any public comment. Neither Wilson nor Wright mentioned the matter in their diaries. However, Scott consulted with Gran and presumably with the more senior members. After the consultation, he cabled Nansen for clarification. Nansen replied:

UNKNOWN

Scott received a telegram from London on November 4 surmising that Amundsen was heading for the Ross Sea area, based on the fact that Amundsen had previously ordered Admiralty charts of that area.

*This was the first information we had that his [Amundsen’s] plans for reaching the North Pole in Nansen's specially constructed ship, the Fram, had been abandoned, presumably because Peary had returned from his journey to the Pole. I think that we all felt that this change of plan was a bit offside, especially because it was not sent before he had reached Madeira.*

The announcement of Peary’s claim was published on September 7, 1909, eleven months before Amundsen sailed.
For my part my chief regret was that the great man who first made the complete Northwest Passage of Canada should send such a curt message, apparently not followed by a letter or any explanation. I wondered if he was not afraid that his Norwegian sovereign and the subscribing Norwegians might take steps to stop him, and therefore he set off for Madeira before this happened. Not in the best of taste!

In Australia Scott and others had much to do, chiefly in the nature of public relations and money raising. Largely due to the efforts of Lieutenant Evans, Acting Prime Minister Hughes agreed that the federal government would donate twenty-five hundred pounds to the expedition; in addition, a private individual, annoyed at the parsimony of the government, gave another twenty-five hundred to complete the five thousand pounds that Scott had originally hoped for.

The Meteorological Office at Melbourne . . . arranged for me to use their electrically operated computer to do some calculations and make a table of numbers which I would require for working out . . . gravity from the period of swing of Potsdam's pendulums. . . .

In neither his diary nor his memoir does Wright give us more information on how he spent his time in Melbourne.

After a succession of formal dinners and receptions, the Terra Nova was ready to leave Melbourne on October 16. Evans was again in command because Scott had gone to Sydney whence he, with Gran, travelled to New Zealand by liner. Evans then received a request from HMS Powerful, the flagship of the Australian flotilla of five warships, that the officers and scientists all dine aboard the flagship that night and allow Admiral Poore to inspect the Terra Nova in the morning.
Monday, October 24

Expect to catch sight of New Zealand (or the lights thereof) about midnight and will reach Lyttleton on Thursday.

The zoologists have been having quite a busy time since leaving Melbourne, at which place they managed to get some string strong enough to hold albatrosses. They have caught about six since leaving and are still busy skinning them. None were very large, the biggest having a spread of about seven feet only. Yesterday a chaffinch came aboard—evidently blown from New Zealand by the head winds we have experienced for some days.

The ship's cat has developed into quite a circus animal. The men forward have made a small hammock, blanket, pillow, etc. and have taught the cat to sleep in the hammock every night with his head on the pillow. At the Admiral's inspection just before leaving Melbourne, the Admiral and company were very much tickled at the sight of Nigger in his hammock.

Five warships arrived in Port Melbourne the day before we left, so we had a grand dinner on board the flagship and on going off next day sailed along the line under full canvas, which was pure swank, as we shortly had to take it in again.

The Admiral had once advised Skipper Evans to leave the Navy as he would never do any good in it. Thus Evans had decided we must show what good sailormen we had become so a number of the afterguard were told off to one of the halyards and to walk away with it very smartly. The sail did rise smartly too—too smartly, as some of the crew on the tail of the halyard tripped on some obstruction, leaving us all piled up in a heap and the sail only halfway up. Not a good show as Terra Nova was in full view of the dressed ships of the Royal Navy.

Last night we drank our King's Ale, a gift from the Bass people. King's Ale is a special brew made in '02 when the King [Edward VII, who died May 6, 1910] went to Burton and instead of using water Bass's No. 1 Strong was used. There was about one glass apiece and the immediate result was the occurrence of a lovely scrap, which is now being commemorated by our artist in a cartoon.
The cartoonist was Dennis Lillie, whose cartoon, "A Quiet Sunday Evening on the *Terra Nova*," is reproduced in Griffith Taylor’s book, *With Scott: the Silver Lining.*

A test was today made of a stove to burn blubber. It should work quite well with a little fixing.

Sunny Jim (Simpson) is going on to New Zealand by mail steamer but started three days after we left (or more) so we may arrive first after all.

Have been busy the last few days writing up a paper. It will, I hope, not be worth anyone’s while to do anything similar again.

This paper was *Atmospheric Electricity Over the Ocean* (Simpson and Wright, 1911). When one of the editors (CB) was a physics undergraduate, this was one of the papers recommended to him as an exemplar of style.

*On October 24 we met an offshore breeze from New Zealand [which] was accompanied by increased conductivity in my zinc cylinder. . . . Simpson’s atmospheric radioactivity equipment . . . also showed an increase. This seemed . . . proof . . . that some of the conductivity was due to radioactive material [blown from] New Zealand. . . . To make certain, I borrowed the ship’s whaleboat and took my equipment into Lyttleton Harbour where I found . . . the usual decrease from the figure on the ship in dock. When the time came to return, a strong breeze had got up and I found my education had not included how to scull a whaleboat from the stern. I found, however, that it was just possible to make way against the wind in a series of tacks, pushing with one oar on the port and starboard sides in turn. And when I finally got back to the ship after an hour’s hard work, I was reproached by Campbell for my unlubbery technique before the . . . New Zealanders. . . . We reached Lyttleton on October 28th. The ship was dry-docked and the source of the leak in the ship which had caused so much trouble and given so much needed exercise to the afterguard was found and largely corrected so that in future only about fifteen minutes pumping was necessary in each watch.*

Bowers took the opportunity to restow the cargo below decks and to mark with a green band of paint the stores destined for Campbell's
"Eastern Party." We of the Main Party closely watched this operation to ensure there was a fair division between the parties.

Our stay at Christchurch and Lyttleton was a very busy one. Apart from the stowage of the cargo below decks by Bowers and his helpers, our hut was erected ashore by the seamen who had been chosen to do this job when we landed in Antarctica.

Scott and Wilson arranged for Griff Taylor, Debenham and myself to visit the glacierised region of Mount Cook and the Tasman Glacier, staying at the Government "Hermitage." One of Griff's sisters (?), Dorothy, who had come to see him off, was also with us but, doubtless, not at Government expense. We also had the services of the chief guide whose name I believe was Christian. He took us up to the top [Upper] Tasman Glacier, whence we could see the short fast-moving glaciers moving down to the sea. We spent one night in the Malte Brun hut where we picked up a couple of pairs of ski and toiled up a steep slope to the head of the glacier. The question then arose who should use the ski down to the Malte Brun hut. I don't remember who had the other ski, but I had one pair on the strength of my announcement that there should be no difference [difficulty] in [the] operation of skis to a man used to skates and to Canadian snow shoes. Griff was brave enough to accept my offer to take him down standing behind me on the two "planks." We had no difficulty as it was a straight run down the top part of the glacier and no crevasses worthy of the name. So ended my first experience with ski.

On our return to Christchurch, the restow of the ship was almost complete and there remained little more to be done except for the deck cargo, the weight of which thoroughly submerged the Plimsoll line—a
mark painted on merchant ships to mark the safe freeboard. As a member of the Royal Yacht Squadron we paid no attention to this and, as I remember it, this mark was well below sea level when we left for the South.

Here in New Zealand, Simpson had to say goodbye to the wood for his special meteorological hut for which there just was no room. The hut . . . turned out to be unnecessary, since all [the] equipment, except the “absolute magnetic hut” fitted into a corner of the main building plus a cave excavated into a nearby . . . consolidated snowdrift for the “variation” instruments. This magnetic cave had the . . . advantage that [its] temperature remained fairly constant.

[Friday,] November 4

Christchurch

Got a telegram from Dad today for which many thanks. Have as usual on shore, had a beastly busy time since landing here. Have been up to Wellington University calibrating the instruments once more and since getting back have been busy with Simpson, putting up the magnetic instruments at the Observatory here and the pendulum apparatus, including the setting up of our transit instrument to be used for getting time from the stars.

Had a great time with the physics prof. at Wellington—viz. Laby [Thomas Howell Laby (1880–1946) an Australian “1851 Scholar” who worked in the Cavendish Laboratory, Cambridge, 1905–08] with whom we used to have such delightful scraps at the Cavendish.

End of first diary.

The Terra Nova sailed from Lyttleton at 3 p.m. on November 26, and called in at Port Chalmers before sailing south. Joining the ship in New Zealand were Scott, Gran, and the three geologists—Griffith Taylor, Raymond Priestley, and Frank Debenham. Herbert Ponting, Cecil Meares, Wilfred Bruce, Bernard Day, Demetri Gerof, and Anton Omelchenko also embarked at this time, along with the dogs and ponies. Most of the ponies were from Manchuria; two were larger, Siberian ponies.
By the grace of Heaven at last got away from New Zealand and the shouting and dancing and the fiddling about. Accompanied from Port Chalmers by numerous ferry boats with flags. All hands had a great haircutting or rather hair clipping carnival and as a natural consequence we are all a fearsome looking lot of criminals.

Have just finished setting sail for a slight breeze which can hardly last, and it was by no means an easy job to dodge about between motor sledges and ponies and coal bags and dogs—chiefly the latter as the price of stepping on a dog is a bite, besides the fact that they are not the tidiest of animals at any time.

Our dogs were selected in Siberia and Manchuria. They were not Greenland dogs but dogs that were used to following trails over which the mails were carried. Greenland dogs were better and harder but were not for us since the Danish government had already promised all that could be spared from Greenland.

Had these dogs been promised for Amundsen? Maybe, but Filchner's Deutschland expedition took Greenland dogs at this time.
Scott's opinion of... dogs was no doubt coloured by his naval predecessors. M'Clnctock's dogs made creditable journeys, but opinion was that dogs were excellent only for short, fast trips.

On the Discovery and Nimrod expeditions, major difficulties had been experienced with dogs.

The mainmast yards are beastly places just now on account of the SO	extsubscript{2} in the smoke and it may well be that the crow's nest above may prove not a cold spot at all, but rather too hot to hold one for very long.

Wednesday, November 30

The event of the day was the liberation of one of the carrier pigeons. He may get back to New Zealand all right but he certainly started in the wrong direction.

We are gradually getting rid of our deck cargo of coal (in bags) by the simple process of dumping it into the bunkers as that is used up.

Have a fresh breeze tonight and are shipping heavy seas on the unfortunate and seasick dogs and ponies. We must look a weird sight from outside with the muttons [i.e., carcasses of sheep donated by New Zealanders] hung in the mizzen shrouds.

The deck cargo consisted of three large cases each containing a gasoline motor with caterpillar tread—Scott's new experiment, forerunner of the tracked vehicles used... in the Antarctic... 50 years later. There were also nineteen... ponies, four... in stalls on the deck and the rest under the shelter of the fo'c'sle deck and over the seamen's quarters, which were not improved by the presence of the ponies above, since all decks leaked more or less. Also on deck were umpteen cases containing huge drums of gasoline, with any remaining spaces... covered by sacks of coal—thirty tons in all... And to crown it all, there were the unfortunate dogs, thirty-three in all. They filled odd corners and were tethered on the bags of coal, exposed to the winds of Heaven as well as to the salt spray...
Have changed course in early morning (Thursday) and will not land meteorological instruments on Campbell Island on account of the sea.

*Saturday, December 3, 1910*

No opportunity the last few days of writing up [the diary]. Thursday about noon the last pigeons were liberated and shortly afterwards the wind began to blow harder. By 5 P.M. we were reduced to lower topsails and one jib and were shipping heavy seas and rolling like blazes. In the waist the sacks of coal constituting part of the deck cargo were careering about and loosing the petrol cases, a few of which were washed overboard and away. The wind continued to increase all night and about midnight the discovery was made that the steam pump was not in good working order and could not keep the water under. The hand pump was manned at 1.45 A.M. Friday, but it too was in poor working condition though we hove it round intermittently till about 6 A.M., heavy seas breaking over continually and sending some cases scudding about to loosen the rest of them. By 8 A.M. the water had risen in the stoke hole almost to the fires and still two steam pumps, a small hand fire pump and the main hand pump as well as a bucket brigade could not keep the water down, and about noon the fires were drawn to prevent an explosion. Here it should be explained that the chief cause of the trouble was that the entrance to the well of the pump (where one has to go to fix it in case it is clogged up) is down the after hatch, but the hatch, being usually two feet under water, could not be used for an entrance.
At noon on Friday the carpenter started to drill through the bulkhead from the engine room to get at the well from the side and the pump was finally fixed about midnight though the ship was only pumped dry at noon today.

In the meantime till 4 A.M. this day, the bucket brigade had been busy (from 8 A.M. Friday) passing water up the engine room hatch from the stoke hole. This work was done by the afterguard divided into two watches (two hours on and two off) and by hard work we took the water down about one foot during that period.

The fires have again been laid now and we should be under steam again tonight. We have got through the storm very well considering, the casualties being merely a slice of the bulwarks, some oil and petrol cases, one dog and two ponies. The dogs particularly were lucky, though very few were able to stand at daylight this morning.

One of the luckiest was the savage “king” dog, Osman, who was washed overboard and miraculously saved by a sailor on the next wave. This chastening experience led to conversion to friendliness—towards members of the expedition.
The barometer is falling again; let’s hope it is not another storm.

We met our first gale on December 1st. It was a corker and nearly the end of the Expedition. Sail was shortened . . . and later we had to heave-to. The sea seemed something quite out of this world with the atmosphere full of salt spray whipped from the tops of the waves. The decks were awash and the lee bulwarks could not deal with the load of sea water between waves and some part had to be hacked away. Later the seas carried away the remainder of the bulwark.

The deck cargo of gasoline drums in their cases were sloshing about on deck as well as the bags of coal. The former were especially dangerous to those in the process of recapturing them and it was marvellous that the job of relashing the cases more securely in sea water filling the waist of Terra Nova caused no serious accidents. As for the sacks of coal, those which were not washed overboard outright had to be jettisoned. It seems a miracle that we lost so few of the dogs and ponies. Meares and Oates did a wonderful job. The effects of the storm, however, were not confined to the decks. Above the coal and patent fuel below there were two large casks of whale oil. I think these rolled about on top of the fuel until their contents came adrift and mixed with coal dust in the bilges to form oily cakes that choked the pumps so that neither hand- nor steam-operated pumps were able to relieve the ship of the water coming in from outside. [The steam] pump was below and could not be cleared of the oily cakes because the deck hatches could not be opened on account of the three feet or so of water on the main deck.

The only other access to the pump was from the engine room steel bulkhead in which a hole had to be cut by hammer and chisel. It was a long job for Lieutenant Evans and a very small team which had to work in very close quarters until a large enough hole was made to allow Evans to submerge himself . . . in the bilges and dislodge the blobs of caked oil and clear the pump . . .

Two teams were assigned to man the vertical ladders and bail out the ship by a bucket train. Each man had to hold tight to the ladder with one hand, while using the other to take up the full bucket and pass it to the man above . . . until it reached the man in the open who emptied it on deck where it found its way overboard again. Our team of four or five contained Priestley who was very subject to seasickness. He took the end of the chain so that he was not a nuisance to the men on the ladder . . . It was far from pleasant to crawl into one’s sea-water-
soaked clothing every two hours and some found it better at first to do without clothing.

Looking back over this event, I must confess that I enjoyed [it]. Quite literally we were all in the same boat. The two-hour stint did not seem a long one and if the ship sank, well that was that! We would go down with good friends together.

I was interested, not for the first time, to note that we were always cheerful and passed the buckets up and down to sea shanties and any scraps of doggerel known to more than a single member of the team.

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Monday, December 5

1.30 A.M. Lat 56°S

Tomorrow we may expect to see a few isolated bergs and in four days should sight the main ice pack. The expected storm happily did not materialize and we have now a fair wind and are bowling along to the South at about 7 knots. With great good luck we may spend Xmas day in the hut on Ross Island, but it seems a great pity to have marked time two whole days on account of the storm and particularly to have had to jettison some of our valuable coal. The deck cargo of coal is nearly all off now—tomorrow will see the end of it. In a few days people’s bunks will be dry again unless we get another blow; the dry-docking of the ship seems to have started all the seams in the deck so that the water simply pours in on the bunks below. As far as can be ascertained there are only three reasonably dry top bunks and of these, two were protected by a waterproof covering. Most of the lower bunks are wet as well and the weirdest places are now used as sleeping apartments. The most eligible of these are the chronometer room, under [the] wardroom table and over ditto (?) Cherry-Garrard who takes the morning watch has been reduced to strange shifts (in the most literal sense of the word). It runs thus: in the nursery Gran keeps the first watch (8 P.M. to midnight) and I the middle (midnight to 4 A.M.) while Garrard has from 4 A.M. to 8 A.M. He therefore sleeps in Gran’s bunk in the first watch, shifts into mine at midnight and finally rises at four.

The men “forrard” have a distinctly worse time as their deck (roof) is also not watertight and in addition the ponies are berthed above them—which is unfortunate for the men.

We are all looking forward to reaching the pack in the hope that the allowance of fresh water may be increased sufficiently by gathering ice so that we can have more than one wash a week.
Half a pint of water for teeth is the present allowance for washing purposes. Have been feeling a trifle seasick ever since leaving New Zealand, but no less than four of the new men have been in their bunks the greater part of the time to date. It is a fearful pity the photographer has been among them, as a cinematograph of a storm at sea would have been rather unique—particularly a photo of ourselves working the pump with the water swilling around up to the waist.

Ponting had injured a leg and, although seasick during the storm, had to restow all his photographic equipment and bail out his laboratory. Water had entered through a mushroom ventilator and was prevented from draining by a one-foot sill.

Have been trying the last week in odd moments to work up the results of the time observations for the pendulum work in Christchurch. It is rather difficult work if one is feeling a bit seasick. There are only two hours of real darkness at night.

*Tuesday, December 6*  
2.30 A.M.

Last night (this A.M.), it did not get properly dark at all and the sun will be rising about now already. (Translate this if you can.) This is very handy as we are in a region of icebergs now. Today
there was great excitement at a report from Gran that an iceberg was in sight. Everyone made a rush for the deck to see the phenomenon which was afterwards determined to be a whale blowing. A common rorqual whale followed us today for some time.

*Wednesday, December 7*

2.10 A.M.

Another uneventful day passed in loafing on my part. The weather has been mild and foggy yesterday and the barometer has been falling rapidly in the last twelve hours, so far without effect on the weather.

1.15 A.M.

*Thursday, December 8*  

Long 180° about. Lat 62° S Ab’t

The expected storm has not materialized—only a fresh blow which has reduced us by the mainsail t’gallants and outer jib. Yesterday morning there was a sudden drop both in the sea and air temperatures and now as the spray falls on deck it freezes almost at once. Tomorrow or the next day we should sight the pack. Reports of icebergs have become so common and so false that we no longer bother to come up and look for them.

The ship was near the Antarctic Convergence, where cold north-moving surface water from the Antarctic continent meets and sinks below the warmer water of the south Pacific and Indian Oceans.
The Antarctic Circle to Ross Island
The Terra Nova was about to enter the pack ice that surrounds the Antarctic continent. In the Ross Sea, and elsewhere, the extent and concentration of ice vary immensely from year to year and from place to place. In late winter in the Ross Sea area, the pack ice is almost continuous northwards from the land and the Ross Ice Barrier. In spring, with offshore winds, it moves northwards from the coast and disperses to some extent, leaving a relatively ice-free zone near the land. On the Discovery expedition, Scott had found heavy pack ice along his approach route, which was further west than he was now. He had taken about nineteen days to penetrate it into McMurdo Sound. Shackleton, on his southward traverse near 179°W, met little ice and took only six days to penetrate the pack. On the Terra Nova, Scott entered the pack near the 177°W meridian, fairly close to Shackleton’s route, but then moved westwards to about 175°E. As we shall see, the Terra Nova finally cleared the pack on January 1, 1911, twenty-three days after entering it. Amundsen on the Fram, sailing southwards between 176°E and 180°, took only from January 2 to January 6 to traverse the pack. “Our passage through the pack had been a four days’ pleasure trip” (Amundsen, 1912). He had travelled from Madeira without calling at any port, and finally found a landing place on the Barrier in the Bay of Whales on January 14, 1911, only nine days after Scott started to disembark at Cape Evans.

Scott had hoped to find a suitable site for his base near Cape Crozier so that he could travel easily onto the Ross Ice Shelf. He realised he had been fortunate on the Discovery expedition to penetrate McMurdo Sound as far as Hut Point. From that base he could gain access to the Barrier fairly readily, whether the sea ice was there or not; if need be, he could travel over the peninsula to its southern side, where the Barrier abuts Ross Island; this is near the site of the present New Zealand base, Scott Base. From any other site on the shores of McMurdo Sound, travel to the Barrier edge would be simple only when the sea was reliably frozen. Shackleton had experienced troubles travelling over the sea ice from his base at Cape Royds. Because they could not find
a suitable base site at Cape Crozier, Scott and his party were to have similar troubles from Cape Evans.

In a lecture on the plans of the expedition to the Royal Institute on May 27, 1910, Scott had said (Scott, 1910): “Ever since my first introduction to the Antarctic I have felt that a new and most interesting field of research was open to anyone who with trained abilities would undertake a close study of ice-structure in that region. . . . For this study . . . I have obtained the services of Mr. Wright. Mr. Wright’s work is not so clearly defined as is that of others but . . . by means of it . . . we shall best attack those great problems of the southern glaciations, and especially of the Great Ice Barrier. . . .”

I must explain here that this new glaciological job was organised by Wilson and Scott. I was immensely pleased since I was afraid that I might find myself assisting Sunny Jim and had no desire to spend my time, winter and summer, tied to Headquarters, while the work of a glaciologist could not be properly carried out except among the glaciers and rocks. . . .

I was a new broom. . . . I had never even attended a lecture on glaciology. . . . [But] what counts is the scientific method of approach. . . .

However, in the archives of the Scott Polar Research Institute is a letter from Scott to Wright, dated May 21, 1910: “Will you please send me a short account of the work you propose to do. I want to embody it in the paper that I read before the Royal Institute on the 27th. I just want a popular account of the lines on which you propose to study ice work—about one sheet of foolscap. Please send as soon as possible. Simpson spoke to me today about your title and I think it a very good idea that you should be called the ‘Chemist’ of the Expedition.”

Evidently, despite his scant experience, Wright had a large part in defining his glaciological duties but his answer to Scott has not been found. As we shall see, Wright included in these glaciological responsibilities as thorough an examination of sea ice as he could manage. He set up standards for the observation and recording of icebergs that were used by the Terra Nova watch-keepers on her other voyages, and that are quite similar to the standard reporting forms used on Antarctic ships at present.
Friday, December 9

1.45 A.M. Latitude 64°30'S ab't.

Sighted our first icebergs yesterday, passing them at about twenty miles distance on the port beam at 7.30 P.M. They certainly looked solid enough and must have been fully a mile long. They were the ordinary tabular bergs being flat on top. The bergs were not visible from deck and could only be seen from the main top or higher.

Tabular icebergs calve from the ice shelves, in this area particularly from the Ross Ice Shelf. In October 1987, a tabular iceberg approximately ninety-eight miles long and twenty-five miles wide broke off the Ross Ice Shelf from the Bay of Whales east to the edge of King Edward VII Land. The small, irregularly shaped icebergs in the pack are usually from glaciers that have calved directly into the sea. The floe ice of the pack is generally frozen seawater.

Nine varieties of bird were seen yesterday including the Antarctic petrel. The wind has gone ahead since yesterday at 6 A.M. so we have been under steam alone and as always against a head wind making very slow time.

Wilson’s diary (Wilson, 1972) lists eleven varieties of bird seen on this day, including six types of petrel.

[Saturday,] December 10

2 P.M. Inside Antarctic Circle.

Many things have happened since last entry. At 4 A.M., December 9 we passed close to our first decent berg and an hour after turning in, we struck the pack. Since then we have been continuously in it, twisting through the lanes of open water or in case of necessity butting a way through. The pack consists of loosely agglomerated floe of about twenty-five foot average diameter and with water spaces of about three feet. The floes stand up from one foot to four feet above the sea with occasional higher hummocks. In and around the pack float big icebergs—usually tabular in form, there being on the average twenty bergs visible in the pack at one time—looking from the bridge. The numbering,
tabulating and differentiating of these same bergs comes in the “ice work” and necessitates my presence on the bridge most of the day and night. Incidentally only seven hours sleep has fallen to my lot the last fifty odd hours.

Today at 6 A.M. we stopped to fill up our water tanks from a fresh ice floe.

_Ice formed from seawater contains originally quite a lot of included salts. . . . Whenever the temperature of the salty ice rises above [the cryohydric] temperature a salty solution is formed which slowly drips downward . . . leaving pure ice behind. . . . The longer the block of ice is exposed to high temperature (but still below freezing temperature) the fresher is the water obtained. . . . The trick is to choose old elevated ice which has been exposed to a previous summer’s high temperature._

(Here stopped [writing] to assist in the murder of four seals). The watering ship has taken all morning and we were visited by a few Adélie penguins during that time. While watering, a sounding of nearly 2000 fathoms was obtained and samples of sea water were also got by the biologists [Lillie and Nelson]. The winding up of the 2000 fathom sounding line by the steam winch took nearly two hours; it will not be pleasant work if we haven’t got steam up at all.

The pack is getting rather heavy now, individual floes being seen up to ten acres area. We are making through it pretty slowly. We sighted four crabeater seals and a lot of other ones and steered towards them. About 200 yards off, the battery (two rifles, my Mauser pistol and a revolver) opened fire and secured the whole four for an expenditure of fifty cartridges. They were got to the ship by hauling with a cable the whole floe up to the ship. While Evans and some of the others were securing the cable to the floe, an Adélie penguin came up to say good day and on being knocked down with an oar got up and wanted to fight Evans, but on being knocked down again dived into the sea, turning up later to give a derisive squawk.

_[Sunday,] December 11, 1910_ 9 A.M.

Stuck in the ice this time. There is a fair northerly breeze and all sail but the t’gallant sails are set and we are moving at the rate of about $\frac{1}{8}$ mile an hour.
Another crabeater seal and some penguins have just come up to see the ship. The penguins are certainly weird birds, they come waddling up waving their flippers towards the ship and then suddenly and without apparent reason turn and waddle away again as fast as possible.

It is interesting to see a ship butting through the pack. If the ice is three foot or so thick the floes usually split up and float away but occasionally she comes up against a floe with quite a bump and the floe has to be turned by manoeuvring the ship. Most of the floe ice under water is colored yellow by diatomaceae.

When we were under steam and met close pack . . . progress could still be made by charging the flow repeatedly . . . , backing after each charge to gain sufficient momentum to enable the ship’s bow to ride up on the floe and use the weight of the ship to break it . . . .

Bowers seemed to take great delight in using the ship as a battering ram and to bring her up all standing when the floes were too thick. The masts on these occasions would whip forward and back and usually bring Scott up to the bridge to see what was going on.
The photographer Ponting is an abominable nuisance, we have to be posing the whole time for his cinematograph—even when watering (icing) ship or shooting seals. There are two of the men, Levick and Meares, [who] are always being photographed. I have not yet discovered whether they like it or are merely more obliging than the rest of us.

We were in sight of Scott Island (not) just before we stopped and we may land if we are able to do so.

Scott Island, a small ice-covered island (67°24′5″S, 179°55′5″W), was discovered by Scott’s relief ship, Morning, in December 1902.

Last night we had the midnight sun. Very nearly got snow blindness as a result of the long watches on the bridge and constant scanning of the horizon,—at any rate my eyes are beastly sore this morning. All this snow has the effect of burning one’s face and particularly inside the nose; may have to wear a nose guard down south as I got the same symptom in the snow of the New Zealand Alps!

Seal’s liver tastes fine and is quite up to the best liver (calf’s or whatever it is one does get).

[Tuesday,] December 13 1.30 A.M. 68°30′S

Still in the pack though moving slowly ahead. The Scott Island we saw the day before yesterday resolved itself into a berg of most peculiar turtlebacked shape.

Seal steak is really quite fine stuff after all one has heard to the contrary. There is a lack of taste about the meat but otherwise it is not very different from ordinary steak.

Atkinson’s patent blubber stove looks as if it were going to work well. It was running today on seal blubber.

Had quite a good time the 11th when the ship was held up. We, many of us, got out and practised skiing on the pack ice.

Today when smashing through the pack, two penguins came waddling up in haste to take a look at us, as most of the penguins do. Evidently disagreeing as to which should cross a strip of open
water first, one of them up and biffed the other over the head with his flipper and knocked him head over heels into the water. Later when the two were standing side by side about a hundred yards away watching the ship, one of them sidled up to the other, whereupon he (the other) turned and looked at him as if to say "well, what do you want here" and knocked him over again by a box on the ear. They are most human looking beasts. From before the Adélie is white except for two black wings and a black head—from behind he looks like a highly respectable person in evening dress—black coat but white trousers.

[Friday,] December 16, 1910

On the 14th and 15th have been stuck in the pack and have let the fires out. They have been great days for skiing on one of the large floes we tied up to. None of us I think are greatly distinguishing ourselves at the job of skiing.

The dogs have also been out hauling around the sledges. At present they seem out of condition and soon get tired.

Several penguins have been bagged by the naturalists. One penguin evidently got annoyed at the barking of the dogs and went for them (tied up to a hawser holding us to an ice anchor). He would have rushed to certain death if Meares had not rushed up and chased him off when he was only about three feet from the excited dogs.

We discovered that to try to drive them [penguins] away from the tethered dogs was less successful in preventing them from committing suicide than to try to drive them towards the dog lines, when they managed to slip away to one side or the other... . Obstinate birds...
Again while the dogs were careering around with the sledge, two more penguins appeared, and were collared by Cherry-Garrard. As he was making off for the ship with two live penguins under one arm, the dogs spied them and came tearing along after him. Cherry-Garrard was forced to run off at full speed with one penguin flapping at every step. (Apparently he only had it suspended by its head.)

Today we have made about two miles under sail alone through the pack.

We have been sounding again (2000 fathoms about), and the biologists have been taking current measurements at different depths and also temperatures and water samples. It is heavy work winding in about 1000 fathoms of wire. It takes four people over half (more nearly one) hour to do the trick. A lot of the heavy winding has very foolishly been done at night when it is impossible to get reliefs.

It is getting warmer and will probably rain soon. We seem now to be stuck tight against a floe which stretches unbroken as far as one can see (about a mile).

[Monday,] December 19

Have made about twelve miles under steam in the last twelve hours. The pack has much of it been very open but at the same time very heavy—a total of fifty feet above and below water is I think by no means an underestimate [sic; overestimate] of some of the stuff. Some hummocks stood as high as thirty feet above the water.
One was tempted to guess that we might be near the southern edge of the pack, where the floes were thick floes... formed of heavy "bay" ice and the last to be released from their place near the shore.

Have just seen our first Weddell seal, big but most inelegant creatures they are.

The Weddell seal is the most southerly species of seal, usually found close to the shore or on fast ice around the Antarctic continent. The crabeater seals, mentioned earlier, are usually found in the pack ice. They are smaller, slimmer, and more agile than the Weddells. They sometimes wander far inland and die; in the cold dry air, they become mummified. In the 1958–59 field season, one of the editors (CB) found ninety-eight mummified crabeater seals and one Weddell seal in Wright Valley, at distances of up to seventy miles from the coast.

Watered ship again yesterday.

Yesterday 2 A.M. three of us investigated a berg which had been approaching us for some days and causing a little anxiety on account of its proximity. We got on ski over the floes to within one hundred yards or so of it, but were prevented from going farther by an open lane around the berg. It was a small tilted berg about sixty feet high and very interesting on account of the peculiar arrangement of the striations if such they really were.

We have just made through a piece of open water and will soon strike more heavy pack—in fact have just struck a floe. It is wonderful how the old tub stands the butting into the floes, if anything she leaks less than on leaving New Zealand. The heavy floes we break by climbing on top and crushing pieces off. The smaller by cracking across; most floes however we shove out of the way and that is why even in thin pack to make any headway the pack must be reasonably open.
Made quite a good run yesterday, the twenty-four hours up till noon producing a total of thirty-seven miles. The pack was heavy generally but quite open. Just at present the floes though not very thick are some of them many square miles in area, with quite decent leads between, filled with brash ice and small floes. These are undoubtedly due to the freezing of the sea almost in situ and it is quite or almost impossible that it all came from near the Great Barrier. The large amount and heaviness of the pack and other things shows that last season in the South was a mild one, and last winter a severe one with little wind. It may be expected also that an exceptionally cold season or two will occur in New Zealand and South Africa, starting with next winter.

Surface temperatures for southern New Zealand showed no unusually cold seasons in the few years following.

Two sea leopards [leopard seals] were seen yesterday and an emperor penguin which did not wait to be captured but slipped into the water as we came up to the floe in order to land on it.
The leopard seal is a lithe and slender seal with a large neck and head. They are usually solitary and live in the pack. Their powerful jaws give a ferocious appearance—and earn them an appropriate reputation among penguins and young seals. The emperor is the largest of the penguins and the only species to reproduce in the Antarctic winter.

At present we are trying to bore through a couple of hundred yards of solid ice, but as yet without avail.

[Thursday,] December 22, 1910

2.30 A.M.

Are stuck and were yesterday and the day before, but moved three miles last morning.

Have just been catching our prospective Xmas dinner in the shape of a couple of penguins, shot 'em both. Yesterday Wilson went out to secure as many as possible out of a flock of six. He only got one and that merely by dint of exciting the beast's curiosity. He lay down on the ice quite still until they came up to investigate.

The day before yesterday Ponting got some lovely telephotos of a berg within three quarters of a mile of us. Just a few moments ago I was taking a photo by the midnight sun with an exposure of 1/50 second.
Moved on this morning about fifteen miles under sail alone after having to dodge a big berg which came drifting down on us. The horizon now seems clear to the South and in the hope of finally clearing the pack, the fires have again been drawn. If we stick much longer in the pack it will almost completely upset our plans—particularly as regards the Eastern Party at [King] Edward VII Land and the depot-laying this fall.

Yesterday we went out and caught our Xmas goose in the form of penguins. There were nine of them on a floe together, so Evans and three of us went out in the Norwegian pram after them. We had to drag the boat over some pretty rotten ice on the way, but only one of us got [fell] in and we bagged the whole nine with a shotgun and my Mauser pistol. Earlier in the day we bagged two others so we should fare well on Xmas.

By melting ice during the middle watch [I] am hoping to get a Xmas wash. Only the floes that have been subjected to pressure and have blocks of ice above the general level are of fresh water ice (in the blocks). The salt drains out of the blocks as long as the temperature is above the cryohydric temperature of sea water—about $-30^\circ F(?).$ Fresh water ice incidentally appears blue in the crevices and salt water ice a yellowish green.
Moved on yesterday another thirty miles or so under steam and sail and have been stuck in the pack again since 6 A.M. on the 24th. This fiddling about is getting monotonous.

Yesterday we had a visit from some twenty-five penguins, who came to scrap and generally play the giddy ox before us.

Yesterday Xmas boxes of candy and cigarettes were opened from the Dunedin Seamen's Guild; it was certainly nice of them, but unfortunate they should consider it necessary to add certain little booklets as well—one verse for every day.

Still stuck in pack. Had a mighty fine dinner yesterday with penguin and roast beef and unlimited quantities of plum pudding and stuff. Afterwards much noise and many songs till midnight.

A lot of penguins were around yesterday to satisfy their curiosity.

Still moving slightly under sail. The approximate rate of progression the last couple of days is one mile per four hours.

The crabeater seals are becoming very cheeky and come up occasionally to blow within a few feet of the ship (very often five feet). No bergs in sight. This morning the sun is properly shining—shining as he has not done for two or three days. The photographer will now get a chance again.

Another pony went down today—damn the pack! If, when we finally get clear of the pack, we get a rough sea I expect most of the ponies will go down from sheer weakness in the legs.

Moved ahead on December 28, 8 P.M. under steam through close pack with small floes and rather rotten ice. The same conditions prevailed with occasional open water spaces, till midnight two hours ago, when we ran into the open Ross Sea. The barometer
is going down at a terrific rate and we may soon expect to be seasick again after our three weeks’ sojourn in the pack.

Latitude almost 71° South and about four hundred miles from Cape Crozier our projected landing place (now). The proposed winter quarters have been changed on account of greater convenience on sledging journeys as at all times of the year it is possible to get from Cape Crozier to the Barrier, whereas at Shackleton’s Winter Quarters [at Cape Royds] about twenty miles of open sea separated them from the Barrier during the latter part of summer.

[We] are having trouble with the binnacle compasses on account of the proximity to the South Magnetic Pole.

In 1909, David and Mawson located the South Magnetic Pole at 72°25’S, 155°16’E, about six hundred miles from the Terra Nova’s position.

[Saturday,] December 31, 1910

9 A.M.

Fresh gale blowing and [we] are now in the lee of some more pack and lying-to. Was a beastly choppy sea most of the night and a lot of us were turned up. The ponies seem still all right. If the gale goes down should make Cape Crozier on January 2nd—if not—then, not.

In the middle watch [I] was trying to draw up the chart showing the occurrence of icebergs and pack, but had to stop because I could not contain myself.
[Sunday,] January 1, 1911

3.30 A.M.

Hove-to since 7 A.M. yesterday in the lee of a strip of pack, in order not to waste coal bucking against the strong head wind. It is doubtful if we could make more than one knot against it anyway.

The swell is very short and choppy—something like that one gets on Lake Ontario.

Been printing some prints of pages of the Nautical Almanac for observations when sledging.

At 10.30 P.M. yesterday everyone arose to take a look at the Admiralty Range (South Victoria Land and about sixty miles off). Mt. Sabine (10,000 ft.) [now surveyed at 12,205 feet] shows up magnificently with the sun shining on it. The higher peaks stick out in jagged points too steep to hold the snow, and the lower slopes are totally covered in an ice or snow cap. In places, too, one can see where the ice cap drops sheer over a cliff face thousands of feet high and apparently straight into the sea.

[Monday,] January 2, 1911

2 A.M.

Have been steaming ahead since 10 A.M. yesterday, no wind, sea quiet, Coulman Island one point astern of starboard beam. May see Mt. Erebus late today with a clear atmosphere. The sea is very quiet and the sun at midnight was so bright as to be painfully strong.

About 18 miles long by 8 miles wide, at 73°28'S, 169°45'E, Coulman Island was discovered by James Ross in 1841. It is the site of a large emperor penguin colony, with an estimated 50,000 pairs.

Amundsen in the Fram crossed the Antarctic Circle on this date.

[Tuesday,] January 3, 1911

5 P.M.

Steaming ahead and now are only one hundred and fifty miles from Cape Crozier. May anchor tomorrow. Yesterday and today it has been glorious weather—positively hot in the sun and out of it 6° F. above freezing point [38° F].
Captain Scott pointed out a fact I had not noted when we were hove-to in the lee of the pack. The pack drifted quicker than we did, though the relative wind area was much greater for the ship. Evidently it is connected with the “dead” water noted in Norwegian fiords where cold fresh water floats on warmer salt water. In such a case the top layer of water slips over the lower en masse. It is most interesting as giving a clue to the cause of the great speed with which the pack moves with the wind.
Disembarking
During the *Discovery* expedition, Edward Wilson had visited the Cape Crozier area three times, mainly to study the emperor penguins which had established a large colony there, and once he had camped in the ice pressure ridges for a month. He knew the area well. He had reached Cape Crozier by man-hauling across the Barrier from the Hut Point Peninsula area and consequently knew that access to the Barrier from the penguin colony was relatively simple. It would be an ideal place for the Base.

Scott brought the *Terra Nova* close into shore at Cape Crozier and lowered a whaleboat in which he, Wilson, Griffith Taylor, and others rowed towards the shore in search of a landing place. However, as Wilson recorded in his diary: “The swell was so heavy in its break among the floating blocks of ice along the actual beach and ice foot that a landing was out of the question. . . . We rowed round the bay trying at every likely spot for a landing but without success—the swell was too heavy for us . . . and the place as a winter quarters, admirable in every other aspect and beyond every other place interesting, [was] out of the question” (Wilson, 1972). In his diary, Scott wrote: “Reluctantly and sadly we have had to abandon our cherished plan—it is a thousand pities” (Scott, 1968). They reboarded the ship, turned north and west towards McMurdo Sound, carrying out a survey of Ross Island as they went.

As a second-best site for winter quarters Scott was hoping to force his way in McMurdo Sound at least as far south as Cape Royds, Shackleton’s old base, and perhaps as far as Hut Point, the old *Discovery* base. The northern part of the Sound was relatively clear of pack ice but, as Wilson’s diary (Wilson, 1972) records: “We were brought up by unbroken ice abreast of Inaccessible Island.” Scott wrote in his diary: “We had a considerable choice of wintering spots . . . pretty well anywhere except Hut Point” (Scott, 1968).

There was open water at Cape Royds, so landing stores there would be difficult. Scott, Wilson, and Evans therefore selected the Skuary, about 8 miles to the south—after going ashore across a mile or so of sea ice to confirm that there was
fresh ice for drinking water, a level place for the hut, and so on. In his memoir, Wright explained the situation:

_In McMurdo Sound, apart from the peninsula now used as the American base and the New Zealand “Scott Base,” there are only two rock outcrops available. One outcrop (Cape Royds) [now known to be mainly moraine-covered glacial ice], with approximately a pair of Adélie penguins per square yard, had been used by Shackleton; and the other, about eight miles south, the Skuary, we preempted and renamed Cape Evans [after Lieutenant Evans]._

After the ship had been unloaded and the hut built and put in order, the Depot-Laying Party left Cape Evans on January 24. The party comprised Scott, Bowers, Lieutenant Evans, Oates, Atkinson, Gran, Cherry-Garrard, Crean, Forde, Keohane, with Meares and Wilson in charge of twenty-six dogs. Eight ponies were also taken. Scott intended to lay a substantial cache of oil and provisions at 80°S in preparation for his attempt at the Pole. It was exceedingly fortunate that they managed to lead their ponies safely over the sea ice to Hut Point, for the ice broke up the day after they had passed. The snowshoes for the ponies were inadvertently left at Cape Evans and a bid by Wilson and Meares to retrieve them failed because they could not reach the base over the open sea. Three days were lost to blizzard; the ponies’ coats were not thick enough to withstand the falling temperatures; the surfaces were harsh—so Scott decided to return on February 17th. He left about one ton of supplies in a depot—One Ton Depot. It was short of his objective, at 79°28.5°S.
DISEMBARKING

[Wednesday,] January 4, 1911

4.15 A.M.

Cape Crozier is off. Arrived yesterday afternoon at Cape Crozier, sounded, etc., and examined and found wanting. Since then have been passing along Ross Island towards Cape Royds where we will land after all. If we can get through this pack, we should start unloading today.

A great number of small glaciers, much crevassed stretch towards the sea along the shore south of Cape Bird. In most places except where the slope is too steep, the depth is measured in tens of feet. Passed two penguin rookeries on the way round, about one bird to the square yard—[there] were many young ones. Saw killer whales attacking penguins and later a Weddell seal.

Killer whales [Latin name, Orca] inhabit Antarctic waters in large numbers, travelling in pods of six to fifty and hunting cooperatively, much as wolves do.

We have been making a running survey of the coast with sextant, range finder, etc.

Eleven people were involved in the running survey along the coast. Wright and Campbell worked with the range finder.

So we turned west along the coast of Ross Island, carrying out a running survey. . . . The really interesting feature was the great volcano (named by Ross “Mt. Erebus” for his flagship), still emitting its cloud of steam at a height of about 15,000 feet. [Erebus is actually 12,451 feet high.] Its mate, Mt. Terror [10,597 feet], named after Crozier’s ship, is extinct or, at least, very quiescent.

[Thursday,] January 5, 1911

9 P.M.

On January 4, 8 A.M. (about), [we] arrived here which is about one and a half miles off the Skuary, the distance being across a large sheet of [sea] ice.

By noon [we] had all ponies off, dogs, tent and emergency rations landed. By twelve midnight had most of the hut on shore and today at 6 P.M., the scantlings of the hut are up. Today two
of the motor sledges have been doing good work taking eight men's load at once (load about 400 lbs. per man). All the petrol and much of the fodder is ashore.

We are working long hours now on account of the rottenness of the ice and the possibility of a storm. Midnight to 5 A.M. seem to be the sleeping hours to date.

_The ice did deteriorate very rapidly, melting on the underside. . . . On January 8th, the third and newest motor was disembarked and was being hauled over the sea ice by twenty men when it broke through and sank in 60 fathoms, narrowly missing [taking] two men with it. . . . At this time . . . the other two motors were damaged; . . . turning [rapidly] ripped pieces from the rollers._

Today nine killer whales nearly got Ponting by breaking the ice underneath him and one tried to climb on the floe after him. They evidently took him for a penguin.

Ponting has a graphic account of this episode in _The Great White South._
The penguins are fool birds, some thirty or so to date have been killed by the dogs for wanting to fight them. The death of one seems to have no deterrent effect on the others. Meares got mixed up with his dog team yesterday when they rushed after the penguins.

On Saturday, January 14, *Fram* arrived at the Bay of Whales. On January 15, Griffith Taylor and Silas Wright obtained permission from Lieutenant Evans to explore their surroundings. With rope and ice axe, they traversed the previously uncrossed, heavily crevassed Barne Glacier to visit Shackleton’s old hut at Cape Royds.

*Wednesday, January 18, 1911*

Diary recontinued today as the first time we have had to ourselves.

Last night temperature went down to 4° Fahrenheit and probably froze some of my chemicals I had left outside.

This morning Simpson and I went out to the ship after her return after being blown up the Sound, in order to get some of the wood from the stables for framework inside the variation magnetic ice cave. All afternoon fitted in the framework on which we must tack felt to make the thing dark. It has taken the two of us four days to cut the thing [the ice cave] out and we are both damn sick of it by now.

The gramophone is running now and the hut is beginning to look more orderly. One of the chaps—Debenham—has erected a sort of catafalque [sic] which looks something like the things the West Coast Indians put their dead on. One end of it rests against the walls eight feet up and the other, on two wooden columns—being the cores of some linoleum rolls. He has a ladder to climb up by.

The ship today moved closer and is now berthed close to Cape Evans and only a quarter of a mile away from us.

*[Friday,] January 20*  

Morning

Floe rapidly breaking up—iceberg sailing down under a strong northerly breeze. Ship has just had to steam off as floe offers too insecure an anchorage.
Yesterday morning worked at darkening the varn. [magnetic variation] hut [in the ice cave] and evening at covering the abte [absolute] hut with rubberoid. Fearful piece of patchwork it is already and will probably have to be finished with cases.

Started after tea to lead wires for the electric S.R. [self-recording] anemometer and the lighting in the cave.

End of second diary.

[The cave had to be] light-tight since recording the movements of the magnets in three directions mutually at right angles was done by photography, as well as the time marks sent electronically from the hut.

To excavate an adequate cave in the drift of compacted snow was a formidable task, and took us a full four days work with my ice axe in cramped quarters. The ice cave also served to keep the instruments relatively free from sudden atmospheric variations. The light was supplied by a lead-acid battery in the hut, charged at intervals by a paraffin engine and dynamo also in the hut. The exhaust was of course led outside. The cable was used to record in the hut the readings of the recorder of wind velocity and as my “fixed mark” for observation of chronometer rate during the dark hours later in the year.

All this worked very satisfactorily during the first winter but it was subject in the second year to much failure of the connecting cables.
Sketch map of part of Ross Island showing Scott’s winter quarters at Cape Evans
The small wooden hut with a copper stove erected to serve for the
“absolute” magnetic measurements . . . was put on the bare rock and
covered with heavy rubberoid . . .

After our landing on Ross Island we were so busy and so rushed for
time that it was impossible to keep up the diary entries. There are,
however, certain highlights of which one has a clear recollection. . .
One of the incidents, which I won’t forget in a hurry, occurred when
Captain Scott told . . . Taylor and myself to go off to help Ponting take
pictures. I suppose this was to give him a scale of size in his photographs
and to pose as required. This was always known as to go “Ponting.”

I had been interested in the formation of what I called “icefeet”—
icicles formed on the low cliff of the shore facing the prevailing wind
and subjected to spray. These started as icicles but in warm weather the
brine was mostly concentrated near the tip and, when snow came,
formed feet on the side facing the drifting snow. I had hoped that these
“icefeet” and some small caves in the tidal ice shelf would appeal to
Ponting and that I would end up with some good photographs for the
glaciology reports. But Ponting was interested in larger things and we
went straight for a stranded iceberg which had originally been tabular
and stratified horizontally with a thick layer of more recently formed ice
on top. As chance would have it the stranded berg had tilted and the top
layer then slid down to form a long cave of triangular section with the
apex at the top. The textures of the ice on the two sides of the cave were
quite different and of considerable interest to me. But the real piece of
good fortune for Ponting was that the cave was so directed as to point
directly towards the ship. Ponting photographed and photographed, in­
cluding one scene in which Griff Taylor and I appeared as scale.

Then it came to Ponting that he had not used his cine-camera so
he asked us to climb the tilted iceberg up to the top which overhung a
pool in which a couple of killer whales were disporting themselves. To
our objection that we would have to rope up and cut our footing with
ice axes—a slowish job which would waste a lot of film, his reply
was—cut the steps first and then ascend again quickly pretending to do
so this second time. We thought this was somewhat dishonest and said
so. In reply he said this would come out all right in the cine film so we
roped up and off we went. I was in front slashing away with my ice axe
and feeling a perfect fool. At the very top, an unguarded swipe brought
down a sizeable chunk of ice which fell down vertically into the pool
below. Said Ponting, “That’s wonderful, do it again.” I didn’t. I did not
at all like the look of those killer whales below. It was good fun, if only
a tame end to the venture.
Another memory which sticks in my mind was the occasion when, after various shifts in position due to melting of the sea ice from below, the ship with Pennell in command went aground between Inaccessible Island and Cape Evans. It happened that Captain Scott and I (and I think one or two others) were watching the ship when she ran aground facing south, apparently with a strong current from the north. She tried to go astern, even launching the whaleboat and crew to assist the ship’s engines to back off but even this failed to budge the ship. Pennell then set the rest of the crew to running back and forth to roll the ship while the ship’s engine was still trying to back her off the rock. This did the trick and the crew gave a lusty cheer and I may even have done the same. But all Captain Scott had to say was, “Yes, they may well cheer.” I mention this because it was the first time I had actually seen Scott suddenly meeting a catastrophe which might have wrecked completely all his plans for the Expedition.

After the Depot-Laying Party had left Hut Point for the South on January 24th, the Western Party was taken by the Terra Nova across McMurdo Sound and landed on the sea ice off Butter Point on January 27th, 1911.

We were a party of four—Griffith Taylor, in charge, and Frank Debenham, both geologists; myself in my new hat as glaciologist; and Petty Officer Taff Evans, who was chosen by Scott to accompany us on the score that he had had experience in the Antarctic with Captain Scott on his first expedition.
Exploring the Western Mountains
Sketch map of Ross Island, McMurdo Sound, and adjacent parts of South Victoria Land showing the route taken by the Western Party. The numbers 9, 10, 11, 12, and 13 mark the camp sites on those dates in March 1911. Camp sites on other days are shown on the detailed maps on pages 84 and 96.
After the Western Party had been put ashore, the *Terra Nova* headed back to Ross Island and then eastwards along the front of the Ross Ice Shelf. The Eastern Party was aboard, remapping as they went towards King Edward VII Land, their intended area of exploration. Conditions were good and they moved steadily along. They did not examine the front of the Barrier for landing places very closely because the party leader, Campbell, intended to land in King Edward VII Land if at all possible. However, as Priestley, the party’s geologist, wrote in *Antarctic Adventure*: “This purpose was . . . frustrated for, although we met unusually open sea around Cape Colbeck, the pack again closed round us just beyond that point, and up to the time when we were compelled to turn by heavy ice we saw no place on the ice-cliff which fringed the land where a landing would have been possible” (Priestley, 1914).

They turned back along the ice barrier. On February 3, they steamed into the Bay of Whales, where they found Amundsen’s ship, the *Fram*. Amundsen and others of his party soon turned up, and over the next few hours some of Campbell’s party and the *Terra Nova*’s officers visited “Framheim,” the Norwegian base a few miles inland. Both vessels were also inspected. As *Terra Nova* left the bay, Priestley wrote: “Well! We have left the Norwegians and our thoughts are full, too full, of them at present. . . . We have news which will make the Southern Party as uneasy as ourselves, and the world will watch with interest a race for the Pole next year, a race which may go any way. . . . If they get through the winter safely, they have unlimited dogs . . . and experience of snow-travelling that could be beaten by no collection of men in the world. . . .” (ibid.) Amundsen commented positively on the pleasure of *Terra Nova*’s visit, and added: “We made a strange discovery after their visit. Nearly all of us had caught cold. . . . The form it took was sneezing and cold in the head” (Amundsen, 1912).

Campbell and Pennell decided to return to Cape Evans to inform Scott of Amundsen’s presence in the Bay of Whales. On February 8 they told their story to the party remaining in the hut, swam ashore their two ponies (Jehu and Chinaman), and
headed north. As has been previously mentioned, the *Terra Nova* consumed excessive amounts of fuel. By now she was very short of coal, so the options for an alternative site were limited; on February 18, the Eastern Party—Lieutenant Campbell, Levick, Priestley, Seaman Dickason, and Petty Officers Abbott and Browning—was put ashore at Cape Adare and became the “Northern Party.”

We must leave them there while we return to the Western Party. They landed at Butter Point, so named because in 1903 Scott had left a can of butter there so that his returning parties could use it to cook the seal meat which would be their first fresh meal after a long period of sledge rations. During Shackleton’s expedition (1907-1909), the South Magnetic Pole party left there the items they had decided not to take on their trip northward up the coast. They did not use the material on their return because they were picked up by the *Nimrod* farther north, near Drygalski Glacier. Two months later a party of three, including Priestley, added their spare equipment and supplies to the depot. While the *Terra Nova* was putting Taylor’s party ashore, Priestley visited the depot and found it to be in good condition; he collected some of the clothes and a tin of cigarettes he had left there two years earlier.
Friday, January 27, 1911

Landed off Butter Point on sea ice 5 P.M. or so, sledged towards end of Ferrar Glacier, made about four miles or a trifle less. Camped on old ice, [more than] one year [old], after crossing half a mile beyond junction of one year and older ice. To east is a stranded moraine 4 ft. above surface of sea ice and half mile west of end of Butter Glacier. [Now known as Stranded Moraines and Bowers Piedmont Glacier.] Magnificent crystals seen in pits reaching through the 3 in. snow to the clear(ish) ice. Depot at Butter Point quite drifted over with snow. To photo crystals tomorrow. Surface fair. Pulling 275 lb. about.

Enjoying a quiet smoke in tent just now.

[Saturday,] January 28

Camped at noon, after two hours sledging about five miles at 6 ft. rise[?]. In morning walked east to stranded moraine off Butter Point.

After lunch geologized west and found on the lateral moraine sponges silicious mostly, shells etc.—fully 30 ft. above the sea level and in silt lying on an ice ridge. Glacier must have been very wet at one time as streams and pools are now frozen over (see notes).

Many of the glaciological observations made in the field and at winter quarters—and sometimes noted in his diary—are recorded and expanded in Wright’s glaciological notes, which are held in the Scott Polar Research Institute, Cambridge. The final report, Glaciology (Wright and Priestley, 1922), was published by Harrison and Sons, London, for the Committee of the Captain Scott Antarctic Fund.

Saw a number of emperor penguins come up to moult, and killed and cached one outside the tent. Able to eat almost the full sledging rations now.

Investigated ice slab on west side of glacier. Water at the camping place fresh, therefore probably is no tide crack though ice to north is level and not to south.
...We named the first the Canada Glacier, and Wright later on clustered the names of various Canadian men of science on the adjoining peaks.

Griffith Taylor
Feb. 5, 1911

Sketch map of Ferrar Glacier and Taylor Valley area of South Victoria Land showing route followed by the Western Party in the first part of the journey. Map based on U.S. Geological Survey map and information in Griffith Taylor's Physiography of the McMurdo Sound and Granite Harbour Region. Dates mark camp sites.
[Sunday,] January 29

P.d.r. [pretty damn rough] surface—carried the beastly penguin all day, towing [it] behind the sledge. Started 10.30 A.M. finished 6 P.M.

Surface bad due to a large amount of snow much eaten into overhanging hollows by sun. Fairly hard surface through which one came with a jar as weight came on it, similar to instrument with which dentist packs in gold fillings.

Camped now almost opposite (two miles lower than) ice falls from Snow Valley [the head of Blue Glacier] and on western edge of glacier, near another ice falls on west side [Kitticarrara Glacier]. Evidently a heavy winter's snowfall.

Made about seven miles pulling hard all the time. Sweated like a bull and will now try to evaporate it off in the [sleeping] bag. Can easily go the full sledging rations now and ask for more.

Deb may be getting a touch of snow blindness.

[Monday,] January 30

Camped a little above Descent Pass at 9 P.M. Rather a long stride from lunch to supper, viz. seven hours. Unfortunate that Taylor is accustomed to going twenty-four hours or so without eating. Pretty well pulled ourselves all out—everyone.

Estimated distance eleven miles today. In the afternoon chiefly over hard ice with very crystalline sticky snow. Not easy pulling at all. Magnificent tessellated cracks on side opposite Cathedral Rocks. Can hear the glacier cracking all about us. [As the sun disappeared, the surface ice cooled and contracted.]

[Tuesday,] January 31

Made depot at morning's camp. [They left the 9-foot sledge here until their return.] Off [at] 10.30 A.M., lunch stop 2.15 P.M., day's stop 8.45 P.M. Horrible gap between the last two. Must carry a half biscuit from lunch for afternoon tea.

Camp here is almost level with south-west end of Kukri Hills. Glacier here slopes south and west into a basin. No crevasses the last couple of miles and [surface] almost level. Have a great respect for MgSinφ. Slope of the glacier about 5° about lunch time.
In using the expression $M g \sin \phi$, Wright, ever the physicist, is referring to the downward effect of gravity ($g$), on a mass ($M$)—himself—on a frictionless surface with a slope of $\phi$ degrees. The greater the slope, the greater is the component of gravity down the surface slope, and the more effort Wright had to make to raise himself up the slope.

Except for the slope we had very fair going, so I carried out a simple calculation to prove that we were not getting enough to eat, by balancing the rise in height of the sledge and its load ... against the calories we ate. ... The disparity was so great that I was very surprised and had to conclude that we were very inefficient machines.

Opposite us and next to the Kukri Hills is a remarkable 75 ft hollow or bergschrund, no doubt formed by heat radiation from the hills and kept clear by wind and by wind-blown dust which will help to melt the snow. Light covering of non wind-blown crystals on the icy surface, fair going except for the aforementioned $M g \sin \phi$.

[Wednesday,] February 1

Camp almost at head of Dry Valley Glacier—lunched two miles from Solitary Rocks, [and] followed down the medial moraine.

Dry Valley Glacier is now called Taylor Glacier. The supply of ice is limited now by a high rock threshold near its head, so that the glacier cannot sustain flow beyond Lake Bonney. The rock threshold produces the Cavendish Icefalls. Earlier—probably a few million years ago—the Taylor Glacier extended to the sea.

Tent in an alcove in the moraine [with] ice wall to east. Slippery hard ice all day [and] had to hold the sledges back. Already a lot of our talk is about food, though after meals [we] are always full. Cambridge teas are what take my fancy chiefly.
[Thursday,] February 2

Camped in same place, spent the day in dissecting ice in the polariscope—icicles, etc.

The polariscope is a simple but cumbersome apparatus for determining size and orientation of ice crystals; it was termed the “barrel organ” by the two geologists.

Took sights at noon and 5 P.M. Hard to get peaks just here to sight on.

Interesting bar at tip of glacier, which glacier has evidently once covered. To date only one glacier with a decent U-shaped valley (south of Cathedral Rocks) has been seen . . . pointing to quite recent greater glaciation.

[Friday,] February 3

Expedition to Ri[e]gel Bar [later named Nussbaum Riegel], took two stations on top and roughly surveyed the lower lake—Bonney. Made a number of ice sections. The glacier grains seem surprisingly small.

Had a big feed tonight consisting of part of our lunch and most of the remaining week’s grub. Left $\frac{1}{2}$ lb. tea, one meal’s sugar and cereals. Everything else panned out beautifully though we have no idea how the biscuits are going but eat seven each per day.
[Saturday,] February 4

Woke this morning in a 3-inch puddle of water. Could not make out how I could not keep my underside warm. Instead of warming the water, was merely melting more ice.

The cavalcade moved down Dry Valley about 10 a.m. with tent, poles, rope, ice axes, sleeping bags, instruments and four days’ biscuit, cheese, butter, raisins and chocolate. We looked like a gang of gypsies. Evans had the poles and tent with sleeping
bag strung on one end, Deb had some of the grub, his bag and hammer and camera carried à la swagman. Taylor looked like a shop Santa Claus hung about with telescope, aneroid, camera, fur gloves and with some grub and bag dangling from one shoulder. Myself with instruments, grub, polarscope, etc. inside my bag and carried per pack strap, brought up the rear. The pack strap of course carried the day, leaving no sore spots on the bearer.

The Canadian pack strap or tumpline passes round the forehead, which supports some of the weight, leaving the arms free.

Camped at foot of Suess Glacier on the left side. Everyone sketched assiduously at the stops. Thermometer found unsatisfactory, registering 40° F outside the tent while water froze inside where all four of us were. Water in the lake very fungous tasting.

[Sunday,] February 5

Spent day at Suess Glacier . . . and made innumerable sections of the ice.

Taylor and Evans “marched to the sea” to tie the survey into Ross Island.

Came back to a frugal and unsatisfactory meal of water, biscuits, raisins and cheese.
To lighten back-packing loads they had left the cooker at the Alcove Camp, on the glacier.

[Monday,] February 6

Spent most of day [with Taylor] trying to fix the points of [this] Dry Valley with the theodolite. Up on the first station height 2400 ft. it was blowing so hard that one’s eye was often jammed against the eyepiece, whereupon much swearing. Damn cold job in the wind.

This station was on Andrews Ridge, part of Nussbaum Riegel; the top is at about 3,000 feet.

[Tuesday,] February 7

Today came back in similar order to our outgoing, held up by thoughts of double rations of pemmican. (Pemmican three times a day for the rest of the week.) Many seal skeletons in Dry Valley and one Adélie penguin [skeleton].

Hundreds of carcasses, nearly all of crabeater seals, have been found in the ice-free valleys since 1958. Most are juveniles. Corrected radiocarbon dates give maximum times since death of several hundred years.

Have had our double hoosh and there is a certain restlessness among the members. Have been sewing and putting nails into
boots. Said ski boots rotten for this work, particularly Taylor’s, the soles are too soft and if I had not had some nails of my own and had not cadged more from Ponting we would be in rather a mess.

Apparently Terra Nova only had ¼-inch nails for boot repair.

Found our old camping place on the Dry Valley Glacier a puddle of water (somewhat the condition I left it in the morning of February 4th) and are camped now 100 yd. away on a 3 in. deep moraine deposit with many sharp stones therein.

Move back [to the Ferrar Glacier] tomorrow.

[Thursday,] February 8

Camped at the Glacier Divide within two miles or so of Cavendish Ice Falls. Saw, about one mile down the Dry Valley [Taylor] Glacier, one seal—deceased. Don’t blame the poor devil for giving up the ghost after climbing the twenty-five miles or so of valley and glacier.

Most curious ridges on the ice flowing between Kukri Hills and Solitary Rocks, some of them a full 100 ft. high. They run parallel to the direction of motion. Ice cracking all around, also last night. [We] are staying here a bit tomorrow to let me get some ice samples.
In his memoir, Wright suggests that the ridges were probably due to compression where the two ice streams met.

Went with Taylor after reaching here to see a lateral gully by the south-west end of the Kukri range, found it 50 ft. deep and lowered him down per rope. To get him past the soft snow cornice 30 ft. deep was impossible on account of the sinking of the rope through the snow. Finally pulled him up in another place where the drop was not quite vertical.

Taylor has an abominable sledding pace—the steeper the slope or the harder the going, the longer does his pace get and the slower the step. Step also is always changing.

Debenham commented in his journal (SPRI archives): “Hauling a sledge requires almost as much teamwork as rowing a boat; the team must keep in step, and the long-legged man must not take too great a stride.”

[Friday,] February 9

In the morning went with Evans to the Cavendish Falls to collect ice, etc. Ran into a most remarkable ancient moraine.... Another deceased seal seen. [The party] started out 3.15 P.M. and sledged about 15° west of nearest [of the] Cathedral Rocks, found the way up the South Arm in search of Beacon sandstone impracticable in the present state of boots on account of crevasses and steep slopes. Went five miles in this direction and then turned and ran straight for here, four miles, to try to [reach] the sandstone here. One worm hole and casting found in moraine sandstone today.

South Arm is now considered to be part of Ferrar Glacier, while Upper Ferrar Glacier and North Arm are considered to constitute Taylor Glacier.

[Friday,] February 10

Did scientific and mending work in morning. Started out at 3 P.M. and arrived about 7.30 P.M. at the cache of Descent Pass. Tomorrow I start my first week as cook.
Had to hold the sledge back most of the afternoon as all the snow we trudged through on our way up had been blown off or changed into ice. Found the skuas had found the emperor we murdered and hauled up fifteen miles and had picked him clean and made a beastly mess around camp.

Skuas are large predatory, noisy, gull-like birds, which show aggressive behaviour towards Adélie penguins and explorers. Simpson complained that the wires he had erected for measuring atmospheric electricity were continually being broken by skuas flying into them. When one of the editors (CB) was working in the skua-nesting area by the Koettlitz Glacier in 1961, he resorted to carrying on his rucksack two vertical bamboos with flags attached, to deter the skuas from making buzz-attacks too close to his head.

Have a week’s oil in hand, a little pemmican and cocoa. Deb, after a not very large breakfast, was left wriggling in the throes of indigestion but recovered after no lunch. How he manages to exist on the little he eats gets me entirely. His teeth are still so sore he can’t by any device get through all his biscuit. Personally I have only felt really full once—after the return from fly camp in Dry Valley. Taylor’s appetite is damn poor too.

Debenham had had a tooth extracted on January 15th; he mentioned in his journal that it was “a very painful op” (SPRI archives).

Ice starts cracking just now as the sun retires behind Cathedral Rocks.

[Saturday,] February 11

This morning Taylor and Evans started off to see if Descent Pass was practicable or no—decided not, after an experience with crevasses.
Scott's instructions to Taylor were: "You can descend the [Ferrar] glacier and pass to the East around Butter Point or climb Descent Pass descending by the Blue Glacier or one of the more southerly foothill glaciers and thus continue the examination of the Koettlitz Glacier area" (Taylor, With Scott: the Silver Lining).

Deb and I while laying a line of stakes to determine the glacier's motion were calmly proceeding towards Cathedral Rocks when I went up to my waist in a snow-covered crevasse. Having no rope, we promptly retraced our steps without investigation of the width and depth of same. [It] was at least 5 ft. wide.

Nevertheless, they laid out a line of stakes across the Ferrar Glacier, aligned on two prominent peaks. Six months later, re-measurement showed that the glacier had moved up to thirty feet over the winter.

On the return of the Descent Pass party we had lunch and moved off at 5 p.m. Stopped after seven hours of blue ice mostly.

[We] are now camped off a peak called Sentinel but not marked on the map as such. [This is] about one and a half miles above our camp on the way up. Will probably have a bad surface tomorrow similar to that met on the up trail.

[Sunday,] February 12

Camp at same place as [January] 28/29. P.d.r. surface as last time, clouded in the morning, sun shining in the afternoon. Got good and sweaty again as in the old times.

[Monday,] February 13

Camp on Butter Glacier [Bowers Piedmont] after a hard pull up, weights 240 lb. each. Bad surface all day, with a crust that let one down with a bump. Started this morning on the back trail to Butter Point and after a mile and a half ran into breaking off floes so had to deviate to the stranded moraines.

At last night's camp in the morning could distinctly hear the east and flat surface (ice 18 in. above sea water) heaving up and
down against the end of the Ferrar. As there is little or no motion between the two, then Ferrar must be afloat. Tide crack also between the Ferrar (inside the moraines) and Butter Glacier (near base) though ice is at least 20 ft. thick above water here.

**[Tuesday,] February 14**

Made towards Mount Discovery over Butter Glacier [with] stranded moraines to east. Made after much exertion six to seven miles—surface d.c.b.a. A semi-hard crust all day letting one down at each step 6-18 in.

“D.c.b.a.” meant a surface worse than p.d.r. It was probably like thin “plate glass,” as described by Taylor in *With Scott: the Silver Lining*, but in 1975 Wright could not remember exactly the meaning of d.c.b.a.

On this day Amundsen laid his first depot at 79°59'S.

**[Wednesday,] February 15**

Surface much better today though at first sight [it looked] very bad, something like p.d.r. surface first met on Ferrar but more pits and much deeper ones. Sea wall of the Blue Glacier about 50 ft. high [with] practically no [ice] foot, many crevasses crossed.

*Set watch 9 P.M. by chronometer.*

Find it is a terrible business getting into the frozen ski boots every morning—takes about half an hour.

Made only seven to eight miles today on account of time spent in picking a route around the pits. Minimum temperature a couple of nights ago [was] –4° F.

Lost an ice axe today from one of the sledges and had recourse to my pack of cards to see who shall go for it tomorrow. Evans in five deals of the pack got the highest number of points and therefore goes. I came in a close second.

There is another berg (stranded?) just close to camp which is at least one season old and evidently came from within a half mile of its present position.

Last night made a bet with Taylor that hard surface would continue for 45 sec. It did for one whole minute, so I won a bob.

Gave Taylor a muffler this morning for puttees.
Sketch map of Koettlitz Glacier area of South Victoria Land showing route of the Western Party in the second part of the journey. Map based on U.S. Geological Survey map and information in Griffith Taylor's *Physiography of the McMurdo Sound and Granite Harbour Region*. Dates mark camp sites.
[Thursday,] February 16

Camped on dry morainic debris to south and three miles out from Blue Glacier. Tried the damn iron runners on the bad water-worn surface this morning and promptly broke the bow of the sledge by being unable to check it down a steep slope ending in a wall, [this] would not have happened without the iron runners. Made half a mile by lunch and then ditched the runners. Took a couple of hours to make another mile and a half and then lowered the sledge down a steep slope on to the sea ice. Then cut across the sea ice four miles to this spot—many seals and skuas about.

Would give anything, or would have a day or so ago, for snowshoes. Would back them for inexperienced travellers any day against ski—for pulling anyway.

[Friday,] February 17

Chocolate Camp on ice peninsula.

Camped just by noon stop on moraine-covered ice (as at last camp) six miles farther on. In afternoon made an unsuccessful attempt to lay a depot farther on but could not get near the land on account of cutting up of the old ice by wind-blown silt melting into the old ice and snow. Had to retreat as it would have been impossible to go more than one to two miles a day in the stuff. The chief trouble was a layer of ice on top, nothing for 3 ft. and then either fresh water below or solid ice. All came some awful croppers.

Cache two week’s grub here. Deposits of Glauber’s salt all around and many small tarns.

Taylor killed a seal here and extracted the liver—taking it with us.
Evans opened a box of chocolates tonight to celebrate the mid-trip and 1 lb. was eaten while playing “Hearts” Wales and Canada [Evans and Wright] won, Australia [Debenham and Taylor] in the ditch.

On this day Scott established One Ton Depot at 79°29' S. Cape Chocolate was named by members of the Discovery expedition for the colour of the morainic material there.

[Saturday,] February 18

Blowing hard in the morning and early afternoon. Evans fried some seal’s liver which we fondly supposed would last three meals, and ate it all at lunch.

Darned my gloves and mended the bag for carrying notebooks, etc.

In the afternoon went with Taylor to see the ice slab opposite the island whereon we are camped.

Taylor asserts raw seal blubber is tasteless. Didn’t try it myself but doubt the same. Taylor proposes to tie seal skin soles on his worn-out ski boots. Mine with great care have lasted quite well.

[Sunday,] February 19

Spent the day climbing the hills towards Mount Lister. Went up 3000 ft. and in ten miles. If Snow Valley is there at all it is at least twelve miles inland. A small glacier fed by névé slopes in a cwm feeds a stream which in summer must be of considerable size.

In a sketch map made during Shackleton’s 1907 expedition, it had been supposed that a broad valley, Snow Valley, extended from close to the summit of Blue Glacier southwards towards the Koettlitz Glacier near Heald Island.

Carried the theodolite right up the hill and toted it back again without using it. A damnable wind on top and no decent sights to be obtained.
[Monday,] February 20

Made about four miles today [southeast from Chocolate Camp towards center of Koettlitz Glacier] starting at noon after laying a depot. Surface very bad, chiefly many deep sun-weathered holes.

Lost 1/3 [one shilling and three pence] to Evans over the tying of a knot, so did Taylor and also Deb.

They bet Evans he could not tie a clove hitch using one hand only. He could.

Many tumbles through the plate glass. Once I went in both hands and feet, hands into more broken ice and feet into water.

[Tuesday,] February 21

Made four miles. Camped in an ice stream bed amid the hummocks.

Made a quarter mile before lunch and then prospected for a better route. After lunch continued one and a quarter miles towards Brown Island [Peninsula] and struck better going, and after 5 P.M. made about two and a half miles towards the [upper] Koettlitz Glacier.

Found a large fish shortly before striking the good stuff and collected all we could of it. Taylor also saw some silicious sponges.

Queer. How the sea can have got on top of the obviously floating glacier ice, I can not see unless the ice was once solid to the bottom. The bad ice coincides with streams of silt roughly parallel to the coast and has also much of the fungus stuff [actually blue-green and other algae] which grows in all the lakes here.

Much of the lower part of the Koettlitz Glacier, and especially the west side, at one stage had broken into relatively small floating pieces and had subsequently refrozen. Taylor and Wright believed that this accounted for the fish and sponges.
Wednesday, February 22

Honeycomb Camp.

Made ten miles yesterday in a general direction 15° to the right of Mount Discovery. Made three miles in the morning of fair (only) going which brought us to the side of the thick glacier ice from which the fascines had broken off at the period when the sea came up to this ice. The glacier surface ice with no snow thereon, billowy or ridged surface and quite good going. Light bad all day—overcast so that it was impossible to pick one's footing on the ploughshare surface. [We] seem to have got abreast of the bad silt-covered stuff to the right.

Taylor seems to want to drop the Koettlitz [Glacier] part of the trip on account of lack of time though we have still four full weeks' grub and could reach the first falls [ice falls east of Heald Island] tomorrow in all probability.

[Thursday,] February 23

Labyrinth Camp.

Won a bet from Taylor yesterday by getting the fair surface all day. Have another bet on about the distance of a certain mountain from us. Made three miles up to 4 P.M. over razorback ridges up to 50 ft. high and then turned sharp right and followed a labyrinth of frozen lanes for three miles to our present position. No feathers tonight as we are again camped on ice with fascines and pie crusts around us.

Wright's memoir explains that Evans' term "a few feathers" was for an ice surface so rough that it was difficult to find a flat surface large enough to take four sleeping bags in a tent.

[Friday,] February 24

In morning made three miles to west towards land through pretty bad stuff similar to that of the morning of the 21st but not quite so bad.

Won the bet from Taylor again.

After lunch another half mile of bad stuff carried us to the moraines a half mile from land. Here turned sharp left along good lanes and camped at 5 P.M. in a cul de sac [with] one short portage before camp. Photo'ed some fine pinnate crystals about 3 P.M.
Today is the end of Taylor’s cooking and to celebrate had another game of Hearts, Australia again in the soup. Evans’ score plus mine being less than their least.

Camped on dry silt again but our bags are damn wet from camping on ice. Hardly had any sun the last three days.

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[Saturday,] February 25

Sunshine most of the day and bags were out drying. Did not move camp.

Taylor and Deb went up the hill but saw little. Evans and I went up the glacier three and a half miles to a point opposite Heald Island and returned. In the afternoon I made some ice sections and took a poor round of angles and fixed the weighting of [magnetic] compass. All prominent hills shrouded as usual in clouds. Temperature 8°F tonight. This is becoming the usual temperature now.

Saw two seals today by a fresh-water hole near the moraines, Deb and Taylor saw two other pairs. Do they come up here to mate? and what do they live on in fresh water? Hole only 3 ft. deep so must be frozen solid in the winter.

Taylor concluded that the tide crack at Chocolate Camp was largely fresh water and formed the main drainage from the upper Koettlitz Glacier. “By this sub-glacial stream the seals penetrated nearly thirty miles inland” (With Scott: the Silver Lining).

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Forgot to put down yesterday that at lunch I had to go back over a mile of rotten stuff to get a rucksack that had fallen off the sledge.

[Sunday,] February 26

Moved three miles this morning up the lanes outside the moraines. [with] one or two short portages. In the afternoon we all went across to Heald Island. Taylor and Deb climbed up the thousand feet or so, while Evans and I went along the gully between the island and the left arm of the Koettlitz Glacier. Found shells in moraine stuff around Heald Island. Also a sponge near camp in the moraine silt.

Lost a halfpenny to Taylor on a bet.
From the summit of Heald Island at 1,100 feet, Taylor could see no evidence of "Snow Valley."

[Monday, February 27]

Taylor, Evans and I visited the tip of the hypothetical Snow Valley but could see nothing on account of fine snow. Rather a rotten wind on the return journey.

The "tip" was the snout of the Walcott Glacier. The route across the moraine followed a stream which flowed under the moraine for considerable distances, and eventually to the side of the Koettlitz Glacier. It was named the Alph River, from Coleridge's poem.

We are now waiting for a fine day here in order to take the theodolite up one of the hills where we can see into the valley.

[Saw] moraine stuff from the Koettlitz 1000 ft. up [i.e., 1,000 feet above sea level], [and] 200 ft. above the Koettlitz Glacier we ran across a lava flow (scoria and ash) with olivine and augite and inclusions of quartz pebbles and Beacon Sandstone. A remarkable lateral gully in the moraine stuff is 150 ft. deep with sheer ice cliffs 50 ft. high about five miles long at least and appears to continue.

It was hereabouts that I realized . . . that we had been walking on what I thought was solid moraine but that, in fact, there was only a thin veneer of five or six feet of rock on top of the thick ice of the much larger Koettlitz Glacier of probably thousands of years ago and that it was only the insulation thus afforded that had protected the ice from dissolution all those years.

The beauty about these all-day walking trips is the frills one has for supper—raisins and butter and cheese.

[Wednesday, March 1]

Yesterday went again up the lateral gully and took a number of photos of ice crystals, bent icicles, etc. Returned by following the
stream [Alph River] down to the clear glacier ice, thence back to camp. Deb’s heel giving him trouble, Taylor has got blisters too.

Today went into one of the hanging valleys here [towards Ward Glacier] and up a side hill [Terminus Mountain] to try and settle Snow Valley for once and all. It was a lovely view, got good sights on all but the Lister Range. Sun shining all day but cool working the theodolite on top of the 3000 ft. hill especially as we perspired freely on the way up. Hill [is] about six to seven miles in a straight line from camp.

Got back early and turned in ditto.

My boots are not in too good shape now, but we are starting on the back trail tomorrow and they should last me as far as Hut Point.

[Thursday,] March 2

On the back trail

Started off at noon after Taylor’s usual wrestle with his boots.

Moved down along the 100 ft. [wide] river [Alph] along the lateral moraine. The ice has sunk into big 2 ft. hollows all along and the sledge skidded all over the place. Camped eight and a half miles down opposite Miers Valley.

First mock sun seen today—very poor one.

[Friday,] March 3

Off Garwood Valley. This morning most of them went a little way up Miers Valley while I prospected along the back trail along the coast line. [We] had an early lunch and moved down seven and a half miles in the afternoon—light snow all day, halo and two mock suns about 3 P.M. Got very sweaty and wet from the pulling and the snow.
In the Miers Valley area in January 1961, Ralph Wheeler and Colin Bull found a few footprints in the silt of a sheltered corner. As far as we could discover, no one had been there since Taylor's party in 1911.

Had a game of bridge tonight which Taylor insisted on playing. As neither Evans nor Deb had ever played and Deb did not even play whist, it was rather painful. Deb and I went down badly.

Up the Miers Valley they ran across an exposure of ice under the moraine at an elevation of 180 ft. above the Koettlitz.

On this day Amundsen laid his depot at 81°S.
On this day also, most of Scott's Depot-Laying Party, returning from One Ton Depot, were on Hut Point Peninsula; they had just lost three ponies when sea ice broke up at the edge of the Ice Shelf.

[Saturday,] March 4

Spent the day up the Garwood Valley. A fine long lake three and a half miles or more long flows into the Koettlitz lateral river. The Garwood Glacier [appears to be] somewhat similar to the Suess Glacier [in Taylor Valley] but larger. A whole gang of seals at the mouth of the lake, and here the water tastes not quite fresh.

Had a glorious day without clouds; temperature at 7 P.M. — 7[° F] minimum, tonight was — 15.

[Sunday,] March 5

Sledged down to Chocolate Camp today eight and a half miles. Found a herring in the ice close to here.

"Herring" was their word for Pleuragramma antarcticum. However, the diaries of other members of the party referred to a four-foot long southern toothfish (Dissostichus mawsoni), which was the fish found on February 21; toothfish had also been found during the Discovery expedition.
Sledge, seal’s liver, etc. turned up in fine order and we had a magnificent feed of liver fried in seal oil. Tasted glorious.

At lunch time we were quietly camped in the ice lane a few miles up eating lunch when a stream of water swiftly flowed along the surface of the ice and caused a quick scaterring. Most of the raisins and grub lying in the four little piles were saved, but some of the duddery got wet. The bags and finnesko are getting wet again, this time from hoarfrost off the tent and from frozen breath.

In *With Scott: the Silver Lining*, Taylor wrote: “The water was rushing out of a crack one hundred yards below us, probably driven back by a high tide.”

*Monday,* March 6

Forgot to put down yesterday that [I] won a 1/3 [one shilling and three pence] dinner regarding the position of Salmon Peak.

These promised dinners were totted up and were to take place after the return of the expedition. Salmon Peak is now called Salmon Hill.

Camped now off the larger Dailey Island after a nine and a half mile pull over a not too good surface of snow. Temperature
THE WESTERN MOUNTAINS

- 15°F last night and -8 in the morning. Great fun with the frozen ski boots. Tonight zero with a nasty wind, and -7 with a worse one the morning of the 7th.

Climbed Dailey Island yesterday to prospect the surface ahead. Seem to be only two belts of bad ice to be crossed.

[Wednesday,] March 8

Yesterday made ten miles toward Mount Terror and are camped on edge of a six mile strip of pinnacle ice which we will try to circumnavigate. [It was] -8°F when we got up, -10 last night, minimum -12, and present temperature -10. Deb got some of his toes on one foot frozen twice yesterday morning, cause—too many socks for a small pair of boots.

[We are] passing over old sea ice. Looks as if, since Scott was last down, the Koettlitz has been shoving out a lot of pinnacle ice which has not been broken off for some years, as the map is miles out as to the position of this ice.

Wilson, Armitage, and Heald had explored this part of the Koettlitz Glacier in late spring, 1903.

On this day Amundsen reached 82°S, where he established a depot of 1,370 pounds of stores, chiefly dog pemmican. On March 10 he started the return trip to Framheim.

[Thursday,] March 9

Yesterday did a villainous wriggle in the vain effort to dodge the pinnacle ice. At lunch time came gaily on to the sea ice and saw the killers [killer whales] cruising about. After lunch relayed and managed about a mile in a straight line E 15° S. With the big sledge much of the work was a stand and pull game. The trouble was largely in the sand blown over everything—even the heavy snowdrifts into which one sinks two feet or so. The going was very rough as well.

The party now had two sledges again, having picked up the second from the Chocolate Camp depot. One was 12 feet and the other 9 feet long.
Supper time—today is Evans’ birthday.

Made by strenuous efforts about two and three-quarter miles straight towards Castle Rock—relay work again over sand and snowdrifts in among the pinnacles. From a 30 ft. pinnacle by camp [we] can see that in a mile or so the surface improves and may become flat again. [We] are about one and a half miles south and southeast of the sea. Sea appears to extend down to Glacier Tongue.

Have 1 lb. of chocolates after supper on account of Evans’ birthday. See me gloat!

[Friday,] March 10

Breakfast

Had the dear little chocolates while playing euchre—Deb and I on top. Wish there were some at Cape Evans. The only luxuries we are going to get during the stay down here are I fear what we can rook from Shackleton’s hut. Marmalade and golden syrup not being counted as luxuries. [I] fancy we are going to run shy of most things before the Terra Nova gets down again. Will soon get through with the paraffined biscuits we have been having the last ten days due to Deb filling the primus on an open biscuit tin. Tons of oil and tea and biscuit on hand. Of other stuff have two weeks’ grub left tonight when I come on again as cook.
Shackleton’s hut at Cape Royds contained some exotic supplies, including a large lump of chocolate which was often attacked by explorers with geological hammers.

March 10

In all made a half mile by relay through bad pinnacle stuff, then some undulating stuff for a half-mile followed by soft snow in sun-weathered pits. Then the surface improved and got harder. Ran about straight for Hut Point till five miles away when we came upon open water. Then turned right and followed the water around. Camped one mile from the water at Had-Again Camp.

[Saturday,] March 11

Camped about seven miles magnetic north [i.e., about true south] of Observation Hill, made in the morning seven miles towards left [end] of White Island, [and] in afternoon six and a half miles 25° [farther] to the left of this course. Surface getting
softer as day progresses [with] nasty head wind, drift, etc.,
every[th]ing wet and frozen. Temperature — 7[° F].
Taylor insists on getting into his damn bag before the cocoa
is finished—gives me the pip.
More panic today sledging a couple of miles in on a Barrier
surface so as not to camp near the sea. Might have saved a lot of
time today but for idiotic and excessive caution.

How wrong I was appeared when we met the Depot-Laying Party at
Hut Point to learn of the ponies lost when part of the Barrier broke off
not far away and only by exceptional good fortune and hard work were
no men lost.

[Sunday,] March 12

Camped at noon in a young blizzard, about east of Observation
Hill five miles. Shortly before camping passed a [pony] fodder
cache on which we erected a flag as it was nearly drifted out of
sight.

Here Wright discontinued his daily entries in the diary.

March 13th a mild blizzard.
On the 14th about noon [we] moved off in a strong wind for
Castle Rock and had lunch a quarter way up the slope to the right
of the rock. Taylor still looking for tide crack within a couple of
hundred feet of the top of the slope.
Cached one sledge where we had lunch and reached the top
after a couple of hours stiff pull (800 ft. up).
Moved on along the ridge towards ski slope seeing the tracks of many sledges, and after three miles noticed four figures coming towards us down from Crater Heights. They looked quite funny—Cherry, Dr. Bill, Birdie and Atch—and did not walk a bit like penguins.

They helped us in with the sledge and gave us all the news: how the depots were laid down one hundred and twenty miles or so, how the ponies had given out, and three ponies and three men got adrift on the ice and two of the ponies were lost (only two returned) [of the eight that started on the depot-laying trip]. But best of all how all the party were safe in the hut, already cleared of ice and with a blubber stove going strong with lashings of seal meat and biscuits.

How we did gorge ourselves on a seal hoosh and cocoa! Only one sore point about it which still rankles (March 23rd), there was some marmalade and some sardines of which some had been eaten already and we could get none.

Had a great powwow about the results of our expedition.

Next day put our bags out and dried them a bit in the sun while we returned for the other sledge and pulled some stuff on a sledge up to the top of Crater Heights for a seal-killing party.

Another big hoosh that night and again next morning, when I volunteered to go depot-laying in a party of eight.
Scott... called for volunteers to join a small party to go to Corner Camp and take some stuff out to be cached there. As I wanted to get some experience of sledging on the Barrier, I was one of those who volunteered... It was, of course, foolish of me to dash off so soon after we returned from the Western Mountains, with sleeping bag and all other gear full of ice and water, but it seemed worthwhile for the experience which was, in my opinion, not a very well organised show. The worst thing was to take off with inadequate rations when blizzards were far too common, and I could see no reason whatever for this sloppy arrangement.
Autumn Depot-Laying
Sketch map of Hut Point Peninsula, Ross Island, showing the position of the Discovery hut and the routes to the Ross Ice Shelf and Cape Evans.
Scott and four others from the southern Depot-Laying Party arrived back at Hut Point on February 22 to find that it had been made habitable but that no one was there. Atkinson and Crean had gone to Safety Camp while Scott and the others were making for Hut Point.

Scott returned to Safety Camp and Atkinson there gave him the letter from Campbell telling of Amundsen’s presence in the Bay of Whales. Scott wrote in his diary: “The proper, as well as the wiser, course is for us to proceed exactly as though this had not happened. To go forward and do our best for the honour of the country without fear or panic. There is no doubt that Amundsen’s plan is a very serious menace to ours” (Scott, 1968).

Over the next eight days, the party continued laying the depot at Corner Camp. By the night of March 1, they had nearly completed this work. Scott, Oates, and Gran stayed behind with an ailing pony—which died during the night. Most of the party set off for Hut Point with their four ponies. Three of them and the ponies camped that night on the sea ice at the edge of the Barrier. At 4.30 A.M. Bowers discovered that the ice had broken all around them and that one pony had disappeared. Crean managed to reach the Barrier and went back to Corner Camp to get help. Over the next twenty-four hours they managed to rescue the other men, the sledges and their loads, but only one of the ponies could be saved.

Scott eventually reached Hut Point again on March 5 and within a day or two had assembled there all of the Depot-Laying Party, the two remaining ponies, the dogs, and the sledges. Over the next few days they made the hut more comfortable. They constructed a stove in which they burned seal blubber. Using felt, awnings, and ration boxes remaining from the Discovery supplies, they improved the insulation of the hut. Seals in large numbers were found in the open water and on the fast ice around the neighbouring coasts, so there was no shortage of food. By the time Taylor, Debenham, Evans, and Wright arrived on March 14 they were well established.

Wright and the rest of the Western Party deserved to feel very pleased with their work on the Ferrar and Koettlitz Glaciers.
ciers, and in Taylor Valley. Lieutenant Evans commented in *South With Scott*: "One may say fearlessly that no Antarctic expedition ever sailed yet with geologists and physicists who made better use of the time at their disposal, especially whilst doing field work."

Scott wanted to make one more journey to Corner Camp. Evans was to lead the party of eight. They would man-haul two sledges. Although he had only just returned from the Western Mountains, Wright volunteered. Scott commented: "It was very sporting of Wright to join in after only a day's rest. He is evidently a splendid puller."

Wright's diary gives his impressions:

*Thursday, March 16, 1911*

Started off about 11 a.m., bag and gear being still wet, and during a fine day made about ten miles over Crater Heights, past Pram Point to two miles beyond Safety Cache [Camp]. Went on ski the last six miles and for the rest of the week till our return.

With singular short-sightedness [we] were sent off with only one can of oil and less than a week's grub for a trip that could not be done in less than five days (to which the oil could be made to spin out), and at this time of year moreover, only one out [of] every two days can be relied on for travelling. Minimum [temperature] —14.2°F. ([We] took one bag oats and four boxes biscuits [to the depot].)

Next day (St. Patrick's Day) made eleven and a half miles. Light very bad and steering naturally wild. Celebrated the day by an extra stick of chocolate and Crean upset the hoosh, so had to make more (and thicker). Stopped at 7.30 in a mild blizzard. Minimum [temperature] —22°F this night. Saw moon and stars beautifully tonight.

*Saturday, March 18*

Light and surface very bad, but [we] made six miles before lunch. [It was] not the right surface for ski pulling. Made three and a half miles in the afternoon over very bad soft stuff in which the sledges continually stuck. Mild blizzard when we stopped—temperature —32.5°F.
[Sunday,] March 19

In bad light made on[ly] two and a half miles, but saw no signs of Corner depot, so camped and hoped for a better light.

Evans and I prospected around about 5 P.M. but shortly returned as we could see nothing like a cache in that light. Temperature tonight −42.5 [° F]—lots of hoarfrost on tent, bags, etc. and much observation of the moon.

*Our inability to sleep made for more frequent exits from the tent to relieve ourselves.*

[Monday,] March 20

Marched six miles northeast to Corner Cache—heavy work, temperature at start [was] −37[° F].

*Birdie Bowers was in charge of one tent and Lieutenant Evans of the other. Although Evans . . . was in charge of the whole group and was official surveyor and navigator of the expedition, he finished the thirty miles to Corner Camp four and a half [miles] astray. It is true, of course, that the light was bad but such a large error can hardly be considered reasonable.*

Had lunch at the Cache and moved on back trail six miles through bad light and soft snow falling.

Temperature rose way up to +3[° F] and during the night a blizzard force 8.
Remarkable that the pole marking Corner Cache was miraged up and was visible four and a half miles away. Awful work making for it as it seemed to get no closer.

[Tuesday,] March 21

Blizzard

Did not start till after 2 P.M. Owing to lack of stores only had a stick of chocolate and a biscuit for breakfast.

Over a very soft surface and bad light made six miles. Ski clogging badly. Only pemmican for supper on account of shortage. Temperature $-11.1[^\circ F]$.

I believe this [pemmican] was borrowed from the other tent. Evans' later attempt to borrow more from Birdie Bowers annoyed me to such an extent that I spoke to Bowers or someone else of his party urging them to refuse to do so.

[Wednesday,] March 22

Up at 4 A.M., had an exceedingly light cocoa breakfast on which we marched twelve miles to Safety Cache, where we took two solid hours over an exceedingly solid seal lunch.

In the afternoon checked stores at Safety Cache and made back five miles and camped in the pressure ridges [where the Barrier presses against Ross Island].

For supper cheese, pemmican and half a biscuit ($-14.2[^\circ F]$)

[Thursday,] March 23

Same for breakfast. Made it to Hut Point for lunch after a hard pull up Crater Heights and portages over rock patches [with] some relay work.

Loafed in afternoon after a heavy lunch of biscuit and butter and tea. Horrible seal gorge in evening and slept soundly on bag (too wet inside). Temperature $+5.5[^\circ F]$. 
Comments

(In) our tent were Lt. Evans, Crean, Forde and myself. Evans has a tendency to cadge matches and tobacco. . . . Crean has an unfortunate bias for long hooshes in preference to thick ones. Another failing of his being encouraging (?) cries when the sledge shows a tendency to stick. However, very good natured, Forde even more so, but given to complaining about cold feet and hands. Looks after Evans like a child.

During the spring sledging journey (September 9–15, 1911), temperatures sank below −70° F and Forde suffered badly frostbitten fingers. He was invalided home in 1912, after being a member of Taylor's second party to the Western Mountains.

The most comfortable time in cold-weather sledging is undoubtedly during the day and particularly around lunch time. In the morning one gets up in a dark cold tent; tent, sleeping bags, etc. with 1/4" of rime on them which drops off at every touch or shake of the tent. After a warm but shivery breakfast comes the ordeal of changing socks and finnesko, a truly unpleasant one if the finnesko have not frozen in the proper shape. ([They] are full of frozen sweat anyway.) While changing gear smoke a pipe, then plug away till lunch, then lunch of biscuits, tea and cheese and chocolate. Then a smoke, and away till dark.

Supper by candlelight in frozen sweaty gear with hoarfrost down one's neck and over everything. The metal cooker and Primus blistering at every touch. Then a struggle to unroll the frozen bags, change into frozen finnesko and wet warm socks—[put] on all the clothes you possess put all the socks you are to wear next day into the bag and get in with mitts on, taking care that you are sleeping directly on the socks or they will surely be frozen in the morning.

With luck you have melted the bag after two hours shivering and then you have all the feelings of a wet bath sponge till joy comes in the morning. If unlucky, one has to turn out of the bag during the night and comes back with his gear frozen stiff on him, and his bag and clothes again covered with hoarfrost.
In the morning, one’s hands and feet are soft as putty from the continual dampness and this persists all day as the process of taking one’s sweaty hands out of his fur gloves allows the mitts to freeze almost at once.

*It [the depot-laying trip] was not a good show, and a great contrast to what occurred on our Western geological journey, which was very hard work at times but a leisurely affair because we kept within our rations, which were adequate enough in the warm weather.*

*Bowers appears not yet to be in charge of supplies as he writes critically of this journey.* . . .

[Monday,] March 27  
Hut Point

The last few days a quiet time in the hut with fairly high winds and considerable sunshine and drift. New ice forms whenever the wind drops and is being subsequently blown away.

Considerable time is spent each day in concocting new combinations from our scanty ingredients. Lots of seal and biscuits, peas moderate, and some porridge, pemmican, cheese, raisins, cocoa and chocolate. Made a fine hoosh this morning of pemmican, porridge, seal and biscuit and one the other night of the same with cornflour instead of porridge.

The blubber stove and lamps work admirably and we have to date always been well above freezing point all day [in the hut].

Yesterday the last remaining fodder [toilet paper] was served out, twenty-nine sheets per man. There are, however, a number of copies of the *Contemporary Review*—contemporary to ten years ago and left here by the *Discovery* fellows.

The hut the last few days has been so hot that the roof is leaking like blazes.

Our routine is about as follows: Up at 7 A.M. for the four cooks. Breakfast [at] nine, thin hoosh and biscuit and cocoa. Morning usually high wind and drift. Lunch 2 P.M., butter, (tea or coffee) and biscuits, occasionally a light extra dish (once) of Welsh Rabbit (of sorts)—at least there was some cheese in it. In the afternoon walk and scientific work. Dinner—7 P.M., seal fried or thick seal hoosh. There are some darn good lines of grub we have in the way of condensed food. Chief among them must be numbered pemmican with arrowroot as a thickening agent. Oatmeal is not bad either. Cheese does not stand the cold very
well. Rolled oats n.d.g. [no damn good (?)], chocolate a very good idea. A one pound tin of pemmican will give a magnificent flavour to porridge or any similar thing.

[Wednesday,] March 29

Little doing lately. First calm day for a couple of weeks. Went around the whole point [Cape Armitage] yesterday afternoon with the Owner. Ice yesterday 4 in. thick and very mushy due probably to the large quantities of snow which have fallen (drifted) on to the sea. The many unaccountable holes in the ice seem at last to be closing up, at least in our bay. Have a bet on with [Teddy] Evans that we will be able to get away from here by April 6. Settled the bet with Seaman Evans re the spelling of Lord Kelvin's name [Thomson, not Thompson] in my favour.

Wish I had not lost one of the lenses of my glasses as it is rather difficult doing scientific work without them, though for ordinary sledging I do not need them. In fact the lens would never have been lost but for the fact that I kept them in the pocket of my pyjama coat instead of using them.

[Wednesday,] March 30 Morning

Drifting again, temperature +2[° F], high wind.

Yesterday lowered insulated thermometer [bulb covered with wax and cork] into crevasse of icefoot 12 ft. and got same temperature as the air above.
Yesterday had a splendid curry of seal and biscuit.  
Looks as if we would be here a good couple of weeks yet.  
Going to make a set square rig for measuring the [sea] ice thickness.

Amundsen's last depot-laying journey started on March 31. Amundsen himself did not go. Seven men, six sledges, and thirty-six dogs took stores to 80°S and returned to Framheim on April 11. They lost two dogs in a crevasse; one other, injured and running loose, did not follow the sledges as they had expected it would. In total they established three depots: 4,200 pounds at 80°S, 1,000 pounds at 81°S, and 1,366 pounds at 82°S.

[Saturday,] April 1  
Morning

Day before yesterday went through Gap and around Cape Armitage partly on the sea ice and partly on the icefoot or slope. Yesterday went with Taylor through The Gap and per sea ice to Pram Point to take a look at the pressure ridges now forming in the new one-foot thick sea ice. They look like small swells 15 ft. apart and up to 1 ft. high—some twenty in number altogether. Six seals there now in Pram Bay. Sea ice still wet and mushy.

We now have an almost continuous sunset all day. Sun never rises more than a few degrees above the horizon and we have the most beautiful colours in the clouds till the sun sets about six.

Got fooled this morning by a hoosh which was good on top but consisted of fodder [pony fodder] below. Learned later however that Bowers, the originator, was the real fool as he replaced our hooshes later by real ones and to do so had to go short himself.

[Sunday,] April 2

In afternoon walked on the ice round Cape Armitage with Taylor—dodging the pools en route. Captain Scott later came along and I escorted him round as well. Found lots of small herring-like fish stuck on the sea ice.

Killed a 90 lb emperor off the Cape. Had an inch and a half of fat on him.

The pool off Hut Point is nearly closed this morning, but the thin ice towards Glacier Tongue has gone out during the day.
[Monday, April 3]

Birdie and I started round Cape Armitage in afternoon, met the open water pool which was miraged up so that it looked a couple of miles across. Thinking we could not get round, we came back and round through The Gap.

[Tuesday, April 4]

Dr. Bill starts a lard factory from the emperor blubber which is used to fry seal meat. In consequence no one eats the seal meat. Funny, as the lard itself is absolutely tasteless.

Mild blizzard.

[Wednesday, April 5]

Second calm day in a month, temperature $-14^\circ$ F. Thin ice all the way to west and north.

Started a salt factory. Going to do it by first freezing most of a large amount of sea water and then evaporating the remaining liquor and taking the first crop of crystals.

Got a lot of ice flowers today—two new forms, one fascicular flowers and the other a combination of pinnate with plate ends.
[Thursday,] April 6

Minus 17°F last night—fair aurora, bright beam in magnetic plane at 3 A.M. and through zenith. Brightest to the north where it looked like a searchlight.

Rather a frost at breakfast today. Sardines, pemmican and biscuits (whole) fried together. Biscuits were like charcoal—burnt.

New ice 3 in. thick but now over-riding in floes, and leads opening up with a north wind.

Going to try to get some marmalade tomorrow on the strength of my [24th] birthday.

[Friday,] April 7

Wind north [Force] 3–4, ice thick enough for walking at least up to Castle Rock. Temperature up to +5°F—looks like a blizzard.

Last night Captain Scott gave out [announced] that tomorrow morning D.V. an attempt would be made for the return [to Cape Evans] of a man party of nine, being the Western Party, himself, Evans, Birdie, Crean and Atch. To take two sledges and do what we can. A bunch of Canucks would have packed over beyond Castle Rock three or four days ago, getting onto the firmer ice as close to Turtle Back Island [Turtle Rock] as possible. [We] were over the new [sea] ice today.

Got no marmalade or chocolate doled out on this happy and eventful day!
[Saturday,] April 8

Blizz [blizzard]. All the ice from Harbour Heights [Arrival Heights] north driven out by the wind to about a mile and a half from shore.
Nothing doing.

[Sunday,] April 9

Wind eased. Captain Scott going to try tomorrow over Castle Rock way without the instruments and geological specimens.
Service just over.

[Monday,] April 10

Morning

Snow falling lightly—wind force 3 unsteady in direction—slight drift. Straits [McMurdo Sound] started freezing last evening.
Have been ready for a start all morning. Probably won’t start till tomorrow or till we get decent weather.

[Thursday,] April 13

Evening

On the 11th started off at 10 A.M. by Castle Rock route. By lunchtime made seven miles to above Hutton Cliffs. Kept to southeast of Castle Rock and crossed to northwest of the cones on the ridge.

After lunch continued to beyond Hutton Cliffs and lowered sledges down the 20 ft. snow cliff onto the sea ice. Thence about three miles to a point halfway along Glacier Tongue, up an 8 ft. cliff and across towards Inaccessible Island. Had supper at the far side in dark at 7 P.M. and then continued to 10.30 P.M. by Little Razorback Island where we camped on the sea ice.
Started to blizz about 4 A.M. and we were damn uncomfortable lying on the salty slush covering the sea ice. At 3 P.M. [on the 12th] shifted camp to the icefoot of the Island for fear the sea ice should go out.

Up early this morning—exceedingly scanty breakfast with everything run out to a clinch, and arrived here at Cape Evans about 10.30 A.M. Weight 11 st. 7 lb [161 pounds] with very little on.

Had a glorious feed of hot biscuits, butter, marmalade and cocoa *ad lib*. Needless to say we all gorged ourselves.

Sunny Jim has done wonderfully well and got all the meteorological and magnetic instruments going magnificently.

Needless to say the conductivity and ion mobility experiments will not work.
Antarctic Night
At last, after the frustrating delay of five weeks at Hut Point, most of Scott’s team were back at their base at Cape Evans and eager to start their winter work. In his diary, Scott professed himself delighted with everything he saw in the hut. “Simpson has done wonders, but indeed so has everyone else” (Scott, 1968).

Wilson had been left in charge at Hut Point. With him were six other men—Atkinson, Oates, Cherry-Garrard, Meares, Keohane, and Forde—the ponies, and the dogs. Scott had a very poor opinion of the dogs and was not counting on them for very much help on his trek to the Pole. Similarly, with the loss of his best tractor before it had been used at all, he was not relying on his motor transport to do more than haul their loads as far as White Island. However, he still had faith in the ponies. The loss of six of them during the autumn depot-laying was a calamity, especially as they were some of the best. When he had seen again the ones left at Cape Evans he wrote in his diary: “I scarcely like to express the mixed feelings with which I am able to regard this remnant” (ibid.). Planning for the polar journey was going to be difficult, and took up much of Scott’s time in the months ahead.

Although attainment of the Pole was the main objective of the expedition, it was far from being the sole aim. The scientific objectives were far more diversified and ambitious than those of any previous party to the Antarctic. Wright had his experiments on penetrating radiation and atmospheric electricity as well as his glaciological work. From his previous experience in Toronto and Cambridge, he had a fairly good idea of what he wanted to do with the laboratory work on radiation and conductivity. Glaciology, however, was a new science and new to him, so that his work in this field was, at the outset, ill-defined; it took form as he looked around and formulated the questions. In addition, he had work to do with Simpson: the continuous recording of magnetic variations, the observing and recording of aurorae, as well as the more straightforward meteorological work. When there was spare time, he worked up his field observations from the Western Mountains.
Tuesday, April 18

Have been feeding up the last few days, also laid up partly with a chafed foot and slight blood poisoning of the same. Can wander afield now, however.

Had plum pudding tonight.

Yesterday a relief party [Scott, Lashly, Day, and Demetri pulling one sledge; Bowers, Nelson, Crean, and Hooper pulling another] started out yesterday with grub for Hut Point and if good weather should be back tomorrow.

Had hot cross buns on Friday [Good Friday] and eggs on Sunday.

It is remarkable how the ice has formed in our North Bay before Arrival Bay [the bay at the foot of Arrival Heights], Hut Point.

Have been fixing up the potential gradient instruments [for] the last couple [of] days and am rigging up the air radioactivity and ion mobility apparati. Am not putting up the chemical gear till Atkinson comes back. Must also start ice experiments soon—ablation, artificial crystals, etc.

Wright's memoir states that he planned "experiments on ice . . . such as rate of ablation versus wind and temperature, formation of artificial crystals in different conditions, etc."

Today we sent up a balloon in a lull of the wind but it was soon lost to view owing to the setting of the sun—at 2 p.m. or so!
Hydrogen-filled balloons, carrying temperature and pressure recorders, were attached to fine silk thread, five miles of which weighed four ounces. When the balloon or its attachment to the recorders broke, the keen-eyed meteorologist could follow the silk thread to recover the instruments.

The mean hourly wind velocity has been something extraordinary during March—26 m.p.h. It must surely constitute a record for any part of the globe.

On the Australasian Antarctic Expedition (1911–14), Douglas Mawson recorded an average wind velocity of 49 m.p.h. for the month of March 1912 at Commonwealth Bay, on the Adelie Coast; the average for the year was 55 m.p.h.

Wednesday, April 19

Pretty good aurora last night of the folded curtain type—temperature — 20° F. Night calm for almost the first time on record.

Fixed up the [ion] mobility apparatus this morning and after lunch the wind promptly rose to 50 or 60 miles an hour.

One of the ponies—Chinaman—started raising a fuss and kicking at midnight last night just when I was attending to the acetylene plant. Apparently he had sat down on a nail.

Ponting photo’d some ice crystals on the magnetic hut window today, with f.11 took a two minute exposure.

Thursday, April 20

Blizz. all day. Average wind velocity last night about 40 miles with squalls of 60 or 70. Sunny Jim and I spent the day making up Daniell cells. Looks as if it were going to take a couple more days to finish them. The Kieselguhr [diatomaceous earth used as an absorbent] has left the table in a beastly mess.

Party not back from Hut Point yet but should be in tomorrow if it is fine at all.

Frost smoke on the water to the west and northwest.
[Friday,] April 21

Still at the cells.

Relief party returned tonight. The only ones of the officers now left at Hut Point are Meares, Day and Nelson.

The returning party was Scott, Wilson, Atkinson, Crean with one sledge; Bowers, Oates, Cherry-Garrard, Hooper with another sledge. At Hut Point, this left Meares and Demetri with the dogs, Lashly and Keohane with the two ponies, and Nelson, Day, and Forde.

[Saturday,] April 22

Cells finished at noon.

Here in his diary Wright gave details of the construction of the Daniell cells (chemical cells for the generation of small electric currents).

In afternoon walked out to see the bergs stranded off the Cape and to see how the new ice was getting on.

Sunday, April 23

Theoretically [we] have seen the sun for the last time for a few months.

Most of day spent cleaning up the laboratory. Electric bells have been ringing all day. I have one which goes off when the acetylene plant overgenerates. Sunny Jim has several. One at the hour and one if the light [used for the photographic recording] goes out in the variation magnetic cave. Another we will rig up tomorrow to ring every hour until switched off by the man whose turn it is to take aurora observations.

While Day was at Hut Point, Wright was responsible for the acetylene plant. Water dripping onto calcium carbide produced acetylene, which was used for lighting the base.
In *Observations of the Aurora* (Wright, 1921), Wright comments that “though all members of the Expedition took their turn on the auroral watch, the credit for the observations lies chiefly with Dr. Simpson and with Major R. E. Priestley, who organised and directed the scientific work of the Northern party.”

Clissold the cook has a bell which rings when the bread rises sufficiently, if then he does not attend to it, he has it fixed up so that a red light comes on and off every half minute until attended to.

Tomorrow must rig up my chemical bench and get a few things started—photos of ice sections, etc. if time permits.

Must manage to get more exercise. Take the ponies out, etc.

Simpson wrote in his journal (SPRI archives) that “it is amazing how no one has a minute to spare. It is amusing to read of the old polar expeditions having to make work to keep their people from utter boredom.”

**[Monday, Tuesday, and Wednesday,] April 24, 25, and 26**

Spir. 330 cu.
dyn. 250

[On] April 24 all weighed and measured by the Faculty [Wilson and Atkinson] also tested by the dynamometer and spirometer. Have reached the enormous weight of 166 lbs. stripped.

April 26: the last couple of days wind almost a calm. Been fiddling with conductivity apparatus. Today did magnetic work.

**[Thursday,] April 27**

Today in morning wandered over to the sea edge of the Barne Glacier. Some magnificent snow cornices just this side.

Fitted up electric light for reading the conductivity electroscope, and fitted a condenser for a still [for distilled water]. The acetylene plant [has] been giving trouble today.
We have arranged today to give a series of lectures (three a week) by everyone practically, ranging from the Management of Horses by Captain Oates, through Sledging Foods by Birdie and Protozoology, Botany and Meteorology; down to the ultimate Constitution of Matter. Mine are “Ice Problems”, “Radioactivity” and “The Constitution of Matter”.

This morning a soccer football was unearthed and a half hour was spent kicking it around on the sea ice.

*Friday, April 28*

A fairly good aurora now on.

Wilson noted in his diary on this day: “This evening we had one of the best auroras I have ever seen, very brilliant curtains and moving most rapidly—colour lemon green, and wherever the movement was most rapid the edges advancing—and the lower edges were crimson red... None of the photo plates... though specially sensitive... will give any result whatever when exposed even to very brilliant displays” (Wilson, 1972).

This morning walked down southeast a couple of miles along the sea ice to some ice caves in one of the glaciers. Found some magnificent crystals (bell shaped) in one of the crevasses. They grow in huge clusters almost the size of one’s head. Many other crystals seen in tide cracks and fine examples of faulting in the glacier as well as salty icicles dripping salt solution even at a temperature of $-10^\circ [F]$. In afternoon tried to work the microscope in the absolute magnetic hut by candlelight—not much fun as the objectives clouded up at intervals and everything metal one touched burnt one—temperature about $-12$.

*Sunday, April 30*

Yesterday fiddled around while Ponting tried to photo some crystals for me. Wasted half a day over it.

Today [I] loafed, helped send up a balloon and to photo some curious ice forms along the ice-foot and stranded bergs.
Am now on aurora watch which lasts till about 7 a.m. Unfortunately nothing decent has turned up yet.

Wonder when the dog and pony party will turn up. Could have been in before now if required as the days have been very calm of late.

The party at Hut Point was held up, waiting for the sea ice to become safe for travel. Five years later, on about May 8, Captain A. Mackintosh and V. G. Hayward—members of Shackleton’s Ross Sea shore party—were lost when the sea ice near Hut Point was carried out in a blizzard.

There is difficulty on calm days in keeping the hut even at night lower than 50° F.

**Tuesday, May 2**

Yesterday Dr. Bill gave his talk on Antarctic birds—flying ones. To encourage the lecturer everyone drew the most weird figures of birds which were duly handed to Bill.

Today had a football match—soccer on the ice—unfortunately no one knew the rules on our side and we got beaten 4-0. We all found our wind is in pretty bad condition. Another wind also was troublesome which sprang up and blew about 30 m.p.h. at a temperature of −10[° F] or so.

There is still open water around Hut Point so it looks as if it would be still some time before the dog and horse party gets back.

Today got some water batteries going as it is almost impossible to charge up the electroscope outside for conductivity, as Zamboni piles [devices for generating small currents at moderate voltages] break or crack and the Phillips celluloid charging gadget works not at all well.
[Thursday,] May 4

Yesterday Sunny Jim gave a very fine lecture with experiments on Aurora, Halos, etc. Really quite interesting.

Today had a much better game of soccer. Sides almost the same as last time, score 5–4 against us. This high feeding is not good for the wind. About half of the outfit are partly laid up with stiff legs, etc.

Got one of Ponting’s cameras fixed up today on a box to photo crystals with a magnification of almost 3 (linear).

The mobility experiments (eye observations outside) seem at first sight rather queer. Either the +ve [positive] ion has the greater specific mobility or else there is a great preponderance of +ve ions in the lower atmosphere.

Dr. Bill today drew some of the crystals gathered from a cave on April 28.

[Saturday,] May 6

Yesterday took complete observations on mobility and conductivity of the air. Specific mobility seems greater for the +ve than −ve [negative] ions.

Got a mild blowing up from Dr. Bill for spending too much time at physical work [i.e., physics, such as the ion mobility experiments and the magnetic work] to the neglect of the ice work. Must mend my ways.

Went out in the afternoon over the sea ice with Captain Scott. Actually saw the arch of the cave in one of the stranded bergs collapse. It made a fearful din and sent big waves right to the shore and started the other bergs rocking.

Today spent the morning making photos of ice crystals by magnesium wire; magnification 2.75 linear. They came out magnificently.

The flare from burning magnesium wire was used in place of the present-day electronic flash.

Also had another game of soccer. Were to have had a game of hockey with a ball made partly of shellac and partly of paraffin wax. The first time I hit it, it broke into three pieces.
Caught forty small 6 in. fish in the trap, [they] look much like catfish. Atkinson has got a magnificent haul of parasites from their tummies and is naturally as pleased as Punch.

Wilson’s diary for May 6 mentions painting two types of fish from the trawl, *Trematomus bernacchi* and *Trematomus hansonii*, both first discovered on the *Southern Cross* expedition (Wilson, 1972).

This afternoon spent on the ice again. Got the sole of one foot frozen of all places.

*Monday, May 8*

Yesterday loafed and developed some of my film packs brought back from the Western Hills. They have not come out at all badly except for spots on the film where they were evidently covered with ice crystals.

Today walked along to the Barne Glacier point [snout?] across the [sea] ice and back along the cliff face—got evidence of a previous period of lesser glaciation than the present one in the form of dirt bands in the cliff face.

Such evidence is far from being convincing.
The new sea ice looks very pretty on account of the masses of ice flowers growing on it. The flowers are about 2 in. diameter and sometimes grow in lines and narrow beds instead of being equally spaced. The massive ones are very salt to the taste and are probably merely the feather forms which have sucked up salt solution.

Captain Scott has just given his lecture on “The Future Plans of the Expedition” and it seems [we] will rely almost entirely on pony and man haulage, expecting the dogs and motor cars to be of little use. Quite a good lecture and a magnificent discussion thereafter. Captain Scott explained that the far southern unit could not get back in time for the return by the ship so that probably a fairly large party will stay down here but can not be in receipt of salaries.

In a lecture in London before the expedition left, Scott had presented a timetable in which he proposed to start the southern journey in October and to reach the Pole by December 22. However, the autumn temperatures on the Barrier had been much lower than he expected and the ponies had done less well, due to those temperatures. Even while waiting at Hut Point for the sea to freeze, he realized he would have to delay the start of the journey, whether or not there were to be a race with Amundsen.
Wright wrote in his memoir, “This was the first time the question of salaries was ever mentioned in my hearing.” But here his memory had failed him because, in the document in which he signed on for the expedition, his salary was clearly spelled out.

[Saturday,] May 13

Now getting pretty dark even at noon so that stars are visible all but about two hours of the day. At present the night is lighter than the day as it is full moon. Have been having some fine paraselenes [bright spots on lunar halo] lately. . . .

Today went over the sea ice after yesterday’s blizzard to Cape Barne, ice there 16 in. thick and probably covering the whole strait [sound] up to Cape Bird.

This afternoon the Hut Point party came in looking very grimy.

Will get rid of the acetylene plant tomorrow.

Day, in charge of the plant, had returned from Hut Point.

On night watch again now.

[Thursday,] May 18

Again blizzard—last blizzard has apparently taken out some of the ice [but] seems however to be still holding this side of Cape Royds.
Monday went with T. G. T. [Taylor] to Cape Barne. Dr. Bill talked on seals in the evening.

Tuesday, good game of soccer as also today when our side contrary to all expectations won again. A beastly ping-pong tournament has been started which takes up the table space and light wanted for writing. Thank heaven it is half over.

Tomorrow I talk on “Ice Problems”—heaven help me! There should be lots of discussion.

The last couple of days [I] have started to make a rig for measuring the amount of air included in ice. Also started to put up instruments for natural ionization and air conductivity. The air [ion] mobility works now fairly well but requires a forty-minute sit in the cold.

[Thursday,] May 25

Yesterday Empire Day and today blizzard with temperature away up to +7° [F]. It has the last few days been hovering around −30 and a short while ago we had −25 with a forty-mile wind.

Yesterday and part of today [have] been fixing up the natural ionization apparatus with the Wilson [electro]scope which is unfortunately leaking a little, [have] also been laying telephone and other electric wires to the pendulum cave. I am going to try to run the sidereal clock in the cave and trust to heaven it does not freeze up. Will do a lot of the ice work in the cave as well.

Atch gave a talk on parasites last night—too deep for me.

My talk on “Ice Problems” was a fearful business, went for two and a half hours and even at that cut out at least half of what I wanted to say.

[Thursday,] June 1

Anniversary of departure from London. Bad blizzard the last twenty-four hours and still on. The Dine’s anemometer registered 74 m.p.h. at one time. It was most interesting the way the blizzard started. I was outside at the heap of instruments while there was not a breath of wind, suddenly a slight breeze [arose] from the southward and within one minute the wind was up to 45 m.p.h. and the drift so thick that it was quite a job finding one’s way back to the hut. Luckily no one was any distance away
when the blizzard started. The temperature is always high in the blizzards (nearly). It was up to +16°F and felt at one time as if it wanted to rain. The drift in the beginning of a blizzard is always much worse than later on, as in time the snow all finds a lodging place. It seldom snows while the wind is high also.

Today had a powwow with Captain Scott. Will go south next summer towards the Pole and stay down here a second year. Gott sei dank!

Have been busy lately setting up the transit instrument, regulating the sidereal clock—only got it right [adjusted] to a second a day so far. Getting a telephone set up to the cave. Got some thermometers set up in the cave for measurements on ice conductivity. Also going to make ice crystals there under different conditions of temperature. The cave is now −4°F Fahr.—much colder than the present air temperature but much warmer than it usually is outside.

The transit instrument is for the accurate determination of time; it works by determining by theodolite the moment of passage of a heavenly body across a given azimuth.

**Sunday, June 4**

Spent most of the day on ski on the floe. In afternoon went out with Birdie to visit meteorological stations “C” and “A” (Clarence and Adolphus [sic]). On our return met Ponting and Co. going out to flashlight a berg. Went with them and found a young crab-eater seal, but had no stick stout enough to club him with, so drove him in a full mile while Birdie went back for the necessary materials. Killed and skinned him about 300 yards from the hut.
Three satellite meteorological stations were placed around the base hut. “Archibald” was on the sea ice, about three-quarters of a mile northwest of Cape Evans; “Clarence” was on the sea ice, east of Inaccessible Island, about one and a half miles south of Cape Evans; “Bertram” was on The Ramp, about 250 feet above sea level, a mile northeast of the station. The meteorological screen at each site contained thermometers for measuring the current temperature, and the maximum and minimum temperatures since the last observation.

A dead calm all day and only about \(-10[° F]\). At noon one could actually see the Western Mountains. Stars shining brightly and a faint glow in the north. Tonight the new moon is showing up.

_Sunday, June 18_

Just had another measuring day.

Last week among other things [I have] been setting up the pendulum instrument in the cave.

Measurements of the acceleration due to gravity had previously been undertaken in the Antarctic by Bernacchi, during the *Discovery* expedition, and by von Drygalski in 1901. Wright’s gravity determinations in 1911 and 1912 were by far the most comprehensive and accurate that had yet been carried out. A complete account of the experiments and the results is given in *Determinations of Gravity* (Wright, 1921), published for the committee of the Captain Scott Antarctic Fund.

There is trouble from deposition of hoarfrost on the pendulums, mirrors, etc. also on the eyepiece of the telescope of the coincidence apparatus. The telephone connection from the sidereal chronometer [in the hut] to the cave works well and should be quite satisfactory. The level of the transit instrument is still troublesome, both ends are gone and have had to be plugged up with rubber corks which will probably leak in the cold when the corks get hard.
Went with Taylor on Monday last to Cape Royds to get a few sections of Professor David’s boring tool for cutting into the sea ice and sounding through the hole.

Professor Edgeworth David was a geologist with the shore party of Shackleton’s *Nimrod* expedition, which wintered at Cape Royds.

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Blizzing again today. This moonlight has been most unfortunate as we have had so much cloud that the moon was seldom seen.

The Cape Crozier Party will be off probably by July 1st. They intend to build a stone hut there and have a blubber stove, etc. It will, however, be devilish cold work.

Another nice ski run last Sunday.

The Cape Crozier Party comprised Wilson, Bowers, and Cherry-Garrard. They intended to sledge to Cape Crozier to collect emperor penguin eggs in progressive stages of incubation. Wilson’s observations made on the *Discovery* expedition and when *Terra Nova* was at Cape Crozier in the previous December had convinced him that the emperors laid their eggs in the middle of winter. The party left the hut on June 27, endured
terrible conditions in the dark, with temperatures down to \(-77.5^\circ\) F. Cherry-Garrard wrote an account of the journey in what is probably the best Antarctic book ever written, *The Worst Journey in the World*.

[Thursday, June 22]

Just through a rather cold snap. Day before yesterday had \(-38^\circ\) [F] and a wind of 35 m.p.h. Went out in my pyjamas as per custom early in the morning and came back in less than two minutes with a slightly frostbitten nose.

Today [is] Midwinter Day—sledge flags being hung up and all preparations for a big feed tonight.

Many of Scott’s men were following a British tradition, started by M’Clintock’s Arctic expedition of 1850, of having sledge flags. Most of them were patterned after the same design; they were one foot wide and three feet long, with a triangular notch a foot deep; the whole flag was bordered with a colourful cord or ribbon. Most of the flags had a St. George Cross or a Union Jack at the staff end and, in the centre, a choice of design, such as a family, national, or school crest. Wright had two flags made of silk, both bearing a Canadian national emblem—a maple leaf on one and a beaver on the other—and the motto, “Labor ipse voluptas,” which is loosely translated: “Labour itself is enjoyment.” One of these flags was lost for a year in the Ross Sea, but was then recovered.

[Friday, June 23]

Had a big blowout last night followed by a set of lantern slides by Ponting and a dance and Xmas tree. Everyone very hilarious under the influence of the unaccustomed liquids. The tree was furnished with toys which were distributed to the assembled multitude.

Ponting showed a set of slides made from his own local photographs. Scott wrote in his diary: “I had never so fully realised his work as on seeing these beautiful pictures; they so easily out-
class anything of their kind previously taken in these regions. Our audience cheered vociferously” (Scott, 1968).

I think the pendulum apparatus is now in working order and I am only waiting now for some clear weather for the star observations. Hope the weather settles after the next blizzard which will probably come on tomorrow.

Going to move the natural ionization apparatus to the cave as the dampness of the hut spoils the insulation here.

S.P.T. unveiled yesterday after lunch—is damn fine.

S.P.T. is the *South Polar Times*, a magazine published irregularly during the winter. The idea for such a magazine was put forward in March 1902, during the *Discovery* expedition. Contributions from the expedition members were selected for the single issues by the editors—Ernest Shackleton during the first year, and Louis Bernacchi after Shackleton had returned home.

The tradition was revived during the *Terra Nova* expedition, with Apsley Cherry-Garrard as editor. Again, expedition members submitted contributions, supposedly anonymously. Most of those accepted were illustrated by Wilson, who added other sketches and paintings. Ponting produced many photographs. Whether Silas Wright was responsible for any of the articles that cannot be attributed is not known. Three numbers were published (in June, September, and October 1911) and Day bound all three into a volume with venesta boards from ration boxes, and sealskin. This volume is now in the Scott Polar Research Institute, Cambridge.

During the second winter, one number was produced. Facsimile editions of S.P.T., Volumes 1 and 2, were published in 1907 by Smith, Elder and Co., London, after the return of the *Discovery*. Volume 3, containing the three issues of 1911 but not that of 1912, was published in 1914 again by Smith, Elder and Co. The 1912 number is also in the Scott Polar Research Institute. Campbell’s Northern Party compiled a similar publication, which they named “*Adélie Mail*, incorporating the *Cape Adare Times*."

Sketch map of Cape Evans and environs, Ross Island, showing the positions of the small islands and the satellite meteorological stations, Archibald, Bertram, and Clarence.
From Taylor's diary for July 4: "Have just been ragging 'Silas Wright' as an American(?) on this auspicious day. Whereupon he fell upon me and succeeded in tearing my pocket" (Taylor, 1916).

[Sunday,] July 9

The Cape Crozier Party departed in darkness about the 27th June and may be away a month yet.

It is now full moon and blizzing. Yesterday it blizzed at 60 m.p.h. and a temperature of -35° F. It is quite an adventure to go out to the pump-shippery [to attend to the calls of nature] and one can only see some thirty feet through the drift.

Did pendulum observations June 30 to July 4 in the cave at -24° C. (now -28[° C]). They worked very well. The Mitschwingen only 20 units in the 7th decimal place of a second. Unfortunately it is so small that it takes two hours to observe instead of 20 minutes. Finger tips have no feeling now from getting frozen while handling metal in the cave and taking time observations. The time observations are not too good on account of collimation changes in the transit instrument and will probably only give the rate within ½ sec. It is quite parky getting time observations at -40° F.

I am joined up telephonically with someone at the chronometer, the sidereal clock and the ticker in the cave, so that the ticks sound in the telephone while the seconds are given by a man counting into the telephone by chronometer.

I had telephonic communication with someone (usually Sunny Jim) at the sidereal clock. His job, when I told him a star was approaching [the cross lines in the field of view of the transit telescope], was to count the second ticks of the clock saying: "Twenty-two, twenty-three, twenty-four . . ." I then told him and he wrote down that the star crossed a hairline at twenty-four point seven, the decimal point being estimated by me from the positions of the star relative to a cross-wire at the seconds twenty-four and twenty-five. This was repeated for every one of the five cross-wires and averaged.

We touched our record temperature on I think the 5th—being -49° C. Even with a 20 m.p.h. breeze, I have got my nose
touched [frostbitten] several times while going to the cave one hundred yards away.

The temperature probably should have been recorded as \(-49^\circ\) F. The meteorological log gives \(-50^\circ\) F.

Atkinson is laid up on account of a piece of foolishness. He went out at 6 P.M. [on July 4th] in a blizzard at \(-20^\circ\) F to read the thermometer out on the floe ["Archibald"]. Paced out four hundred paces, decided to return, and missed the Cape. At 7 o'clock we had flares going, guns going off, yelling and search parties. At 9 P.M. three organized parties, two with sledges, searching the coast up to Cape Barnes [sic] and down to Glacier Point and mine with Gran and Lashly searching the bergs and Inaccessible Island. By 11 P.M. the wind had decreased to 20 m.p.h. and the moon showing through the drift. Atch arrived in at 1 A.M. from—presumably—Tent Island with several frostbites and one hand badly gone. Apparently he ran up against Inaccessible Island and while circumnavigating it to see where he was—keeping only ten yards from the land, lost it and turned up at Tent Island (?) where he dug up [sic] a hole in a drift and squatted in.

He walked in when the moon showed up, and in a short time it blew up again. It would have been probably all up with him if the wind had not slackened.

Atkinson's hand sustained frostbite equivalent to second-degree burns, with blisters forming on the skin after thawing. Gran set off at the same time as Atkinson, to visit "Clarence;" he went only 200 or 300 yards from the shore, and then turned. He took nearly an hour to get back.

Had a five-day blizzard since the last entry.

Two or three days ago had an anxious time with Bones. He had colic or something for twenty-four hours and was almost given up when he suddenly got up and started eating—complete recovery.
Visited Archibald, Bertram and Clarence on Sunday. Was blowing 30 m.p.h. (−20°F) when we set out to Clarence on ski. Came back with the wind at about 15 m.p.h. or so.

Atch's fingers will be all right shortly.

Still trying to get some kind of drill to bore into the sea ice. All forms tried are unsatisfactory as they will not clear themselves—they cut quite fast enough.

In the period from July 18 to August 15, Wright spent much of his time working with Griffith Taylor on their observations in the Western Mountains and on the structure of the local feature, the Ramp—the slope up from the Cape Evans area on the side of Mount Erebus. Wright's own diary entries are very scrappy for this period; where appropriate they have been supplemented with extracts from Taylor's diary and Wright's memoirs. Taylor was a loquacious diarist, and his book based on the diaries, *With Scott: the Silver Lining*, is one of the gems from the expedition.

Griffith Taylor was older than the rest of the scientists, with a passion for the job of the moment and a passion for passing on his very considerable knowledge. Meares gave him the title of "Ram-Jatsass" which we found on enquiry from Meares to mean "verbally flowing eternally" in a Lolu Thibetan dialect.

*Tuesday, July 18*

The dawn colour was splendid. A cag [discussion] with T.G.T. [Taylor] re glacial erosion (lateral gully).

Wright's memoir added: "... with special reference to the lateral moraine of the Ferrar Glacier."

On July 15, Taylor sketched in his diary the form of the glaciers at the head of the Dry Valley, showing that there were two separate glaciers, joined only in the area near Cavendish Ice Falls. In addition to the surface slopes of the glaciers, he used the form of the medial moraines on the two glaciers to determine the direction of flow of the various parts of the ice system. The southern one was the Ferrar Glacier. The northern one flowed
down into Dry Valley, ending in Lake Bonney. When Taylor told Scott that the northern one was distinct and of a new type, because it did not continue to the coast, Scott proposed calling it the “Taylor Glacier.” Taylor commented in his diary: “So on 15th July I became a cartographic entity” (Taylor, 1916).

Despite the clear picture that Taylor and Wright had developed (with some help with the charting from Lieutenant Evans), when the map of the area was finally published in *Glaciology* (Wright and Priestley, 1922), the true Upper Taylor Glacier—west of the Cavendish Ice Falls and Solitary Rocks—was still labelled “Upper Ferrar Glacier;” the true Upper Ferrar Glacier was called “Upper Arm.”

**[Wednesday,] July 19**

Map of Dry Valley finished. I am down as B.Sc. Taylor made survey of Ramp.

On the map caption, Taylor had written down Wright’s name as a main contributor, but attributed to him a Bachelor of Science degree, instead of a Bachelor of Arts. At that time, most Toronto degrees were Bachelor of Arts, independent of the field of study.

**[Thursday,] July 20**

Discrepancy between [our estimates of] glacier heights by Cavendish Falls and Captain Scott’s [made during *Discovery* Expedition]—ours probably wrong.

Investigated fluff balls.

**[Friday,] July 21**


Taylor’s beard frozen to helmet by ice potato.

Wright and Taylor had been surveying The Ramp and arguing about its physiography as they walked across the area. In
With Scott: the Silver Lining, Taylor makes disparaging remarks about Wright as a diarist: “Wright would bring his [diary] along about once a fortnight, sometimes while I was engaged on mine, and look through it for references to himself. We often went for a walk together (invariably towards the Erebus Glacier), so his diary was often something like this—

Aug 1. — Went up the Ramp with G. T.
  " 2.— Ditto.
  " 3.— Ditto.
  " 4.— No entry.

I suggested he should fill in his blank days with ‘Did not go up the Ramp with G. T.!”

Work in the last decade has shown that much of the Ramp area is underlain by glacier ice.

[Saturday,] July 22

Blizzard 50 m.p.h., −15° F.
Sunday, July 23

Very rough weather. [The] snow bight in Ferrar [Glacier] towards [Mount] Lister is one of [the] main feeders of Lower Ferrar—no rock showing.

[At] 8 P.M. wind 84 m.p.h. (two hoops).

This, or that on August 20, was the maximum wind speed recorded during the first winter. “One hoop” was a term the party used for moderate wind. “Two hoops” was a very strong wind.

[Monday,] July 24

Calm morning. Taylor had a bath and made a hurried map [of the Taylor Glacier-Ferrar Glacier area]. Noah’s ark cloud radiating from Erebus. No one knows what this sort of cloud is.

[Tuesday,] July 25

Walked into South Bay, −18° F, 40 m.p.h. Big turret fallen from berg by Land’s End. Charles I’s head [another iceberg grounded close at hand] still standing. Ice caves not changed. A big trench in front of glacier edge with crumpling of ice.

As Glacier Tongue moved forward against the sea ice, the ice crumpled.

[Wednesday,] July 26

A splendid day—approaching day[light]. Thermometers read without artificial light.

Taylor has marked all his Discovery maps “wrong”
[Thursday,] July 27

Nippy on the nose, —27° F. [There is a] 10° difference between hut and Ramp on a calm day.

[Friday,] July 28

Taylor claims to have paralysed me at chess—there is doubt as to the correctness of this statement.

Atch [made] his remark "Snot goes with a ping"

This refers to the feeling one has when one's nose freezes. It is common when one first goes out in the morning but less common later, because the process of unfreezing leaves the circulation buzzing round faster and in a better condition to deal with later attacks.

[Saturday,] July 29

[Blizzard] 50 m.p.h. Taylor blown off Bertram cone.

Sunday, July 30

Taylor claims from a plane table survey that Erebus is way out of place on maps.

[Monday,] July 31

Nothing. Cag re Koettlitz.

Wright and Taylor were arguing about many of the peculiarities of the Koettlitz Glacier, over which they had sledged during the autumn. How much of the lower part of the glacier was afloat? What accounted for the large fish found on the surface? These and many other questions had not been fully resolved when Wright wrote up his final report.

[Tuesday] August 1

A fine day—Ascent of dangerous (?) slopes of Tent Island by T.G.T. [and Atkinson]. Footsteps seen of Murray and Priestley.
[The island is] quadrangular 3/4 mile across. Also T.G.T. fixed [the position of] Clarence.

During Shackleton's *Nimrod* expedition James Murray and Raymond Priestley had explored Tent Island. In *Antarctic Adventure*, Priestley described a visit in 1911 to Cape Royds where he saw traces in snow drifts of pony hoofprints, made three years before.

Cape Crozier Party returned 9.30 p.m. Cherry like selenite. [They were away] five weeks plus one day. First camp 4 miles this side of Hut Point, second on Barrier, then soft snow and cold. [It took them] three weeks to arrive [at Cape Crozier]. Stopped ten days—unable to get any blubber and on running short of oil, returned. Blizz off [Mount] Terror, Birdie dormant three days and nights. First three days there built an igloo. Blizzard blew tent and [igloo] roof away. Found tent 1/4 mile away. Ross Sea opened [during] each blow. Got down to the rookery only one day. One hundred penguins visible. Three eggs out of six survived [the journey back to Cape Evans]. Minimum [temperature] 77°F, often below [-]60. Lots of grub. Birdie down crevasse—used to sleep on march, could not at night.

[Wednesday,] August 2


From a distance they had mistaken Evans on the sea ice for a penguin. Gran wanted them to kill it. As they approached, the emperor turned out to be Evans.

A shear crack in the sea ice ran between Inaccessible and Tent Islands. The sea ice was six feet thick and the shear crack was caused by differential movement; the ice in the open part of McMurdo Sound moved against the ice in South Bay that was pinned by Inaccessible, Tent, and the Razorback Islands.
[Thursday,] August 3

Taylor made pantograph.

A pantograph is a device for copying a plan or map at a reduced or enlarged scale. Under normal circumstances a pantograph is not easy to fabricate. If Taylor made one from the materials available to him in the hut, it was an impressive feat.

Cloud on Erebus blowing same way as lower atmosphere.

[Friday,] August 4

Taylor carved steps up slippery slope [to Ramp]. Can see from Ramp [the] dirt tail from hut refuse.

Lunch [was] dripping [fat from roasting meat] and cocoa.

Moved motors.

Taylor was much more expansive in With Scott: the Silver Lining: “We made a real start for the summer campaign by taking the two motor sledges out of their winter quarters. It was frightfully heavy work and took over twenty of us to move one a foot. I wouldn’t care to go over a snow-lidded crevasse in one.”

[Simpson gave a] lecture on meteorology—good.
[Saturday,] August 5

Dull, hazy, blizzard.
Books get spoilt, wet and frozen [on floor] against wall.
Temp[erature in hut] at floor $-x^\circ$ C., three feet up $+50^\circ$ F., say.

[Sunday,] August 6

Hazy day. Port side choir overpowered by efforts of Cherry who knows the tunes and Birdie who knows all [the] words.
With Atch and T.G.T. went out to shear crack—snowed a bit. Pulled up trap from 169 fathoms—four *Nototheniae*.
In p.m. T.G.T. snoozed peacefully.

[Monday,] August 7

Four parallel gravel ridges, 2 in. high, 6 in. apart.
Deb said Taylor a liar in this connection (foes for nothing)

When Wright reviewed his diary as he was writing his memoir, he could make little of this entry. Probably the three—Wright, Taylor, and Debenham—had been arguing about the origin of small ridges formed in sand by the wind.

Ponko [Ponting lectured] on Japan.

Other members of the party gave much fuller commentaries on Ponting's lecture. Gran's diary, *The Norwegian With Scott*, reported: "Ponting gave a talk on Japan tonight; it was most interesting, and of course the photographs outstanding. I must go to Japan" (Gran, 1984). Wilson in his diary wrote: "Ponting gave a delightful show of Japanese lantern slides this evening" (Wilson, 1972). Scott did not mention it in his diary.

[Tuesday,] August 8

Finer day, $-36[^\circ] F$, some wind.
Atch pretends to be learning Russian, he says.
Chaste tea shop = 6000.
Atkinson tried to learn Russian from Demetri. "Chaste tea shop" was a phonetic rendition of the Russian for "six thousand."

[Friday,] August 11

Rotten, blizz. Conflagration with stink in hut.

Titus [Oates lectured] on horses with a risky antidote [sic—anecdote?] at the end.

Oates gave his second talk on horse management on August 10. Gran commented in his diary: "He's really no speaker, but there is a lot in what he has to say and he often has his listeners helpless with laughter" (Gran, 1984). After the talk there was a lengthy discussion on snowshoes for the ponies, and how to attach them.

[Saturday,] August 12

Fine day. Apparently frost smoke towards D.V. [Dry Valley?]

Sunday, August 13

Rotten hymns—no tune and of endless length. Taylor brought down ice crystals from The Ramp.

In his diary, Taylor wrote: "Through falling into a small crevasse I found some beautiful ice crystals above the Ramp. Later I turned up some slabs of ice . . . and their lower surfaces were sparkling with basket crystals half an inch across . . . Wright managed to photo some of them satisfactorily, for unlike our rock collections, his specimens were extremely fragile and hard to preserve" (Taylor, 1916). These particular crystals appear as Plate LI in Glaciology (Wright and Priestley, 1922).

On this day at Framheim, Amundsen recorded his lowest temperature: -74.2° F. At Cape Evans on August 13, the minimum was -40° F. It is interesting to note that the official meteorological publication (Simpson, 1923) contains a copy of the meteorological record kept at Framheim, with the observations converted into English units.
[Monday,] August 14

T.G.T. made the patent Taylor mousetrap camera [that is] alleged to be able to take photographs.

[Temperature] – 38[° F], no wind, very nice.

Erebus active—4000 ft. cloud [rose] up in 10 secs, smoke lit by sunlight to colours variously estimated from ultra red to ultra violet. Day alleges to be able to see into the alleged crater with an alleged telescope.

Got candelabra crystals from Ramp. [They] unfortunately burst [before being photographed].

[Tuesday,] August 15

Threatening. Sunny Jim keeps up the meteorological usage—if he prophesies blizz we all go out and vice versa.

Bitch pupped last night.

“Lassie”—daughter of the long-haired collie, “Lady,” and the Siberian dog, “Bieleglas”—had six or seven puppies. Scott recorded in his diary: “We are keeping the family very quiet and as warm as possible in the stable” (Scott, 1968). Wilson wrote in his diary that “Lassie had 9 pups, and those she didn’t lie on she trampled on—so the whole 9 are now dead” (Wilson, 1972).

I lectured to an appreciative audience in a masterly manner on Radioactivity.

Scott commented at length on this talk, but the other diarists did not mention it.

Went out with T.G.T. overland to Land’s End. The glacier abuts on the land halfway there with a 15 ft. vertical wall, scooped out no doubt by radiation. Must take photos of silt bands, overthrust etc. there. Seal rock [is composed] of fine laminated tuffs. The caves in the glacier face beyond Land’s End are lower ends of crevasses.
ANTARCTIC NIGHT

Could see from the hilltop looking towards Glacier Tongue a piedmont glacier stretching almost continuously to it making it very probable that Glacier Tongue is the Barrier remnant held there by (say) a ridge of rock underneath and on which it rests [and] possibly was at one time also augmented by drift snow.

It now appears that Wright was incorrect in this interesting hypothesis. Glacier Tongue is a natural extension of Erebus Glacier, which descends from the upper slopes of Mount Erebus. However, it is a most unusual feature, and continues to be the subject of much important glaciological study.

We came down on to the sea ice after much discussion as to how long a drop we had from the icefoot. I thought a good hundred feet as there was what I took to be a stranded berg some distance off. We finally “chaunced [sic] our arms” and found a six-foot drop—berg being three and a half feet high. Short distances are very deceptive here.

This is especially true in very poor light and the absence of shadows.

In the lee of each berg is a patch of almost snow-free ice while to windward a long slope of snow leads up to them—drift being 15 feet deep at its thickest, i.e. nearest berg. The drift at first leaves a sheer wall facing the berg, but in time closes right up to it.

Started pendulums and star observations.

Wright made lengthy star observations on August 8, 15, 16, 17, and 18. On August 15, he marked the observation of E. Canis Minoris as “bad,” and the whole set as “fair.” The temperature was $-37^\circ$ F, the sky a bit hazy, but with little wind. On August 16 the set was slightly better and no observations were marked as “bad;” the temperature was $-40^\circ$ F, wind slight at the time. On August 17, the whole set (of six stars) is marked “very bad;” the temperature was $-35^\circ$ F, the sky very hazy; the very
marked temperature changes alternately deposited crystals on the telescope lenses and removed them again; there was marked refraction in the direction of the fixed mark. Owing to the haze over the sky, the stars were too faint for good work. On August 18, the sights were marked “good,” with little wind and a clear sky. Wright had made a first series of pendulum observations between June 30 and July 7. He considered the errors in this second series of pendulum observation to be less than half of those during the first series (Wright, *Determinations of Gravity*, 1921).

*[Wednesday,] August 16*

A remarkable snow slope on top of Inaccessible [Island] to be looked into with better light.

Star observations.

Ponting wrote in *The Great White South*: “Wright . . . seemed to be impervious to the elements, and used to kneel for hours beside his transit telescope, observing the occultation of stars. If the skies were clear, Silas knelt in the darkness, scrutinizing the heavens whenever an occultation was due, whilst Simpson counted half-seconds to him through the telephone.”

*[Thursday,] August 17*

Atch lectured on Scurvy—good.

Taylor noted in *With Scott: the Silver Lining* that the lecture dealt with steps taken by the Navy to counteract scurvy, with mention of the value of lemons and vegetables, and argument on the value of horseflesh. Amundsen had been with Dr. Frederick Cook when he saved the scurvy-stricken crew of the *Belgica* by making them eat fresh meat.
[Friday,] August 18

Fine day. Nelson caught a sponge with included echinoderm.
Day’s birthday.

[Saturday,] August 19

Calculated return of theoretical sun, naturally it blizzed. I just got through the pendulum observations in time. A blizzard in the middle is fatal, first because the stars for time observations can not be observed and secondly because the temperature of the cave, now $-27^\circ [\text{F}]$ is raised so that observations become impossible on account of fogging of the window, mirrors and lenses. Also [the] hut shakes and therefore also the break-circuit sidereal clock’s rate is variable.

Pendulum swinging is quite a strenuous business, $2\frac{1}{2}$ hours at a time, twice a day in a damn cold cave with one ear at a telephone, one eye at a telescope [watching the very small swings of the pendulum] and one bare hand writing down. Then comes 2 hours outside also with one telephone at one ear and one eye at one telescope [of the star transit instrument] and a temperature hovering around $-40^\circ [\text{F}]$ with a wind at 25 m.p.h. occasionally.

Have made a number of star observations without object [result] (five different days, I think) and have been stopped by things varying from blizzards to stoppage of the clock by the hut shifting bodily.
Sunday, August 20

Wind up to 86 m.p.h. Blizzard abating.

[Monday,] August 21

Fine day. Nelson in trouble owing to his net line getting fouled on the bottom. Seven of us pulled it in two finally, thus saving one hundred fathoms of line.

No sun today as expected. Fine shadows on Mount Lister and the other Western Mountains.

Ponting gave an illustrated lecture on India. Top hole slides.

[Tuesday,] August 22

Theoretical return of the sun. Blizzard, therefore not visible.

Celebrated by a fine dinner with liquids—(not ad lib).

[Wednesday,] August 23

Blizzard. Drift very thick.

Day making small sun-dials for use instead of compass on the Barrier in case the sun deigns to shine.

Day was making small sun dials in place of the magnetic compass.... They work all right by rotating the dial until the shadow of the vertical pin lies on the correct time on the dial which is marked in hours and minutes. But the pin must be vertical and the dial horizontal, that is, level with the horizon. Under these conditions, a very accurate bearing is possible that is valid through November until February and for latitudes from 78°S to the Pole. But it seldom happens when maintaining a bearing and the sun shining and with a visible horizon, that there is no other means of maintaining a bearing by scraps of cloud in the sky, feel of sastrugi underfoot, or angle of drift snow across ski.

Indeed, to help the navigation I might have to do, I hammered a few copper nails into my ski near the bow turn-up, to mark 15°, 30°, 45°, and so on. These proved useful for maintaining a direction but not for setting a course for which one had to use a magnetic compass.

Sastrugi are surface ridges of snow formed by the wind. Quite frequently, especially after a heavy wind, large areas are
covered by sastrugi closely parallel to each other and, hence, useful for maintaining direction of travel.

Birdie putting pemmican into bags for the approaching sledging.

[Thursday,] August 24

Blizzard; temperature up to +11°F.

Captain Scott had asked Taylor, Evans, Debenham, and Wright to make a detailed map of the Cape Evans area. Wright did most of the work on glaciers and ice cliffs, but mentioned little of it in his diary.

On this day Wright and Taylor climbed the Ramp “to see if the sun was still alive,” as Taylor’s diary notes (Taylor, 1916).

Lecture by Taylor.

Gran commented in his diary: “Taylor gave a talk tonight on glaciers—mostly those in Switzerland—with illustrations by Ponting. Afterwards Ponting let the rest of his slides ‘run through the projector,’ as he said. As usual they were excellent” (Gran, 1984).

Wilson’s diary recorded: “Lecture on physiography by Taylor” (Wilson, 1972).

Scott reported the event at great length (Scott, 1913): “Taylor gave us his final physiographical lecture last night. It was completely illustrated with slides made from our own negatives, Ponting’s Alpine work, and the choicest illustrations of certain scientific books . . .” After a long paragraph describing the lecture, Scott continued, “After Taylor’s effort Ponting showed a number of very beautiful slides of Alpine scenery—not a few are triumphs of the photographer’s art. As a wind-up Ponting took a flash-light photograph of our hut converted into a lecture hall. . . .”
Taylor recorded: “I gave a lantern lecture on Polar and Temperate Glaciation. As usual Ponting kindly made most of the lantern slides and operated the lantern. Afterwards he showed us some of his magnificent Swiss slides” (Taylor, 1916).

[Friday,] August 25

Blizzard off—a bright day but no sun seen on account of the sheltered position.

[Saturday,] August 26

Sun first seen. First photos of the season taken.

Dr. Bill discovered what he thought was a new mineral—like red wax. On testing it was found to be blubber soaked in blood—probably coughed up by some skua on being frightened.

Sunday, August 27

Singing at the service poor. Poor day.

[Monday,] August 28

Finer day. Taylor and Gran dug into one of the “debris cones” and proved our theory of its origin.

*It was a large block of rock of the usual kenyte which had weathered in situ. Kenyte is a rather rare form of igneous rock, named after Mt. Kenya where I think it was first discovered.*
Taylor noted in *With Scott: the Silver Lining* that Wilson and Scott had thought that the debris cone had been dumped in a bygone ice-barrier wall. Wright’s memoir reports that Debenham suggested the cones were due to the melting of submarine ice.

Meares gave a fine talk of his trip [in 1908] through the land of the ten tribes—back of China and towards Thibet. It must be a grand country. The other man he was with was killed by the Lulu’s [sic].

[Tuesday and Wednesday,] August 29 and 30

Putting in the Barne Glacier by theodolite, 30 m.p.h. wind and -35[°F]—then.

[Thursday,] August 31

Very much the same. On the way back to the hut a blizzard suddenly started and made things interesting. It subsided after a few hours.

[Friday,] September 1 (Written up later.)

Meares, Demetri and the dogs off to Hut Point.

This early start was largely to provide extra training for the dogs, and for Meares and Demetri.
Atch and I took our ponies over today. Chinaman "The Terror of the South" has fallen to my lot. Chinaman, when he is good is very good, but he is usually the other thing and he knows how to be that too. He is supposed to be mad and apparently gets the delusion that he is a combination of a rocking horse and a jack-in-the-box. He is moreover a three-geared rocking horse: The slow speed when I am taking him out, the middle when I am taking him in and the high speed when he takes me in, at which times his motion is somewhat eccentric.

They get 1½ to 2 hours exercise a day on the sea ice, which unfortunately on account of the long time the ponies take to eat their snow breaks up the morning most effectually. He has bolted with me several times, but up to date never bolted from me.

The two pony creaks, Jehu and Chinaman, considered worthy of only a little attention, were given to Atkinson and Wright because they had the least time to spare for exercising and training the animals. In order to prepare the ponies for the polar journey, when supplies of heating fuel would be very limited, the ponies were taught to eat snow. On August 10, 1911, Scott recorded in his diary: "When eating snow [Chinaman] habitually takes a large mouthful and swallows it; it is comic to watch him, because when the snow chills his inside he shuffles about with all four legs and wears a most fretful, aggrieved expression; but no sooner has the snow melted than he seizes another mouthful" (Scott, 1968).

[Saturday,] September 2

Birdie gave a lecture on The Evolution of Polar Clothing.

[Monday,] September 4

Bleak day. Deb gave a lecture on Geology of the Antarctic.

[Tuesday,] September 5

Fairly bright. Evans and Gran off to Turtle Island surveying.
Evans and Gran went off to do local surveying. Their base line was a distance measured by steel chain or tape on the sea ice. Judging by the pressure and movement of the shear cracks in the ice, I should have thought a base line on land would have been better.

A big rise of temperature of 20° [F] in one hour.

[Wednesday and Thursday,] September 6 and 7

Blizzard.

Wilson recorded in his diary (Wilson, 1972) that on September 6 Nelson was the only one to go out; he went to break out the newly formed ice on his fishing hole in the bay ice.

[Friday,] September 8

“South Polar Times” issued—better than ever.
Lecture by Ponting on China.

On this day, Amundsen made a premature start for the pole. When he left Framheim, the temperature was about –30° F but for most of the following week it was in the –60s—too cold for the dogs’ comfort, and cold enough to freeze the alcohol in their magnetic compasses, as well as their aquavit and gin. With six light sledges, they travelled fast to their depot at 80°S and then returned, reaching Framheim on September 16.

[Saturday,] September 9


In his diary, Gran recorded on September 13: “We hardly closed our eyes last night for it was –60° C [–72° F]” (Gran, 1984). Evans noted in South With Scott: “None of us had slept a
wink . . . the temperature was 73.3° below zero, Fahrenheit." That day they found Corner Camp depot and dug it out; Evans recorded it as his coldest day's work ever. They returned to Cape Evans on September 15.

Dog Party returned on account of a scarcity of seals by Hut Point. Meares reports a drift so hard that a spade could hardly be driven in, lowered by one foot during a few hours blizzard.

Scott recorded: "I leave him [Meares] to come and go as he pleases, merely setting out the work he has to do in the simplest form. I want him to take fourteen bags of forage (130 lbs. each) to Corner Camp before the end of October and to be ready to start for his supporting work soon after the pony party—a light task for his healthy teams" (Scott, 1913).

[Monday,] September 11

The magnetic work taken on pro tem in preparation for Sunny Jim's one and only excursion from the hut. To date he has never been more than two miles from the hut, and is off with Scott, Birdie and Seaman [Taff] Evans to see if my line of stakes on the Ferrar [Glacier] has shifted at all. Can hardly expect them to do much in the winter.

Went a few miles towards Turk's Head in the afternoon. A very interesting glacier there.

The Antarctic pycnogonids seem to have ten legs instead of the usual eight.

This was from Nelson's lecture that evening.

[Tuesday,] September 12

Dull day.

[Wednesday,] September 13

The Owner gave an outline of the summer organization for the Southern Parties. It was certainly comprehensive, giving every-
thing in the way of weights for each pony at every stage, and covering the contingency of the dogs or the motors breaking down or both.

Day [is] working at the motor chains and taking up most of the hut over it.

The depot-laying journeys of the autumn and the function of the two tracked vehicles were to spare the ponies as much travel as possible over the sea ice and the northern section of the Barrier.
I get some satisfaction to reflect that I had believed that Scott’s plans as outlined seemed to give little thought to this additional source of food [pony meat] and that I had asked Dr. Bill to raise this matter with Captain Scott. I do not know if he did, but I heard no more and feel bound to say that I was in no position to suggest what items might be dropped to make up for the extra oil required for cooking it.

[Thursday,] September 14

Gave a lecture on The Constitution of Matter. Wonder if any of them knew what I was talking about.

[Friday,] September 15

Western Party under the Owner off to the Ferrar [Glacier]. Temperature — 40° [F]. Last cold snap probably.

Scott wrote: “I want to have another look at the Ferrar Glacier, to measure the stakes put out by Wright last year, to bring my sledging impressions up to date . . . and finally to see what we can do with our cameras” (Scott, 1968).

[Saturday,] September 16

Fairly fine.

[Sunday,] September 17

Very fine, temperature — 18° [F]. Snow melting against dark objects for the first time.

Fine, — 20° [F] on September 18th, temperature rose above zero without wind!!

[Thursday,] September 21

Blizzard 70 m.p.h., — 7° [F].

[Friday,] September 22

Blisterous.
[Saturday,] September 23

Glorious day, sun shining on the hut at 9 A.M. apparent time. Fine earth shadows from Erebus. Meares and dogs off again to Hut Point. Day is making wooden rollers for his car on the petrol engine by jamming blocks of wood on the place where the starting handle goes and using it direct as a lathe with a stool as a tool rest.

Sunday, September 24

Fairly clear in morning, snowing in afternoon.

After exercising his pony, he walked with Wilson up the Ramp and down the drift slope of Barne Glacier.

Ponting away and probably lost for a time though he won’t admit it.

[Monday,] September 25

Snowing.

[Tuesday and Wednesday,] September 26 and 27

Blizzard. Hope it goes down tomorrow as the ponies need a bit of exercise badly by now. Have been sewing today, fixing up gear for the southern trip.

[Friday,] September 29

Blizzard still on yesterday. [At] 1 o’clock this morning the Western Party came back just as the wind had dropped. They had an interesting time with curiously enough no low temperatures. They went up the Ferrar [Glacier] as far as Cathedral Rocks, found about a foot’s motion in the stakes I put in last February—
most interesting. Could not find the stakes put in ten years ago by Captain Scott, but found one single stake possibly put in by one of Shackleton's party.

Wright recorded in his (unpublished) Ice Notes: Winter, April-November 1911 (SPRI archives), and repeated in his memoir that Scott's Western Party found and measured the movement of four of the stakes in Wright's line across the glacier, finding values of 19.9, 31.4, 30.8, and 24.2 feet for the displacement in the 7½ months since the stakes had been implanted.

[They] returned to the mouth of the Ferrar [Glacier] and followed the coast about twenty-five miles north. Found the end of Glacier Tongue stranded off the coast with the depot still on it laid by the ship before she finally left for New Zealand and to land Campbell’s [Northern] Party at Cape Adare.

Took out Chinaman this morning, and the rest of the day took angles with the theodolite and took photos from the top of Inaccessible Island.

Magnificent day, −15° [F] or so, no wind.

[Monday,] October 2

On Saturday, a blizzard came on [at] about 11 A.M. which dropped again towards midnight.

On Sunday, a fine day. Some of the ponies put on to sledges—most exciting. One of them, Christopher, had to have one leg tied up before he could be got into the sledge. Today Chinaman was to have been tried but it is now blizzing, with the air outside like fine pea flour—beastly.

This will shortly be getting serious as it is impossible to get the ponies fit if the weather does not remain settled and fine.

[Friday,] October 6

October 3, blizzard; October 4, fine. On that day put Chinaman into a sledge for the first time. He went in very well and in fact better with than without a sledge.
October 5, snowing—looked like a blizzard which has not yet come off, though it is probably only put off.

Today unsettled to date and snowing. Four of the ponies just gone off to take some [of their] fodder down to Hut Point.

Yesterday Day's house for the motors built of fuel petrol cans was the scene of a conflagration—put out by one of the chemical extinguishers.

Jehu, Atch's pony, [is] to be left behind as he is all in after pulling 200 lbs. a half mile or so. It will be serious if another pony crocks up. I am afraid Chinaman will be by no means the last to go phut on the southern march.

Can almost read the thermometer at midnight now without artificial light. There has been a great rise in temperature the last couple of weeks. The mean can not have been much lower than $-5^\circ\text{F}$ and by the time we start south the temperature here should seldom be below zero, though a few $-20$'s may be expected on the Barrier at first.

Letter-writing promises to be a serious matter and every scrap of spare time will have to be devoted to the same.

[Monday,] October 9

On the 7th, a mild blizzard in the afternoon.

Jehu is bucking up and may come south after all.

Yesterday, a chapter of accidents—Clissold while posing before the camera by one of the bergs, fell and strained his back. Injuries at present unknown. Taylor went out to Glacier Tongue with a bike. It was too hard going on the snow and he played himself out. I met him on my way back from Turk's Head and close to it and gave him a hand in as far as Land's End and then went on in to get some brandy. The Owner sent out a sledge etc. and I went on ahead and met him just a short way from the hut and then went and sent the sledge party back.

The Hut Point Party got back about 5 P.M.

Today looks like a blizz.
[Wednesday,] October 11

The telephone line to Hut Point is broken, so communications are stopped again. Yesterday blizzing—today cloudy.

Took Chinaman out a good long pull today, looks as if he might turn out quite well after all. Am trying to teach him to shelter himself behind me when going against the wind.

Clissold’s back is progressing favorably; also Forde’s fingers.

Forde’s fingers were so badly frostbitten on the spring depot trip that it was feared he would lose one or more fingers.

Took some photos of Barne Glacier face this afternoon in a poor light.

Meares went off to Hut Point again this afternoon.

[Tuesday,] October 17

No real blizzard since last entry but wind and cloud almost continuously. The weather will have to buck up if we are going to do anything on the Barrier with the ponies.

Griff and Deb off to Shackleton’s hut today for the night. They and the rest of the Western Party [Gran and Forde] start on Sunday next for the West.
On the same day the Motor Party start off, but as the back axle case of one of the motors has just broken itself while coming over the tide crack to the sea ice [sic].

Clissold is still in bed and it is doubtful if he will be up by the time the Motor Party starts.

On October 19, Amundsen set out for the South Pole from Framheim with four other men and 52 dogs.

[Saturday,] October 21

Yesterday, snow and wind. Two preceding days, blizzing.

Today blowing [and will] probably develop into another blizz.

Clissold is now sitting up. Forde will probably lose the tips of a couple of fingers.

The motor axle has been patched up in a sort of way.

Damn the weather.

[Sunday,] October 29

Deb is now up for a couple of hours each day. He got his knee hurt in a cinematograph football match, so that the Western Party will probably not be off till we are gone.
The motors have gone off fairly well. The first day they only made three miles over slippery ice, and the next day only two over worse ice. A relief party of eight then started off to give them a hand if they met any more hard ice. By lunch when we caught them up they had made another five miles and finished the day off Cape Armitage.

We all slept in Hut Point that night and we saw them next morning onto the Barrier a farther five miles. Then we came back to Hut Point for lunch and came in in the afternoon [to Cape Evans].

Today we hear one of the motors broke down one and a half miles farther on and they all worked in a breeze at $-25^\circ F$ before they got it fixed again.

They should be at Corner Camp by now (which is some thirty miles beyond Hut Point).

Today a bright sunny day with some wind. Yesterday blizzing. Two preceding days fairly good but considerable wind.

On this day, Amundsen reached his depot at 81°S.

End of third diary.
Barrier Journey
The winter was over. During the dark months most of Scott's men had worked hard, and Wright had worked very hard indeed. He carried out his determinations of the value of the acceleration due to gravity—difficult observations under any conditions at that period and extraordinarily difficult in the conditions under which he was working. In addition, he started his local glaciology, assisted with aurora studies and meteorology, worked up much of his autumn field observations, took part in the local surveys on Ross Island and the offshore islands, gave three lectures in the winter program, and indulged in a host of other useful occupations. Scott wrote of him: "One of the greatest successes is Wright. He is very thorough and absolutely ready for anything. Like Bowers he has taken to sledging like a duck to water and although he hasn't had such severe testing, I believe he would stand it nearly as well. Nothing ever seems to worry him and I can't imagine he ever complained of anything in his life" (Scott, 1913).

Scott spent much time during the winter making detailed plans and contingency plans for his polar journey. The figures were checked by many people but Scott wrote in his diary: "In the transport department, in spite of all the care I have taken to make the details of my plan clear by lucid explanation, I find that Bowers is the only man on whom I can thoroughly rely to carry out the work without mistake, with its array of figures" (Scott, 1968). The rations of pemmican, butter, sugar, and cocoa were measured out into linen bags; biscuits were packaged to last four men one week. Clothing, footwear, skis, sledges, tents, and Primus cooking stoves were all overhauled.

The two dog teams—led by Meares and Demetri—had both performed well on the northern part of the ice shelf and on the sea ice between Cape Evans and Hut Point. They had covered the fifteen miles between those two places with loads of one thousand pounds in about four hours—and in considerably less time with lighter sledges. Nevertheless, Scott was not depending on them to any appreciable extent for crossing the Barrier; nor was he relying on the motor tractors. He had faith in the ponies,
Sketch map of the southwestern part of Ross Island showing the position of the three huts: Shackleton's at Cape Royds, Scott's *Discovery* hut at Hut Point, and Scott's *Terra Nova* hut at Cape Evans.
however, and greatly regretted that of the nineteen with which he had left New Zealand the previous year, only ten had survived to start the southern journey.

All the diarists commented on the good spirits of the members of the party. During the winter there had been plenty of work but also plenty of play. Wright, a Canadian and therefore "different," came in for his share of banter, but seems to have given as good as he received. When he was given responsibility for Chinaman, there was much speculation on the relative ages of Silas and Chinaman, with no one willing to bet on which was the older. Wright was twenty-four years old.

The winter was also enlivened by the occasional games of soccer. In the last game of the season, possibly played especially for Ponting to photograph, Debenham hurt his knee so badly that the departure of the second summer expedition to the west—to Granite Harbour—had to be delayed three weeks, with Debenham flat on his back most of that time.

Other injuries had been surprisingly few. Forde's hand was badly frost-bitten on the spring depot trip; however, he recovered well enough to accompany Taylor, Debenham, and Gran on the second Western Party. He was unable to use his hand for delicate operations but it did not handicap him greatly. On October 8, Clissold fell from an iceberg while being photographed by Ponting, and injured his back so that he could not accompany the Motor Party, to his great disappointment. His place was taken by Hooper, who—with Lashly—also took on Clissold's duties as cook until they left the Cape Evans hut.

Scott had prepared as well as he could for the southern journey but he was under no delusions about the difficulties. In October 1911, he wrote in a letter home: "I don't know what to think of Amundsen's chances. If he gets to the Pole, it must be before we do, as he is bound to travel fast with dogs, and pretty certain to start early. On this account I decided at a very early date to act exactly as I should have done had he not existed. Any attempt to race must have wrecked my plan, besides which it doesn't appear the sort of thing one is out for.

"Possibly you will have heard something before this reaches you. Oh! and there are all sorts of possibilities. In any case you
can rely on my not doing or saying anything foolish—only I'm afraid you must be prepared for the chance of finding our venture much belittled. After all it is the work that counts, not the applause that follows...."

This letter is quoted in Elspeth Huxley's *Scott of the Antarctic* (1978).

Scott did not expect to be back at Hut Point before it would be necessary for the *Terra Nova* to return to New Zealand. He left instructions that Lieutenant Pennell, who was in command of the *Terra Nova*, should leave McMurdo Sound before the end of the first week in March, or earlier if there were danger of the ship being frozen in. Even if he returned from the south before the ship left, Scott intended to spend another year in the Antarctic, along with most of the expedition members. However, Simpson, Griffith Taylor, Day, Meares, and Ponting had leave for only one year's stay in the Antarctic, and would leave with the *Terra Nova*.

Before the main Southern Party left, "Uncle Bill" Wilson handed Ponting a package to be delivered to Mrs. Wilson; it contained all the sketches and paintings he had done so far. He hoped that Ponting would arrange a joint exhibition of this artwork and Ponting's photographs. In the end, because of Wilson's death, separate exhibitions were held.
Started yesterday morning from Cape Evans at 11 A.M., arrived 5 P.M. nonstop to Hut Point—fourteen miles.

Chinaman [with] 450 pounds pulled fairly well. He, Anton and I slept together in “Virtue Villa.” He made an awful din almost all night by pawing the floor; [he] also snored.

Virtue Villa was an area in the middle of the Discovery hut, set off by a canvas screen and boxes of biscuits.

[We] are going to reorganize[:] myself, Atch and Keohane with the three slow ponies, Chinaman, Jehu and Jimmy Pigg [are to] form a unit by ourselves and march and stop when we feel like it. [We] are going to night-march and will push off about 9 P.M. The three ponies in the hut [Chinaman, Jehu and James Pigg] made a devil of a noise all night and I was kept busy swearing at them.

Surface not very good, and a half blizzard most of the way to Hut Point. Blizzard last night, but now taking off.

The slow group was nicknamed the “Baltic Fleet” after the Russian Baltic Fleet that was dispatched, during the Russo-Japanese war (1904–05), to the relief of Port Arthur and took seven months on the voyage.

The Baltic Fleet was the first to start out after the day (or night) rest period for sleeping, followed after their breakfast by the main group of ponies, and much later by Titus Oates with Christopher, a vicious brute that required his full attention. His companions usually were Bowers with Victor, Taff Evans with Snatcher, and Crean with Bones. This group, because of trouble with Christopher, did not stop for lunch but came through nonstop, and was followed by Meares and Demetri with the two dog teams. The intention was that we should all arrive at the same time at the day (or night) camp.
[Friday,] November 3 6 A.M. after supper


Surface to the Barrier, good. Beyond [this], the Barrier [surface was] good for men and sledges, but bad for ponies. Crust of the surface insufficient to hold [them] up.

No pronounced sastrugi on the Barrier.

Ponies of advance party absolutely dead beat this morning. All the rest bearing up fairly well.

[Saturday,] November 4 6 A.M.

Ten miles on (i.e. fifteen miles from Safety Camp). Surface slightly better.

Chinaman damned tired and now shivering in the slight breeze.


Chinaman, James Pigg and Jehu lose two hours in the day, so [we] start two hours early. We give them five minutes rest at each mile.

One motor found abandoned.

A big end in Day's motor had broken.

[Sunday,] November 5 6 A.M.

Nine miles on, camped at Corner Camp. Can see what looks like the other motor a bit ahead. Temperature at start about zero; at midnight about −15[° F] or so.

Surface same only less so. Looking towards sun, surface shows fine lights. Old patches of snow show the yellow sheen of the sun, newer [snow] a less yellow sheen, new snow a distinct bluish tinge, and the latest quite a deep violet. I suppose a case of multiple reflection from rough crystal surfaces.

Met three small crevasses running towards Cape Crozier when two miles from Corner Camp.
[Monday,] November 6

6 A.M. ab’ t.

[Snow] cairn ten miles from Corner Camp, also one at four and a half miles.

Snow cairns were built at intervals along the line of march between depots.

Surface firmer, little or no crust—no sastrugi (from S 20°W).

Chinaman [loaded with] 8 S, 1 bag forage, W bag, instrument box, cooker, etc. and personal gear with ski.

Chinaman’s sledge load consisted of Summit Rations for eight weeks for four men (8S). A daily S ration comprised 16 ounces of biscuits, 12 ounces of pemmican, 2 ounces of butter, 0.57 ounces of cocoa, 3 ounces of sugar cubes, and 0.86 ounces of tea per man—a total of 4,889 calories. This allowance had been calculated from results of the winter journey to Cape Crozier, when the three members of the party each took different proportions of food in their rations. There were three
types of rations for the polar journey: S rations; B (Barrier) rations, providing 4,003 calories per day; and XS rations, which were similar to the S rations, for the returning parties. "W" probably refers to Wright’s chronometer. His field diary includes navigation notes and calculations and occasional photographic information.

Met second motor [with a] broken big end and abandoned one and a half miles beyond Corner Camp. Left my drawers there. Ponies generally pulled well; on their feed well.

The motor party—Day, Hooper, Lieutenant Evans, and Lashly—now continued as a man-hauling party.

[Tuesday,] November 7

Same place—blizzard—since last entry, twenty-four hours to date. Ponies don’t like it.

The ponies had blankets and, on the autumn depot-laying journey and subsequently, snow walls were built to provide them with some protection from the wind while at the camping sites.

[Wednesday,] November 8

Got off about midnight as the wind began to take off [i.e., slacken]. Six miles to lunch (four and a half to cairn) and five miles after lunch to old cairn of last year in good preservation close (6000 yds south) of Blossom cairn.

This cairn at 78°23’33”S, 169°3’25”E, was where Blossom—one of the three failing ponies sent back during the autumn depot-laying—had died.

Glimpses of [Mounts] Discovery and Erebus during the day. Now sunny and hot as blazes; must be nearly freezing point. Don’t know how we shall manage to sleep through it.
Eleven miles today. The dogs came up last night and are now with us.

The arrangement had been for the dogs to join the rest of the party by 80°30'S, so that Meares could have stayed several more days at Hut Point, saving the field rations. Scott was upset at the dog party's early arrival but it still is not clear why he did not make more use of them.

B.A. [bloody awful] light when we started—no contrasts and had to try to follow motor party's [man-hauling] track, but could not and almost got snow blind trying to see. Had finally to steer by compass.

Amundsen was travelling twenty-three miles a day. On the evening of November 8, he reached 83°S and made a depot for the return trip, with four days' provisions for five men and twelve dogs.

[Thursday,] November 9 11 A.M.

Got under [way] 11 P.M., made course following Teddy [Evans], transit last camp and Cape Crozier. Cairn [at] seven miles, camped ten and a quarter miles—by [sledge] meter 69 m. [miles] 1100 yds [from northern edge of Barrier].
Ponies well, surface good. Sastrugi . . . from S 25° W, up to 1½ ft high. Firm surface, no sinking crust.

Minna Bluff [now appears to the] left of Mount Discovery. [The] Bluff, to the north and east seems facetted and scarped as by a definite glacier flow (where from?)

Calm, sunny march [but] looks like impending wind.

Chinaman tried to run away when the other pony parties overtook us for the first time before reaching camp.

Scott’s diary version is a little different: “An amusing incident happened when Wright left his pony to examine his sledge-meter. Chinaman evidently didn’t like being left behind and set off at a canter to join the main body. Wright’s long legs barely carried him fast enough to stop this fatal stampede, but the ridiculous sight was due to the fact that old Jehu caught the infection and set off in a sprawling canter in Chinaman’s wake” (Scott, 1968).

[Friday,] November 10 8 A.M.

One mile on way passed cairn one mile to eastward [belonging to] depot trip.

B.A. light; could not follow Teddy’s tracks. Lunch five and a half miles south (estimate) of camp. After lunch, three miles magnetic north, now on Teddy’s track again.

Blizzard impending (?), clouded all day and steered by wind and sastrugi and compass. Day’s march eight and a half miles. Sastrugi less high and from S 10° W, surface softer but firm. Nasty head wind all day, 25 m.p.h.
Sketch map showing the approximate position of camps on the Barrier Journey from Hut Point to the base of the Beardmore Glacier. Map based on the U.S. Geological Survey map and information from Shackleton’s map facsimile carried on the Southern Journey.
[Saturday,] November 11 8 A.M.

Snowed yesterday and now snowing crystals—plate centres and usually plate heads—some perfect plates—mostly, however, fluff balls. Surface B.A., overcast all day and light bad. Steering in morning wild on account of frequency of cairns—no sastrugi pronounced. Surface soft.

Teddy's cairn two and a half miles south of camp, depot cairn four and three-quarter miles. Course south [total of] nine and a half miles the day.

Had to camp as Chinaman was all in. Tired out poor devil! Now munching happily.

Looks like blizz.

[Sunday,] November 12

Blucher cairn S 15° W, 1½ m.
Bluff Depot S 5¼ m.

Blucher cairn (78°55′14″S, 169°15′E) was 4 miles north of Bluff Depot (Camp). Forde’s pony, Blucher, was the first of the autumn Depot-Laying Party ponies to die.

Camped [after] ten miles. Sun dimly shining now and for about half an hour during march. Snowing nearly all night and last day. Surface soft and bad, no sastrugi. Light terrible and steering very difficult. Cairns almost same as when made. Mundungus [pony droppings] at Blucher cairn with only 4 in. soft snow on top. Steering at times by walking backwards and lining our third sledge with parties behind.

Chinaman all in at lunch [after] six miles, but bucked up wonderfully in the p.m. [after lunch].
On November 12 Amundsen reached 84°S, where he established another depot. From this place he could see mountains to the south, later called the Gould Coast of the Transantarctic Mountains.

[Monday,] November 13

9 A.M.

Snowing last twenty-four hours, crystals Ell [photograph number ?]. Surface bad, sinking [through] crust half up to knees. Light dba [?]. Sun occasionally peeped dimly through the snow. Eyes standing the strain of steering wonderfully well.

No very pronounced sastrugi, probably rolling surface.
Chinaman went quite well today considering the bad surface. Now lying down full length, head out and in nose bag.
When crust sank, a slip of ½ in. was in one case noted.
Teddy’s cairn N 40° E magnetic, two miles plus a bit. Five pony walls and cairn five miles abeam and one mile to east nearly at eight and a half miles. Teddy’s cairn one quarter mile to west.
Camped at ten miles ([sledge]meter [reads] 107½ miles)
Most of day [we] were walking into a blank wall; steering very difficult, little wind.
Lunch at six miles. Made two small cairns there.

The memoir reproduces a letter, dated September 5, 1923, that Wright wrote to Vilhjalmur Stefansson, the renowned Arctic explorer: “In trying to pick up depots, we often found ourselves looking up into the sky at any angle up to 30°. In such conditions also, I personally found my eyes were not focussed for infinity. Depots, when they became visible (by focussing correctly) positively hit the eye. On other occasions, I have taken the party between two 10 ft. high snow cairns a few feet apart without the remainder of the party seeing them at all.”

[Tuesday,] November 14

9 A.M.

Little snow last twelve hours. Ten miles during day.
Chinaman all in after three miles, but bucked up and did a whole mile then without a stop. Damn tired when he came in.
Surface same, 4 in. light snow on top. Light better, sun dimly showing a large part of night.
All cairns (three) passed three quarters of a mile off to west. Cairns at one and a half miles, five and a half miles, and eight and a half miles. One now showing ahead N 40° E magnetic (two and a quarter miles).

At 6 A.M. good 22° halo. Perpendicular plate and prism combined [snow crystals], usually prism length six times the width.

[Wednesday,] November 15

Made cairns, Teddy's two and a quarter miles, Depot Party three and a half miles, One Ton [Depot at] seven miles, where [we are] now camped.

Surface slightly better, but same character. Sastrugi from S 60° W Sun in P.M.,—now clouded and beginning to snow. 11 P.M. fine corona round sun (foggy on horizon), three rings, blue to red repeated, beginnings of fourth. Third red just on horizon. On the snow surface a continuation of the 22° halo (abt), looked like a parabola as:

In Part A, little or no light from snow crystals. On line B, a great number of sparkling points (all colours) and shading off towards C in intensity. Point D 25 ft. away from eye at midnight. (See connection with crystals fallen day before.)

Temperature — 15° F at midnight.

[Thursday,] November 16

Still at One Ton Camp, — 13° F at 6 A.M. Wind 30 m.p.h. Giving ponies a rest.

Fog bow opposite sun, about 45° diameter, width of bow about six times sun's diameter. Drift from depot about one hundred yards long and ten feet high nearest depot.
**Friday, November 17**

Better surface, peculiarly ridged on soft snow, very much like the sea ice when first covered (~wind), height 2 in. Hard patches about half the time.

Teddy's cairns two and a half miles, five and a half miles and eleven miles plus, a bit off course to west. Made two cairns at lunch [at] seven and a half miles. Total for day thirteen and a quarter miles.

Chinaman [with] 403 lbs. pulled well on the better surface.

Light good except when fog came down. Nasty head wind all march. Incomplete fog bow seen 5 A.M. as yesterday. Sastrugi west-south-west, smallest [grains] on top. South-west at start, west-south-west at finish.

Trying to make Chinaman last out four more marches.

New routine started. We (the funeral cortège) off at 8 P.M., others at 10 P.M. All stop for lunch. Trying to make thirteen miles per day.

On this day Amundsen started his ascent of the Axel Heiberg Glacier, through the Transantarctic Mountains.

**Saturday, November 18**

Thirteen miles—cairns [made] by Teddy at one and a half miles, three and a half miles, and eight and a half miles. Double cairn at lunch, seven and a half miles.
Surface bad except the first three miles. Followed trail all way practically. Light snow on top then crust which usually let ponies through. Sastrugi, not pronounced, WSW. Temperature (midnight $-20^\circ F$) – 18 [on the] day before. Cheeks freezing one side, scorching the other at 6 A.M.

Scott wrote in his diary on November 29: “Meares has been measuring the holes made by ponies’ hooves and finds an average of about 8 inches since we left One Ton Camp. He finds many holes a foot deep” (Scott, 1968).
During the winter Taff Evans tried to improve the pony snowshoes, using a grating principle. The difficulty was to design a shoe that would stand wear on hard surfaces and also perform adequately on soft patches. They were successful on soft surfaces but it was difficult to keep them lashed to the ponies’ hooves.

Chinaman pulled better than Jehu.

Fascicular [bundles of] crystals formed by midnight on surfaces and on corners of blocks forming the cairns.

Can still see Erebus and land miraged up to west.

Sunny day, head wind—rolls [undulations of the surface] from last camp to three and a half miles, about three-quarter mile between crests, pony walls invisible from hollows.

The snow-block walls built for the ponies at each camp were about four feet high. Thus, the undulations of the surface were probably seven feet or more in amplitude.

[Sunday,] November 19

Thirteen and a quarter miles—cairns [at] half mile, five and a half miles, double cairn at seven and three-quarter miles, and ten and a half miles. Following Teddy’s tracks.

Surface dcba, soft snow on top. Clear sky, sunny on march, slight wind, temperature −14[° F] at 2 A.M. Sastrugi not pronounced, top furrows last five miles from S 20[°] E. Fascicular crystals on surface and cairns.

Land miraged up. Erebus visible last P.M.

Dumping together for dogs’ benefit. Ditched one bale of chaff at last camp.

“Dumping together” refers to the dogs’ eagerness to eat human excrement. At that time it was believed that the dogs gained nutritional value from the habit, but experiments during the British North Greenland Expedition (1952–54) showed that their huskies’ voracious appetite for human faeces was not a nutritional craving (Hamilton, 1958).
Chinaman did fairly on bad surface. Jehu all in at end of day. Passed 80°[S] today.

[Monday,] November 20 9.30 A.M.

Cool cloudy (cirrostratus) night, must have gone down to −30[°F].

Following Teddy’s tracks. Cairns two and a half miles, seven and a half miles and twelve and a half miles plus. [Total] for day thirteen miles plus.

Jehu’s load lightened, pulled fairly; Chinaman [did] well on an improved surface—soft snow.

Sastrugi not pronounced—probably varied—top [set of sastrugi] from S 35° E, soft snow—marbled—soft still. Crystals on all sides of cairns fascicular and on north side broad pinnate with occasionally hexagonal plate ends.

Yesterday at noon much warmer than the day before. Looks threatening today.

The soft snow of a week or so ago has played hell with the surface and therefore with the ponies. Hope it improves soon. Fascicular crystals on Barrier surface.

Land to southwest miraged up today.

Should see Motor Party at lunch (midnight) tomorrow at 80°30'[S].
Cairns at four and a half miles, nine and a half plus (depot here at 80°31'40"[S]). Camp at thirteen miles; double cairn at seven and a half miles.

The depot was Mount Hooper Depot, with food for one week for each returning party.

Met Motor Party at cairn depot, fearfully hungry and all well, been waiting a week, must have been sick of [sleeping] bags.

Surface as yesterday, sastrugi mixed from southwest to southeast, latest ridged 1 ft. ridges razor top[ped] and soft, [from] S 35[°] E. Crystals on surface ¼ in. changed to imperfect hexagonal plates and attempts at structural (i.e. joined to prisms). None on this day's cairns.

Cirrostratus part of day, rest clear and sunny, only −5[° F] on march.

Day and Hooper [to] go back.

Chinaman still well; Jehu failing.

On this day Amundsen reached the plateau at about 10,900 feet altitude, and set up “Butcher’s Camp” where twenty-four of his dogs were shot. This reduced the number to eighteen, pulling three sledges.

Cirrostratus fairly heavy, clear and calm and hot night. Went on thirteen and a quarter miles following Motor Party pulling light weights.

Chinaman going strong but getting thin; Jehu failing.

Surface similar to yesterday but better. Crystals on surface same. Hard and soft patches with crust. Sastrugi mixed, from south to southeast, most pronounced, soft, S 20[°] E, as before tetrahedral-ridged.

Cairns four and a half, seven and a half (double) and ten and a quarter about. Total thirteen and a quarter miles.
Some ponies appear to be snow blind. Saw Starik [Stareek] waiting while Meares tried to dump and failed.

Course S 10° E. My theodolite cached at 80[°]31'[S]. Chinaman still keeping at the head of the ponies by dint of the early rising of the "Agony Column" [at] 6 A.M. We don’t get too much sleeping bag I must say.

[Thursday,] November 23

Calm most of day. Cirrostratus 9. Sastrugi and surface as yesterday but some hard patches as by Corner Camp, much darker than the softer snow sheen in sun light, found on top fairly massive crystals on top [with] plates parallel to surface or nearly so. Track of Motor Party on this [surface] showed whiter on account of loose crystals kicked up. Here no coloured points of light—i.e. no prismatic crystals as on the whiter surface.

"Cirrostratus 9" means that the cloud covered 9% of the sky.

Cairns at four, seven and a half (double) and ten and a half. Total thirteen plus miles.

"Agony Column" kept well ahead. Chinaman tired at end. Jehu to be murdered tomorrow night. Atch’s birthday.
[Friday,] November 24  

10 A.M.

Head wind 20 m.[p.h.] in A.M. and overcast, clear and calm P.M. (of march).

Surface similar to 23rd in every way except SE sastrugi harder and in Hl [horizontal] section, more of form rounded on top.

Crystals where coloured light points show, are trees ¼ in. high on slender stems and a mixture of imperfect plates, prisms and hollow pyramids. 81°14’ S.

Jehu shot at end of march to feed dogs. Was capable of going several marches more at his light weight. More [ponies] must soon be going as fodder is getting scarce.

Meares was not regarded kindly by the Baltic Fleet as we thought we could see his eyes fixed gloatingly on our decrepit ponies as food for his dogs.

Bowers wrote in his journal (SPRI archives): “A disquieting feature is the dog element. They are carrying about a week’s pony food, but as Meares has somewhat overfed them to the extent of fifty pounds he has rather cut down the range of his operations and cannot go forward more than a fortnight from here without killing dogs unless he has ponies to feed on. We calculate that he can feed his teams for two days on one pony and so ‘Jehu’ and ‘Chinaman,’ which must be disposed of in the next ten days, will afford him four days’ dog food. I cannot understand how he can have made such a mistake.”

Cairns four miles, double at seven and a half, and eleven. Total thirteen [miles].

[Saturday,] November 25

Cairns at four, double at seven and a half, and ten and a half [miles]. Thirteen [miles] 285 yards total. Overcast most of day.

Surface as before, prism, trees, hard and soft patches, sastrugi as before but more pronounced. Better sledding surface when sun got strong.

Motor party started back at beginning of march.
Day and Hooper, ex-Motor Party, returned north, taking with them two worn-out dogs, Stareek and Tsigane, and a shortened sledge. Stareek felt his dismissal keenly and spent the first day trying to pull to the south. It was decided to let him go, but Stareek forestalled that by gnawing his way to freedom and heading south. Eighteen days and two hundred miles later, a gaunt Stareek rejoined Hooper and Day, an incredible feat for an old dog, with so little to sustain him on the Barrier. Stareek became the leader of Debenham's dog team, used on short trips around Cape Evans. He died on October 14, 1912, shortly before Terra Nova returned to pick up the expedition survivors.

[Sunday,] November 26

Started 1 A.M. Cairns [at] four, treble depot [Middle Barrier Depot] and flag at seven and a half [miles] (81°35''), and at ten and a half miles. Total 13 miles 300 yards. Surface and sastrugi as yesterday. Sastrugi more confused, overcast, snow after lunch and surface then better, snow prisms radiating from a centre, \(\frac{1}{2}\) in. diameter, halo at same time, light b.a.

[At] 2.30 A.M. just enough sunshine to throw a faint shadow. Now snowing (midday), same crystals and blowing 20 m. [m.p.h.] from west.

Middle Barrier Depot held one week's ration for each returning party, as at Mount Hooper Depot.

[Monday,] November 27

Started 3 A.M. Now 3.30 P.M. Cairns [at] four miles, double [at] seven and a half, and eleven miles. Total thirteen miles 665 yards by sledgemeter. Heaven only knows how much straight. Surface dba, light fdcba (?) after lunch. Men sinking in 3-6 in. Snow most of day, radiating prisms. No [definite] sastrugi, head wind 20 m.p.h. before lunch. Horizon seldom visible.

Chinaman came in last very tired.

Hope [we are] not in for a blizz.
[Tuesday,] November 28

Head wind 25 m.p.h. all day. Surface as yesterday but patches of sastrugi fairly good. Light very bad, at times could not see 4 in. [-deep] footsteps under feet though party three quarters of a mile away [was] visible. Sastrugi after five miles [consisted of] big rounded ridges [from the] southeast, snow crystals up to \( \frac{1}{8} \) in. [with] feathery tips.

Chinaman died tonight of senile decay complicated by the presence of a bullet in the brain. Poor old devil, he never shirked and was capable of reaching the Beardmore [Glacier]. Dogs had to be fed was the trouble. [He was] the smallest and oldest of the lot and the first to cross every degree of latitude. Would eat some of him only Atch refuses.

However, in his memoir, Wright gives a somewhat different account.

I was very pleased indeed that I had nursed Chinaman and saved him so long from the dogs, but I ate him without compunction.

Cherry has expressed his opinion in The Worst Journey [in the World] that we should have cached more pony meat at the cairns for our own use with some additional fuel. . . . I think Cherry was right in principle and at least some more care might have been taken in burying the cached pony meat at the bottom of the Beardmore Glacier when all the remaining ponies were shot.

Of course, it is very easy to be wise after the event, but the manhauling party [Evans’ ex-Motor Party] was very, very hungry after little over a month on our way.

Cairns [at] four miles, double at seven and a half, and ten miles. Total 13.330 [13 miles 330 yards].

[Wednesday,] November 29

Calm, cloudy march manhauling. Left depot of Chinaman and 12 ft sledge.
The man-hauling team was Lieutenant Evans and Lashly, who had man-hauled from Corner Camp, supplemented by Dr. Atkinson since Jehu was shot, and now by Silas Wright. Evans was in charge and responsible for navigation for the whole party; the remaining ponies and the dogs followed the trail they made. Cherry-Garrard exchanged the 12-foot sledge that his pony, Michael, had been pulling for Chinaman's 10-foot sledge.

Started 2.30 [A.M.], stopped [at] noon. Kept ahead of ponies by starting 1½ hours early.

Surface better with a few hard patches, light fairly good. Large rolling sastrugi, hard from S.E., small ridged and undercut facing wind, light snow—at times fluff balls. Men sinking in up to 5 in.

Cairns four miles, double at seven and a half, and ten and a half. Total, 13.350 yds [13 miles 350 yards]. Course yesterday and today South true, lat. 82°21'S. Passed Owner's farthest south shortly after lunch—long. 170°30'30"[E] (obs.)[by astronomical observation] Var'n [magnetic variation] 160°E.

Land seen today only sixty miles off—Mt. Markham, etc.

[Thursday,] November 30

2 P.M.

Started 2.30 A.M. Cairns [at] four and a half, double at seven and a half, and ten and a half [miles]. Total 13 m. 330 yds. Surface prismatic crystals with colours, no (?) drag and no improvement as sun got stronger.

Blind in right eye and closed up, left fogged, so steering was absolute hell.

Sastrugi S 35° E, as yesterday and larger rolls from S.E.

Men sank in up to 5 in. Calm, light cirrus with sun shining through. W = 6.15 A.T. = 2½ Ci[rrus cloud] before sun

Surface worse than yesterday.

Land now showing up dimly at times. Before lunch saw Mt. F. L. Smith on starboard bow for a time.

Ponies going not too well, gained ten miles today on them by damn hard work. M.H. [man-hauling] Party [pulled] only bags, tent, etc. I can oil and full weekly bag.
In A.M. surface sticky, prismatic crystals up to 60° from sun's azimuth. Surface and sastrugi as yesterday. After lunch considerable glide at times, but at cairn stop [the] runners iced up and it took one mile pull before the glide came on again. Steering for land ahead all day. In front as usual.

Right eye blind and left fogged with double glasses.

Wright wore his own corrective glasses and the sun goggles.

Gained on ponies today. Christopher to be shot tonight, also [we make] depot of grub [Southern Barrier Depot]. They made a false move in shooting Chinaman and not Christopher.

Cairns [at] four miles, double at seven and a half, and ten and a half, total 13 miles 330 yards.

D. R. [dead reckoning] lat. 82° 47'[S]

long. 170° 40'[E] ab't
[Saturday,] December 2

Victor shot here.

Cairns [at] four miles, double at seven and a half, and ten and a half, total 13 miles 360 yards.

Surface soft and very sticky especially after ten-and-a-half-mile cairn when runners froze up. Sastrugi probably as before but top soft stuff [from] S 30° E.

Had pony meat at breakfast and dinner—damn good stuff—feel almost full tonight.

Crystals of snow falling most of day—prisms, many perfect.

Snippets snow blind. Light simply awful nearly all day. Blind again in right eye. It seems to be my fate to be leading and course steerer all along. Keeping course today for some hours by a slight beam wind.

Hope I do not stay long in Teddy’s tent, am sure to have a row sooner or later.

Horizon visible part of day but no land.

Hellish hard work today, glad to get our thirteen miles done.

[Sunday,] December 3

Blizzard in A.M.—started off 1 A.M. and made cairn at four miles.

Camped at six miles in half blizzard. Ponies went on to ten miles.

Owner sick about our stopping. He and Birdie walking ahead on ski.

Light after [the four mile] cairn too utterly awful for words. I was steering by sastrugi alone. It is impossible to steer well and pull well at same time and don’t see why Scott could not have steered for us on ski.

On December 3rd the weather was so bad for the pilot and our tracks were filling so quickly with drifting snow that we wondered if the ponies and dogs would be able to follow us. It was therefore decided that it would be best to make camp and wait and see how the others were making out.

In due course, Scott appeared and expressed great surprise that we had camped. I felt sorry for Evans as it really was a difficult job to maintain direction while pulling on the sledge and there were now others, whose ponies had been shot for dog food, who could have led the way and freed the man-hauling party from the duty of navigation.
Monday, December 4

Noon

Four miles—went on up to ponies in a blizz. Following pony tracks off and on—light awful. Still blizzing and [we are now] in [sleeping] bags. Biscuits run out tonight, so we had to move on to [eating] the ponies.

Sastrugi after blizz. of 3rd, HI section:
not undercut, and sloping gradually to leeward.

Surface sandy and not easy pulling, sastrugi 8 in. high. Every part of gear simply smothered in snow.

Monday, December 4
10 P.M.

Lunch at ponies’ place at 9.15 A.M. 1 P.M. blizz. off, cleared out and made eleven miles before dinner. Cairns four and eight miles, lunch to dinner = 11 hours. Surface sandy and considerable amount of sastrugi up to 1 ft. high, some razor backed, a few undercut SE to S 30° E, parallel to land.
Five large pressure ridges up to 8 ft. [high], say 25 ft. deep, on angle and three-quarter mile wavelength. At ten miles a larger hollow 40 ft. deep and three-quarter mile across.

From here Mount Hope about North of Mount Asquith, land seems to have a glacier like Butter Point.

Michael shot.

\[\text{Tuesday/Wednesday, December 5/6}\]

Blizz. all day—very warm and wet, still here. Socks, bags, etc. soaking wet and snow almost melting, water dripping from tent.

Fine fat hooshes lately of pony meat.

Latitude 83° 21' S longitude 170° 56' E all by D.R.

Still snowing.

\[\text{Wednesday, December 6}\]

Still blizz. and in same place, twelve miles from Mt. Hope. Temperature above freezing at one time and snow apparently mixed with rain. Now lying in puddles and everything soaked.

To the westward seems to be a well-defined terrace 2000 ft. up. The peaks of about 6000 ft. height show as if past the cwm stage, thus have regular pyramidal shaped peaks and wedge-shaped ridges with very straight glacier beds well above 2000 ft. level. There appears here to be little or none of the cwm structure at Barrier level. The back range to westward bears a certain resemblance in a precipice way to the R[oyal] S[ociety] range. The straight glacier beds before noted run appy [approximately] in a direction a little to the south of east, say 30°.
[Thursday,] December 7

Noon after breakfast.

Today my turn at cook. Left short of oil by the wasteful Teddy. He is a clumsy devil in a tent.

Still blizzing as before—wet sledges a couple of feet under snow. [We have] broken small hole in tent in clearing away the snow.

Now on S [Summit ration] scale less one biscuit per day. Onion powder good in pemmican.

The original plans called for the dog teams to return from latitude 81°15' S, but Scott decided to take them on to 83°35' S. Meares and Demetri were allotted a biscuit each day from each man ascending the Beardmore Glacier so that, provided the weather and surfaces were fairly good, they should not run out of food.

Finished “Little Dorrit”
Last day’s march of eleven miles—course S 9° E.

As may be seen from Cherry’s and Birdie’s and Scott’s diaries, we met a great variety of surfaces and of weather. Often I regretted that we had not available a suitable spring-loaded balance which could be used to measure the drag of the sledges on different surfaces and at different temperatures. It is quite interesting how the tone of the diarists varied so greatly from day to day as the surface and the weather changed and how the ponies met these conditions. [In his diary] Scott has recorded that “a tired pony very truly makes a tired man.”

Much of Cherry-Garrard’s diary is reproduced in his Worst Journey in the World (1922); Scott’s is reproduced in Scott’s Last Expedition (Scott, 1913). The originals of these diaries and also Bowers’ journals are preserved in the archives of the Scott Polar Research Institute, Cambridge.

[Friday,] December 8

8 P.M.

Wind ceased, but snow and rain now on. Snow—agglomerated feathery crystals . . . temperature 33° [F].
Ponies in up to bellies at every step and men from 18 in. to 30 in, never less than 12 in. By test found that we could pull 175 lbs. per man on ski with great difficulty.

This test was made by Lieutenant Evans’ team. They pulled four men sitting on their sledge to try out progress on this surface, on ski and on foot. It was decided that progress by man-hauling on ski would be possible if the surfaces improved slightly. This came about when the temperature fell from 33° F to 26° F and later to 23° F on the next day’s march. For the first time the pony leaders could revert to ski, in anticipation of the time when the ponies would be gone. Until then, attempts at leading ponies while on ski had failed.

On this day Amundsen reached 88°25’S, two miles farther south than Shackleton’s turning point in 1908. He decided to build a small depot, but otherwise to have a rest day.
To the Head of the Beardmore Glacier and Back to Cape Evans
Sketch map of Beardmore Glacier showing approximate positions of depots.
Inevitably, after the failure of the motor sledges and the unfortunate spell of bad weather on the Barrier, Scott was greatly concerned with the slowness of his journey towards the South Pole. His diary shows an underlying absorption in comparing his progress with that of Shackleton in 1908 and 1909. On the southern part of the Barrier and on the Beardmore Glacier, Shackleton had reached the successive latitudes about six days ahead of Scott.

Scott was equally aware of the shortness of the sledging season and the low temperatures on the Barrier that Shackleton had met on his return trip. In mid-February, Shackleton experienced temperatures of $-35^\circ$ F; on February 21 he remarked in *Heart of the Antarctic* (Shackleton, 1909): “This is just the time of the year when most bad weather may be expected.” Shackleton and his companions made it back to Ross Island by a very slender margin, despite assistance from a following wind on many days, both on the Plateau and on the Barrier. This had allowed them to use a sail on the sledge very effectively.

On the other hand Scott did not seem particularly worried about Amundsen. In his memoir, Wright summarised the party’s feelings when they reached the Plateau:

*Scott himself was full of hope that all would be well and that the Pole would be reached first [by his party], especially as we had always thought that Amundsen would travel by the Beardmore Glacier and we had seen no signs of him on the Glacier. In fact we were cock-a-hoop with no real misgivings even about the bugbear of scurvy.*

On his first expedition, Scott had named the members of his polar party while he was still at Hut Point. Shackleton had also chosen his polar team in advance and had later thought that to be a mistake. On this second expedition, Scott left his options open. He did not select the polar party until the last moment; meanwhile, he kept a close eye on the performance of each man.

Wright had no real expectation of being a member of the pole party, but he was disappointed when Scott assigned him to the first returning party, which turned back from the top of the Beardmore Glacier. He had, however, been looking forward to
having an opportunity to look closely at the Beardmore area. The field notebook that he used on the southern journey contains several pages of notes and questions, written while everyone was still at Cape Evans. For example, either Wright himself or one of the geologists wrote the following in his notebook:

“Do not collect from normal granites and gneisses—notes only. Note dykes and sills and other volcanic phenomena. The important things are the Beacon sandstone, limestone and coal beds—samples in situ if possible. Make stratigraphical notes if possible. Shale: fossils most likely in the shale above or below the coal, instead of in the coal.”

Under the heading Physiographical Notes Wright wrote:

A. Are any hanging valleys clear of ice?
B. Number of valleys entering at grade.
C. Number of tributary [glaciers] and kind;
   (1) Main trib[utarie]s entering at grade—have not strong icefalls at junction;
   (2) Gorge glaciers—rather a steep fall and a well-cut gorge;
   (3) Cliff Gl[acier]rs—falling over cliffs;
   (4) Curtain gl[acier]rs.

The field notebook also contains notes on what to look for and measure on lateral gullies, moraines, cwms, patterned ground, rock pavements, and so on.

On most days on this trip and during the rest of the expedition, Wright’s scientific entries in the field notebook are much more extensive than those in his regular diary. In 1923, Wright produced from these notes Physiography of the Beardmore Glacier Region as part of the British (Terra Nova) Antarctic Expedition 1910–13 report series. In it, he wrote:

“Much could have been done if a single day’s rations could have been made available for such scientific work in the case of the supporting party which turned back at the head of the Beardmore Glacier. Conditions did not, however, permit this, and the memory fresh in our minds of the five days’ delay due to blizzard weather at the foot of the Beardmore Glacier offered us no encouragement to dally. The successful return was largely
THE BEARDMORE GLACIER AND CAPE EVANS

dependent upon the weather remaining fine during the return down the glacier, and a two or three days' blizzard at this stage of the return journey might have had serious results."

Nevertheless, the report is very valuable and has served as a good foundation for more detailed work carried out in the area in the last twenty-five years. It is well illustrated with photographs, largely by Wright but with some by Bowers, and with Wilson's panoramic sketches.

[Saturday,] December 9

A black day. All ponies shot tonight about 8 miles on.

Breakfast 6 A.M. lunch 3 P.M. tea 9 P.M. camp 11 P.M.

Pulled our guts out on ski. Surface awful—3 ft. of soft snow. Parabola of coloured prismatic crystals 10 ft. away (vertex). At 8 P.M. crossed through line of pressure ridges [after] about six miles.

Three 10 ft. and one 12 ft. sledge depoted at camp.

Chasm parallel to land missed by our course and only Snippets got two hindlegs down a crevasse. Hope Island has curious vertical furrows on ice on north side (water or wind?).

Although free water is found in the Transantarctic Mountains in the summer, it is in such small amounts that this furrowing was almost certainly due largely to wind action.

[Sunday,] December 10

Another bad day. Camped after toiling five miles near junction of Beardmore [Glacier] and gap [the Gateway]. Ascended about 900 feet in soft 3 ft. snow [with] ice below. Scarped faces, both sides of gap, of a light brown rock with a tendency to form vertical faces and bastions and pinnacles, razor back cols very common. Two not very good cwms on west side coming right down to gap level.

Pulled about 170 lbs. per man on ski till slope was too steep, then on foot. After lunch on ski and ended up (us) on foot. Breakfast 8, lunch 5 and camp 9 [P.M.].

Depot [the Lower Glacier Depot] to be made here. Depoted sleeping boots, pyjama gear, sun hat and mitts.
December 10th was a dreadful day and would have been even worse but for the dog party which carried some of the food for the three man-hauling parties. These were (1) Captain Scott, Dr. Bill, Taft Evans and Oates; (2) Teddy Evans in charge, Atch, Lashley and myself; (3) Birdie Bowers in charge, Cherry, Crean and Keohane. Two of Evans’ party (himself and Lashley) had already man-hauled from within 36 miles or so of Hut Point, while Atch and myself had man-hauled since our ponies had been shot. We were therefore the weakest team and had the most difficult time.

Scott’s team was the fastest, followed closely, with great effort I think, by Birdie’s team.

The snow was so soft that the sledge runners could not carry the load and they sank to the uprights and sometimes much of the load was submerged in wet clinging snow. Men sank up to their knees and so long as the sledges were submerged ... we were bogged down and had practically to lift the sledge over the soft patches.

[Monday,] December 11

Awful. Made about four miles on ski. Men on foot sinking in up to bottom. Sledge running on base and ploughing up snow most of time. Runners should be wider.

On the first relief trip, Terra Nova brought some sledges with tapered runners. They performed much more efficiently.

Saw blue ice in pressure ridges at noon opposite south end of Mt. Hope, where Bill collected granite from a huge boulder—evidently the light brown stuff by Shackleton’s Depot. Course S 15° E.
Came into camp (us) two hours late, said time being taken to
do the last half mile.

Meares and Demetri with the dog teams turned homeward
from a point above the Lower Glacier Depot.

After setting up the Lower Glacier Depot (on the 11th) [10th ?] with
food to last [the returning parties] until the Southern Barrier Depot,
we started off steering for Mount Kyffin and camped after two (or three)
miles. After lunch with weights increased by loads that had been carried
by the dog teams, we found we could just manage but were often brought
up all standing.

Scott came back to discover why we were behind the other teams. I
was in front with [Lieutenant] Evans and had found one could do
better by pulling at an angle of about 15° to the side and thus get a grip
on the surface without my ski sliding back. Scott then said to Birdie,
"See, that's the way to do it," to which Birdie unthinkingly replied, "Yes,
but look at the loss of pull due to the angle." I felt like reminding Birdie
that the cosine of 15° would not lose more than 1 percent of the effort of
the straight pull. . . . However, I kept my peace, for conditions were
then at their worst and any argument . . . should be avoided.

[Tuesday,] December 12

Same surface and trouble. Made about S 20° W [for] four and
a half miles on ski. Have only seen a half dozen crevasses so far
(on 11th) on account of the deep snow.

Lost one hour on Owner's sledge today. Looks bad but
Teddy and Lashly had pulled all the way from Corner Camp.
Teddy a quitter.

In his diary for December 11, Scott mentions that Evans and
Lashly were snowblind (Scott, 1968). After the death of the ponies, the party travelled by day, with its higher temperatures, increased light, and risk of snow blindness.

[Wednesday,] December 13

Same [surface]. Last one-third mile by relay. Surface awfully
sticky and at times runners iced up in three minutes after clearing. Snow blind both eyes.
My week as cook finished.
Socks Glacier very much crevassed and falls at grade with steep slope. [Our] height about 1500 ft.
Lost my only knife today.

Socks Glacier is on the west side of Beardmore Glacier; it was named for Shackleton's last surviving pony.

Cherry-Garrard noted in his diary (Cherry-Garrard, 1922) that they took great care in scraping the sledge runners with the backs of their knives at every halt.

Total today in nine and a half hours marching: three miles—made in two hours about 400 yards.

To the west no very pronounced cwms but [ice]falls in every direction. Most noticeable are a number of comb ridges which seem to be dykes of basalt or diorite. About in line with Mt. Donaldson there is a very definite glacier bed in two layers as:

to one of the tributary glaciers.

[Thursday,] December 14

Surface much firmer all day. Made nine miles plus. Passed Alice Glacier, keeping up centre of [Beardmore] glacier generally course south about [making] for Cloudmaker—now S 22° W. Dolerite peak S 5° W.

Ski boots acted almost decently. Today our sledge made trail all day.

From Scott’s diary for December 12: “Evans’ party kept up much better today; we had their shoes into our tent this morning and P.O. Evans put them into shape again” (Scott, 1968).

[Friday,] December 15

Camped early on account of snow after nine plus miles of good going. Up 500 ft.—four miles by [sledge]meter in P.M. Mean thickness of snow (all one deposit) ¾ in. and getting less [with] thumb print ice below. Made S 2° E towards dolerite sills of Mt. Deakin (?).
Up 5.30, lunch 12.45. Had to camp after three hours march in P.M. Went ahead five hours in A.M.
Almost a glide on the surface today.

[Saturday,] December 16

Lunch [after] 5 m. 300 [yards], camp 9 m. 1100, close to Shack’s [Shackleton’s] December 10 [camp] by longitude.

Scott referred repeatedly to the positions that Shackleton had reached on the successive days of the southern trek.

Pressure ridge falls right across glacier ahead. Took off ski and plodded through crust after seven miles. Average depth 7 in. with clear patches [of] ice.

At 11 am. on December 16, Amundsen and his four companions erected the tent which served as their base while they took the observations that showed they were at the South Pole. They took hourly observations of the sun for the next 24 hours.

[Sunday,] December 17

Depot

Up at 6 [A.M.], lunch 1 [P.M.], camp 6.30. Lunch [after] four and two thirds of a mile, of which first three hours [we] made one and a half miles. Total eleven miles.
Depot [Middle Glacier Depot] of half week’s ration here.
The Mid-Glacier Depot was made here with 3½ days’ ration for three parties of four men on the return journey, but we got no cross-bearing on prominent peaks to fix its position, although its position was known to be upstream from the Cloudmaker on our right. . . . I was interested to note that the bare slopes [of Cloudmaker] . . . were patterned and showed the polygonal ridges just like those . . . on the western moraine of the Koettlitz Glacier. . . .

Unlike Amundsen’s depots, which were also marked in an east-west direction (i.e., [with markers extended] at right angles to his line of march), Scott’s depots and cairns ran longitudinally.

In P.M. [we] kept fairly close to [disturbance] in centre of glacier and cut numerous crevasses at right angles. Thumb print blue ice at last[,] disturbances to east, like Koettlitz Glacier below Heald Island. Few patches of snow.

By thumb-print ice, Wright was referring to the cuspate forms produced by wind on an ice surface. Here, the snow had been blown from the glacier surface.

At starting time the Owner said, looking up the glacier, “Well, there are the crevasses, someone has to fall into one first.” He was the one.

Camped on crevasses, snow bridged.

Passed three small V-shaped hanging glaciers on Cloudmaker slopes.

[Monday,] December 18

Up 1000 ft. in day. Lunch seven miles, total twelve and a quarter miles.

Snowing slightly all day—narrow armed feathery crystals ⅛ in diameter.

In P.M. crevasses up to 3 ft. [wide, trending] S 50[°] W, then S–N for rest of day, snow bridged.

Went all day helter-skelter over, under, in and through crevasses. Scott set a hot pace. May I never again be the only long-legged one in such a team. All did their best but I am damn sure
I had to provide the extra speed. Slipping all over on the thumb print ice even with crampons. Nobody ever down [a crevasse] the full length of harness, but legs, etc. in every few yards.

Lat. 84° 34'[S.]

[Tuesday,] December 19

Night Camp

Disturbances all way to east from Mill Glacier. Lunch [after] 8 m. 750 [yards], camp 14 m. 1350, up eleven hundred feet. Up over a mile now.

In P.M. few small crevasses transverse, travelling on névé and snow, honeycombed 6 in. to 1 ft. below the surface. No cryoconite holes today, but in places névé of brownish hue.

Cryoconite holes are usually nearly vertical cylindrical holes in glacier ice, up to a few inches depth in this region; they are caused by absorption of solar energy in patches of fine dust, initially on the surface, which melts the ice.

Steering generally for east side of Buckley Island.

Sastrugi mixed generally from southwest, up and down undulations, southeast and northwest.

Atch nearly all in at finish though a very short day—less than eight and a half hours march. Our sledge is slow and can[']t keep up with the Owner's. Teddy, the damn hypocrite, as soon as he sees the Owner's sledge stopped and they watching us come up puts his head down and digs in for all he is worth.

[Wednesday,] December 20

Atch, Cherry, Keohane and I turn back tomorrow night. Scott a fool. Teddy goes on. I have to make course back. Too wild to write more tonight. Teddy slack trace 76th of today.
Lunch [after] 10 m. 1150 [yards], camp 19 m. 650, off Buckley Glacier [Island]. Steep rise ahead.

And here it was that the Owner told us that Atch (in charge), Cherry, Keohane and I were to return. Cherry was, I know, very disappointed, and so was I. The reason for my disappointment was that I was quite certain that both Cherry and I were in better shape than at least one who was chosen to go on. I must have shown my disappointment since the Owner, most kindly, softened the blow by pointing out that I would have the responsibility as navigator of the party, of seeing that we did not get lost on the way back. It did soften the blow to a great extent. I was not entirely happy but soon recovered and indeed, probably took this responsibility too seriously.

The two parties who went forward were (1) Scott, Wilson, Taff Evans, and Oates; and (2) under Lieutenant Evans, Birdie Bowers, Lashley, and Crean, with 190 lb. to pull per man...

At the head of the Beardmore, there was a choice between Cherry-Garrard and Titus Oates, with the subsequent choice of Oates, his navigational skills possibly tipping the balance in his favour.

The remaining reasons for Scott's decisions must be merely speculative. There was need for a doctor to return to look after the now major division of the party [at Cape Evans] and Wilson, quite apart from being a close confidant of Scott, possessed in addition to his medical knowledge the essential skills as an artist and scientist that are so necessary for explorers; thus, Atch turned north. Among the four messdeck members were three Discovery men: Crean; and Taff Evans and Lashley, Scott's tried companions of his Western Plateau Journey, all of whom were taken onward, whilst Keohane returned.

The best navigators in the combined party were Oates; Lieutenant Evans, second-in-command of the expedition; Birdie Bowers, who was also in charge of stores and the meteorological log; and Silas Wright, of whom Scott wrote on December 10: "Atkinson says Wright is getting played out." (Scott, 1968).

In an interview many years later, Wright mentioned the possibility of suffering from heart trouble due to the altitude of the Beardmore Glacier. During the winter, Atkinson and Wright had had less time than the others to train for the arduous march.
**[Thursday,] December 21**


On south side of both Mt. Darwin and Buckley Island long ice slopes, two outcrops of rock between the two islands.

Sastrugi marbled (?) southeast 8 in. high, disturbances all the way on our left and now to southeast also. Height now 8000 feet.

Scott gives 7,100 feet in his diary for December 22 although, on the previous day, he had written “about 8000 feet” (Scott, 1913). The map of the area, produced mainly by Wright, gives about 7,150 feet.

From the Upper Glacier Depot, at about 85°10'S, the first supporting party—known as the Summit Party—and comprising Wright, Atkinson, Cherry-Garrard, and Keohane, turned back north. Scott’s journal records: “We said an affecting farewell to the returning party, who have taken things very well, dear good fellows as they are” (Scott, 1968). Wilson wrote in his diary: “It was wretched parting from the others. Atch took my watch back as they were short and only had one. Silas took my sundial” (Wilson, 1972).

**[Friday] December 22**

Made Buckley Island Camp for lunch, thence twelve miles about towards Cloudmaker.

In A.M. I nearly took the whole sledge into a crevasse with me.

March 3 h. [hours] 50 m. [minutes] in A.M. [after] start [at] 9.30. In P.M. 3 h. 20 m.—made good time. Could hardly feel the sledge behind.

Snow at times in A.M. lovely in P.M. Good march, about twenty-three miles—down 2000 feet. Surface undulating.
We made good time over the huge crevasses (up to 100 ft. wide but bridged by drifted snow) and clocked up twenty-three miles on a good surface. These huge crevasses looked dangerous but were not if one took reasonable care to avoid the sides.

[Saturday,] December 23

P.M. Camp

About four miles short of camp of 18th P.M.

Made about twelve miles in A.M. and seven or so in P.M.

Got into awful mess of crevasses two miles before camp.

Light snow since passing last which hid crevasses. All in to length of trace lots of times. Bad day ahead of us tomorrow when we hope to pick up depot.

Off Berwick Glacier now.

Berwick Glacier was named by Shackleton. All three parties carried excerpts from Wild’s and Shackleton’s diaries. On the map of Physiography of the Beardmore Glacier Region (Wright, 1923), the names of Berwick and Swinford Glaciers have been interchanged.

Sunny and calm. Twenty-first and 22nd had zero temperatures [0° F] at noon. Surface sticky.

December 24

Cloudmaker Camp

Had tea one and a half miles back. Seven and a half miles in A.M., six before tea.

Tomorrow Xmas plum pudding, raisins and chocolate. Hooray! My left foot damn sore from the ski shoes and crampons.

Not very good time today. [Sledged] 10 A.M. to 9.30 P.M. less three and a half hours. Fine and clear all day.

Keohane distinguished himself by getting into eight different crevasses in the short space of fifteen minutes.

These crevasses were drifted over by snow and very difficult to distinguish in poor light. They were ... a series of seracs of all shapes, caused by the entry of two glaciers, one of which I named the Cherry Glacier [now called Cherry Icefall] and the other the Garrard Glacier.
[called Bingley Glacier by Shackleton] which entered the Beardmore Glacier almost at right angles. Eventually we came to a halt with Atch disappearing head first down a crevasse. Fortunately his harness stood the strain and we got him up safely and looked about to see the sledge lurching half way sideways into another crevasse and no obvious safe footing anywhere.

So much for my navigation! And all Atch said was, "Which direction do we go now?" My reply was, "Oh, straight ahead." After that we proceeded very gingerly but I took care gradually to swing towards the centre of the Beardmore where we found better footing.

We camped in a safe position . . . with ½ day's ration to find the Mid-Glacier Depot. This was not as easy as I had expected, but we made the depot, in spite of the uncertainty about its position.

[Monday, December 25]  Xmas Day P.M.

About one mile to west of camp north of Cloudmaker Depot [Mid-Glacier Depot] on 50-ft. longitudinal ridge.
At lunch had chocolate 1 stick, and 1 ½ spoonfuls of raisins. At dinner 1 ½ cu. in. of plum pudding per man and 7 caramels. Feel happy but by no means full.
Spent a few minutes at lunch collecting rocks from isolated moraines off Cloudmaker.
Short day—four and a half miles in A.M. six in P.M.
Just turned up the sledge runners in an awful state for the thirty eight miles down to the next depot, for which we have three days and a half of full rations. Hope to heaven the fine weather continues or we will have to go short. Are trying a new route back.
Atch is in charge of the party but I am practically responsible for their safety as I have to do the piloting back and the picking up of the depots.

Needless to say I was feeling very badly about having led our party astray amongst the seracs south of the Cloudmaker. There was little excuse for this except the fact that it is much easier to see and avoid trouble going up than coming down a glacier like the Beardmore. And it has been little satisfaction that Teddy Evans’ party as well as Scott’s own party were not free from similar troubles hereabouts.

[Tuesday,] December 26

Outward bound tracks nearly obliterated by snowfall.

This was really the end of our difficulties with the Beardmore Glacier itself, since the snow dumped on the lower reaches of the Beardmore had evaporated and condensed into a hard snow névé so that all the crevasses were visible now and were easily negotiated.

Thirteen and three quarters miles before tea by meter after surface as coming up. Total for day eighteen and three quarters of a
mile for nine hours march on ski. Half an hour wasted on me in A.M. as could not get ski shoes on until I had shipped another pair of finnesko and reduced to one pair of socks, shoes were shrunk up to half size because dry. Hope we are done with crampons now.

Cloudy all day.

If runners were in good order would probably add another five miles per day to our speed. Made for Mt. Hope most of P.M. Alice Glacier open[ing] two miles back. Hope to make [Lower Glacier] Depot tomorrow night if dead reckoning is not wrong.

Many happy returns to Dad.

[Wednesday,] December 27

Morning 7½ [miles], total 12 m. 750 yds. Surface as on [the] way out. In P.M. pressure to east. Estimated seven miles to next depot.

Short day. Patsy [Keohane] got belly ache from too much eat on Xmas. He must have a small tummy.

Sledge not too good. The D.R. on way out absolutely out. Should be in to Depot tonight.

[Thursday,] December 28

Lunch at bottom glacier depot [Lower Glacier Depot after] eight miles. Camp twelve and a quarter miles at pony murder [site, Shambles Camp] and sledges. On the Barrier again.


Have seven days grub for about forty-five miles.

Skua tracks around the ponies. Keohane makes an awful fuss over his indigestion.

[Friday,] December 29

Lunch [after] 8½ [miles] at cairn. Cairn[s at] 12 m. 1250 [yards], and 16¼ [miles], camp [at] 17 miles plus. Eight hours marching on ski. No sastrugi. Following dogs’ tracks in P.M.
One inch of coarse imperfect hexagonal plates on the surface. Attempt at coloured parabola when sun showed in A.M. In P.M. made 2½ m.p.h., surface still undulating.

[Saturday,] December 30

Lunch [after] 5 miles, camp 10¼ [miles]. About five and a half hours marching.

Keohane dysentery and slack trace. Turned him into bed at lunch after brandy. Hope he bucks up tomorrow.

Twelve miles to depot. Surface sticky the last mile when sun came out, light very bad all but last bit. Followed dogs' trail all day. Snow very soft and deep.

[Sunday,] December 31

Camp at cairn two and a half miles north of Christopher depot. Sixty-nine miles to go to next depot, [with] eleven days grub.

A photograph of the pony walls at Christopher Depot showed that the December blizzard had deposited 4½ feet of snow here.

Sastrugi not very pronounced, [tending] S 40° E. A crust sufficient to hold up sledge and ski but men sink 4 in. or so.

Dogs not going very well, only to last depot by 15th [December].

*We gathered from the notes left by Meares at the depots that he was having a far from easy time with tired dogs, soft surfaces, bad weather, difficult navigation, and shortage of food. Indeed, there was one short period when our party was actually catching up with the dogs and I feared the dogs would not arrive [at Base] to return to One Ton Depot before we arrived at this depot.*

Keohane still on the bunk (?), marching very short hours but on march doing 2½ m.p.h; 9½ [miles] by lunch, total 14½ [miles].
Have about four days' grub in hand but are unfortunately placed in that we can not be sure the One Ton Depot will be laid in time for us, so can not eat according to distance we march. Will be worse [worst] off of all parties in that way.

Sometimes following dog tracks and at others going straight for cairns. Six hours pulling.

Cairns show up fairly well, but [pony] walls do not show at all hardly. Few coloured red crystals on surface. Dog trail does not show up very well.

Temperature +17[° F] tonight, +20 at noon. Fine clear day. Glasses fogging badly in A.M.

On this day the southern party was at 3° Depot, at 86°56'S. Here Crean, Lashly, and Taff Evans dismantled the two 12-foot sledges and made them into 10-foot ones. While working on this, Taff Evans cut his hand rather badly, and because of the cold and his run-down condition the cut did not heal. Lieutenant Evans' party, including Bowers, depoted their skis here in order to reduce weight.

Amundsen had passed 87°S on his homeward run. In The South Pole he wrote: "The drivers stood so jauntily by the side of their sledges, letting themselves be carried over the plain at phenomenal pace" (Amundsen, 1912).

[Monday, January 1, 1912]  New Year's Day

Fine clear day, slight head wind.

Sastrugi more pronounced N 40° W, crust, surface and crystals as yesterday.

Had an extra biscuit to celebrate the occasion. Now overcast. Would give anything for a full tummy. If we can keep our present average will be in One Ton Depot in about two weeks. Hope to heaven it is laid by that time or we may have to make Hut Point on half rations or less. Full ration God knows leaves one empty enough. I get hungry again one hour after lunch. Am certain [I] could do more and better work on a bigger ration.

Scott intended that the dog teams should restock One Ton Depot with five units of XS rations, three cases of biscuits, five
gallons of oil, and dog food. Around March 1 they were to try to
meet the returning Polar Party—at 82°S or thereabouts—with
one XS ration, biscuits and paraffin. However, the dogs had been
taken much farther south than their originally intended turning
point; the weather and surfaces on their northern journey were
bad, so that Meares and Demetri arrived back at Hut Point long
after Scott’s estimated date of their return. He had specified,
“December 19th at the latest” (Scott, 1913). The dogs were
worn out and of no further use during that sledging season.

Fortunately for us the Owner had instructed Simpson, in charge at
Cape Evans, to ensure that One Ton should at all costs be stocked up in
case the dogs failed. Hooper and Day of the motor party had returned
to Hut Point on December 20th and were off again man-hauling [three
units of XS rations] to One Ton [Depot] on December 26th, with Nel­
son and Clissold as well. . . .

All the returning parties took advantage of the pony meat cached
at the mouth of the Beardmore [Glacier] but I was desperately hungry
on the return journey and, speaking for myself, I found it was unpleas­
ant to finish a meal and be just as hungry after it as before.

I feel sure I was a trial to some of the party for urging for longer
marches in order to have a little spare store of food in case the XS
rations had not been delivered to One Ton Depot before we arrived.

Atch took on following dog tracks in P.M. to relieve my eyes. Total
for day fifteen miles pulling hard, (on ski) except for the first
hour after lunch. Seven and a half hours on march.
Lunch nine miles, camp fifteen miles, eight hours pulling, no glither [sic] to sledge. Sun in P.M.

On dog tracks most of time which are now much clearer, probably no wind since they passed.

Sun very dim in A.M. To northwest of cairns [there is a] large drift, i.e. Dec 4 blizz. [blew] from southeast here. On surface feather crystals and delicate feather flakes have by now in P.M. sun developed plate ends and grown to ¼ in. in many cases. Fog [is] now down again and pinnate crystals [are forming] on windward side of ski [stuck into snow at camp], etc.

Chinaman seven miles ahead.

No definite sastrugi, still bad walking, in 4 in. every step, 1½ in. soft snow on top of soft crust.

14 m. 300 [yards]—Eight hours pulling on sticky surface. Big rolling sastrugi from S 20[°] E coming in.

Dog tracks some, ski shoes giving out.

Probably reach One Ton [Depot] on 15th with about nine days grub in hand. Had an extra biscuit at lunch and on my advice tried a bit of pemmican in tea at lunch. Makes a tremendous difference and makes the measly five lumps of sugar almost tastable. Wish we had a food like cocoa instead of this beastly rotten tea we have (Coopers). The only taste one gets is of hotness and wetness.

Sledge went better for first hour after lunch. In P.M. slight crystals big ¼ in. narrow-armed stars. Fine most of A.M. Usually following dog tracks. Plates more pronounced on surface snow.

16 m. 1300 [yards]—Since last dog camp five miles back trail [has] showed up well, before very bad. Looks as if his [Meares'] surfaces were good in P.M. and bad in A.M. Ten miles back night camping places showed up, here only 14 [¼?] in. down to hard stuff.

Wind [force] 3–4 in A.M. in P.M. 4–5, sail up. In P.M. made seven and seven-eighths mile plus, in three and a quarter
hours, with frequent stops to reset course and get onto tracks. Light in P.M. awful, in A.M. fairly good.

Extra biscuit at lunch. Take on cook tomorrow. Depot eight and a quarter miles ahead.

Could not make these distances I think in this weather if it were not for the dog tracks. Surface getting firmer now. May have to [take] off ski in a few days.

Wright's ski shoes were disintegrating.

On this day, the last supporting party—Lieutenant Evans (in charge), Lashly, and Crean—turned northwards from about 87°32'S. They were at an altitude of about 10,100 feet. On January 2, Scott had decided to add Bowers to the Polar Party. Birdie had left his ski at 3° depot and had to walk on foot while his four companions had ski. Thus, the five-man Polar Party comprised Scott, aged 43, leader, representing the Royal Navy; Wilson, 39, civilian, doctor, chief scientist, and artist; Bowers, the youngest of the party at 28, Royal Indian Marines, the toughest man on the expedition, with navigational skills and a precise knowledge of the depots, and a meteorological observer of some note, but travelling without ski; Oates, aged 32, representing the Army, and a navigator; and Taff Evans, 37 years old, the strongest member of the messdeck, sledgeman and cobbler—the last both essential skills on a journey of this magnitude. Scott had noted these five ages on the flyleaf on the new diary he had started on December 22.

They were now camping five in a four-man tent and soon discovered that an extra man's rations took extra time and fuel in cooking. On the autumn depot-laying journey, Bowers wrote in his diary (SPRI archives) of five people being "packed like a bundle of snakes;" also at this time he expressed his high regard for Scott in the words: "A better leader or tent companion one could not have."

The decision to take a fifth man to the pole may possibly have been at the suggestion of Wilson. Debenham has pointed out in his book In the Antarctic (Debenham, 1952) that a few months earlier Wilson had painted a picture showing a five-man sledging party, and that he could not remember such a team on the expedition.
[Friday,] January 5

12 m. ¼ (12½ miles)—Made depot, eight and a quarter miles, in three and a half hours before lunch.
Good hooshes today.
Light very bad but could follow dog trail as yesterday. Meares passed through on 20th; does not seem cheerful and has trouble with cairns and with weather. He rebuilds cairns as he passes them. We would only see about one in five of them in this light if it were not for dog tracks.

Slight beam wind today, sail up. My ski shoes in a fearful mess.
Surface getting firmer, sastrugi same. Sixty miles to next depot [with] almost thirteen days’ grub on sledge. Will have quite a hefty pull after Mt. Hooper.

To get all our oil in, had to dump a lot of methylated spirits and put the rest in chafing gear tubes [?].

Mount Hooper was the large cairn built at 80°31’S by the Motor Party while they were waiting for the pony cavalcade. It was named for the youngest member of the party, Frederick Hooper.

Methylated spirit was used for priming the Primus cooking stove.

[Saturday,] January 6

13 m. 1100 [yards]—All day light too awful for words. Trying to follow dog tracks, and eyes now very sore. Short hours, even Atch who had nothing to do but pull felt the strain of a bad light. Last time I take on a job like this.

Camp four miles south of Jehu camp at cairn. Lost a half mile as dogs also had bad light hereabouts and came in to last camp from the east. Hard and soft patches now. Sastrugi (from feel of ski) are from northeast and quite hard patches (or southwest). Snow all day and yesterday narrow-armed slender stars, no plate centre. Today noticed that on one side only of most stars as they fell were parasitic growths perpendicular to plane of feathery arms. Is it a question of radiation? Except for this deformity stars very perfect.
Camps badly drifted up and [pony] walls just visible. Curiously enough though three and a half miles back horse dung in lee of cairn showed up on the surface.

Forty-six and a half miles from Mt. Hooper.

[Sunday,] January 7

7 p.m

Short day, two hours in A.M. three and a quarter miles, total nine miles plus.

Had an awful time following tracks, light worse than ever. Atch, Cherry and I took turns following the trail. One time I lost trail and turned 160° in 50 yards. We owe a great debt to the dog trail and would be about sixty miles further south if it were not for them.

*We were indeed fortunate in having the imperturbable Atch in charge of our party; never a cross word even when I led the party into the maze of crevasses just south of our Mid-Glacier Depot, or even when, on the Barrier, I turned a complete [half] circle and came back to meet our own tracks on a dreadful day with no horizon, no wind, no sastrugi or drift to help the navigator. I was terribly ashamed of myself as I had been picking up, quite regularly, all the snow cairns and depots laid on the outward journey. I guess it was time for a jolt to my "ego." This experience shook me to such an extent that I lost all confidence and soon had to suggest to Atch that, until conditions improved, we had better camp. Which we did and, fortunately, by next day my lack of confidence left me and did not afterwards recur.*

Soft top surface 3 in., sastrugi higher and a damn nuisance in this light. Snow all day and of same kind.

Eyes feeling the strain. Hope it clears tomorrow for a change. Temperature +18[° F] and breeze springing up.

[Monday,] January 8

Short day. Eyes damn sore, thirteen and a quarter miles. In A.M. light bad, tracked in turn. In P.M. went on alone, saw sun dimly for a short time.

Twenty-four miles from depot.
Sastrugi southerly, dog tracks plain. Last pony walls 3 ft. above surface and layering showing up well on account of incutting by wind. Surface same, snow falling nearly all day. Nasty headwind, 20 m[p.h].

[Tuesday,] January 9

Eyes a bit blind. Very bad light [and] tracking in turn.

In A.M. four and a half miles, total 13 m. 700 [yards]. Camp at double cairn.

Picked up ski shoes here (of Day's?). Horse droppings showed on surface. Surface snow and same sastrugi, may be about northeast and southwest but can not see well enough.

Stopped for tea and on a couple of miles. Good hoosh when (and if) we make Mt. Hooper tomorrow. Camped for lunch quarter mile beyond a cairn and saw it after stopping only, though probably passed within 100 feet of it.

[Wednesday,] January 10

Mt. Hooper—10 m. 1250 [yards]—Light bad, sail up in P.M. with a light southerly breeze. Within a yard of the great hoosh.

We used to dream of food. In my case of apples and porridge, though I never had the satisfaction of eating in my dream. But when awake I was well aware that what I really needed was more pemmican. . . . I remember Cherry sitting bolt upright, though asleep, and calling out, “Within a yard of the Great Hoosh!”

Seen sun for about three hours since last depot. Pick up theodolite here.

Sixty miles to next depot [with] two weeks grub about. Meares only two weeks ahead of us in a great panic. Has taken a lot of our grub which makes it doubtful if we can afford to go on beyond One Ton, if depot is not laid. Damn him! Took fifty biscuits for two men doing no work to go the sixty odd miles. A blizz will make it impossible to go straight through as One Ton is one hundred and fifty miles from Hut Point.
Weekly bag [of food] has run for six and half days. Surface a little less hummocky but otherwise the same.

Eyes still bad and had to give up tracking in P.M.

On January 9 the Polar Party passed Shackleton's farthest south point, which he had also reached on January 9. On January 10 Scott established his 1½° depot. They were having very difficult surfaces and travelling only 10 to 12 geographical miles each day.

[Thursday,] January 11

13¾ m.—Beam wind from west force 4, sail up. Hard from making too much leeway. Saw blue sky for first time in about ten days. Surface as before. In turn tracking on dogs.

Day wrote [in note left at Depot] he followed outward tracks on November 29 going eight miles per day and evidently not intending to hustle. Does not look as if One Ton Depot would be laid for some time yet. They were given too much grub to go back on. Hope we can get some dog biscuits or something similar there.

Surface same, hard and soft patches. Sastrugi not pronounced. Meares can not follow pony trail.

[Friday,] January 12

Seven hours march. Total from Mt. Hooper 25 m. 1750.

Clear day, no wind, sunny, + 13[° F]. Pony walls drifted almost level and outward camp places ditto (see critical slope) [?]. Drift here from south. Hard pulling over sandy, broken massive plates (or pyramids) and prisms except for the two hours just after lunch. Hard and soft patches. Sastrugi not well defined, some southeasterly. Subsiding crust coming in.

Subsiding crust is descriptively called “the Barrier hush” and occurs where a surface crust lies over softer snow. The weight of a sledging party will break the crust and the air from beneath is expelled in a long “hush-sh.” In his journal, Debenham described the noise as “beginning sharply and dying away in the distance in a most eerie fashion” (SPRI archives).
Had tea today. All interested to know what grub is at One Ton and whether Meares has taken the lot.

In a lecture in the Albert Hall, London, after the expedition’s return, Lieutenant Evans paid tribute to Meares and Demetri for voluntarily travelling back on short rations, omitting one meal each day (Evans, 1913).

Average 14.2 m.[per day] to date. Could see one cairn today three miles off.

[Saturday,] January 13

Bad day. Ten miles, total from Mt. Hooper thirty-six miles. Wind southwest force 4. Could not follow trail. Light very bad. Now half blizz, sail up and had only to steer sledge and give an occasional tug. Capsized once and took three of us over. Will be impossible to follow trail to One Ton. Subsiding crust, surface same. Sastrugi southwest (some anyway). Horse mundungus shows up in places.

Had tea one mile back where we picked up a few pounds of oats, oilcake and tried it in the tea. Oilcake no doubt good food but does not taste up to much. Can not manage oat husks on account of lack of time [to cook them]. On move altogether a little over four hours.
[Sunday,] January 14

Fourteen miles—total from Mt. Hooper 49 m. 1400 yds. Eleven and a half miles from the great hoosh (maybe). Fine day, fearfully sticky surface, subsiding crust. 3 P.M. A.T. = 2 secs.


[Monday,] January 15

Eleven miles—The Great Hoosh. Almost a full day’s whack gone in one meal, seven biscuits, extra pemmican, etc. and one stick chocolate. Good old chocolates. 3 XS rations laid here on [January] 9th by Day, Nelson, Hooper and Clissold. We now have two full weeks’ rations for one hundred and twenty miles and possibly some [more food available] at Corner Camp. Have left for 2nd [Supporting] party double as much as we took, so we are not treating them badly. Would feel full after another hoosh like this one.

Hard patches of sastrugi soft in between but surface much harder on whole. Fine coloured parabola on surface after 10 A.M. Pulling well after 3 P.M. but very sticky before. Clear sunny day, 3 P.M. A.T. = 2½.

Dogs going strong, 20 miles per day.

As a matter of fact, I am damn sore at Atch. He insists on leaving for the second party two or three times as much grub as we take. They for instance pick up three weeks’ [rations] plus biscuit here. If they had half starved like us they would have two and a half times the ordinary ration to go on.

An undated note in the diary was added later: “Jolly good thing they did have the extra grub. Wrong again. C.S.W” When Evans, Crean, and Lashly reached One Ton Depot on February 9, Evans was suffering very badly from scurvy and the three were in dire need of the extra food.
[Tuesday,] January 16

Followed Relief Party's trail thirteen and three-quarter miles. Very sticky surface, in A.M. only six miles in three and a half hours, last half only 1 3/4 m.p.h. After lunch for two hours made 2 1/4 m.p.h., wonderful difference for a small rise in temperature. On surface now small massive plate and pyramidal [crystals], harder. More sastrugi here [trending] S 60° W. Depot cairns 3 ft. above surface, drift in lee from S 60° W.

Had a glorious day and a glorious lunch with chocolate, cheese, raisins and extra biscuit. Going one extra biscuit each meal. If we make good time, can increase the quantity.

On this day Scott’s party, 10 miles from the South Pole, came across the tracks and markers left by Amundsen’s party a month before.

On the following day they reached the Pole, where they found Amundsen’s tent and messages, including one that read: “Polheim 15:12:11. Dear Captain Scott, As you probably are the first to reach this area after us I will kindly ask you to forward this letter to King Haakon VII. If you can use any of the articles
in the tent, please do not hesitate to do so. The sledge left outside may be of use to you. With kind regard, I wish you a safe return. Your Raold Amundsen” (Scott, 1913).

Wilson recorded in his diary that they could not find the sledge.

[Wednesday,] January 17

Distance estimated 13½ [miles], sledgemeter says 12½. Surface getting softer and less billowy, otherwise same in every way. Following homeward bound XS [One Ton Depot Relief Party] tracks. Minimum [temperature] last night −2[° F], granular fog crystals. At lunch time +15[° F], fog crystals such as crystals on entrance to stables in winter—looks like spruce forest. Fair white fog bow in a.m. Surface again improved after lunch.

[Thursday,] January 18

Distance two and a half miles. Unlucky day. Atch bad from overeating, so camped. It is, I think, the XS pemmican which seems to have a lot of fish oil or something in it.

Overcast, good helping breeze, bad light.

Atch diarrhoea and vomiting.

[Friday,] January 19

Atch still bad, going both ends. Total ten and a quarter miles, over very bad and sticky surface. Last two miles patches of quite hard and firm sastrugi, northwest[–southeast].

Blucher cairn now only 1½ ft. above surface [with] large drift [on the] southwest. Sastrugi 6 in. high. Parabola front W 35° S. On surface now, feathery snowflakes have grown to ¼ in. and have plate ends, in fact almost solid plates. Clear day, +13 [°F] at noon.

Since Bluff Depot, following XS return tracks which on this surface are very faint.

[Saturday,] January 20

Camp of November 10, thirty-nine and three quarter miles to Corner Camp. Six miles during day.
Atch still bad. Camped five hours after two miles. Filled Atch with brandy and sent him to sleep. Wish he would give the hoosh a steady for a couple of days and fill up on biscuit and cocoa.

Surface hard and soft patches on hard ones. Sastrugi up to 1 ft. \( \triangle \) razor top and front and some (later) wave front . . . with ripples 4 in. apart behind on the downgrade. Sastrugi S 30° W. Could not follow XS tracks[.] Crystals up to ³⁄₄ in. on surface with plate ends. Very heavy pulling till surface got warm (after lunch). Light—no cloud 4.30 P.M. A.T. = 2½


Fog crystals in a.m. on ski. Clear day, pity we had to lose so much of it.

[Sunday,] January 21

11 m. 850 [yards]—Fine day, sastrugi same S 30° W. Surface good, especially in p.m. Made five miles in two hours and had to camp on account of Atch. Wish he would ski beside sledge and let us pull the thing.
Should be at Corner Camp by now. Want my mail, too and am afraid if we don't get a move on [we] may run short of biscuits before reaching Hut Point.

[Monday,] January 22

Same place—blizzard, no snow, thick drift, force 7–8, p-ship (?) undercut 3 in.

On this day Lieutenant Evans suspected that he was suffering from scurvy.

[Tuesday,] January 23

Eighteen and a half to nineteen miles (sledgemeter gone bung and says eighteen and a half). Nine and a half to go to Corner Camp. After one mile foot-walloping [at] 2½ m.p.h. over rough sastrugi. In P.M. followed return XS tracks. Sastrugi of last blizzard as:

Steep front and gentle slope behind.

Could not find treacle at last camp. Cherry lost his fur mitts today.

Surface now getting crusty and will probably be worse underfoot tomorrow. No loose snow on surface.

[Wednesday,] January 24

Cherry went back three miles and got mitts in A.M. Camp at thirty-nine and a quarter miles [from camp of January 20]. Camped 1750 yds. beyond Corner Camp.

Picked up a few biscuits at motor and at Corner Camp—cocoa, cheese, raisins, chocolate and cornflour. Had good cornflour hoosh tonight and lots of cocoa, also chocolate—feel happy. Nice to see Observation Hill ahead.

Sastrugi changed to south shortly after start, then back to S 30° W and surface got softer and crusty. On planks [ski] after two and a half miles. Now no pronounced sastrugi. (See Day's warning re crevasses.)
The Relief Party left a note at One Ton Depot telling of bad and open crevasses near Corner Camp.

Surface quite soft now. Course [for] last four marches straight for Mt. Terror, i.e., last fifty miles. Clear fine day.

**[Thursday,] January 25**

[Sledged] from Corner Camp 15 m. 1250 [yards]. Surface soft, 2½ in. soft snow on a soft crust with badly marked sastrugi from south. On White Island west face scarped as by glacier from south—has lateral moraine. No crevasses seen.

Steered for Castle Rock in A.M. seven miles, then for Observation Hill.

- Clear sunny day, hot, temperature at noon + 9°F.
- Porridge hoosh tonight—lashings of cocoa—feel full.

On this day, Amundsen and his companions reached Framheim at 4 A.M. with two sledges and eleven dogs. They had completed a journey of about 1,860 miles in ninety-nine days.

Scott had picked up the first depot on his return trip, but Oates was suffering from a very cold foot, and Evans' fingers and nose were frostbitten.

**[Friday,] January 26**

Hut Point. Surface very variable and strong wind. When ski put on, surface got hard, when off, surface got soft.

- Big pool off Cape Armitage. No seals at Barrier edge, 30° slope from sea ice to barrier in places, in most places a steep cliff.

**[Saturday,] January 27**

Hut point. Very strong wind.

- Porridge and currants ad lib. Full as a tick. Spliced main brace last night.
[Sunday,] January 28

Cape Evans. Yesterday ice went out to Cape Royds and ship disappeared.

We reached Hut Point without any further difficulties on January 26th, 1912, chalking up an average for the return of about sixteen statute miles a day. How we looked forward to a bath at Cape Evans! But it was not to be until the following day since Ponting made a claim (sustained by Simpson) on our bodies to take part in a cinema record of our arrival up the icefoot at Cape Evans, filthy as we were, unshaven and with hair uncut and with sledge firmly attached behind us.

"Art not for Art's sake, but for publicity's!"

[Monday,] January 29

Overate. Unhappy.

No diary entry was made on January 30. In the afternoon, Fram left the Bay of Whales for Hobart, Tasmania, where Amundsen handed over many of his remaining dogs to Dr. Douglas Mawson for use on his Antarctic Expedition.

[Wednesday,] January 31

Ship reappeared today. Ice melting fast, Skua Lake now mostly water and very small. Pool off Cape Evans quadrupling in area every day, now about 160 acres of open water.

Dogs to Hut Point and back today.

Developed some of film packs; not very satisfactory.

End of fourth diary.
Relief and Uncertainty
It is not at all clear whether Silas Wright kept a diary between February 1 and February 29. Certainly none seems to have survived. The following account of that period is composed entirely from other sources, mainly his memoir. For coherence, some threads of the narrative are continued beyond that time.

The arrival of Atch's party at Cape Evans marked the finish of my activities on the Barrier since Sunny Jim Simpson had to return to the India Meteorological Office and I had to take over, as best I could, his meteorological and magnetic duties.

At Cape Evans we lazed and basked in the sun, listening to the raucous cries of the skuas and penguins, which sounded like music to ears attuned to the "Barrier Silence," as Cherry put it.

But there was lots for me to do. Sunny Jim, in charge, had done a splendid job during our absence in spite of the deterioration of the electrical wiring to the magnetic cave and to the self-recording meteorological equipment outside the hut. This wire was poorly insulated and [was] affected by the salty spray deposited during storms. This breakdown of the insulation naturally became worse with time, and maintenance of the outside wiring became a serious labour during the second winter. Simpson . . . naturally claimed me to take his place as meteorologist and magnetician when he returned to India.

Originally Simpson had considered staying for the second year, but he received news of illness and staff shortage in his Simla office when the Terra Nova returned bringing mail at the beginning of February and he decided he must return with the ship.

The Northern Party—Lieutenant Victor Campbell, Murray Levick, Raymond Priestley, George Abbott, Frank Browning, and Harry Dickason—had been put ashore from the Terra Nova at Cape Adare on February 18, 1911. They had a moderately profitable and fairly comfortable time working in the region of Robertson Bay, although, like Borchgrevink before them, they were frustrated by their inability to penetrate into the hinterland.

The Terra Nova, under Lieutenant Pennell, left Lyttleton again on December 15, 1911. The pack ice was less extensive
than in the previous year. The ship entered the pack on December 26 and was clear of it again on New Year’s Day. She picked up the Cape Adare party—all in excellent health and spirits—on January 4, 1912, and transported them southwards down the Victoria Land coast.

"After a pleasant and uneventful trip down the coast," wrote Raymond Priestley in *Antarctic Adventure* (Priestley, 1914), "during which we read and digested our mails from the outside world, . . . on the evening of January 8, . . . the ship anchored alongside the sea ice. . . . [in] Terra Nova Bay, and the Northern Party. . . . pulled their provisions and equipment across the half mile of sea ice separating the ship from the shore. . . . Campbell had arranged with Pennell that the ship should call for us as soon after February 18th as possible, and that if she did not appear by March 15th we were to resign ourselves to spend another winter here as best we might. We had therefore brought with us sledging provisions for a six weeks’ journey. . . . while in a depot. . . . we stowed 2 weeks pemmican for 6 men, 56 lb of sugar, . . . 24 lb of cocoa, . . . 36 lb of chocolate, and five cases of biscuits, each containing 42 lb."

The primary purpose of this venture was to allow Priestley to conduct geological work in the Mount Melbourne and Wood Bay areas during the following six weeks. From Terra Nova Bay, the ship headed south to pick up the Second Western Party at Cape Roberts, but she was unable to get closer than 30 miles; instead, she crossed McMurdo Sound to approach Cape Evans. Pack-ice conditions were heavy, so that progress was slow indeed but, on January 17, Ponting, from Wind Vane Hill, with a 12x telescope, was sure he saw *Terra Nova* to the north. He collected Simpson and Nelson to confirm his sighting; all agreed that indeed it was the ship, but far distant, and seen only through a most peculiar double miraging effect. "It was to be several weeks before the ship’s party would be able to communicate with us, owing to the heavy nature of the pack-ice," wrote Ponting in *The Great White South* (1921).

The first supporting party—Atkinson, Wright, Cherry-Garrard and Keohane—arrived at Cape Evans on January 28, bringing with them the news that the other eight men were head-
ing south and going strong. They brought back some mail, as well as plates and films exposed by Scott and Bowers, which Ponting “developed with great care and was delighted to find that many of them yielded excellent negatives” (Ponting, 1921).

As the ice broke out, Terra Nova approached closer but it was not until February 4 that Atkinson and Meares, with dog teams, were able to reach the ship; they returned an hour later with “our welcome mail and news of the world during the last year” (Cherry-Garrard, in The Worst Journey in the World). Two days later the ship moored alongside the icefoot, half a mile from the Barne Glacier. She soon started unloading the supplies for a second sledgeing season, including new sledges; fourteen dogs, of which only two seem to have been of any use for sledgeing; and eight mules from the Indian Army (one of which did not survive long), complete with harness.

On February 15 the Terra Nova left Cape Evans for the western coast of the sound where she intended to pick up the Northern Party, and the Second Western Party, which comprised Griffith Taylor, Frank Debenham, Tryggve Gran, and Robert Forde. Taylor’s party had crossed McMurdo Sound to Granite Harbour in mid-November 1911 and had since spent their time conducting geological and physiographical research in that area.

The arrangement had been that they would be picked up at Cape Roberts on January 15 but, by the end of that month, when the ship had not appeared, Griffith Taylor held a council and prepared for a retreat southwards down the coast and then back
across McMurdo Sound, via the northern part of the Ross Ice Shelf, to Ross Island and Cape Evans. Leaving a message for Pennell, a food cache (which was a godsend to the Northern Party the following spring), much of their spare clothing, and most of their geological specimens at Cape Roberts, they left on February 5. With a light sledge, they traversed the crevassed Wilson Piedmont Glacier to the depot at Cape Bernacchi; thence, they travelled on the sea ice across the mouth of Taylor Valley, round the end of the Kukri Hills and the snout of Ferrar Glacier to their old depot at Butter Point; there they left another message for Pennell. On February 15, a party from the ship landed at Butter Point and found Taylor’s message indicating that he and his party had camped there the previous night. While crossing Blue Glacier on February 15, Taylor’s party spotted Terra Nova and, more importantly, Pennell spotted them. Shortly afterwards they were on board, where they enjoyed their mail—except for Gran, whose mail, apart from one bill, had not arrived—and were duly photographed by Ponting before shaving and bathing. They learned of the difficulties that Terra Nova encountered approaching Cape Evans, and of the hurried unloading before the ship came to find them. They also learned that the South Pole party was going well when Atkinson’s party left them, and that there had been no signs of Amundsen.

After riding out a gale for two days, Pennell again attempted to reach Campbell’s party, but heavy weather and very bad sea ice prevented a close approach. The Terra Nova was in danger of freezing in, so they made for Cape Evans again. They anchored there in a gale on February 25.

Simpson came out to the ship, to report that Lieutenant Evans was seriously ill at Hut Point, where he was being tended by Atkinson, and that he should be taken aboard as soon as possible. The ship visited Hut Point, and picked up Evans, Atkinson, Wright, and Drake. She returned to Cape Evans on February 29 to put ashore the final nineteen tons of cargo. When Gran went aboard to say good-bye to Evans and saw his condition, he became concerned about the Polar Party. He noted: “It became clear to me that the prospects of our five-man polar
party were not as bright as most of the members of the expedition imagined. Evans' frightful return journey was a pointer to what Scott and his men would be bound to undergo. There was also another matter which caused me anxiety. Since the Beardmore Glacier's suitability for dogs had been established, I took it for granted that Amundsen had reached the Pole before Scott. The consequence would probably be a fall in morale for our polar party. Of course I kept these dark broodings to myself for, as the situation was, my pessimism could only cause damage" (The Norwegian With Scott, 1984). On December 20, Gran had written in Griffith Taylor's notebook his certainty that Amundsen was turning back that day, after reaching the Pole. In fact, Amundsen left the area of the Pole on December 18.

After leaving Cape Evans, the *Terra Nova*, with Atkinson aboard still looking after Evans, again attempted to rescue Campbell's party, but on March 4 she was back at Cape Evans, with Pennell reporting "mission not accomplished" as he could not get through the fifteen or twenty miles of heavy pack ice. The ship took Atkinson, Keohane, and some stores to Hut Point, to await Scott's return, and then headed north, intending to make a last attempt to reach the Northern Party. The men on Ross Island did not know until the following spring that this attempt too was a failure. *Terra Nova* took with her Lieutenant Evans, Griffith Taylor, Simpson, Ponting, Meares, Day, Forde, Clissold, and Anton. She had brought Thomas Williamson to replace Forde, and W.W. Archer, to replace Clissold as cook; these men stayed at Cape Evans for the second year, making a total of thirteen at the base for the second winter.

When the ship reached New Zealand on April 1, they learned of Amundsen's success in reaching the South Pole. Griffith Taylor reported the event in this way: "We lay about a mile off the little town [Akaroa], while Pennell and Drake went...[ashore]. All communication was forbidden with the shore, but later two men in a small launch hovered around us. As they pushed off they called out—"Why didn't you get back sooner? Amundsen got the South Pole in a sardine tin on the 14th December" (Taylor, 1916).
Scott had foreseen the possibility that the party returning from the Pole might not get back before Terra Nova had to leave for New Zealand and had arranged for a few more dogs and, on Oates’ advice, for a number of mules from India so that the party wintering over would be able to do more scientific and exploration work during the following summer.

Scott’s plans included a last journey of the dog teams to One Ton Depot to assist his Polar Party on the last stage in time to catch the ship before she was forced to leave.

On February 13, the sea ice south of Cape Evans was starting to break up and accordingly Atkinson judged that it was advisable to make a start with the dog teams for Hut Point. He and Demetri left with two dog teams, but were held up at Hut Point by bad weather until February 19. At 3.30 A.M., Crean walked in alone.

He reported that Evans was seriously ill with scurvy. As has been mentioned in the previous chapter, Evans had first suspected he was suffering from the disease on January 22. By February 14, he was no longer able to walk and had to be carried on the sledge. On February 16, they reduced their rations to half. On February 18, leaving Lashly to tend Evans in the tent, Crean walked thirty-four miles alone to Hut Point in eighteen hours to get help.

Half an hour later, a severe blizzard started and travel was impossible until 4.30 P.M. on the next day. They soon reached the vicinity of the tent where Lashly was tending Evans but, unable to find it in the thick weather, they camped. Then, during a temporary clearing, they spotted Lashly’s sledge flag about two miles away. The blizzard continued that night and the following day but they were able to start the return journey at 3 A.M. on February 22, with Evans in his sleeping bag on a sledge; they reached Hut Point at midday.

Atkinson felt he must stay with Evans and sent Demetri and Crean and a dog team back to Cape Evans on February 23 with the news of Evans’ state of health and a request to Simpson—who was in charge there—that either Wright or Cherry-Garrard take Atkinson’s place with the dog teams, and go south to One Ton Depot with Demetri.
But Simpson, who had been left by Scott in charge, demanded my body in order to carry on his work during the second winter, leaving the One Ton journey for Cherry and Demetri.

Nevertheless, Wright went to Hut Point with Davies (the ship’s carpenter), Cherry-Garrard, and Demetri, to allow Atkinson to make the final decision as to who should go south.

Cherry and Demetri left Hut Point for One Ton Depot on February 25, with rations for the Polar Party and as much dog food as they could carry, since the depot at One Ton had not yet been supplied with dog food because of the lateness of Meares’ return and his departure with the ship. They arrived at One Ton on March 3, after difficulties with the weather, with navigation, and—in Cherry’s case—with dog-driving. They waited there for the Polar Party until March 10.

By now it was clear that Scott’s estimates of the speed of his party on the return were very far from the reality and that the dog party had started out too soon. Cherry remained nearly a week, including a four-day blizzard, at One Ton. He was forced to turn back on March 10th by shortage of dog food and trouble with Demetri’s heart, while the remnants of the Polar Party did not reach their final camp, eleven miles away, until March 21st [March 19]. If Cherry had been able to proceed further south, he would have run the risk of failing to meet the party at all. Demetri was sick, Cherry had little experience of dog-driving and was very short-sighted. In the circumstances he had no alternative but to return and I am sure he did the right thing, especially since this journey was arranged by Scott only in order to enable him to meet the Terra Nova before she had to leave for New Zealand. There is some uncertainty as to the route Cherry (or rather the dogs) took on the way back to Hut Point, but he arrived safely with Demetri and the dogs in poor shape on March 16th, only to find that they were cut off by open water from Cape Evans and the majority of the party.

Thus there were available at Hut Point, Demetri and the dogs, Atech, Cherry and Keohane. The rest of us at Cape Evans had no means of communication [with them].

The telephone cable between Cape Evans and Hut Point, laid out on the shifting sea ice, was broken—and rockets and so on were not very successful because of the atmospheric conditions.
The story of the Polar Party with the five men who went on to the Pole and their return, losing P.O. Taff Evans by head injuries on the Beardmore Glacier [February 17] and losing Titus Oates [March 16], who walked out into a Barrier blizzard, hoping to save the other three by his sacrifice, how the remaining three, Scott, Wilson and Bowers, perished in a blizzard of unusual duration only eleven miles short of One Ton Depot is well known and needs no repetition.

Cherry reported that they had seen no sign of the Polar Party; he also reported the early break of the season with extremely low temperatures and bad weather on the Barrier. Atkinson told him that they would have to make another attempt to get to the Polar Party, and Cherry-Garrard agreed to go in a few days’ time. However, on the third morning after his return to Hut Point he collapsed, suffering from an over-strained heart. Demetri was also out of commission, so Keohane agreed to accompany Atkinson.

As a last forlorn hope, Atkinson and Keohane set out towards One Ton alone [with] one of the four-man tents on March 26th [with eighteen days’ food for themselves and a weeks’ ration for the Polar Party]. They had a difficult journey and had to return after a short journey of about forty miles and arrived back at Hut Point on April 1st, by which time it was clear that disaster had fallen on the Polar Party. Indeed the Search Party found next spring that the last entry in Scott’s diary was dated March 29th.
The Second Autumn
Sketch map showing route of the party attempting to relieve the Northern Party, April 1912
We pick up Wright's diary again on February 29, 1912, the day he returned to Cape Evans on Terra Nova from Hut Point. For long periods in this second year the diary contains only scientific notes and almost no other recordings of day-to-day activities of the party in the hut. As Wright said in his memoir:

*I made no attempt to keep a systematic diary, partly I expect because Cherry was now regarded by all as the responsible historian, since Atch had what seemed to be almost a horror at the thought of putting pen to paper and thankfully left this duty to Cherry.*

Wright's scientific notes during the early autumn of 1912 are of interest mainly to indicate the nature of his activities, and his difficulties carrying out observations under the prevailing weather conditions during this frustrating period. Atkinson, Cherry-Garrard, Keohane, Demetri, and the dogs were at Hut Point; there was open sea between Hut Point and Cape Evans, no communication between the two groups and, of course, no knowledge of the state of the Polar Party.

The scientific notes, being short, are given in their entirety. Apart from Wright's scientific interest as a glaciologist in the formation of sea ice, he and the rest of the party were concerned about the establishment of a safe sea ice surface to Hut Point, so that communications could be resumed. Until Wright reestablished his magnetic recordings, his notes concern only the weather and the sea ice. Consequently it is necessary to supplement the diary entries to a greater extent than before. Again, in so doing, first recourse has been made to the memoir that he wrote late in his life.

*Thursday,* February 29, 1912

Got back from Hut Point [on ship]. Surface [of the sea] freezing and covered with 6 in. diameter and very thin pancakes.

Magnetic and other work stopped as [there was] no one ashore capable of looking after it. Current switched off Monday 8 A.M.

Monday, February 26 was the day he walked to Hut Point with Cherry-Garrard.

On Monday arch berg floated away. One fine tabular berg and two or three others [are] now stranded to the south of Cape Evans and very close inshore. Frost smoke last four days over open sea.

This day's trace [the photographic recording from the magnetometer] spoilt in the metal tray (face down) probably [due to] electrolytic action.

[Friday,] March 1

1600 hrs. Fixed insulation of the potential gradient apparatus [which I had] found bad.

1330 hrs. slight snowfall—fluff balls, and stars, no plate centres.

No frost smoke till 1300 hrs. during a slight breeze (later, none). (Is rapid evaporation the determining factor [for producing frost smoke]?)

Brash ice in South Bay, also many bergs, mostly tabular, which have undoubtedly been carved from T.H. [Turk's Head?] glaciers. In South Bay no action due to freezing of spray. Ice-foot on average about 15 ft. farther out than last year, but undercut by wave action.

[Saturday,] March 2

High wind [between 31 and 53 m.p.h. all day], frost smoke, temperature = +2[°] F.

[Monday,] March 4

Ship back 6–7 A.M. Atch and Keohane taken to Hut Point.
[Tuesday,] March 5

Lamps [on recording instruments] changed twice today. (Photos)
Fine day, slight wind. Considerable young ice in South Bay
and in gap between Cape Evans and Inaccessible Island.

Midnight March 4–5, ship went north again from Hut Point.

[Wednesday,] March 6

8 A.M. Considerable young ice covering most of the Sound.

[Friday,] March 8

2200 hrs. Frost smoke to north over open water. Young ice be­
tween islands as far as [Erebus] Glacier Tongue.

[Saturday,] March 9


[Sunday,] March 10

Northerly wind has brought brash ice into North Bay.
   Lamp changed [on magnetometer recording apparatus].

[Monday,] March 11

0800 hrs. Ice still in South Bay, that in North Bay gone out under
last few hours’ southerly wind.
   Bitch got pups.

[Tuesday,] March 12

Much frost smoke both to north and south. North Bay clear. In
South Bay many pools of open water.

[Wednesday,] March 13

A.M. South Bay as yesterday, pools of young ice. North Bay cov­
ered when calm with new ice, wherever ice was ridged or pressed
up, ice flowers were growing. Thus surface had a pattern of flow­ers on it, in curved lines as 

[Thursday,] March 14

A.M. North Bay clear. Frost smoke in South Bay with southerly wind.

P.M. Ice 4 in. thick in South Bay close to Cape Evans. A few pools still in South Bay. In North Bay 2 in. ice 6 ft. floes made up of numbers of cemented 9 in. cakes.


Tested 2 m. [minute] mark (for period of 1½ sec.)

This means that on the absolute magnetic recording appa­ratus, the light was on for 1½ seconds every two minutes.

[Friday,] March 15

Ice goes out of North Bay with this southerly wind.

Fifteen hundred hours ab’—Using two clocks, one giving 2 m. [minute] mark off cells and another giving hour mark from large cells.

13 hrs. Had to cease abs[olu]te magnetic observations on account of blizzard and low temperature in magnetic hut.

1645 [hrs] changed time of 2 m. [minute] mark clock.

[Saturday,] March 16

North Bay clear [of ice]. Still ice in South Bay. Much frost smoke to the north.

[At] about 4.45 P.M. hour and 2 m. [minute] lamp in cave burnt out.

[Sunday,] March 17

South Bay completely covered in with ice and snow. Young over­ridden [rafted] ice in North Bay. Small berg in strait between
Inaccessible Island and Cape Evans has been turning [for the] last couple of days. Two large bergs now stuck in the strait (tabular).

Mk [mark?] on thermograph not made.

[Monday,] March 18

Absolute magnetic observations.

South Bay icebound. In North Bay over-ridden floes 4 in. thick.

[Tuesday,] March 19

8 [A.M.?] Frost smoke beyond Glacier Tongue. Pressure in ice of North Bay at 4 hrs. Ice smashed against the icefoot.

Too much drift [drifting snow] for time observations [with the transit instrument].

1630 [hrs] Oiled piston of wall thermograph.

In P.M. ice in North Bay went out.

20–22 hrs. Quick run. Did not buck up light sufficiently and Z trace is lost.

A “quick run” means he recorded magnetic variations with the photographic paper moving quickly, so that good resolution was obtained. The Z trace refers to the vertical component trace.

[Wednesday,] March 20

Petrol case hut blown down early this A.M., much wind, 65 m. in an hour [m.p.h.] and surface drift.

Thermograph out of commission.

Gravel drifting about and now lying on the snow.

[Thursday,] March 21

During blizz ice in South Bay went out. Now on icefoot [there are] beautiful inclined waves 8” deep, pointing towards wind [and] formed by ice smoke. One hundred and fifty yards from [the] sea boulders on windward side [are] covered with ice, due to same cause.
In North Bay icefoot is creeping out towards sea in a platform of thickness = height of tide. Apparently therefore the main body of the sea is not yet in a condition for the formation of ice.

16.15 [hrs] Quick run on (test).

[Friday,] March 22

9 [hrs]. Time mark lamp renewed, 83 left (of lamps).
Ice in South Bay inside the islands. North Bay clear.
Time determination got—first chance in two weeks. [Clock] error 4 m. 56s.9 [4 minutes 56.9 seconds] slow (magnetic).
Quick run 5 h.-7 h. [5-7 A.M.]
Lamp in cave without cover, therefore fog on [photographic] trace.
Photos in changing box: 12 & 1 28 secs, f.65 8" lens
12. of waves on icefoot in South Bay as mentioned on Mar. 21
1. of platform growing from icefoot [as mentioned on Mar. 21]
The section of this [icefoot] is as follows:
Rounded falls, ripples as due to freezing as water receded.

[Saturday,] March 23

A.M. New ice almost covering South Bay and much of North Bay.
With northerly wind North Bay cleared.
Tried to fix up petrol [case] hut, too much wind. Rubberoid stuff blown about and torn.
After fixing the 2 m. [minute] (& hr) mark lamp forgot to open the window of the clock box and so lost substantially a whole day's magnetic trace.

[Sunday,] March 24

Ice as yesterday.
Magnetic observations (abste). Immediately after observations a blizzard.
[Monday,] March 25

Fairly high wind, 40 miles [per hour].

[Tuesday,] March 26

9 hrs. 65 m.p.h. wind.
   Ice still in South Bay. North Bay clear.

[Wednesday,] March 27

9. [9 A.M.?] Part of petrol [case] hut blown down. 80 lb. beam [used as a ridge beam] torn off and blown 40 ft., 61 m.p.h. average wind in last 24 hours.
   Small ridge berg off Cape Evans has shifted position. South Bay clear, or nearly so.
   Fixed time mk [mark] lamp and took away screen for Y [magnetic variation] instr[ument].
   Icefoot this A.M. comparatively steep as the part above water has been drifted up as during the last blizz.

   Snow part under the influence of rising tide has sunk a little and become consolidated into ice.

[Thursday,] March 28

Hut of petrol cases covered with Rubberoid.
   Calm day, thin ice in South Bay.
   13.30 [hrs] Started the sidereal clock time mark instead of the 2 m. [minute] mark[;] interval = 750/7 secs.
   Within 50' have of watches and clocks 28 to be looked after.

[Friday,] March 29

Relevelled Y instr. [instrument] and [made] sensibility [sensitivity?] detn. [determination.]
   Fixed day mark to wind vely. [velocity measuring apparatus] on hill—since [then it has] gone bung again.
   Thin ice in South and North Bays. In North Bay press[ure] ice (ph.[photographed] by Deb) & frazil Xtals [crystals]. Also
1 ft diam. mass of frazil ice growing in 6 ft. deep water to objects on bottom and apparently to the bottom itself. Bottom of sea of very black volcanic rock pebbles. In P.M. (3 P.M.) when sky became clouded, the masses of frazil Xyals began to rise to the top suddenly and float away. Calm day.

[Saturday,] March 30

9.30 [hrs] Young ice in both North and South Bay[s]. Calm and overcast. The masses of frazil ice (Photo—mass max 1½ ft) have grown since yesterday though clouded almost the whole time.

Icefoot still has almost sheer face due no doubt to a lack of waves to facilitate growth while the tide is falling.


$$= 4 \text{ m.45s.4}$$ [4 minutes 45.4 seconds]

[Sunday,] March 31

9.30 [hrs] Ice still in South Bay and new thin ice in North Bay. Some wind [mean velocity was 20 m.p.h.] and [low drifting snow.]

In his diary, Wright used a symbol to denote “low drifting snow.”

[Monday,] April 1

10 [hrs]. Ice still in South Bay—not North Bay. Considerable frost smoke by Hut Point and to NW. Mild blizz.

[Tuesday,] April 2

Magnetic observations.

No change in ice conditions. Frost smoke has never been noticed much above zero [degrees] Ft. [Fahrenheit]
[Wednesday,] April 3

9 hrs. Same ice conditions.
[Took] photos of frazil ice on bucket let down [in the sea] on Mar. 30th. Xts mostly [perpendicular] to the sides of bucket & growing through one another as \( \frac{3}{4} \) in. No visible axes but there are indications that growth at sides [of bucket] are in layers, as \( \boxed{\text{Xtals very fragile.}} \)

One of these photographs appears as Plate LXXI of Wright and Priestley's Glaciology.

17 hrs. Thin skin of semi-transparent flexible \( \frac{3}{4} \)" ice in North Bay, not transparent except in patches of what are evidently the large Xts, sometimes 4" long & scattered in all dirns. [directions] on the ice sheet. Area of such Xts [compared with the] whole [is] as one to 5.

Where the skin has been broken, the surf. [surface] has re-frozen in the crack almost entirely in a series of such Pls [parallel] and interlocking Xts as

\[ \text{cf. Hut Pt [Point] obsns [observations] 1911} \]

In addition 18 hrs [at 6 p.m.] salty flowers are forming quickly on all small projections & press. [pressure] ridges, thus outlining them in white.

[Thursday,] April 4

Cloudless

Young ice still in North Bay—snow & salt flower-covered.

Noon. Press. in North Bay, 3" [of] ice pressed up, bent and piled against icefoot (cf. quick growth of icefoot). (Photo by Deb)

This new ice [was] examined [and] showed, in Hl. [horizontal] section the "forelsche streifen" very well, if stain was dropped on the section it immediately dropped \( \frac{1}{2} \)" between the plates ([which show as] "streifen" on surf.). The plates in one Xtal (1" broad & irreg[ular]) are all Pls & change to another dirn. in the next Xtal. Plates are nearly vertical in every
The presence of these plates (so loosely joined) is the cause of the great flexibility of young sea ice. A vertl. [vertical] fracture is very easily made & is almost truly vertical but not of straight outline.

The expression, "forelsche Streifen" probably comes from Karl Weyprecht's book, Die Metamorphosen des Polareises, published in Vienna in 1879, which was based on Weyprecht's work on the Austrian-Hungarian Arctic Expedition, 1872–74. Wright had a copy with him in the Antarctic.

[Friday,] April 5

Cloudless

Sidereal clock run down about 6 hrs. [6 A.M.]

2 m [minute] mark put on about 9 hrs [on the magnetometer recording traces].

One open lane in South Bay between Cape Evans & Hut Point. North Bay frozen in still. Ice ½ m. out in North Bay all broken up (& to W) by pressure.

P.M. Ice in vicinity of Gr. [Great] Razorback Id. [Island] reported 10' thick, can walk on ice in North Bay.

[Saturday,] April 6

Photo [of] H.I. section of young sea ice mentioned on April 4 [enlarged] X2, markings made to show up by lightly brushing with lamp black.

This photograph is Plate LIX in Glaciology (Wright and Priestley, 1922).

10 hrs. Frost smoke off Hut Point.

Photo also of Pyramidal Xtals from magc. [magnetic] cave
A.T. = 40. f.45 in sun, 4 mins exp. [exposure]

[Sunday,] April 7

b. 1887 [i.e., it was Wright's 25th birthday]
9 [hrs] Ice in North Bay gone. Much frost smoke. South Bay still ice bound.

Photo [with] 3" lens f.45 by diffuse daylight of plates on my window (inner pane). 15 min exp. Plates shown up by lightly brushing with lampblack. These plates are all pll to one another & to the glass & occupy the spaces between the fan figs [figures], on which plates are [perpendicular]. (See notes [page]/11 at Hut Point.)

This photograph is Plate LX in Glaciology (Wright and Priestley, 1922).

[Monday,] April 8

9 hrs. Ice still in South Bay, overcast [wind] 50 m.p.h. t [temperature] +3[°F]

No frost smoke appreciable.

[Tuesday,] April 9

Blizzard still on. No [drift].

[Wednesday,] April 10

9 [hrs]. Ice still in South Bay, none in North Bay. On bottom of North Bay, [water] 6" deep just beyond icefoot. Much larger quantities [of frazil ice] than seen before. Also seen on box (yellow) in at least as great quantity. Evidently radiation has little to do with the effect here [i.e., production of frazil ice on the sea bottom].

Table made in pendulum hut.

In P.M. Marie [Nelson] and I went & climbed Gt. Razorback to see if [there was] any ice bet. [between] Glr. [Glacier] Tongue & Hutton Cliffs. Could not see over Glr. Tongue. Ice one foot [thick] extends from Tent Id. to a Pt. 100 yds S of Gt. Razorback [and] to tip of Glr. Tongue. In South Bay, ice [is] softish & in places rubbly & of consolidated cakes. Shows in places the dark Xtals noted at Hut Pt. last year. Ice now forming in North Bay. Frost smoke at 17.10 [5.10 P.M.] as temp fell below zero [Fahrenheit].
[Thursday,] April 11

Apparently clouds have little or no effect upon frazil Xtals on [sea] bottom.

16 hrs. New lamp in cave.

Atch, Keohane & Demetri came in at 18 hrs. yesterday from Hut Pt. over Hutton Cliffs to say Polar Party not back [leaving Cherry and the dogs at Hut Point]. He [Atkinson] thinks it is all up with them.

Dogs stayed 6 days Mar. 10–16th at 1 Ton, Cherry then returned on a/c [account] of Demetri. Later [Cherry-Garrard] fainted in hut—heart trouble. Atch [and] Keohane, Mar 27 went out and had to return after Corner Camp. Hellish temps & wind. Cherry got -30's - 40's [° F] & falling at rate of 20° [F] per hr before sun went down each day. Atch’s spirit pretty well gone I fear. Seems to think no party can live for a fortnight on the Barrier now & will not try another try [before next spring to find Scott and his party]. It must be damn bad if he says so. He is we all think causelessly alarmed about Campbell & he, I, Williamson & Keohane are off tomorrow to try & make [our way] up to him. We lose the sun altogether in ten days & as the ice (if any) we must travel on is new & presumab[ly] slippery, we must make land for each camp & if a blizz comes up when we are some way from an accessible spot it won’t be nice.

Unfortunately any (thinkable) trouble Campbell may get into, we are just as likely to need [help in]. This too when every man will be wanted to go south (presumably) next year. Hope it turns out all right.

Have turned such [as much] of the magnetic work as can be done on such short notice over to Marie, also some of the meteorl. [meteorological] work—the rest to Trigger [Gran].

Impt. [important] Note. It seems possible to predict possible dates at which the ice will go out in summer as this year the ice went out of North Bay & also went out from Hut Pt. at times which coincided very closely with max. declination of the moon. At these times, currents are exceptionally large.

Atkinson's position in April was by no means an enviable one. We knew that the Polar Party had perished, but we did not know when or where. We did not know whether the Northern Party under Campbell had, or had not, been picked up from Evans Coves. There was nothing more we could do to help the Polar Party, so Atch decided that he and three
others (Keohane, Williamson and myself) should attempt to make our way up to Campbell’s party at Evans Coves [sic], if possible along the sea ice. But if not, to make up to the Plateau across the heads of all glaciers leading down to the sea and finding the right glacier to lead us down to the coves. On the face of it, this was insane. If the Northern Party was in trouble we would only add more mouths to feed there during the winter. And all this by moonlight since the sun would have disappeared for the winter months. The alternative was a quick journey man-hauling on the sea ice along the coastline, which we by now had learned to regard as dangerous stuff to trust ourselves on this [time of] year. Even in ideal conditions we were not able to carry sufficient supplies to maintain ourselves there for the winter or to get back again to Cape Evans. This was not one of our best organized efforts.

I, for one, was quite, quite confident that they [the Northern Party] would have managed to get through the winter safely in an ice cavern or igloo. But I was wrong in assuming that they would arrange for the collection of sufficient seals for food and heating to bridge the period between their disappearance for the winter and their reappearance in spring to rear their young ones and to bask in the spring-time sun. This was a serious error attributable to their confidence that the ship would arrive to pick them up since they were able to see only open sea within many miles.

In the outcome the lives of many seals were saved but at the cost of hard privation for Campbell’s party during the winter.

Wright’s diary contains no entries for the period April 13–16. Following Gran’s diary, The Norwegian With Scott (Gran, 1984): Wright, Keohane, Williamson and Atkinson, accompanied by Gran and Demetri—who were to go as far as Hut Point—set off man-hauling at 10 A.M. on April 13 “in a biting cold wind and when we had come right over Little Razorback the weather thickened and the drift started. We . . . bivouacked on the ice foot to see the weather out. As it eased a little later we struck camp and set course for Glacier Tongue. The going was really vile and we only just managed to haul the sledges . . . at a speed of 2 kilometres per hour.” On April 14, “after a grim day of sledging,” they arrived at Hut Point. “By the time we reached Castle Point, Atkinson, Wright and Williamson were utterly exhausted.”

The party rested at Hut Point on April 15 and 16.
[Wednesday,] April 17

Left Hut Pt. 10.30 [hrs] [with four weeks’ provisions]. March on Eskers, 5 m. to [more than] 2 yr sea ice. Camped [after] 13 m., 1 mile short of pinnacle ice, calm and clear all day t — 32[° F], good surf.

By “Eskers” Wright means the piles of morainal material carried along by the Koettlitz Glacier, and not the Strand Moraines on the west side of McMurdo Sound.

[Thursday,] April 18  Min[imum] — 43[° F] no sleep

One mile to Pinn. [Pinnacle] ice, 3 m. of new sea ice, 1’ [thick], many salt flowers, t — 38[° F] all day, calm and clear. 12 m. on Blue Glacier. Camped on edge of old fast ice. Many emperors here at night camp. Going not so good.

The presence of the penguins indicated that there was open water fairly close at hand.

[Friday,] April 19  Min — 45[° F]

Four miles across new 1’ [thick] ice to S end of Eskers [the Strand Moraines] & thence up on Butter Point and along towards depot. Bad surface. 9 m. Camped in half blizz early. Bad going. Eskers 3 m. long. Flowers on new ice fascicular in bunches up to 1½” long, heavy dragging.

We . . . had to camp in a warm blizzard and did not reach the depot until nightfall.

[Saturday,] April 20


There next morning we saw the ice to the north breaking up and drifting away to sea and this put paid to our journey to relieve Campbell and
his party. We were fortunate that we were well out of it and, of course, Atch should never have abandoned his command of the main party to "chaunce his arm" on such a risky affair.

In P.M. [went] back 6 m., surf. very bad.

Lateral gully between Eskers and B. Pt. New 1" sea ice opening into leads.

**Sun[day], April 21**

Between A.M. Apr. 19 and A.M. this date, [the] part of [the sea] ice closest to Blue Glacier had lost the ice flowers and become a good surf. for pulling by virtue of the high temp[s]. (—5° F or so) which have lately prevailed.

Chanced our arms back across 4 m. of sea ice with sail up. Ice flowers melting. Lunch at 6 m. 18 emperors seen. Six miles more in P.M., [in] bad light.

**[Monday,] April 22**


We moved on . . . to end of pinnacle ice only to find the bay of new ice gone, so that we had to make round the pinnacle ice of a rough sort of icefoot.

**[Tuesday,] April 23**

Blizz —22[° F]. Steered blindly for 3½ m. in A.M. [with] no landmarks.

In P.M. ½ blizz, made [it] through to Hut Point total 15 m. in dark. Headwind, strong all day. Difficultly in finding the hut in the darkness.

This was the day the sun was due to disappear for the winter months.
**Wednesday, April 24**

Slept.

**Thursday, April 25**

Min -31[° F]

Gran recorded in his diary that on this evening they exchanged signals with Cape Evans, that they "could clearly see the fire at [Weathervane] Hill" (Gran, 1984). They intended to leave for Cape Evans on the following day.

**Friday, April 26**

Strong northerly wind.

**Saturday, April 27**

Strong southerly wind.

**Sunday, April 28**

18 hrs. [At Cape Evans] back from Hut Point. Started 10 hrs. [with Gran and Keohane, man-hauling a light sledge], skirting peninsula on new sea ice, very thin, and in one place rubbery. Exciting work!

_The ice became so thin that there was a perceptible bow wave in front of the sledge and party, while Gran actually at one time put his foot through the soft ice covering. This gave us a proper fright so I lengthened my trace with the alpine rope and we pulled all out until we reached Turtleback Island and thicker ice. I think we were fortunate as there were pools of open water nearby and I was frankly terrified of what might happen unless we kept moving._

Thence to Turtleback Id. [Turtle Rock] & across Glr. Tongue, before a blizz. How I struck the right place I can not say, steering by wind.
Lunch north of Glr. Tongue. [We got the] tent up on 2nd attempt, Trigger’s finger slightly frozen. Primus lit after 4 attempts, \(-23[^\circ F]\), 50 m.p.h. [wind].

After lunch tried [putting sledge] sail up, would not carry it [wind was too strong], so walked in on sticky surface, greatly helped by wind.

In the official account of the expedition (Scott, 1913), Atkinson wrote: “As one instance of the loyal way in which I was supported during the whole of this season, I can quote the following: ‘Wright, from the very first, had been entirely against this journey. He had some knowledge of a previous sledge trip on the western coast. Not until after I had told him that we should have to turn back did he tell me how thankful he was at the decision. He had come on this trip fully believing that there was every probability of the party being lost, but had never demurred and never offered a contrary opinion, and one cannot be thankful enough to such men!’”

Marie has been having trouble with the 2 m. [minute] mark & the dynamo. [He has] been shifting the 2 m. mark and not noting when he did it. [Therefore,] mark must be neglected.

Old ice in North Bay from Archibald [i.e., position of the satellite weather station] to point A₂ along Barne Glacier.

[Wednesday,] April 30


[Thursday,] May 1

Calm & snowing in A.M.

Rabchick back from Hut Pt. No reply to our signals as yet.

Rabchick was one of the dogs; he escaped from the team and came to Cape Evans.
14 hrs. Lead [open water] in North Bay about ¼ m. from shore. 
Noon quick run on [recording magnetic variations].
P.G. [potential gradient] inst. stopped again last month.
15 hrs. Atch, Cherry, Williamson and Demetri came in [from Hut Point] just before blizz—they followed our trail.
24 hrs. [midnight] 200 yds of ice [only] left in North Bay [along the shore].

[Friday,] May 2

Strong wind & blizz.

On May 2 the party agreed to have one lecture a week during the winter, and to publish the South Polar Times on Midwinter's Day, with Cherry-Garrard as editor. (This number of the South Polar Times is in the Scott Polar Research Institute but was not included in the published volume.) Gran cut his own hair and then, as he wrote in his diary, "attended to Nelson, Cherry and Wright. It was my first attempt with the scissors and I must admit that Wright's head looks rather strange" (Gran, 1984).

[Atch's party] returned to Cape Evans where now all thirteen of us settled down to our second winter.

Atkinson, our only naval officer, helminthologist and assistant to Demetri with dogs, was in charge and had the responsibility of making the decisions which would control our activities in the coming summer. The most important of these was whether to spend our effort on finding (or trying to find) what happened to the Polar Party and where, or to go to the relief of Campbell's [party,] which might have been picked up by the Terra Nova. We were too few in number to do both jobs at the same time.

Cherry was the ornithologist, keeper of the official records and editor of South Polar Times. Debenham was geologist and photographer since Ponting (having used up his five miles of cinematograph film) felt his job as photographer had been completed and that Debenham could carry on. He left Deb some cameras and photo equipment, but not the cinema [cinecamera] which I suppose belonged to him personally. Nel-
son was oceanographer. Gran was ski expert, assistant meteorologist and in charge of stores. My job was to take over Simpson's meteorological and geomagnetic work as well as atmospheric electricity, gravity and glaciology, and care of chronometers, etc. P.O. Lashley was in charge of the mules and Crean, the sledging stores and equipment. Keohane and Williamson were in charge of the preparations for summer sledging and general help. Hooper looked after the acetylene plant and did general domestic duties. Archer was cook.

I must make special mention of Gran's assistance since I had far too much for one man to handle. He helped in all ways with the meteorological work, including the attempt to maintain the "cables" leading to the hut from the continuous recording equipment. He took a very special interest in up-to-date "new records" being reassessed at intervals—such as lowest mean temperature for the week, highest mean wind velocity during a day, and so forth. There was in fact an open field for his records since there was only the previous year for comparison. In fact we had a much more boisterous year in every way during the second winter. But everyone helped everybody else when needed and the whole party had to be co-opted to maintain the nightly record of auroral activity, position, colour and general intensity.

And never a cross word was heard, although one of the nightwatcher's duties was to keep the head of the Dines gust recorder, above the roof, free of drifted snow. This Dines head used to get plugged up during blizzards which meant a climb up the ladder outside and a vigorous use of the special brush used to clear the snow from the orifice which was kept facing the wind.

Atch called our party of thirteen together [on June 14] and asked each man what he thought we should do in the coming summer since it seemed impossible that we could both go to the rescue of the Northern Party and try to discover what had happened to the Polar Party and where. With one exception (who preferred not to vote) we all favoured the latter course. I have often since wondered if it was not Cherry who expressed no opinion.

We were a happy party, once we had faced up to the loss of the Polar Party and had decided what to do next summer. In fact the whole atmosphere was now different. There were no cliques as far as I am aware. The barrier of boxes between the Afterguard and the seamen was still there, but the passage way in both directions was used much more commonly. To a large extent this was due to Atch. As a naval doctor, he was to our petty officers much more accessible than an executive officer.
We all respected him, felt for him, pitch-forked into a difficult situation and more than that, I think I can say we loved him. How I wish it were possible to check with Lashley or Crean to learn if they agree with me in this statement.

Even Demetri blossomed out in the second winter. Was it the result of a much greater individual sense of responsibility on the part of the rest of us? Since we had a job to do, did we realise more fully than before that each of us considered that he had a more definite responsibility for the success of his own part of it?

Years later, after 1914, when Priestley's sister married me, I took issue with Ray's approval [during the Northern Party's enforced wintering] of Campbell's emphasized distinction of the bar between officers and men, when he drew a line in their six-man cave carved into the snowdrift, demarking the fo'c'sle from the after quarters and saying that what was said on one side of the line was not to be heard or referred to on the other side. His, Priestley's, statement to me in justification was that the Petty Officers would be much happier that way, because of the great difference in their upbringing. For this reason Priestley was thereupon appointed a temporary officer of the Royal Navy.
The Second Winter
The thirteen men of the main party of the expedition were now all at Cape Evans. The five members of the Polar Party had been given up for lost. However, the members of the party at the base, recognizing that the quest for the South Pole was an important part of the total plan, were determined if at all possible to find out whether Scott and his companions had succeeded in reaching the Pole. Of course, they did not know that Amundsen and his party had reached the South Pole about a month earlier than Scott, and had already returned to the civilised world.

The main party also did not know whether Campbell’s Northern Party had been picked up by *Terra Nova* on her final attempt but Wright, at least, did not worry too much about them, expecting that they would manage to survive the winter in an ice cave or igloo.

As Wright has indicated, the thirteen men at Cape Evans were all very busy during the winter with scientific work and with preparations for the sledge journeys of the following spring. Wright’s own diary is concerned almost exclusively with his science. Most of the entries are brief and are given in full, as appropriate. The daily events he recorded show the difficulties experienced by a scientist carrying out laboratory tasks but are usually not of momentous importance and seldom give significant insight into his companions’ feelings. His memoir contains a rather broader perception of the winter’s activities and consequently it is quoted at length.

_Even took us some time to settle down and I have already tried to make it clear that the division between seamen and afterguard of the first winter was not maintained so rigidly. In fact the chain of command was not so firm as before and indeed how could it be when we were so few and all had to help to maintain the scientific records so far as was possible._

[Friday,] _May 3_

Last strip of ice in North Bay went [out] at 17 hrs. Line [carrying electric power] to magc. cave [was] broken 8–9 hr. [between 8 and 9 A.M.] & mended after some difficulty.
[Saturday,] May 4

8 hrs. Still blizzing, [mean wind speed] 56 m.p.h. [during the] last 24 hrs. Record gust last night recorded 90 m.p.h.; but one not recorded must have been a good 100 m.p.h. I thought the window would be broken as the result of the pebbles carried by the wind.

Now very thick & pea-soupy outside. Can not keep dogs out of magc. cave. Thermograph also giving much trouble. The gauge to show the height of petrol in the tank was broken off by the gravel. Ice has gone out half way along Inacce [Inaccessible] Id, for 2 hrs avge [average] [wind] vely [was] 80 m.p.h.

[Sunday,] May 5.

Magc. [photographic recording] chart has been put on inside out and shows traces very badly.

  9 [hrs]. Still blowing very hard but drift has ceased.
  14 [hrs]. Drift & snow again. Sun-Sun [from last Sunday] avge wind vely 36 m.p.h. In last 8 days it has blizzed all but Monday.

Gran gave a talk on “How to take meteorological readings.”

[Monday,] May 6

16 hrs. Icefoot shows very blunt icicles above the water. Approx. perp. face [ice foot has an approximately vertical face]. Young ice on North Bay.

  Fairly good day—bright moonlight.

  Cherry-Garrard recorded: “May 6 was one of those clear beautiful days when it is hard to believe it can ever blow again” (Cherry-Garrard, 1922).

[Tuesday,] May 7

Abste magc. obsns. First opportunity [to do these measurements] since return from the West.
[Wednesday,] May 8

Clear & calm—nearly.

[Thursday,] May 9

New ice still holding on in North Bay (of May 6).

High wind again.

I do not think any chess games or indeed card games were at all common, but someone in the party had received a toy which proved to be most popular with all. I think it may have been called bagatelle; at any rate there was a wooden board about 4 feet by 5 feet, with a number of wooden balls, approximately spherical, a miniature billiard cue and a bridge across one end of the board with a number of arches which were wide enough to permit the passage of the balls. Of course all the balls did not long retain their original spherical shape and there was one which had early lost an appreciable amount of wood to which Demetri (I think it was) gave the name “British Pluck.” Its movements when struck by the cue were extremely erratic.

I mention this childish game we all played. It may surprise my readers (if any), but it does give me a chance to say that the reversion to childish games was of real value in holding the party together. So firmly do I believe this that I would suggest that no small party such as ours
THE SECOND WINTER

should be without the wherewithal to play “darts” and “shove ha’penny” which do not really demand the surroundings of a bar as in the old English village “pub.”

The pianola we had was also a great success, but the operators of the machine were few in number—mostly, I think, Cherry and Debenham.

Gran recorded in his diary, The Norwegian With Scott:

“We had the billiards final today. Crean won and Keohane was ‘Jonah’. Two prizes were given: the winner received a bottle of beer and ‘Jonah’ a medal, with orders to wear it at lunch in a week’s time and say in a loud voice as he sits down, ‘I am Jonah’” (Gran, 1984).

[Saturday,] May 11

Ice still holding in North Bay—5 ins.[thick]. On surf, pancake ridges [are] outlined by [salt] flowers 1 in. long, fascicular, and \( \frac{1}{2} \) [inch] thick.

Put up wire to fixed mark [for electric light at reference direction from transit telescope] & out to forth [?]

[Sunday,] May 12

Calm part of day. Still laying wires—to transit inst.

[Monday,] May 13

Wind medium strength.

One dog died in a fit.

[Tuesday,] May 14

Strong wind, & for a short time snow also.

Cleaned N.I. [natural ionization] can.

20 hrs. Quick run [magnetic recordings].

[Wednesday,] May 15

Wind in A.M., much lighter in P.M.—clear.

Set up N.I. Apps. [apparatus].
Obsns [with transit telescope] for rate of clocks.
A.M. Ice in North Bay gone out from berg (outer) to Archibald to A3 [a reference point on snout of Barne Glacier].
 Yesterday's blizz has left small ripple forms on snow surf.; where there is not too much wind, "knobblly" would almost describe the surface.

[Thursday,] May 16

Abste [absolute magnetic] obsns.
Ice in North Bay 30 yds from shore, [is now] 14" [thick].
This ice is of May 11. Clear & but little wind.

[Friday,] May 17

Quick run, 5–7 hrs.

[Sunday,] May 19

Noon. Ice loosening in North Bay. Wide lead halfway to Barne Glr. Pt. from Inaccble Id. See Moon's phase.

Wright's "note" at the end of his diary entry for April 11, 1912 (Chapter 12) expounds his theory that breakup of the sea ice coincides with phases of the moon.

[Monday,] May 20

Ice in North Bay in statu quo. Min –33[° F].
N.I. clock stopped at 8.30 [P.M.?] from excessive cold.
[Wednesday,] May 21

Abs. Mage. obsns.

[Friday,] May 23

Thickness of ice [in] North Bay (as before), 23 ins.
Photos of plate structural Xtals on roof of lobby.

Gran recorded in his diary for this day: “The wind vane on Vane Hill is connected to the hut by wire, so that we can read the wind velocity inside the laboratory. . . . This evening the wires were knotted somewhere, and there was nothing for it but to dress up and go out to try and find the fault. There was a high wind and drift, and it was as black as pitch; before this job was done, our fingers froze. Being a scientist in these parts isn’t all that easy” (Gran, 1984).

[Friday,] May 24

During last night [the] ice in North Bay, all save a short strip 300 yds wide, went out. Wind 73 m. in an hour. Petrol Hut full of dogs this A.M.

Cherry-Garrard gave a talk this night, about rowing.

[Saturday,] May 25

Still a high wind. North Bay unchanged.

In P.M. started to try one of the Pyros lamps. Damn poor insts., press. gauge failed to work & lamp was pumped up till the bottom blew out. Scene of wild excitement. Yelled for Marie to bring extinguisher & with great forethought heaped Trigger's windproofs on the flames. Everyone some gear (blankets chiefly) of someone elses, also with great forethought. I then grabbed the extinguisher, broke it, and expected the contents to go out of the wrong end—Result, got it all over myself & Debenham for a moment. On reversing it, fire promptly went out.

I wanted some heat for a hut I had put together of large boxes whose outside walls and roof were of very heavy tarred paper . . . [the Petrol
This primus [Pyros lamp] was designed to be lit with a match without the use each time of external heating of the orifice by methylated spirits. It had a pressure gauge with a red mark and pointer to indicate the pressure when the hand pump was operated. To cut a long story short, the pressure gauge stayed obstinately immobile so I thought it would be wise to give this up as a bad job. But Nelson, who was next to me at the large table in the hut, evidently thought this was a cowardly attitude on my part, grabbed the contraption and pumped away at a furious rate until the body of the lamp burst and blazing oil poured over the table and on to the floor. The shout “FIRE” brought all hands to the rescue and it was only a short time before the fire was smothered by handy blankets, etc., grabbed up from nearby beds. My bed was quite far away, beyond the pianola, so my blankets were not required; but I did notice how, in spite of the excitement, everyone was careful to take the blankets from someone else’s bed and not from his own.

[Sunday,] May 26

North Bay conditions “in Statu Quo”.

In P.M. wind died away for a few hrs & then restarted. Very low bar. 28”.4 [28.4 inches.]

[Monday,] May 27

High wind. Fixed N.I. gadget.

Preparing door place for Petrol Hut. Banked bottom of hut with snow.

Few hours lull in wind late in afternoon.

[Tuesday,] May 28

Night watch.

Ice as before, wind still blowing.

A.M. slept.

Got door for Pl. [Petrol] Hut up at last.

[Wednesday,] May 29

Abs. Mage. obsns.

Young ice forming in North Bay.
[Thursday,] May 30

Cleaned as much snow out of petrol hut as possible.
Snowing—15 miles [m.p.h.] wind in A.M. from North.
[There is] now a fair slope down to the sea ice in North Bay, i.e. no longer a steep drop from icefoot to sea ice.

[Friday,] May 31

Time obsn. Procyon

This probably means that Wright used the transit of the star, Procyon, to determine the time.

Thermograph (in hut) and N.I. clocks stopped.

[Saturday,] June 1

Time Obsn. & redetn. [redetermination?] of Az. of declination mark.

\[= 75°. 57' .36''\]

[Calculation of weather statistics]

<table>
<thead>
<tr>
<th>Weather at Cape Evans</th>
<th>Mar.</th>
<th>Apr.</th>
<th>May</th>
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<td>Wind Max. gusts</td>
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<td>82</td>
<td>91</td>
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<tr>
<td>Mean vely. in month</td>
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<td>20</td>
<td>25.4</td>
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% hrs. wind over gale strength [i.e., more than 42 m.p.h.]

<table>
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<th>Hut Pt.</th>
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<th>03</th>
<th>'11</th>
<th>'12</th>
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<td>1</td>
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<td>6</td>
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<td></td>
<td>6</td>
<td>0</td>
<td>7.5</td>
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18 hrs. ab't. New ice beyond Archibald gone out with advent of slight wind.
This second winter was a much more boisterous one than the first. It was especially trying I think for Marie Nelson, since his work involved records of temperature and salinity of the sea which had to be made through ice with a reasonable depth of water below the surface, and therefore his observations could not be made close to land. Until very late in this season there was a constant danger of the ice and equipment blowing away in a blizzard.

In one part of his work I was also interested. I refer to the rate of growth in thickness of the surface ice, the occurrence of frazil ice deposited on his cables in the water and on the underside of the sea ice. This deposition showed signs of increased amounts of deposited frazil crystals facing the tidal current, just like the deposit of ice crystals on [the side of] ski sticks . . . facing the wind on days when there seemed to be a fresher bite to the face when facing the wind. Unfortunately, up to the date of writing this (1975), Nelson's records of the dates of occurrence and cessation of these deposits have not been published, but tiny frazil crystals seemed to be present in the sea and visible only by reflection in an artificial beam of light. This has a counterpart also in the atmosphere when at low temperatures deposition was taking place by snow (or water) particles which were so small that they could not be seen directly, but only by reflected light. On such occasions a fog bow was sometimes visible, but free from the colours which distinguish the rainbow in warmer climes. At these times, I remember no example of the formation of a halo round the sun and it may be that the particles were so small that they had not developed a crystalline structure.

On this day Demetri and Hooper took a dog team to Hut Point. One of the dogs, Noogis, had been lost on the return to Cape Evans on May 1. As there was plenty of food for him around Hut Point, they hoped that the dog would have returned there, but no trace was found.

Cherry-Garrard recorded in his diary: “During the first days of June we got down into the minus thirties, and our spirits rose as the thermometer dropped: we wanted permanent sea-ice” (Cherry-Garrard, 1922).

[Monday,] June 3

Freezing in N. Bay.
[Tuesday,] June 4


[Thursday,] June 6

Abs. obsns.

[Friday,] June 7

Setting rock into sand under hut. To be used as a pendulum stand in the darkroom.

The two sets of gravity observations that Wright had made in 1911, with the pendulums swinging in the ice cave, were disappointingly discordant. Wright commented in *Determinations of Gravity* (Wright, 1921): “It was clear that low temperature was the cause of a great part of the difficulty. . . . In the first place the low temperature had a very unfavourable effect on the action of the coincidence apparatus. Possibly greater was the uncertainty due to deposition of hoar frost on the agate planes and on the pendulums themselves.”

Consequently, as we have seen, he tried to make a hut from petrol cases, covered with rubberoid and canvas. By March 17, he had completed this “Petrol Hut,” except for the roof. On March 20, it was levelled in a blizzard. Wright built it again by March 23 but on March 27, the wind demolished it again. He rebuilt it, with the canvas roof on, by March 28. However, even when the hut was banked up with snow, it was impossible to keep it at a workable temperature, or even to keep it free from drift snow.

It was decided, therefore, to place the pendulum apparatus in the main hut and “Debenham kindly lent the use of his photographic dark-room for this work” (Wright, *Determinations of Gravity*, 1921). A hole, two-foot square and one-foot deep, was excavated in the frozen volcanic soil below the floor. A large
kenyte boulder was sledged into the hut, placed in the hole, and frozen in place with a mixture of volcanic sand and water. The top of the boulder was "prepared roughly flat and was level with the floor of the hut" (ibid.). This was the base for the pendulums. Another pillar was made for the clock. To allow temperatures in the darkroom to remain constant, the door was kept closed and observations were made through a small square cut into one of the darkroom walls. "Owing to the low position of the pendulum stand the coincidences had to be observed by lying at full length on the floor, a slight personal inconvenience being the only difficulty involved" (ibid.).

Bar. very low as usual before a blizz. Blizz comes when bar. rises and is very disturbed.

Gran gave a talk on skiing. He had photographed some pictures from books, from which Debenham made slides.

[Saturday,] June 8

Blizz. 1–2 hrs. [At 1 to 2 A.M.] blowing 75 m.p.h. drifting small grains of sand. At start [of blizzard] $t = -36[^\circ F]$.

[Sunday,] June 9

Still blizz. All the ice in N. Bay, less 300 yds, [has] gone. Archibald probably gone.

When the sea-ice thickness grew to two feet, everyone considered it was sure to stay. On it was placed the North Bay screen and thermometers, about 400 yards from the shore; close to the screen, was Nelson's fish trap, some shovels, a sledge, and a crowbar. Nelson confirmed, on the following day, that the whole lot had gone out to sea. Cherry-Garrard commented in his diary: "To lose this ice in North Bay is a great disappointment. . . . We are now pretty well confined to the cape both for our own exercise and that of the mules, and in the dark it is very
rough walking. But if the ice in South Bay were to follow, it would be a calamity, cutting us off entirely from the south and all sledging next year” (Cherry-Garrard, 1922).

Cave and Petrol hut choked up with snow. Last 24 hrs wind vely. (mean) 58 m.p.h.

[Monday, June 10]

Still blizz. t. [temperature] above zero.
Night watch last night.
Noon: All ice in N. Bay departed.
Mitschwingen corrn. [correction] of pendm. now set up in darkroom—is at any rate not larger than at Potsdam.
Pendm. no. 21 is found to have shed its gilding and the underneath metal to have become considerably oxidized.

[Tuesday, June 11]

Still blizzing [snow] & [drift]
Quick run 20–22 hrs. Rather hard to find magc. cave in the storm.
At 20 hrs. snow drifting over footprints very quickly.

[Wednesday, June 12]

Still blizz.
In a.m. footprints of last night in snow standing up above surrounding snow surface.
Deb is going to get a couple of samples of rock from Vane Hill.

[Thursday, June 13]

11 hrs. Still blowing but no [drift]—very warm +18° F.

[Friday, June 14]

Blizz off for a short while.
Ice gone out from C. Evans to the S.E. end of Inaccble [Island] thence to Tent Id thence to Glr. Tongue, tip [of].

Time obsns. [i.e., transit telescope observations] for [clock] rate.

Atkinson gave his talk on the expedition’s plans, giving everyone a chance to express an opinion on whether to go north to relieve Campbell, or whether to go south to see what had happened to Scott and to find out if he had reached the pole. They decided on making the journey south, expecting that they might have to go as far south as the Upper Glacier Depot. They recognized that they might not be able to find the Polar Party at all; many members believed they had been lost in a crevasse on the Beardmore Glacier, but they believed that Scott would have left a message at each depot.

[Saturday,] June 15

Blizzing hard again.

This A.M. door in front of Mage, cave, on being shifted away, blew away. Happily it disintegrated or it would be still going, either in the air or on the sea.

[Sunday,] June 16

Obsns. for time—very bad.

The transit inst. should be tide-cracked [i.e., dumped in the tide crack between the icefoot and the sea ice].

[Monday,] June 17

Swinging pendulum when practicable.

This set of observations was not included in Wright’s final determinations of gravity.

[Wednesday,] June 19

Abste. mage. obsns.

N. Bay trying to freeze over.
[Thursday,] June 20

Still blowing hard and rotten weather.

[Friday,] June 21

Found a great part of roof of petrol hut blown away.

[Saturday,] June 22

Good blowout at dinner.
Still blowing. N. Bay open.
[There] will be many fat heads tomorrow.

Atkinson recorded in Scott's Last Expedition (Scott, 1913): “Cherry-Garrard, our editor, presented us with another number of the ‘South Polar Times’ and the remainder of the afternoon was spent as a holiday reading this, playing bagatelle, or making preparations for a happy evening. The whole hut was decorated with the Christmas tree [made by Gran and Williamson], sledge flags, and some red bunting. A large white ensign was hung over all as a canopy. Nelson presented each member with a very pretty menu card. These were cut out of cardboard and painted to represent Adélie penguins.
“After dinner, when various healths had been drunk, Gran jumped out of the dark room dressed as a clown, with his face powdered and painted. His acting was splendid. . . . Then Debenham put up his lantern and gave us a lot of pictures. . . . He had taken a lot of time and trouble over these slides and they were excellent. . . . The evening closed by a sing-song.”

Gran wrote in his diary: “Half the winter has passed. Our comradeship is splendid and truly unbelievable when one thinks we are now in our third year of extreme propinquity. The two men whom the ship brought, Archer and Williamson, were a fortunate addition to our community. Both are men of excellent temper and humour, who make the best of everything. . . . We’re all united on one thing—here south it’s no good hanging one’s head. ‘Mourning brings not back the dead,’ says Ibsen, and so say we” (Gran, 1984).

**[Sunday,] June 23**

Bar. down to 27°.8 [27.8 inches]—looks like a blizz. Wind dropping in P.M.

*It was a great pity that our equipment did not include a sensitive electric thermometer which would have enabled us to measure temperature accurately. During this winter I managed to find time to measure within the meteorological screen the loss or gain in weight of water frozen in small tops of used cans and jars by hanging these at the ends of steel springs whose deflection change could be calibrated so that positive and negative rates of accretion could be measured with reasonable accuracy and compared with average wind velocity/temperature over the period in question. As expected the loss was greater the greater the average temperature and wind velocity outside the screen while all the measurements of accretion were confined to cases when the wind velocity was nil and usually when the open air showed the existence of invisible particles which could be seen only in reflected light. Diamond dust was the name I used for this form. The cases of accretion were obviously (visibly) due to deposition on the ice surface of the pans of small flakes whose optic axes of the solid crystals all pointed the same way, paralleling the optic axes of the solid crystals on which the deposition occurred.*
[Monday, June 24]

Thick blizz. again.

[Tuesday, June 25]

Breeze, 25–30 m.p.h.

Found that the ice had gone out in a deep Ely. [easterly] bight from C. Evans to Inaccble Id., ditto from Inaccble to Tent Id. and thence probably to Glacier Tongue. [We] may yet be cut off from Hut Pt.

Put a canvas roof on Petrol hut. Unfortunately it was made too short and is not properly tacked down on one side (Nly [north side]).

[Wednesday, June 26]

Deb’s birthday.

Overcast and wind.

Fixed auxy. [auxiliary] circuit for Thermograph time mark.

[Thursday, June 27]

Blizz

[Friday, June 28]


[Saturday, June 29]

Off Evans Cape [where the water is] 3 fms. [fathoms] deep and less (possibly more also) the open water permits one to see the bottom in places almost covered with frazil Xtals in masses up to 3’ diameter.

[Sunday, June 30]

Calm. Ice in N. Bay forming.
THE SECOND WINTER

Last week:

Mean wind vely. 36.0 [m.p.h.]
% hrs. over gale strength 33
Mean wind vely. for month [June] 30.9 m.p.h.
% hrs. over gale force 35
Mean temperature -9.2[° F]

[Monday,] July 1

Blizz again—gusts of 95 m.p.h.—young ice gone again from N. Bay.

[Tuesday,] July 2

Blizz.

[Wednesday,] July 3

Today ice appears to run from Dog Sledge Gully [?] roughly to Gt. Razorback [Island]. Looks like a blizz which will pbly [probably] take the rest of S. Bay [ice] out and leave us marooned. (Max. decln. about now.)

[Thursday,] July 4

Blizz.

[Friday,] July 5

Blizz. Difficult to find Magc. Cave.

In The Worst Journey in the World, Cherry-Garrard wrote: "Gran lost himself for some time on the hill when taking the 8 A.M. observation, and Wright had difficulty in getting back from the magnetic cave. Men had narrow escapes of losing themselves, though they were but a few feet from the hut."

Lecture on [snow] surfaces tonight.
Cherry-Garrard took notes and later wrote: "A lecture given at this time by Wright on Barrier Surfaces is especially interesting with relation to the Winter Journey and the tragedy of the Polar Party. The general trend of friction set up by a sledge-runner on snow may be called true sliding friction: it is probable that the runners melt to an infinitesimal degree the millions of crystal points over which they glide: the sledge is running on water. Crystals in such temperatures are larger and softer than those encountered in low temperatures. It is now that halos may be seen in the snow, almost reaching to your feet as you pull, and moving forward with you: we steered sometimes by keeping these halos at a certain angle to us. My experience is that the best pulling surface is at an air temperature of about +17° Fahrenheit: Wright's experience is that below +5 during summer temperatures on the Barrier the surface is fairly good, that between +5° and +15° less good, and between +15° and +25° best. The worst is from +25° upwards, the worst of all being about freezing point.

"As the temperature became high the amount of ice melted by this sliding friction was excessive. It was then that we found ice forming under the runners, often in almost microscopic amounts, but nevertheless causing the sledges to drag seriously. Thus on the Beardmore we took enormous care to keep our runners free from ice, by scraping them at every halt with the back of our knives. This ice is perhaps formed when the runners sink into the snow to an unusual depth, at which the temperature of the snow is sufficiently low to freeze the water previously formed by friction or radiation from the sun on to a dark runner.

"In very low temperatures the snow crystals become very small and very hard, so hard they will scratch the runners. The frictions set up by the runners in such temperatures may be known as rolling friction and the effect, as experienced by us during the Winter Journey and elsewhere, is much like pulling a sledge over sand. This rolling friction is that of snow crystal against snow crystal" (Cherry-Garrard, 1922).

[Sunday,] July 6

Blizz—very thick.
[Saturday,] July 7

Still blowing hard in A.M.

Last week: Gale force 81% of time
Mean wind vel. 46 m.p.h.
Mean temp. + 2.1[° F]

Stars visible in P.M. & wind taking off.
Today worked out a theorl. expression for the distribution of light in a simple spectral line.

[Sunday,] July 8

During last blizz. ice in S. Bay [remained] unchanged. An enormous quantity of snow was depd. [deposited] up to the A.M. of [July] 6th, after which the wind began cutting away again leaving (marbled) sastrugi. The Ra [radium?] collector is now only 8' above the surf. 2' of snow having been added there, in other places 3 & even 4 ft. or more in drifts. On the bare rock patches no snow has been added.

Ice in S. Bay may go out to Inaccble Id. (pbly not however).

[Monday,] July 9

Worked out prob. [equilibrium profile] of Barrier for const. [constant] snowfall and [assuming] no melting of B. underneath, i.e., bad [sea] water circln. [circulation]. [Here follows an extensive set of calculations.]

Thus Barrier should be, if [there is] good circln. [beneath], a uniform slope up. If [there is] a bad circn. [of sea water under the Barrier] ht. [height] increases very fast for [some] dist. [distance] back [from the front] and is [approximately flat] at the Beardmore [Glacier].

The deduction is that there is a vy. [very] good circn. under the Barrier. . . .

This has been confirmed by direct observations made since the beginning of the International Geophysical Year (1957).
[Wednesday,] July 10

Still blowing. Heaven only knows when the next abs. [magnetic] obs. will be.

[Thursday,] July 11

Abs. Obs. Changed order of obs as weather looked threatening.  
Ice forming in N. Bay.

[Friday,] July 12

At 9 hrs. [it was] quite clear. By 10 hrs. at which time I had got the telephone working, transit inst. up, etc., it was again overcast.  
The most God-forsaken country this is. If I ever get clear of it, I never want to see it again. A man might just as well bury himself in a snow drift at once, as attempt to do scientific work down here.  
Cleared again in p.m. & got [observations of] stars from Midt. to 1 A.M.

[Saturday,] July 13

Swung pendms. 10 A.M. and 5 P.M.  
Overcast all day. Clear at 23 hrs.—will try to get a couple of [star observations] again (did not get).

[Sunday,] July 14

Got [star observations] by great good luck.

[Monday,] July 15

Swung pendms. Got stars in p.m.

[Tuesday,] July 16

Forgot the Quick run in the excitement of swinging the pendms.  
Swung Pendms in A.M. Good [star] obs. at noon.
[Wednesday,] July 17

Fixed cells, petrol engine and cut out. Can now get a decent charging current for the cells.
Lights [went] out in Magc. cave while I was refilling cells.
Working out Pendm. results.

[Thursday,] July 18

Finished (unchecked) pendm. results. Values are quite diff. [different] this year from last year. But are much more consistent this year. The sidereal clock's uneven rate is now the great trouble.

[Friday,] July 19

In night watch, worked out principles of Xtal growth from point of view of kinetic theory of gases. Leads one to the lattice-work theory.

Atkinson wrote in *Scott's Last Expedition* (Scott, 1913): “On the 19th the plans for the Southern journey were laid before the other members. Debenham, who has been suffering from an old knee injury at football, and Archer were the two members who would have to stay by the hut.

“It was a sad blow to both of them to realise their position, but they accepted it cheerfully. The plan was to provide enough provisions to enable two parties, each a unit of four, to ascend the Beardmore Glacier, and two dog teams with a unit of three men to return from some point not as yet settled. Of the men ascending the glacier, four were to remain at the Cloudmaker and collect geological specimens, photograph and do survey work. They would then proceed to the foot of the glacier and continue doing this same work until the return of the others, for all this time they were needed as a support for the advance party. This advance party, the other unit of four, would ascend to the top of the glacier if it was necessary to go so far. On their return to the foot of the glacier both units would march home. At this time it was believed by most of us that an accident had occurred
to the Southern Party, probably at the lower reaches of the Beardmore, in bad weather, and that sickness had nothing to do with the disaster.

“As there was no food either for dogs, mules or men in any of the depots, the initial starting weights would have to be very large. To help as far as possible, some small depot journeys would be made in the spring. During the whole winter so far the cheerfulness of the party had been splendid under the most trying conditions, but there now seemed an added sprightliness with the return of light.”

Cherry was his usual cheerful self, but rather subdued by the loss of his two greatest friends, Wilson and Bowers, who had been with him on last winter’s journey seeking emperor penguin’s eggs.

Nelson, due to the continuous open water, had more time to spare and I believe as a result of a talk I had with him, was interested in the measurement of longitude by lunar occultations and indeed took this matter so seriously that he spent hours predicting future occultations which might occur if the weather was suitable (it usually wasn’t). I had no practical experience and had never made any observations of longitude by lunar occultation but, before the winter was over, Marie had become quite an expert. Indeed one very certain method of getting him up in time for breakfast was to make a casual remark touching on the
subject or indeed any of the subjects in which he was really interested. The result was almost instantaneous: an argument was on and con­tinued as Marie put on his pants and other clothes until he got his porridge, on which I believe he always used salt instead of sugar and usually ate while standing. Towards the end of winter he used to spend his time on night watch working out more occultations—and often left me a little verse, of which I give examples I happened to find in my papers many, many years later:

Fed Up

As through the leaden hours I sit
And try to conjure up, in vain,
For verses bold a fitting theme
My brain is mocked by this refrain:
'Tis difficult indeed to soar
On Pegasus, at half-past four.

How can a mortal at, Oh Muse,
Thy plenteous table hope to sup
When wearied by mundane affairs?
For done (colloquial) to a turn
My rabbit (welsh) if left, will burn.

or

To Charles Seymore Wright

Now when your sleepy eyes
Unglued
Have come (don’t show surprise),
If you’d
Peruse this note; you might
Then be
With knowledge erudite
So slap-bang choc-a-bloc that your back teeth were awash,
Like me.

Semendum cum cibo
The Navigator’s Lament

“It really is a bit too
Thick when you habitually fail (and that too
After making accurate anticipation)
To get an observation
For longitude of station
By lunar occultation!!”

So as not to disappoint you.

Debenham was his usual serene and cheerful self, but I think was not too happy to find his chances of long-range sledging were far from rosy. It must have been very trying for him, and all the result of our football games on ice.

[Saturday,] July 20

Some ice still in N. Bay.

[Sunday,] July 21


[Monday,] July 22

Ice still in N. Bay. Open lead off Inaccessible Id.

[Wednesday,] July 24

Water within ½ m. of Hut in N. Bay.

[Thursday,] July 25

In P.M. blizzard—very thick. – 35°F [Wind] 60 m.p.h.

[Friday,] July 26

[Saturday,] July 27

Blizz, vy. high wind & very thick. Atch and Keohane went out to bring in fish trap [which was set] 20 yds from icefoot. They found it & on the way back were 100 yds to N.E. when they struck land again.

So much snow has blown off surf. that [the] door [covering entrance] to [magnetic] cave was undercut & blown away.

Later in day Beardmore [Glacier area] limestone specimens [were] gone over & indications of several fossils found in one of my pieces. [I] found quite a perfect coral or Archaeocyathus—probably an Omphylum (?) perturbinate (coral). One section has a distinct centre.

Took photos [with] 3” [diameter] lens, 10” [focal] length

[Sunday,] July 28

Still blowing. Ice gone during night from N. Bay.

In his diary, Gran wrote: “Such vile weather I have never seen. . . . In these conditions our thoughts fly to our comrades north up the coast. It must be hellish for them with such slender resources. They have scant provisions, and their clothes must be in shreds by now. Let’s hope they have been able to kill some seal; otherwise I fear the worst” (Gran, 1984).

[Monday,] July 29

“Nougis” [has] been missing the last two days. Hope he has not gone out on the sea ice.

Thick blizz.

Especially in this second winter, the more peaceable dogs were allowed to run loose. Atkinson wrote: “Noogis . . . had been Demetri’s leader on the southern journey; . . . he never lost heart and had been a great factor in cheering the other dogs. . . . He had once before been taken out to sea by the ice blowing away, but on that occasion he had made his way back by the ice-foot
around the Barne Glacier. On this occasion . . . we never saw him again" (Scott, 1913).

[Tuesday,] July 30

Thick blizz.

[Wednesday,] July 31

For the 1st time in many moons, [in fact, since the morning of July 26] wind [was not more than] 20 m.p.h. Five of us took all A.M. clearing away snow so that we can now see the dist. mark for [the] transit inst. Did not try [to make] abs. magc. obsns. as time is more urgently needed [for other activities.]

Night watch tonight.

[It is] getting quite light again at noon now. See the sun in 3 weeks. Got stars for time [rate of clocks at] 10 P.M.

Lamp in [magnetic] cave changed, wires to magc. cave [were] broken at 13 hrs.

Made an attempt to get Az. of dist. mark by slow stars with Alt. [Altitude] Az. Of all the antiquated instruments we have this beast [the transit telescope] is certainly the most so. Tel. would not work & Watch W was taken out—stopped from cold—pity.

[Thursday,] August 1

Blowing again with surf. [low drifting snow].

[Sunday,] August 4

Mean wind vel. last week 37.6 m.p.h.

[Monday,] August 5

Got instructions from Atch re carrying on of pony party.

Wright meant, of course, "mule" rather than "pony." Responsibility for the seven surviving mules had been given in the autumn to Nelson, Gran, Crean, Keohane, Williamson, Hooper, and Archer. Wright had been excused from responsibility of exercising a mule because of his other heavy duties.
Rations are increased this year, by the grace of heaven. New rations [will be the] same as B [Barrier] rations, with one onion added per day per man, and extra biscuit and Pemm. [pemmican], up to last year's S [Summit] ration.

[Tuesday,] August 6

Blizz & high wind [for the] last few days. No ice in N. Bay.

[Wednesday,] August 7

Still blizz. By Bar. [it] looks as if it was only properly begun [?]

    Yesterday's Magc. trace [was] lost as it came off the drum in some way.

[Friday,] August 9


    In the afternoon and evening it was calm, with little cloud and an air temperature close to zero degrees Fahrenheit.
[Saturday,] August 10

[There is a] great deal of anchor ice on bottom in N. Bay.

Yesterday Cherry put in a penguin skeleton to be cleaned this A.M. It was tightly frozen to the bottom & required considerable force to get it up.

A.M. Had some ski running and jumping in a 30 m.[p.h.] wind—very warm.

[Sunday,] August 11

Ski running and jumping.

Dull, overcast, snowing.

[Monday,] August 12

A.M. Time obsns in A.M. for the purpose of Pendm. obsns. (good obs.)

Fine day—much cooler & clear (A.M.)

In P.M. overcast. High tide abt. noon, ab't which time ice in N. Bay shifted out about 50 ft.—will probably come in again shortly.

Swinging Pendms.

[Tuesday,] August 13

Pendms.—overcast.

[Wednesday,] August 14

Pendms.—overcast.

Ice appears to be quite general in the Sound, except in our immediate vicinity.

[Thursday,] August 15

Pendms.—blizz.

[Friday,] August 16

Blizz. Forgot Quick run again this A.M.
Made an attempt to explain some glacier phenomena from the point of view that at low temps the diffusion effect or wandering of mols. [molecules] only takes place. Thus for case of a river flowing from a fixed level to another (sea), the [potential] energy $mgh$ [$m =$ mass, $g =$ gravity, $h =$ height] is dissipated in the form of friction between the mols, since it has a viscosity external friction river-bed = small.

Now, internal friction will tend to a minimum, or $\frac{dv}{dr} = \text{min.}$

i.e. Vel. will become as small as poss. i.e. river tends to lower grade by winding & by widening banks.

In [the] case of a glacier however, internal friction is swamped by the external friction & the loss of energy is therefore a min. for the shortest length of bed, i.e. it cuts straight beds & U-shaped valleys.

[Saturday,] August 17

Blizzard. Pendms. still going.

From this point of view, ice must be considered as a crystalline solid, with a defte. [definite] elastic limit, to which corresponds a max. force and a max. vely. of motion at every point. Crevasses will occur if vely. at that point & that temp. is [greater] than this max. for that temp.

On the diffusion view, ice mols. wander at a rate for any temp. [proportional] to $\frac{dP}{dr}$ & in same dirn. (see Vector Analysis).

This may be expressed as a bulk velocity. For this pressure the vely. is the max. (or limiting vely.).

Take [the] case of striating block of rock grooving the bed [of a glacier]. It has a certain friction which may be expressed as a force which would tend to move the block against the dirn. of the glacier's flow] with a vely. $V$. If $V$ of lowest layer of glacier is $V \geq v$, block will striate, otherwise not.

Thus generally motion of mols. $v$ is [proportional] to $\frac{dp}{dr}$, but real motion is dept. [dependent] on $P$ or $\int \frac{dP}{dr}$.

[Therefore] if $\frac{dP}{dr}$ is const. [constant] throughout Glr., can not striate.
[Sunday,] August 18

Finished Pendm. obsns. & mitschwung.

In *Determinations of Gravity*, Wright (1921) commented that this fourth series of pendulum measurements was "defective in this respect, that during the whole of the series a blizzard was raging, and this prevented the possibility of getting intermediate determinations of time."

Tried to get [star observations] ab't 1 A.M. but too much [low drifting snow] etc. Got them this A.M. Fairly good obsns.

At noon the sun shone on Wn. Mts. [the Western Mountains] almost down to sea level. If we were not screened by the Barne Glr., [we] would be able to see sun tomorrow given decent weather, of which little has so far come our way.

Thin ice, ½ [inch thick] in N. Bay becoming overridden under influence of the wind.

[Monday,] August 19

Tested a sledge made up from a motor sledge against one of the new ones with tapering runners. New sledge miles ahead of the made up one—pulls much more easily.

These sledges, made in Norway and called "Finnesskis," had runners tapering from a width of 4 inches at the front to one of 2½ inches at the back.

Boulik has evidently done some deed which has placed him outside the pale of the Canine social order. They all make a dead set for him as soon as he leaves the annex. Been rescued two or three times already.

[Tuesday,] August 20

 Tried to start Magc. obsns.—could not get the hut up to freezing pt. on a/c of wind—later in day [we experienced] a mild blizz.

In P.M. packed 2 cases of gear.
[Wednesday,] August 21

Ice gone from N. Bay. Blizz.

[Thursday,] August 22

Blizz. A couple of days ago the wooden shutter ? to the window [was] taken down to let light in. Yesterday & today much ice on windows, with fan-shaped formn. [formation] of Xtals showing whiter than the surrounding parts covered with plates [parallel] to plane of the glass. When temp. of hut rises, the Xtals on the fans melt first and show transpt. [transparent] against the whiter surroundings of other Xtals (see Condy. [conductivity] in diff. dirns.)

[Friday,] August 23

Feast of the Sun last night—as a result, no serious work today.

Gran wrote in his diary: “We acted like a pack of schoolboys who had just been set loose on holiday. Nelson and I danced a ‘mixed cakewalk Fandango.’ Wright was the judge of the dance, the last part of which ended as follows: a somersault by Gran knocked Nelson out of the dance, causing the judge, Wright, a paralysis of laughter which resulted in his making acquaintance with the floor of the hut. His hilarity was uncontrollable, and we the artists didn’t find it easy to help in this situation. Wright was therefore carried off to bed where he laughed himself to sleep. . . . It was 2 A.M. before the fun came to an end” (Gran, 1984).

Have handed over the Petrol Hut to Demetri for the dogs. They have a mighty thin time in the continuous blizzards.

Sun skirted the top of Barne Glr. for several hrs. today. Was almost shining at sea level on Inaccble Id.

[Saturday,] August 24


Overcast.
[Sunday,] August 25

Overcast.

[Monday,] August 26

In S. Bay (bight), ice ab't 1 month old is 3' 4" thick. Overcast.
   Night watch. Clear all p.m. − 25[° F]

[Tuesday,] August 27

Clear & cold, slight Sly. [southerly] breeze.
   Looks as if one or two of this moon's occultations may come off.
   Saw sun on C. Evans for 1st time today—had it for 5 hrs. A good example of beastly weather we have been having.

[Thursday,] August 29

Calm & clear. Glorious day.
   In a.m. sent up a balloon [for measuring upper-air wind speeds]. In p.m. walked down towards Razorback [Island].
   Sea ice this year has huge mound-shaped sasti., as last year S. of Hut Pt. on return of 1st ret. [return] party. Snow. Melting on rocks. t [air temperature] − 30° F.

[Friday,] August 30

In p.m. mild blizz, wind & [low drifting snow].
   Packed away some of books and notebooks and abstracts.

[Saturday,] August 31

Blizz.
   Frazil Xtals [have formed] in last 3 days on Marie's line [to his fish trap] to a depth of 10 metres.
Spring Again
With the return of the sun, the tempo of life for the thirteen expedition members at Cape Evans increased considerably. Much of the activity was directed towards the forthcoming search to find, if at all possible, what had happened to Scott and the other members of the Polar Party. There was much speculation on their fate. In *The Worst Journey in the World*, Cherry-Garrard related a conversation with Lashly: “I told him [that I thought they had met their end in] a crevasse. He says he does not think so; he thinks it is scurvy... Lashly thinks it would be practically impossible for five men to disappear down a crevasse. Where three men got through [his own party with Crean and Lieutenant Evans] five men would be still better off. This is not my view however” (Cherry-Garrard, 1922).

On September 1, Atkinson initiated a regular training and exercise program for the mules. Wright had no part in this because his scientific work cut very heavily into his time.

*Cherry in his book* [The Worst Journey in the World] *makes it quite clear that he was far from looking forward to the coming Search Party. After all he had taken part in all the Barrier long-range parties and had lost his two best friends who were with him on the winter journey.*

*Indeed, in retrospect, I would not like to assert that any of our thirteen were looking forward with pleasure to the summer’s work. My case was different from the remainder as I was looking to the opportunity of seeing again the mountains lining the banks of the Beardmore Glacier and the prospect, as planned, of a full day’s work in the upper reaches of the Beardmore [Glacier] where I had last year picked up the bit of rock with its enclosed fossil Archaeocyathid. And I would have bet my all that if I missed that opportunity it would never come again. . . . The weather was atrocious. Blizzard after blizzard carried out the newly formed sea ice, and we began to think we would not be able even to get to Hut Point on our Search Party to the South.*

Wright had concluded his measurements of the acceleration due to gravity by the determination of the period of swing of a standard pendulum, but continued his other work. This included the penetrating radiation observations, the absolute and relative magnetic variation measurements, the coordination of
the aurora observations (which became less taxing as the length of daylight increased), and his part in the meteorological observations. These last became more onerous as temperatures rose and visibility increased, allowing the investigation of the upper atmosphere with hydrogen-filled balloons. However, he had already begun to pack up some of his gear, as well as books and notebooks, for he realized that there might be very little time between the return of the Search Party and the arrival of *Terra Nova* for the final evacuation.

During this spring period, Wright’s day-to-day diary continued to be very scanty, comprising notes on weather and sea-ice conditions. He continued, however, to use his diary as a vehicle for his speculations on the many glaciological problems that he had already postulated.

**[Sunday,] September 1**

Wind & [low drifting snow]

Took a few photos. Ab’t 6 hrs sun.

A few days before, he had reinstalled the sunshine-duration recorder.

**[Monday,] September 2**

Wind & [low drifting snow]

**[Tuesday,] September 3**

Atch, Cherry, Deb and I off to C. Royds. Came back on 4th, two glorious days. Can get [the sledge] over within ½ m. of the hut with two lifts of ab’t 50 ft. Carried gear the last ½ m. . . . Brought back on 4th one of Shack’s [Shackleton’s] old sledges over end of Back Door Bay & over rock to where [our] old sledge was left & came back in.

N.B. Fiskebolle N.G. [is no good] for marching on—no body.

Atkinson wrote: “Our main object was to secure a few luxuries and to leave some spirit and apparatus there for work to be
done amongst the penguins in the summer. We found on arriving that the bays and the whole of the Sound as far as we could see were practically free from ice” (Scott, 1913).

[Wednesday,] September 4

Bubbles in ice & Density of Glr. ice.
1. If glrs. moved at same rate in Polar and temp. [temperate] regions the glr[s]. in cold places should have more dissolved air in them....

Amt. of air is also a function of time [that] ice has been going therefore at end of glr, [ice at the] bottom should be denser than ½ way down....

In the same way glrs shld. be equally crevassed in all climates, since they [crevasses] are simply due to inequalities of motion.

[Thursday,] September 5

Clear & strong wind.

Atkinson noted: “During a stiff blow our chimney caught fire” (Scott, 1913).

The other fire might have been more serious [than the one caused by the rupture of the kerosene lamp on May 25]. The hut’s chimney caught fire where it projected through the roof; was put out, but started again so that the burning material had then to be dealt with by snow from the outside and by pulling the burning material down inside the hut into a tub of water. Needless to say, the chimney was then scraped clean as should have been done before the winter came.

On Friday, September 6, Gran, Nelson, Crean, and Archer went over to Shackleton’s hut at Cape Royds. Gran made a list of all the supplies there and was delighted to find a Norwegian can marked “Wild Duck,” which he attempted to thaw out on a Primus. However, the can exploded, the Primus fell over, and the spilled oil caught fire.
[Sunday,] September 8

Photo of new ice in N. Bay showing ice flowers & Xtals of black ice in the stuff. The black Xtals are those with vertl. plates or nearly so. The white parts have plates inclined to the vertl.

[Monday,] September 9

[Gave a] lecture on glacier motion.

[Tuesday,] September 10

Tried to send up balloon—envelope tore on a/c of too much wind.

During last 5 days frazil ice [has] been forming on edges of Marie’s hole [through the sea ice] at depth of 1 ft., Xtals [are] 1¼” across.

Xtals are [perpendicular] to edge of hole, i.e. edge is always (or nearly always) [perpendicular] to plane of ice.

The venesta boards of Marie’s current dirn. vane (yellow) have a considerable amt. of frazil Xtals attached.

[Wednesday,] September 11

Two Balloons sent up this A.M. 1st one burst, 2nd one [was] followed [by theodolite] for 5 miles up.

Frazil Xtals on Marie’s line down to 10 m. [metres], at 5 m. [they are] 1” across.

[Thursday,] September 12

Blizz.

[Friday,] September 13

Wind & [low drifting snow]

[Saturday,] September 14

Overcast.

Skied down to Slipper. Ice there with elongated bubbles [parallel] to dirt bands.
[Sunday,] September 15

Dull day, [snow] & some wind—looks like blizz.

Today I was going to pack up spring motor for Kelvin mouse-trap inst. [used for measuring atmospheric conductivity]. At lunch had it up with a pointer on the horizl. wheel and wound. By noticing to whom the pointer pointed on stopping we learnt that Deb was the Jonah & most disreputable person present, Cherry had the ugliest mug & was the most reputable, Atch was to be married first, Trigger was the best looking & the biggest idiot, & Marie was the most intellectual & I used the worst language. The last evidently [was] a mistake.

[Monday,] September 16

Blizz.

[Tuesday,] September 17

This A.M., early, [there was a] short circuit in wire to Magc. Cave. Current [went] off at 8 hrs. [A.M.]

Still blowing and considerable [low drifting snow] but clearer overhead.

[Wednesday,] September 18

Photos of 5 days’ crop of [frazil ice] Xtals on 1” line, tapering to a depth of 17 m. [metres]—looks as if crystals did not start till line is below [level of the bottom of the sea] ice—about 6” diameter [growth] of Xtals.

Did not do magc. obsns. on a/c of proby. [probability] of magc. storm.

Atch, Dem. [Demetri], Keohane and Cherry off to Hut Pt. with dogs. 12 emperors [penguins] killed by dogs this A.M. Deb brought some in with his team.

Atksinson wrote in Scott’s Last Expedition that they were “taking a load of stores and with the idea of putting the hut in order. The hut had been nearly buried by the inclement season, but after a great deal of digging had been done it was made more habitable” (Scott, 1913). They brought back to Cape Evans the
only surviving sledgemeter, which was not in good shape. Lashly mended it as far as possible and made another with a bicycle wheel and a counter "which was almost exactly similar to one of our anemometer registers" (Cherry-Garrard, 1922).

In p.m. shifted about 2 tons of snow by cutting out with saws. Snow 3' [deep] on top of roof.
Also took out mules & tried Rani with sledge—went well.

[Thursday,] September 19

Blizz.—mild and fairly cool.

[Friday,] September 20

Shifted much snow.

One part of the roof was beginning to sag from the weight of snow. "This was continually removed and as continually was replaced by the next blizzard," wrote Atkinson in Scott's Last Expedition, (Scott, 1913).

[Saturday,] September 21

Blizz.—Night watch 21–22 [September 21 and 22.]

[Sunday,] September 22

Atch & al came back at noon.
Ponies [mules] out in a.m. Lal Khan went well on snow shoes.

Lal Khan was the mule assigned to Gran, who commented in his diary: "Our 'Indian friends' must have had good training in their native mountains. They take quite naturally to sledge work and even their snow-shoes don't disturb them. Last year's ponies were quite different" (Gran, 1984).
Making picric acid screen for Camera.
   No frazil ice Xtals on bottom in N. Bay.

[Monday,] September 23

Blizz.

[Tuesday,] September 24

Abs. [magnetic] Obsns.
   Tryggve, Williamson & Hooper off to C. Royds today. God only knows what for.
   Still no frazil Xtals on bottom in N. Bay.

[Wednesday,] September 25

Strong wind all day.
   In A.M. shifted snow [from the roof]. In P.M. packing.
   Brought in samples of Alloys from Petrol Hut.

[Thursday,] September 26

Bright day—some wind.
   A.M. shifted snow; P.M. Ponies out—Abdullah, Khan Sahib & Begum in sledge[s]—top hole.
   Atch & Dem. off to Hut Pt. with dogs & back. Cape Royds party back.
   Up at Midt. to see the partial lunar Eclipse—not much of a show.

On the other hand, Atkinson wrote: “On September 26 we had a partial eclipse of the moon which we saw very clearly. The maximum shadow fell just before midnight, and we thought we should be unable to see it, for the moon rose behind clouds to the north of Erebus, but it cleared in time and Nelson was able to get his telescope fixed up” (Scott, 1913).
Today, very few frazil crystals on line. t [temperature of the sea water] appears a trifle higher, per Marie.

[Friday,] September 27

Balloon up in A.M.

In P.M. Lal Khan, Khan Sahib & Begum in sledges. Also Gulab. Gulab took about 3/4 hr to be put in [sledge traces]. Took him (Williamson & I) out to Little Razorback. Others went well. Gulab, once in, gave no trouble but takes alarm at the slightest thing.

[Tuesday,] October 1

P.M. Cells given out.
These were the low-voltage cells, used to light the time markers on the magnetic recording apparatus.

Much snow deposited in lee of hut during this Blizz.
Wind dropped here about 19 hrs. but blowing hard with [low drifting snow] 400 feet high bet. here and Inacible Id. & flat calm here. Very sharp line of demarkation.

[Wednesday,] October 2

Charging cells. Replaced two accumulators by new ones.
Julik died.

Cherry-Garrard wrote in *The Worst Journey in the World*: “We lost many more dogs the last year, and Atkinson has given me the following memorandum upon the parasite, a nematode worm, which was discovered later to be the cause of the trouble: *Filaria immitis*—A certain proportion of the dogs became infected with this nematode. . . . It was present . . . all down the Pacific side of Asia. . . . The probable place of infection was Vladivostock. . . .”

Tried out kite for signal purposes with Hut Pt.
Marie found a piece of Kenyte—bagged [appropriated] by Deb.
Large am’t of loose ice in Sound.

[Thursday,] October 3

Today, in A.M., tinkered with wires to Magc. Cave. At 2.45 [P.M.] sent up balloon captive with bunting as signal to Atch (Hut Pt. & back today). He could not see it on a/c 50 m.p.h. wind, E.S.E. at Hut Pt. with [low drifting snow]. Balloon broke loose & for 1st 800 ft. went to S.E. [at] 10 m.p.h., then fast to N.W., while Er. [Erebus] smoke was about from N.W.
Took Pieri [Pyaree] out in P.M. & had him in sledge. Took it all on the clear run.
[Friday,] October 4

Switched on [the power from the electric cells] to 2 M [2-minute] clock [which was used instead of the] ... hr. mark to [Magnetic] Cave; left other [clock] for wind vely. recorder.

Lal Khan, Abdullah & Begum go well with snowshoes on all four feet. With others have only tried [snowshoes] on fore feet. Went out with W. [Williamson] to help get Gulab into sledge & found just as [we were] about to hitch [him] up that breast harness had not been brought.

Wiring engine dynamo & cells all gone to pot. Hope there is a Special Hell for the man who got [chose] the engine.

[Saturday,] October 5

Blizz. soft snow—very warm.

Night watch last night.

[Monday,] October 7

Still overcast and [snowing]—very warm. First large ¼" snow flakes of season—[with] narrow arms.

Abs. [magnetic] Obsns.
[Tuesday,] October 8

Still fairly warm.

Ice in N. Bay very mushy & covered with 3" [of] snow turning to slush. Over [the] high-cliff outcrop, a 4 ft. boulder [is] coming out of [the] glacier with striations on it, grooves 2 ft long & 1" deep. Horizl. Section of lower part shows grooves almost at rt. [right] [angles] to one another. Also cornices show layerings of sand bet. high- and low-cliff outcrops.

[Friday,] October 11

Narrow strip of ice 200 yds [wide] still in North Bay. [It] has now been in about 3 weeks.

[Checked] sensy. of all magnetometers, & melted ice from lenses.

[Saturday,] October 12

Changed order of night watches [to accommodate the men making sledge journeys with supplies to Hut Point].

Atch, Cherry, Deb & Demetri off to Hut Pt. in A.M. Bealy-chick and ——tichka [two of the dogs] missing [when the dog teams left], have tied them up & will bring them down with [the] ponies [mules].

About 30 emperors off Cape Evans—photoed them.

In R.M. all ponies out to Gt. [Big] Razorback [Island], Lal Khan, Begum & Khan Sahib in sledge[s]—all went well. Tried Picketting line Puyarri [Pyaree], Gulab, Rani & Abdullah—all took well to it. Lengthened the distance between ponies to 9 feet. Took over Rani while Crean went back to fix picketting line. Had a turn up with her and she won on a foul.

[Sunday,] October 13

In A.M. ponies out. Rani, Abdullah & Gulab in sledge[s]—fair walk—long for the two former. I had P——i but as she was stiff in left forefoot only took her over to sledges & back. [The stiff foot] does not seem to worry her at all.
Wright had given up on spelling Pyaree’s name.

In P.M. Marie & I went out to Tent Id.—collected trachyte, granite & gabbroid nodules. titchke leading Deb’s dog team with Bealychick in addition.

Debenham’s dog team was a scratch team comprising those dogs not considered fit for the two teams that would be taking part in the search journey.

Top of Erebus seems diff't to its form last year.
Dogs went quite well.
Eighteen dead Emperors and 1 dead baby seal to S of Tent Id.
Sensy. of Y [component of magnetic variation recording] inst. found after shifting base line mirror of Y inst. Lashley up Inaccble Id. Keohane & Williamson fishing—no luck.
Monday, October 14

Starrik [Stareek] died suddenly during day.

Stareek had been sick in the previous week, but was thought to have recovered.

Pieri [Pyaree] still stiff. I took her only a short distance.

On October 14, Atkinson and Demetri took the two dog teams to lay out Demetri Depot—consisting largely of mule and dog food—12 miles south of Corner Camp. On their return trip, four of the dogs fell into a crevasse and were only extricated with difficulty. Debenham and Cherry-Garrard spent the time surveying and geologizing on Hut Peninsula.

Tuesday, October 15

Wind 30 miles [per hour].
None of ponies in sledge. P. [Pyaree] still quite stiff. Except for a roll will keep her in for two days.
2 emperors in N. Bay—photoed them.
Fine smoke cloud on Erebus, stretching 20 miles or so to Sw'd [southward].
Hooper cleared out Owner's & Teddy's place and will put Western Party's gear in while we are away at Hut Pt.
[Wednesday,] October 16

A.M. Mild blizz.
   Packed up gear for Hut Pt.

<table>
<thead>
<tr>
<th>Rani (Crean)</th>
<th>Gulab (Williamson)</th>
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<tbody>
<tr>
<td>8 N, [rations] but 3 tins salt &amp; 3 peppers.</td>
<td>1 sack</td>
</tr>
<tr>
<td>No C. [curry] Powder</td>
<td>3 fodder</td>
</tr>
<tr>
<td>2 boxes dog biscuits.</td>
<td></td>
</tr>
<tr>
<td>4 onions in sack</td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Lal Khan (Gran)</th>
<th>Begum (Keohane)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 shovels (1 for H. Pt.)</td>
<td>6 dog B. [biscuit]</td>
</tr>
<tr>
<td>2 fodder</td>
<td>big tin oil &amp;</td>
</tr>
<tr>
<td>2 dog Biscuit</td>
<td>pump (10 gallons)</td>
</tr>
<tr>
<td>1 Spring bal. [balance]</td>
<td></td>
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</tbody>
</table>

P.M. "Two Hoops" Blizz.
   Charged cells.
   Demonstrated that the Universal fat headaches etc. & drunken feeling is due to exhaust vapours coming into hut. Exhaust is now under some 12 feet of snow.

One event during the winter which might have had serious results was the discovery we made one night after supper when I stooped to pick up a wooden bagatelle ball from the floor and instead fell flat on my face. I was drunk: drunk with carbon monoxide fumes. The reason I was the guinea pig was that my bunk was just by the kerosene-driven battery-charging engine which exhausted outside the hut. This was quite as it should be until the snowdrift outside completely covered up the cavern so that the exhaust gases came back into the hut and this was the cause of the headaches which had recently plagued me. I took care in future that the exhaust exit was kept open to the air outside the hut.

[Thursday,] October 17

"Four Hoops". Snow & Blizz. As thick as yet seen + 15° F. This snow will make a mess of the sea-ice's surface.
[Friday,] October 18

Mod. [moderate] [low drifting snow] still.

Strip [of ice] 200 yds wide still in N. Bay, but ice [is] out from just beyond C. Evans to the inner berg leaving last year’s “Cave” berg surrounded by water—7 emperors in the vicinity.

In a thick drift this a.m. cleared snow from all around Hut door. Surf. this a.m. in S. Bay very bad, soft and floury [over] about ½ the surf. Soft drifts up to 1½ feet deep.

1½ Hoops easy.

[Saturday,] October 19

10.30 [A.M.] Started for Hut Pt. with Mr. Archer & 4 ponies [mules] and 2 dogs [and Crean, Gran, Keohane, and Williamson]. Made over Cape [Evans] pulling sledges with snowshoes on ponies, surface awful but improved beyond Cape, [and we took] snowshoes then off, & soon became quite good on the sea
ice. Stopped for lunch & got in to Hut Pt. at 17 h. 30 m. [5.30 P.M.] Mules pulled well & easily with an average weight of 560 lbs. each.

Dr. Atkinson & Demetri [came] in from Corner Camp in one day with dog[s] arrived [at Hut Point] 19 hrs. [at 7 P.M.]

At Hut Pt. left 5 sacks fodder, 6 [cases of] dog biscuits, 8 N [rations] (see also Oct. 16) & 10 gallons paraffin.

Glorious day—no wind.

Left 2 sledging shovels at Ht. Pt.

Picketting line snapped.

Demetri Camp 12 m. S. of Corner Camp, [had been] laid in thick weather [by Atkinson and Demetri].

[Sunday,] October 20

Pushed off 14 hrs. [at 2 P.M.] from Hut Pt. with same party, brought in [to Cape Evans] 5 emperors, Deb’s rocks & cameras & his tent. Made nonstop journey Point to Point in 4 hours, thus beating [the] pony record by ¾ hour. Many seals with babies & emperors by Great Razorback.

Per Atch

At Corner Camp
2 sacks oil cake (130 [pounds] x 2)
2 sacks mixture (130 [pounds] x 2)
2 sacks oats (168 lbs x 2)
2 cases dog pemm.
1 part ration

At last Motor
3 tins oil in drum
½ tin biscuit

At Demetri Camp
7 bags fodder
2 [cases of] dog biscuit
[**Monday,** October 21]

Making a picketting line from some of Marie’s steel wire, by laying it up.
   Built up a cavern for exhaust of [battery-charging] engine with a funnel leading up above snow.

[**Tuesday,** October 22]

Still at the picketting lines.
   Dr. Atkinson, Cherry, Deb and Demetri back with dogs at noon.
   In P.M. some wind and [low drifting snow].
   Mules out for a roll only.
   Sleeping bags mended in P.M. (Atch’s and Cherry’s bags).

[**Wednesday,** October 23]

Strong wind and [low drifting snow] in P.M. After dinner—ice skating.

[**Thursday,** October 24]

Glorious day.
   Ponies out to Gt Razorback.
   First skua seen.
   Atch, Cherry and Demi off with dogs to Hut Pt.

   Cherry-Garrard and Demetri continued to Corner Camp on the following day, taking a load of dog biscuits and mule fodder.

[**Friday,** October 25]

The Search Journey
wing to the boisterous weather—blizzards and high winds which hindered the formation of a thick ice cover during the early part of the winter—we had many anxious moments wondering if possibly we might never have solid ice for a clear run to Hut Point with the mules.

Another member of the party, besides Wright, now had reason to look forward to the journey. In *The Norwegian With Scott*, Gran wrote: “Atkinson asked me a few days ago whether on the journey south, I would like to remain at The Cloudmaker and participate in the mapping of the Beardmore [Glacier area]. I naturally accepted. There will be four in my party and our goal will be to climb The Cloudmaker, or at any rate get as high as possible for a view of the whole area. I am grateful to Atkinson for the offer, which really gives me a big chance to make a contribution to scientific discovery.... Now that plans for The Cloudmaker bid have been laid, I’m beginning to worry lest the party will be brought to a halt on the Barrier, thus frustrating the attempt” (Gran, 1984).

The mule party consisted of Nelson, Gran, Hooper, Lashly, Crean, Keohane and Williamson—seven in all, each in charge of a mule; and myself with no mule, in general charge of the mule party and navigator of the Search Party. Atch, with Cherry and Demetri, was in charge of the whole party, but followed in the trail of the mules because we had found the year before that dogs worked so much better when they had a trail or, better still, a party they could see to follow. And, of course, if not following such a trail, then it is more difficult for the dog party to keep a steady course and save a trifle of mileage. I had no mule to lead and on the march had little to do except to follow the course we expected Scott and his party to have taken on their return journey.

As a result, the diary I kept on this journey contains little but notes about surfaces, distances run and troubles associated with the mules with whom I had had no previous experience at all. And the mules were a trouble and occupied far more space than did the few references to the men. This surprised me until I read again Scott’s diary of which a much larger part dealt with the ponies than with the ponies’ leaders. So at least I was following a good example and it may be well here to devote some space to what we may call “the mule trouble.”
I must emphasize first of all that we had none of us any experience of handling mules, and therefore no assurance that we might be treating them wrongly when we treated them as Titus Oates and Anton had done. Lashly was given charge of the mules and nobody could have given them more attention than he did throughout the winter.

Many years later a young cousin shocked me by saying that mules' diet was quite different to that fed to horses. . . . If he was correct in this we had no suitable food for them on the journey. . . .

But I have since wondered if part of the trouble might have been that they had not been trained to eat snow during the winter and that water was not an article that we could supply except at a cost of excessive fuel which we could not spare.

[Tuesday,] October 29 1912

Started [from] Cape Evans at 10.30 A.M. [leaving Debenham and Archer alone in the hut for three months]. Lunch 13.30 [hrs] [Arrived] in Hut Pt. 5 P.M.

Magnificent day. Fair S.E.ly wind.

Mules all pulled well, Khan Sahib very slow however, and Puyaree [Pyaree] fairly tired at end. P. led the way all day. Average weight 450 lbs., brought much stuff and dog biscuit to Hut Pt.

Worked out starting weights for Corner Camp. Cherry [is] back after a good trip to C. [Corner] Camp. He put up cairns along route and had no trouble with crevasses.

Gulab pulled with one of the pony's old collars.
[Thursday,] October 31  5.15 A.M. 03289 [Sledgemeter reading]

Started yesterday, 19.40 [hrs] from Hut Pt. Made good 12 m. following dog tracks. Surf[ace] good for ponies and sledges both. Khan Sahib got caught in tide crack of barrier-sea ice and had to be extricated with aid of a rope [round his] behind. Mules all about same speed except Khan Sahib and Begum who are much slower. All came well and showed little sign of tiring. All off their feed now but went lunch well.

In A.M. 7 m. 6½ registered to Safety Camp.

The mule party sledged at night, as had the pony cavalcade the previous year. “A.M.” means before lunch. Later in the diary, Wright used “A.L.” (ante lunch) and “P.L.” (post lunch).

Sledgemeter 06033
  Gulab badly chafed.
  ½ sack from Gulab.
  Puyarri to Gulab 1 tin biscuit.
  Strong mirage on Barrier.

[Friday,] November 1  06033

Off 8.45 P.M. Oct. 31st. Made 12 m.—ponies tired after a poor surf. for sledge and fair for ponies. At lunch shifted Gulab and Abdullah’s harness. In A.M. [before lunch] part of time following
Sketch map of the northern part of the Ross Ice Shelf showing route of the Search Journey

"Here abouts died a very gallant gentleman..."
dog tracks. Camp for lunch 100 yds. to S. of cairn I did not see.
In P.M. [after lunch] steered by compass and sastr. [sastrugi di­
rections]. Hit the only cairn plonk!
Light during march very bad. Now clearing and sun shining,
$-11^\circ$ F.
First fill [of Primus] from [our] oil tin after lunch.
Sasti. 8" high, from S; light airs all day.
08738 sledgeometer
½ sack [i.e., about 65 pounds] from Puyarri.
1 tin biscuit from Khan to P.

Corner Camp [at] 30 m. 1440 yds. [from Hut Point]
Obsn. [Observation] Hill bearing N 64° W

[Saturday,] November 2
Declination = 154°

Took a few T.B.'s [theodolite bearings] in $-23^\circ$ F but seemed
quite warm. Just got sun before it disappeared.
Arrived here for lunch at 0.45 [A.M.] and have remained
since.
Surf. poor for sledge [but] fair for ponies. Gulab badly
chafed in breast harness.
Came in the 6½ miles [with] men roped together [because
of the crevasses found in this area by the dog teams] but found
only 2 cracks (Per T.G. [Tryggve Gran]).
Glorious day for marching, little wind and bright sun. Strong
mirage at midnight.
Ponies appeared quite tired at end of A.L. march. Shifted all weights on ponies and started from here with an average of 550 lbs. Ponies are simply awful eaters of rope and such unconsidered trifles. They go at a good bat at the start, and at end of march evince a strong disinclination to go on at all. Lal Khan still refuses to eat. Abdullah leading.

[Sunday,] November 3 8 A.M. (off 9 P.M. Nov 2)

Demetri Camp, now strong [low drifting snow] and 40 m.[p.h.] wind.

Arrived in 5 A.M. +. Struck old 10 m. camp and pony walls of last year so that this is 11 m. from C. [Corner] Camp. That camp is 2 m. NW of here and course from there to C. Camp is N 5° W or on [direct line to] Mt. Terror. Made cairns as in N. Bk. [notebook] but sledgemeter gave out after lunch and last cairn is at 9 m. about.

Mules pulled well.

Light bad all day [night] but course good thanks to the sight of Minna Bluff all day.

Good footing for ponies but patches of very heavy floury stuff and very good slippery do. [ditto]. Did our best to fix sledgemeter.

Sun now shining.

On leaving here average wt. [weight] on ponies will be about 670 lbs. Hope they can manage it all right; if not must dump fodder.

[Monday,] November 4 8 A.M. 12 m.

Off 9.30 P.M., in 5.15 A.M. Strong 30 m.[p.h.] headwind and sastr. S 25° W most of day, surf. good in every way, firm and slippery.

Last night wind force 8, very heavy [low drifting snow].

Average wt. on ponies about 670 lbs. Mules went very fast against the head wind.

Unlike the ponies of the previous season, the mules enjoyed travelling into a headwind.
Cairn and flag here.

Mules [are] getting exceedingly cunning, 4 of them have learnt how to unpicket themselves and they can not be left a moment to build cairns, etc., unless a bit of old rope is given them to chew in lieu of their traces. Last night [day] Lal Khan loosed himself but stayed behind wall without doing damage. Nosebags to be put on overnight [during rest period] in future.

At Demetri Camp [we] dumped 1 N [ration box] and 3 [cases of] dog biscuit; took on 7 bags fodder.

Temp. last night —10° F [sleeping] bags about 1 hoop already. Could not savvy why I was feeling cold last night and poked my head right in. Could see daylight in it in at least 30 places—probably a lot more holes unexplored.

The colloquial expression “1 hoop” was used for moderate wind. Here Wright means that his sleeping bag was draughty.

Light very bad, in p.m. [after lunch] had to get off my ski. Ponies not going scran [i.e., eating their food] save Rani, Gulab and P. Dump ½ sack mixture.

The daily allowance was eleven pounds per mule, in the proportion of two parts oil cake to one of oats.

Nine p.m. dogs came up after a tough pull. They seem to have lost heart altogether and could not make their load.

The two dog teams started from Hut Point two days after the mule party had left.
Dug out ponies after breakfast and will give them a day’s rest here for sake of dogs. Ponies still badly off their feed.

At lunch (Nov. 5[,] 2 A.M.)

Gave ponies a feed of mixture heated up in hood with water. Most of them ate the greater part of it.

[Tuesday,] November 5

Overcast and windless most of day. Looks a bit like a blizz. [brewing.] Dogs took two of our sacks of fodder.

Gran commented in his diary that “the horses seem to notice the difference” (Gran, 1984).

Gulab goes his full whack of grub and others are bucking up also.

Wednesday, November 6


Thursday, November 7

Another clear windless day, but overcast in A.M.

At lunch one of last yrs [year’s] cairns [was visible] E mgc [East magnetic] 1½ miles. Again took [sun] sights at 7 P.M. on 6th [to determine longitude].

Dogs had a heavy pull. Ski did not slip [although] surf. firm. Sasti. [from the] S.W. up to 2 ft. high—marbled surface. Strong SWly last night, sleep for a short time [only].

Put the collar back on poor old Gulab today. Mileage from C. [Corner] Camp = 47.
[Therefore,] 9 m. to Bluff Depot, should strike it if I run S 7° W temp. –17°F.

In *The Worst Journey in the World*, Cherry-Garrard wrote: “At lunch Atkinson thought he saw a tent away to our right,—the very thought of it came as a shock,—but it proved to be a false alarm.”

**[Friday,] November 8**

A.M. [Made] camp 5.10 A.M.

Heavy mirage.

Struck Bluff Depot 1 m. after lunch, ½ m. off course to East.

Now 4 m. S. of Bluff [Depot], no cairns visible.

Another calm, clear cold day, –30° [F] at lunch.

On ski and in ski shoes, as usual no trouble from cold.

[Mount] Terror now N 7° W. Depot laid by Teddy’[s] [returning] party evidently about 3 m. to East of last night’s camp. Bluff [Depot] has moved evidently 900 yards to N since laid.

This is in agreement with the surface ice velocity in this area, determined during the Ross Ice Shelf Project in the 1970s.
Shifted 1 sack oats, Begum to P.
  3 biscuit boxes P. to Begum.
  Feeds [for mules] from P.
  Sast. [from] WSW, 1 ft. [high] surf. firm but still a trifle
  sandy owing to a powdering of snow on a very hard surf.
  All ponies a bit chafed. Lal K. [Khan] ate a bit this A.M. after
  a drink of water. Gave Abdullah a drink also—now eating.

Is this a hint we might have followed up later when we had supplies of
oil available [for melting snow]?

Dogs depoted 2 boxes dog biscuit at Bluff [Depot]. One or two
ponies, Khan S., Abd. and Begum showing signs of snow blind­
ness. Put on goggles during camp.

[Saturday,] November 9
(8 A.M.)

Khan Sahib now a full mile slower in 3 than the other ponies.
Marie has a glorious crop of frostbites.

  Nelson had to jump back one step after every couple of paces
in order to keep his circulation going. Cherry-Garrard noted in
his diary (Cherry-Garrard, 1922): “Nelson’s face is a sight—his
nose a mere swollen lump, frost-bitten cheeks, and his goggles
have frosted him where the rims touched his face. Poor Marie!”

Overcast lightly Cist. all day [cirrostratus during march] with
light variable wind. Ski shoes working fine.
  Sast. SW by W 1 ft. [high] slightly softer in patches, firm
usually but still a sandy top layer. At lunch —20° [F].
  Dogs take 1½ sacks more from here, leaving 520 lbs. ab’t
per pony. Lal. & Abd. still off their feeds.
  Wind now Nly. Looks as if blizzing to Nwd. [Northward.]
  12 m. by our sledgemeter (Lashly’s); 11 by dogs.
[Sunday, November 10]

(9 A.M.)

Same surf. (dropping ?), same sastr(ugi). Est[imate] 4 m. from 1 Ton [Depot]. Clear, calm and cold, over 12 m. today.

Sledgemeter went bung before lunch.

Same ponies still off their feed. Khan a trifle faster today.

Lashly & Crean say pemm. oily, probably due to liver that is put into it being boiled. t = 20° F at lunch.

Fog bow on getting in to camp.

[Monday, November 11]

5 A.M.

Five miles in to 1 Ton [Depot] before lunch.

After lunch made up depot of ponies [fodder] under large bamboo & flag.

Three sacks oats & old snowshoes of last year under sledge, nothing under small bamboo & flag, 2 cases emergency bt. [biscuit], 6 ft. to W & buried 30 lbs. liver. 8 ft. to N & buried in tanks 1 fancy biscuit box, 2 cans milk, 3 N [ration boxes], matches & \( \frac{1}{2} \) tin salt, 1 cornflour, 1 cocoa & 1 tin cocoa, 2 tins Capstan bacca [tobacco], some onions also less pemm. & all oily in another tank. 1 XS ration & 5 lbs onions & chocolate 5 slabs. Also in dog bisc [biscuit] box: \( \frac{1}{2} \) tin spirit, 1 empty & 2\( \frac{1}{2} \) of oil. Everything save bisc. well buried.

Here we noticed for the first time that many of the bags of pemmican rations smelt and tasted of the kerosene fuel, which could only be due to leakage or evaporation from the tins of oil.

Surf. during march as before (also sast.) but \( \frac{1}{4} \) in. of sandy snow on top.
Took ex mer. [ex-meridian sun shot] during last sleep.
Dogs [do] not [have] enough to eat on 4 biscuit a day so have
taken XS & 2 other (old) bags oily pemm. for themselves.
Tried Rani & Gulab in lead, [they] do not go well [there] so
will have to go back to Abdullah. 500 lbs per pony from here.
Pity we did not know about the 3 sacks of fodder before.
Got a proper punk [frostbite] on cheek this A.M. in a nasty
beam wind, now leaking copiously there.
Sun dimly shining during march. 1 ton [Depot is] ¾ mile off
to E of our line. Saw it 3 m. away with the glasses.
The same three ponies still off their feed.
Curious how oil (well away from XS [rations]) has managed
to permeate the whole ration.

[Tuesday,] November 12

11 m. S of One Ton by old Cairn.
Found Owner, Bill & Birdie in tent.
Evans went mentally first then physically at foot of [Beard-
more] Glacier, Feb. 15th. Titus got a badly frostbitten foot but
struggled on till Mar. 17. Knowing then he had no hope & real-
izing that he was a drag on the party, he walked out into a blizzard
about 19 m. south of here.
A damn fine finish.
The other three were caught here short of oil & food by a
blizz on Mar. 22. Last entry on the 29th. Last entry in Owner's
diary “For God’s sake look after the rest”. Cold and exhaustion
did for them, capped by the week’s blizz.

The last entry in Scott’s diary was in fact: “For God’s sake
look after our people.”
Are moving 20 m. S. to try & find Titus. Then back & see how [sea] ice is out west & try over Campbell’s way.

[Scott and his party] got to pole on Jan 18th & found Norwegians had been there on December 17th. It must have been a fine feat (both journeys).

[They] collected about 40 lbs of specimens from Cloudmaker & carried them the whole way in, together with all scientific gear save theod. [theodolite] & camera.

Took chronrs. [chronometers] from them & Atch read burial service then covered them up with snow.

The party note that a large proportion of the oil had evaporated at each depot. 2nd return party found the same.

Will try to get all gear back to Hut Pt. with 5 ponies.

In his memoir, Wright expanded on finding the tent in the following way:

Next day we found the Owner, Wilson and Bowers in their tent. To me this came as a complete surprise as I had been quite certain that we would find they had perished among the crevasses on the Beardmore Glacier. I had been plugging along my chosen course when I saw a small object projecting above the surface on the starboard bow but carried on the chosen course until we were nearly abreast of this object. . . . I decided [it] had better be investigated more closely, but did not expect it was of great interest so told the mule train to continue south while I
went over the ½ mile or so to examine what it was. It was the 6 inches or so tip of a tent and was a great shock. . . . I tried to signal my party to stop and come up to me, but my alphabetical signals could not be read by the Navy and I considered it would be a sort of sacrilege to make a noise. I felt much as if I were in a cathedral and found myself with my hat on.

Eventually it got across to the party that I wanted them to come in and I went to meet them, as it seemed inappropriate to camp close to the tent, which I ordered should not be touched until Atkinson and the dog party came up. I think this was about an hour later. . . . I think the mule party behaved most properly and the usual noises of making camp were absent. I had halted them about 100 yards away from the tent and there was of course much speculation as to what had occurred.

When Atch came along and I told him the tent had been found, he took command of the future arrangements.

We cleared away the snow and opened the tent to find there were only three occupants: Scott, Wilson and Bowers. Scott we thought was the last to die, his diary was outside his sleeping bag and his arm half across Wilson’s body.

However, there was a note in Bowers’ handwriting on the back of one of Scott’s messages indicating that Bowers was probably the last alive.

All had died peacefully in their sleeping bags. Atch took the diaries and later read to us all the parts that enabled us to know roughly what had happened. The five-man party had reached the South Pole on January 18th, 1912, but Amundsen and the Norwegians had already done so on December 17th reaching the Polar Plateau by another glacier. Evans had been the first to go mentally and then physically on February 18th at the foot of the Beardmore. It was thought that he had fallen into a crevasse and was concussed. Titus Oates got very badly frostbitten feet but struggled on until March 17th with gangrene. Then considering he was a drag on the party he walked out into a blizzard about 19 miles south of the last camp of the remaining three. As my diary says: “A damn fine finish.”

Atch then read the lesson from the Burial Service in Corinthians. Then some prayers from the Burial Service. “And there with the floor cloth below them and the tent above them we buried them in their sleeping bags—and surely their work has not been in vain” [Cherry-
Depoted all gear but 2 bags fodder, 2 oil, 2 biscuit, 2 N [rations] in W [?] bag & tents & personal gear. Also 2 10 ft. sledges.
Shot Lal Khan & Khan Sahib, both in very poor condition.
Pushed on with remainder 6¾ miles.
Built a large cairn over the bodies, surmounted by a [cross] facing S and W.

The large cairn was surmounted by a cross made of ski runners and the note recorded by Cherry and signed by all members of the Search Party: “A slight token to perpetuate their gallant and successful attempt to reach the Pole—incllement weather and lack of fuel was the cause of their death.” The death of Evans on the Beardmore Glacier and the death of Oates in his pitiful attempt to ensure the safety of the three others is also commemorated in this record.

Fine day but nasty searching headwind. Gulab was led without sledge. Ponies went well with about 200 lbs. apiece. Surf. softer.
Started after lunch over undulations as yesterday’s march.
Mules are a poor substitute for ponies. Not many will see Hut Pt. again, I think. Doubt if any would have got much further than this if surfaces had been as bad this year as last.

[Thursday,] November 14

Up 7 P.M., off 9.10 [P.M.], total 13 m. In sight of cairn ahead. We turn back as soon as poss. [possible] & dog [teams will] make [cross] & build cairn, then follow after.
Blizz. impending—very thick — 20[° F] at lunch & all day a nasty 25 m.[p.h.] wind with low [drifting snow]. At about 7½ miles picked up theod., camera & Titus’ sleeping bag at pony walls. Theod. legs about 1½’ above surf., no signs of walls at all. Heavy surf. & fairly soft. Sasti. mixed as all way from 1 Ton [Depot].

Started cooking “N” ration.

[Friday,] November 15

13 m. on back trail, 7 m. S. of “Last” Camp.
Surf. soft & sticky, a good job the ponies had little to pull. Dogs [dog teams] built cairn and made cross.

In the early morning of the 15th we built a cairn with a cross on it near the place where Oates walked out to his death in a blizzard, with a note lashed to the cross which read: “Hereabouts died a very gallant gentleman. . . . He walked willingly to his death in a blizzard to try and save his comrades beset by hardship. . . .”

Selves off 9.30 P.M. as I woke up 40 mins. late. Camped 5.30 A.M. at old pony walls, so only had to repair them.
Onions go fine in hoosh, need no cooking—only warming.

Last night much [low drifting snow] & all march low drift from SSW. Blowing up again now.

[Saturday,] November 16

Blizz. & quite thick most of day. Made 7 m. B. [before] lunch, first 5 following out trail, then light got very bad & Marie, Trig-
ger & I lost the trail. Made on, however, by wind [direction], [low drifting snow] and compass & saw one of sledges by [the cross] when 100 yds. away. Camped & [have] been here since.

Surf. softer than on way out, & after this snow & blizz. will probably be very sticky,

Abd. & Begum will not even eat biscuit now.

[Sunday,] November 17 9 A.M.

One Ton [Depot] on return.

Bad light, slight Sly breeze, now fog Xtals & star snow + 15[° F] all night.

Brought along all Sn [Southern] Party gear save tent, floor cloth & sledge. Now pulling nearly 500 lbs per pony. Letter from Amundsen to King Haakon found among bump, must remember to give it to Atch.

Leave here in depot: oily XS ration & 1 sack fodder 130 lbs.

At Last Camp 2½ sacks [fodder] 400 lbs, take on 1 sack fodder & dogs take one. Will try ponies on XS oatmeal tomorrow. Dogs still on B ration, so are going to give them onions. Onions [are] damn fine things.

Polar party must have had a hell of a time, since 82° S [on return trip] – 37[° F] nearly every day & – 47[° F] nearly every night according to Atch.

[Monday,] November 18 9 A.M.

Rotten light all day, steering by compass & wind, Marie & dogs backsight. Picked up all cairns.
This gave me the opportunity to try out an idea I had, to make use of the dogs still behind us, and Nelson about 200 yards behind the mule party, to steer entirely by compass with myself 200 yards in front. The idea, in the absence of a horizon, sastrugi, wind or drift was to start with myself, the mules and Nelson on the correct compass bearing, for me to maintain my position on the march in line with mules and Nelson, who then followed my tracks. It worked very well if one occasionally readjusted one's position on Nelson by magnetic bearing.

Still blowing SSW surface better in p.l. [post lunch] but ponies sink in a long way in the soft patches. Begum got loose at One Ton [Depot] yesterday & chewed all string off Abdullah’s tank & ready biscuit box, also part of wood of recovered sledgemeter. Recovered inst. box is no. 11.

One half sack fodder now at 1 Ton. Tried Abdullah on oatmeal—ate but little. Rani getting very thin now.


All save Gulab off their feed. [At] all the 10 m. stops at cairns [we] give them bits of rope to chew. Rani & P. chew the same piece solemnly from diff. ends. P’s delight & special tit-bits are tea leaves (used) & tobacco ash. Hope the mules buck up when land shows up. Going slower every day.

[Tuesday,] November 19

Force 4–5, wind SW all march. Surf. much better but many soft patches in which ponies [sink] in up to their knees. Mules came along in grand style with this stern wind.

Woke up 20 mins. late per Marie. Will try to make Bluff Depot for lunch next march. Light, fair & clouds patchy.

Abdullah always leads & follows my ski tracks faithfully. Marie and I were ahead in p.l. & together & as I wanted to fix my ski a bit, I turned at rt. [right angles] & went about 40 ft. to the side, Marie keeping in the same line. Abdullah, however, took the rt. [angle] turn as well & came to a dead stop just behind me. It is quite a manoeuvre for me to get back to see the sledgemeter without A. following me. Mules go well, each stepping in former ones tracks & all save Lashly and Crean are now on ski.
The valance of our tent torn again for 3rd time. It is quite rotten.

[Wednesday,] November 20 7.45 A.M.

11.9 miles wind force 25–30 miles [per hour] all day. Light shocking, surf. very bad & very soft. Picked up all cairns, made last two bang on by compass & wind. Camped 100 yds from 2ble [double] cairn at lunch without seeing them till after [lunch] and that though I knew we were within 200 yds of them.

As the whiteout was so intense we left a flag to guide the dogs. They, the dog party, found the flag and brought it along with them, but Cherry has said they had seen no sign of the double cairn which it was intended to mark.

Mules ate ½ a depot bamboo since lunch & a few odds and ends but little else. Went well in A.M. [ante lunch] but badly on bad surf. in P.M. [post lunch].

[Thursday,] November 21  

8 A.M.  12.2 miles.

Sast. SW, cleared after 2 hrs march; very soft in patches. Mules very tired after march. Abdullah & Rani wobbly on pins. Whole outfit eating about 12 lbs grub per day only. P. after lunch was given a sugar bag with tea leaves and oats in it, tied up. She ate off [the] top of bag & then ate tea leaves & rest of bag, but left the oats.

We realized this was a significant result which could only mean that oats was no food for mules when working on the Barrier. . . .

A. and R. will do well if they make [it] in to Corner Camp.

Dogs picked up Teddy’s depot [made during the Last Support Party’s return trip] 2½ miles off course to E. & 9 miles back, but could not find theod. & stand. Thermr. [thermometer] no. II from this depot.


2 N rations started, 1 from Abd. [Abdullah’s sledge load] 1 from Rani.

Weekly Bag given to Lashly.

Dumped ½ sack oats from dogs.

[Friday,] November 22  

9 A.M.  A.T. 3½ secs.

Fine sunny day with much fog & mirage, See [Notebook] re fog and rising air currents from inside of Barrier. Saw banks & streaks of cloud rising about 100 ft. per min.
Rani evidently on her last legs. May however last till Corner Camp.
Sast. SSW, huge drifts in lee of pony walls 4–5 feet high.
Giving Rani & P. dog biscuit. Abdullah has wonderful vitality, may even see Hut Pt.
Made 12½ m. & should make Demi [Demetri] Camp tomorrow night.
P. alone eats dog biscuit.

[Saturday,] November 23

Camped ½ m. N 5° W of Dem. [Demetri] Camp. Passed within 200 yds. of depot without seeing [it] & sent dogs back to it to pick up gear. Dogs hurry on to Hut Pt. alone tomorrow, as quickly as poss.
R. & A. very tired again tonight.
Sast. levelled down again but surf. quite good.
Ready b[iscuits?] from & on P. & Gulab [?].

[Sunday,] November 24

At Corner Camp

Took rope from motor for ponies to eat. Rani has eaten a little oats, also P. Gulab still eating strong.
Light in A.L. awful; no wind no sast., surf. good fahr but ponies going in badly. In P.L. light pretty good but ponies [sinking] in nearly one foot each step.
Cached ½ sack fodder at east end of E pony walls by Dem. Camp & are taking ½ sack from C. [Corner] Camp.
Dogs passed us at lunch & will go ahead now [they are] about 4 m. towards Castle Rock.

[Monday,] November 25

Fine day, in A.L. struck one crevasse (Begum) running towards Erebus for a mile or more when [we had been] under way ½ hr, in P.L. lightly overcast & foggy.
Now [we are] on dog trail. E side of W[hite] Id. [is] scarped below by its glacier.

At 6.30 A.M. fine parhelion as:

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  colours bright
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In A.L. wind & [low drifting snow] forming sast of form:

over these Xtals were rolling slowly, elsewhere were going along very fast. Marbled sast. are evidently formed by everything else being blown away. Those forming were made of very large Xtals & were very sticky.

Came across all on ski all day.

Got Begum out of soft patch by rolling her over.

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[Tuesday,] November 26

8 A.M. Safety Camp

Surf. on whole not too good.

A. walked last 7 miles [i.e., did not pull a sledge]. Marie, Gran & I manhauled P's sledge and P. took A's. A. on snowshoes first 5 miles in P.L. Keohane & Williamson gave Begum a hand with her sledge. Came through in good time, man-hauling party easily ahead of rest 2 1/2 m.p.h. at least.

Can not find the fodder here (chaff 10 bales).

Fairly overcast all march but clear.

Keohane just found a bale of fodder. All nibbling at it now, a little.

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[Wednesday,] November 27

9 P.M. Hut Pt.

Arrived here this day, 1 A.M. Off to C. Evans W.P. [?] tomorrow A.M.

Met Campbell here brought down [from Cape Evans] by Atch. Thank Heaven all the party well & safe. [They] report [that the sea] ice [is] rocky [unsafe] over west, so just as well we did not have to run over.

Campbell [now senior officer in charge] has vetoed further sledging except Deb's trip up Mt. Erebus.
Marie, Trigger & I man hauled in easily ahead of ponies. Begum very slow & Keohane giving her a hand. Shifted her to P.'s sledge & gave Gulab the ½ bale fodder.

Very warm these days & hut dripping water. Much more press. [pressure ice] at C. Armitage than when we went through [going south, at end of October]. Surf. not too good for ponies. Sea ice worse than barrier.

Hope I have set foot on Barrier for last time.

Mules have been nibbling a bit only save P. & G. [Gulab] would not even go [eat] hot porridge. Drink all the water we will give them.

Western [Northern] Party started down [the coast] Sept 30th, arrived Nov. 6 at Hut Pt. on sea ice [the] whole way.

During winter in snow cave [they] had 1.2 matches per day. Kept blubber lamps going & 1 biscuit per day. Nearly ran short of seal at one time. Evidently had a thin time, though Campbell makes light of it. At all times [there was] open water within sight of Terra Nova Bay & [they] saw no signs of ship, so concluded she had gone down [sunk].

Priestley told me later that he weighed 140 lbs. on arrival [at Cape Evans] and put on 33 lbs. in six days. They had a dreadful winter; their big mistake was that they delayed laying in a stock of seals until it was almost too late.

Will have to make a slow march tomorrow as A. & B. [Begum] can just about totter along & no more.

[Thursday,] November 28

Arrived Cape Evans 1.30 p.m., starting [from Hut Point at] 7.45 a.m. Only one stop off [Erebus] Glacier Tongue.
Surf. good with some bare patches of ice, huge mounds of sast. in places, strong following wind.


Western [Northern] Party fat as pigs & all well. [I] find [that the] wiring [from the hut to the magnetic cave and the distant-reading meteorological instruments has] all gone to blazes, so will chuck magnetic work & wind gadget. +30°F] about now.

Much rock exposed on C. Evans. This year little or no press. off Glacier Tongue & no press. waves as last year. Very few cracks bet. here & the Tongue.
Final Days
With the safe return of the Search Party and of the Northern Party to the Cape Evans hut, the work of the expedition was almost over. Wright had completed his gravity measurements and, when he discovered the very poor state of the electric wiring outside the hut, he abandoned any idea of continuing with his magnetic recordings. While Wright and Gran had been away on the Search Journey, the meteorological log had been continued by Debenham. Thus, the massive compilation of meteorological data presented by G. C. Simpson in Volume III of *Meteorology* (1923) contains readings of pressure, cloud amount, and sunshine duration until the end of December 1912; however, the temperature and wind observations are not given after the end of August 1912.

**[Saturday,] November 30**

Atch shot Begum & Abdullah tonight. Begum so weak she had to be dragged out of stables. Gums swollen & congested. Believe it is pony scurvy they had.

2 killers [whales] seen in North Bay.

**[Sunday,] December 1**


Fine and clear all day—photos of pack.

**[Monday,] December 2**

Calm, fine & clear.

Er[ebus] party—Priestley, Deb, Abbott, Dickason, & Hooper off for C. Royds and mt. [the mountain], & Cherry, Atch & Archer for C. Royds. Gave them a hand up to 3 rocks. Nearly killed me.

4 skua’s eggs found.

[McMurdo] Sound fairly full of pack [ice]. Skua Lake partially melted 3 or 4 ins. [melted and ablated] off surf. at edge since Nov. 1st.
360

[Tuesday,] December 3

9 A.M.

Skua’s eggs for breakfast.  
Icefoot undercutting by melting action of sea water.

[Friday,] December 6

Ice moving in and out of N. Bay under influence of fairly strong tidal currents.  
Found 12 skua’s eggs this afternoon.  
Light airs & snow today & last two days as well.  
Xtals almost filled up & of granular appearance. This A.M. [observed snow crystals] with plate ends on arms of stars.

[Monday,] December 9

9 P.M.

Started Cape Royds way with Campbell & Williamson to do a bit of surveying. Camped 800 ft. up above Cape Barne. Had lunch there & fixed one station A in P.M.

I accompanied Campbell on a survey round Cape Royds to join up Evans’ local surveys with the islands and the Western Mountains [Royal Society Range]. This survey was a leisurely affair but had some compensations because our base was close (sometimes in) Shackleton’s hut, still well stocked with luscious things like mushroom (dried), canned milk, while skua’s and Adélie penguin eggs were all around us for the labour of lifting them.

[Tuesday,] December 10

Moved on a short dist. to Alt. [altitude] 700 feet above Cape Royds.  
In P.M. went down to Hut & brought back grub, milk, cocoa, boneless chicken, skua’s eggs etc.

[Wednesday,] December 11

Few Penguin chicks out. Fixed [station] D in A.M.  
In P.M. left tent standing & took down sledge to within ½ m. of hut & carried gear in. Sleeping in Atch’s tent.
[Thursday,] December 12


Had a magnificent hoosh of eggs & mushrooms for Bkt. [breakfast.] N.B. dried mushrooms [are] very good.

[Friday,] December 13

Loafed all day. Partly clear & sunny.

Some of Penguins have two chicks now. Much thieving of stones from nests by a few of the penguins “on the make”.


[McMurdo] Sound except in vicinity of C. Royds (B.O. Beach [?]) to C. Evans, filled with loose pack.

Got 8 skua’s eggs yesterday.

[Saturday,] December 14

Day passed. Climbed to tent for sledging tables.

[Sunday,] December 15

Erebus party returned in P.M. after reaching top. Fairly good weather, lowest temp – 30° F. [They] had a good sight of Granite Harbour & Evans’ Coves & saw new mts. [mountains] up there. Pack vis. [visible] all the way to N. in Ross Sea (see Deb). Open sea from C. R. [Royds] to C. Evans opening to Wd. [westward ?] but water beyond to W.

Got 9 skua’s eggs in P.M.

Current still from N.
According to Gran's diary (Gran, 1984), he, Campbell, Atkinson, Wright, Cherry, Archer, and Williamson spent that night and the following two nights in Shackleton’s hut in bad weather; they returned to Cape Evans on December 18. Wright’s diary is blank for the period December 15–24.

[Tuesday,] December 24

Cape Evans—loose pack closing in on Cape.

While at Cape Royds, a consistent current from N. was noted, except during winds of 25 m.[p.h.] or more from S.E. High tide about Dec. 22. Shore ice much undercut, evidently considerable melting in water.

Little change in ice condns. at C. Evans but small berg has shifted a bit, fast ice still reaching to Inaccble & Tent Id.

Wright made no diary entries until January 3. The party was not very busy while awaiting the arrival of Terra Nova and the final evacuation. Gran’s diary records for December 20: “Nothing to think about, nothing to do—we just lie and plan the future. Terra Nova can’t be so far away.”

Christmas was spent modestly. Gran commented: “Our provisions would not really stretch to a luxury meal” (Gran, 1984). On December 29 he wrote: “Everything is packed and ready for shipment at a moment’s notice. But it won’t be long now.”

[Friday,] January 3 1913

Pack closing in on C. Evans. Icefoot undercut by water many yards in places. Stadiated Dreadnought to C. Evans in p.m.

Using a stadia bar to determine distances, he surveyed the prominent debris cone, named Dreadnought, on the Ramp behind Cape Evans Hut.

Deb [has] got a fine theory that erratics at C. Royds come from Koettlitz [Glacier], with two later lots [of erratic boulders] from Erebus. Quite agree with him. To get a height of 1000 feet of ice
[to deposit the erratics from the Koettlitz Glacier area at this height] it follows that sea froze underneath ice sheet [Barrier] (including sponges, shells, salts, etc.) Mirabilite, sponges, shells, etc. of C. Royds no higher than 200 ft. or less.

With much new evidence gathered since 1959, this theory that—at least once—the Ross Ice Shelf had been grounded and had extended as an ice sheet far to the north is now well established.

[Monday,] January 6

Considble ice went out from S. Bay yesterday.

Now very large fluffy flakes falling most of day.

Ice still going out from S. Bay. Inacc. [Inaccessible] Id. I think will soon be surrounded by water. Icefoot of shape: showing that melting action of water is only effective close to the surf. of the water.

At noon an unconfirmed report of ship's presence per Williamson.

This is, I believe, the fourth day of almost contins. [continuous] slight snow with little wind.

[Wednesday,] January 8

Still lightly snowing. Little wind.

[Thursday,] January 9

Overcast & wind.

[Friday,] January 10

Overcast & wind.

[Saturday,] January 11

Clear. Much ice in Bay.

Photo by Deb. Slightly strained my left ankle.
Gran recorded that Wright twisted his back playing “the ball game” (Gran, 1984).

**[Sunday,] January 12**

Overcast & wind N.—N. Bay full of ice.

**[Monday,] January 13**

Pack still in S. Bay, but clear to Nw’d.
Overcast.

**[Tuesday,] January 14**

Overcast.
Ankle nearly all right.
No pack in Bay.

**[Wednesday,] January 15**

Blizz. Clearing in p.m. Rotten weather.

**[Thursday,] January 16**

Nly wind—outrunners of pack [are] very water-worn bits.
Partly overcast.

**[Saturday,] January 18**

Ship sighted.

**[Monday,] January 20**

Hut Pt. and [cross].

End of diary.
It was on January 18th that Terra Nova dropped anchor off Cape Evans, just as we were beginning preparations for a third winter in the Antarctic if necessary.

Gran's diary (Gran, 1984) records: “Tomorrow we start slaughtering seals for the winter.”

I think the Shore Party at Cape Evans were, on the whole, pleased to abandon their expectations for a third winter and that this was true even of the Scientific Staff whose work was by no means completed. But I have to confess that I had a niggling regret that my looked-for and expected “one day for scientific work on the Beardmore Glacier” had to be given up because we found the bodies of Scott, Wilson and Bowers so close to home. I had so looked forward to this opportunity and was so certain it would come to pass.

The arrival of Terra Nova led to a scene of furious activity ashore, packing of scientific equipment, records and so forth, and the decision that a memorial cross should be erected on Observation Hill facing South with a suitable inscription chosen (as usual) by Cherry. The ship’s carpenter put its construction in hand at once. It was made of Australian Jarra [jarrah], a very heavy wood, which was carved with the names of the Polar Party, Captain Scott, Wilson, Bowers, Oates and P/O Evans, a short description of their journey, and the words “To strive, to seek, to find and not to yield,” being I understand the last line of Tennyson’s Ulysses.

The job of placing the cross was given to Aitch, Cherry, Debenham, Lashly, Crean, Keohane, Davies—the ship’s carpenter—and myself. The cross was about 8 feet high and very heavy, while the sea ice was melting fast and open pools were forming, but we got safely ashore and found a good place for the cross right on top of Observation Hill, excavated a hole, and erected the cross firmly with its deeply carved inscription facing South. Two of the party had been on Scott’s first expedition.

It was a splendid sight, the hill itself being if I remember correctly some 600 or more feet high [actually about 750 feet] and the cross wedged well in place with heavy rocks. Little did I expect ever to see it again, or to have a photo of myself, taken by Don Evans, reading the inscription some fifty years later.

We made a somewhat hazardous return to the ship dodging the pools of water and slush.
The Journey Home: Aftermath
In his memoir, Wright completes the account of his participation in this memorable adventure:

*I have no record of any diary dealing with the return to New Zealand in Terra Nova.*

The ship's party were of course greatly distressed by our news of the loss of Scott, Wilson, Bowers, Oates and P.O. Evans so close to our large cache of oil and food at One Ton Depot, and relieved by the safety of Campbell's Northern Party, which the ship had not been able to pick up on their return to New Zealand almost a year before. The Northern Party had had a terrible winter in an ice cave too small to stand up in, lit and heated by a seal blubber stove, with a scant supply of food supplied by the capture of seals and penguins.

On January 23, Gran and others collected the Second Western Party's geological specimens from Cape Geology, and on January 26 a party went ashore at Evans Cove to collect Priestley's depot of geological specimens and to inspect the ice cave.

*The return of Terra Nova with Evans in command [now promoted to Commander] was uneventful except for the sight of Lillie squatted on deck and surrounded by the trawl and its load of strange-shaped creatures brought up from the bottom. One type whose name I have forgotten was almost new to science and Lillie had a bucket full of them, bemoaning that he was too short of formaldehyde and bottles to enable him to keep the lot of them. And one occasion I do remember, but not the date, when the fog cleared away to enable us to find ourselves in a covey of fair-sized icebergs, some twenty or more visible within a couple of miles. I shudder to imagine how HMS Erebus or HMS Terror would deal with this case, in the absence of power, and under sail alone. It was February 12th when the Terra Nova returned to Lyttleton with flags at half-mast.*

Pennell and Atkinson had gone ashore at Oamaru. One of the first bulletins that was issued from New Zealand appeared in a Toronto newspaper. It read:

"Bulletin. 11.10 a.m.: Oamaru, N.Z., Feb. 10.—The news of the appalling disaster which befell Captain Scott and his com-
panions was brought to this port by a signalled message from the Terra Nova. The total number of deaths involved in the calamity is not exactly known, but it is believed that 66 scientists and sailors lost their lives."

Most of the party returned to England in Terra Nova, after the ship's necessary refit.

My work was not yet finished. I had to swing the pendulums at Christchurch [February 28–March 5, 1913], Wellington [March 17–20], and Melbourne [March 31–April 3] as a check on the pendulums, one of which had changed its period of swing while in the Antarctic, and the opportunity offered at Melbourne Observatory of checking our results at a place where gravity had already been measured—in case further accidents might occur before I could swing our pendulums again at the gravity station base at Potsdam [which he did, October 4–8, 1913]. During the wait in Australia for a ship to take us (Debenham, myself and two of our sledge dogs) to Canada, I was fortunate to meet at the university at Sydney Professor Edgeworth David (later Sir Edgeworth) [who had been with Shackleton, 1907–1909], and Professor Pollard, who arranged a visit to advise on the suitability of Mount Stromlo as a suitable site for an astronomical observatory. . . .

Debenham, self and two dogs duly arrived in San Francisco and came up against the local authorities who objected to the importation of my two dogs. This was because I had neglected to do the necessary paper work in New Zealand. Eventually the U.S. Ministry of Agriculture [sic] accepted them on my assurance that they had been in quarantine in New Zealand as well as in the Antarctic and that they would only be in the United States one day on the train to Vancouver in any case. These two dogs I had brought with us as presents for two of my brothers in British Columbia. We had to change trains at Seattle, where Debenham looked after our luggage while I went for a taxi with the two dogs in tow; but not for long. I tripped over something and then the two dogs were in their element. They did the towing while I assumed the part of sledge. Clearly the two dogs were pleased to depart from the ship and enjoyed their new and lighter sledge.

One of the dogs I left with a brother in Vancouver, B.C. and the other with another brother, in Prince Rupert, Alfred, a surveyor who had his office in the town—but not much of a town in those days. Sixty years later I met one of the lads who worked for this brother, who was identified among the clutter of Wrights in Prince Rupert as the Wright who owned Beaky chick, the pure white sledge dog with one blue eye.
My younger brother (always known as “Brownie”), Debenham and I joined with my older brother’s survey party and spent an agreeable couple of weeks in the rain, which was and still is so common in that part of B.C. After this Debenham and I left by train for Winnipeg where I had promised to speak at a Canadian Club luncheon. Both Winnipeg and the Canadian Club were several times larger than I had expected and I was very nervous about talking to so large an audience. However I managed to get through in the time allotted. The next day’s paper had an editorial which started, I remember, with the words, “Captain Wright is certainly no orator”—a very just observation with which I am in full agreement.

The following day Debenham and I continued on to Toronto where we stayed a short time with my father, step-mother and her family; two boys, Ben and Ned, and one girl, Helen, all at school. While in Toronto, the city fathers kindly presented me with a very fine gold repeater watch, but the cost of maintenance (new springs) was so high that I used my old Ingersol “dollar watch” in its place.

We returned to England in the northern spring of 1913. Griffith Taylor, Debenham and myself were all invited to stay with Raymond Priestley and make a start on writing up our various scientific reports in the old schoolroom. Mr. Priestley, Raymond’s father, was Headmaster of the local school in Tewkesbury and the “school room” was in his house and was separated from the school buildings, which were closed for the summer holidays.
The Priestleys were a large family of boys and girls and it was not long before one of the girls and I decided we were made for each other and became engaged and eventually married in June 1914. My potential reports on Gravity, Aurora, Glaciology and even Physiography (of the Beardmore Glacier) did therefore not proceed as quickly as I had expected. Griffith Taylor later married another of the sisters, having enlisted her as secretary while writing his book, With Scott, The Silver Lining, while Ray Priestley started on his book, Antarctic Adventure: Scott’s Northern Party. Later in the year, four of us were working at Cambridge University: Debenham and I at Gonville and Caius College, Priestley at Christ’s, and Lillie at [St.] John’s. Taylor for a time was also in “digs” at Emmanuel College.

It is open to question whether it is worthwhile reviewing the lessons learned by us the hard way, since the days of man-hauling long distances or of using mules or horses or dogs for hauling the sledges are now (1975) gone. Cherry-Garrard, moreover, has [in The Worst Journey in the World, 1951 edition] considered the problems under three major headings and there is little one could add to this masterly exposition, except to dot the i’s and cross the t’s. One of the questions that bulked large in our thoughts in those days concerned the adequacy of the food rations. Although a few expressed themselves as more than adequately fed at the beginning of our long journey, I believe, with Cherry, that the food was quite inadequate for the heavy work and to offset the heat losses from the body in low temperatures, and the heat needed to melt the nightly progressive accumulation of ice in the lower part of one’s sleeping bag in really cold weather. This unbalance is increased by the greater drag of the sledge at very low temperatures. I think maybe we all suffered too from a general deficiency of the many vitamins which are now known to exist, but which had not been discovered in 1910, except of course the anti-scorbutic vitamin. And I wonder if the difficulty of Evans’ team in keeping up with the other teams on the lower reaches of the Beardmore [Glacier] may not have been the first indication of Evans’ attack of scurvy but I feel bound to add that this explanation was not in my mind at the time.

And what are we to say of the weather that played so large a part in the loss of the Polar Party?

Scott at the beginning of his Message to the Public [Scott, 1913] emphasised three major causes of the disaster to this party:
(1) The loss of pony transport in March, 1911, which forced me to start later than I had intended and obliged the limits of stuff which had to be transported to be narrowed.

(2) The weather throughout the outward journey and especially the long gale in 83°S stopped us.

(3) The soft surfaces in the lower reaches of the glacier again reduced pace.

(4) But all these facts above enumerated were as nothing to the surprise which awaited us on the Barrier [i.e., the unexpected low temperatures of \(-30^\circ F\) in the day and \(-47^\circ F\) at night and probably lower].

Cherry has much to say also—quoting Atkinson [in Scott’s Last Expedition (Scott, 1913)]—about the proper balance in our ration between fats, carbohydrates and protein, but does not refer to the diet of the Northern Eskimo, which is almost completely made up of seal meat and blubber—a diet which would appear to be much more monotonous than our sledging rations.

But what of Scott’s return journey and the bad sledging conditions with low temperatures on returning to the Barrier? The Polar Party had looked forward to higher temperatures due to the descent from the Polar Plateau. This was the major cause of their decease and Simpson has written a paper [Simpson, 1926] supporting Scott’s view that these temperatures could not have been foreseen on the Barrier so early in the year.

Here, with Cherry, I take issue with Simpson. The only available information about this reduction in temperature which seems to have been relevant are the temperatures recorded on Shackleton’s return journey of 1908. So far as I have been able to do so, I have examined the few numbers mentioned in his book, The Heart of the Antarctic [Shackleton, 1909]. In this account, the first below zero temperature (F) is noted on February 15th, with lower figures of \(-7^\circ F\) and \(-10^\circ F\), and a sharp drop to \(-20^\circ F\) and \(-35^\circ F\) opposite the Bluff. Note that these figures were reported from an area not very far [from] (but north of) One Ton Depot, when the sun was about to set in the evening. From Birdie’s temperature records I note that the first mention of below zero temperature is on February 18th, and of \(-20^\circ F\) on February 26th, after which time the temperature was almost consistently in the minus thirties, and minus forties as the minimum night temperature.

In view of the sharp reduction in temperature recorded by Shackleton in his book, I suggest it is worth examining his full meteorological sledging record. I find it difficult, in view of the low temperatures re-
Weather record of Polar Party on Barrier, February and March 1912, from the log of Bowers and the diaries of Wilson and Scott.
corded by [Shackleton as well as by] the Pole Party, to believe this sudden drop in temperatures is likely to be unusual, and my belief is that this may be a regular annual change and that insufficient attention has been given to the time of year when outward radiation from the soft snow surface exceeds inward radiation throughout each of the twenty-four hours. It will probably not be long before more and better information becomes available since unmanned meteorological stations have become available.
Sir Charles "Silas" Wright at the Scott Memorial Cross, Observation Hill, December 22, 1960. Photograph courtesy of Donald J. Evans
Silas Wright returned to Cambridge University, where he was appointed lecturer in surveying and cartography in the Department of Geography. There, among other work, he continued to write up his scientific reports from the expedition. However, his idyllic life—happy with his new wife, Edith Mary Priestley—was interrupted by the outbreak of World War I in August 1914. Soon he joined the Royal Engineers. As a second lieutenant, he went to France in the spring of 1915, where he engaged in developing instruments and wireless (radio) techniques in trench warfare for the French Army as well as for the British. He remained a second lieutenant for longer than expected as a result of instructing some men in his battalion to stick to the crown of the road while carrying some experimental radio equipment; this resulted in a chauffeur-driven staff officer landing in the ditch. However, when he was promoted, he skipped a grade and was appointed captain.

A few letters from this period are preserved in the archives of the Scott Polar Research Institute, Cambridge. On March 2, 1916, he wrote to Cherry-Garrard, who was an ambulance driver in France:

Dear Cherry,

Jolly glad to hear from you, but I'm sorry that you have been laid up. I had been under the impression that you were gallivanting around in Russia all this time.

Major Barker (Sigs. Div) was asking about you not long ago. Happily he has now left. Thank Heaven. In his place comes Stratton, who has got the rottenest stretch of line in the whole country in my opinion.
Am searching diligently now for places where we come nearest to the Bosch trenches, but for Heaven's sake don't mention this fact to anyone, or I am unput.

Your letter was opened by the Mrs. & passed on to me in due course. It must be damnable to be laid up when all this fun is going forward.

Have seen none of the Expedish. since leaving England almost a year ago. Saw two of Shackleton's crush though—Brocklehurst in the Cavalry & Marshall in some so-called trenches on the other side of Wipers [Ypres].

Give me, I beg of you of it, (as they say in Turkey?) the address of old Atch—he seems to have been having a feeble time too. Ray Priestley is still cursing me for letting him in to wireless but has a pretty fair job now at Worcester—where the Worcestershire sauce comes from y' know. I must drop a line to old Penelope now that I know his address.

Ray is all over himself now he is a prrrroud father.

Hustle up and get well, old man. Will hope to see you in the great ADVANCE.

Yours ever, C.S.W. Capt. R.E. Wireless II Army. B.E.F.

And again to Cherry-Garrard on April 7, 1916, when he was home on leave:

Dear Cherry,

Don't know how things are going with you, but if you are gadding about these days, am going to try & find Atch on Monday A.M. or evening at Cavendish Square.

Will be off again on Tues A.M. in Cambridge somewhere on Sunday.

Yours ever, C.S.Wright. Grammar School, Tewkesbury, Glos.

Shortly after this, he had a three-day leave, during which time he visited Raymond Priestley in Worcester (Priestley was adjutant of the Signal Training Centre) and borrowed from him a motorbike to visit his wife and son, Alfred Charles Seymour, in Tewkesbury. A little later—on July 8, 1916, he wrote:
Dear Cherry,

Sorry to hear you are still groggy. I didn’t realize last time I was over that you were not up or I’d have made a desperate effort to come over and see you.

I don’t expect any leave for some time now, but will try to run in when I do get it. Have you got your car still? If so, I’d try to get you to pick me up & run me down to you from say Oxford. It’s the getting across country that wastes so much time and the Mrs. kicks if I waste any.

Damn the great push—they never push where I am.

Hear from Atch occasionally. Saw Meares a little while ago & of all people, Prof. David. He is a proper sport—out here with the Aust. Miners as a major & still his same old self.

It's very sad about Penelope. [Commander Pennell was lost in HMS Queen Mary at the battle of Jutland, May 31, 1916.] Next to Dr. Bill he's the finest I ever met.

It's very noble of you Cherry to remember about the penguin skin. I'd be awfully obliged if you would have it sent to the Mrs. at the Grammar School.

It's damned hard lines for you being laid this way, but there's no use worrying about 'being out of it'. I'll bet you are doing much more useful work than I am at least—somehow. (My work won't be very useful unless the war lasts a good bit longer.)

There's no doubt you've got the hardest job of the lot anyway.

Well Cherry: here's to a speedy recovery. Keep Cheery and live up to the name anyway.

Yrs ever. CSW. Wireless II Army.

For his work in wireless, Wright was mentioned in despatches twice, and was awarded the Military Cross and the Medal of Chevalier of the French Legion of Honour. He was transferred to the General Staff as Staff Officer in Wireless Intelligence; for his work, he was made an Officer of the Order of the British Empire (OBE).

With the end of the war Wright, now a Major, returned to Britain where he was demobilised. He joined the Admiralty Research Department [later the Admiralty Research Laboratory]
as assistant to its first director, Frank Smith. In January 1919 he wrote:

Room 47 South Block, Admiralty, SRE Dept.
Dear Cherry,

Only too glad to help. The address is as above. Best of luck.

Yours ever, C.S.Wright.
P.S. Got a young dauhaughter [sic] now.

This was his daughter Joan.

Most of Wright’s time was taken up with his work with the Admiralty and his growing family, but he also found time to continue with working up the results of the expedition and helping other members with their work too. Cherry-Garrard was writing the book to which the publishers gave the name *The Worst Journey in the World*.

On August 7, 1919, Wright wrote:

Room 45, South Block.
Dear Cherry,

I find I have lost the paper on which I made notes of the things I was going to do for you. As far as my recollection goes, they were the following:—

2. *Sun dial*. I have asked them to send the figures along to me, as I saw them in the Sedgwick Museum in one of my books.
3. *Aids to Navigation*.

Please let me know if there are any more.

I am forwarding the copy of the diary (which I had typed out again on return, as the original was very faint), but I do not think there will be anything of use to you in it. However, it may amuse you, *qua* diary.

Deb. has not yet been able to find the sights for movement of barrier.

Yours sincerely, Silas P.
The auroral observations, made at Cape Evans during both winters and at Cape Adare while the Northern Party was there, were recorded during the night watches by all members of the parties. Wright explains the situation in the introduction to *Observations on the Aurora*:

"The report which follows is based on data and sketches brought back on the termination of the Expedition, which remained in my charge and were not dealt with until the conclusion of the war.

In the normal course of events, they would have been sent to Dr. G. C. Simpson, F.R.S., for analysis, since the auroral observations were made under his direction. Only at the end of the war were the data rediscovered, and they were then analysed by myself, owing to pressure on Dr. Simpson of work in connection with the meteorological report."

The introduction is dated September 15th, 1921, and the publication bears the 1921 date, although in one section Wright added a note dated February 1922.

In his analysis, Wright concluded "that periods of brilliant and coloured aurorae are definitely related, on the average, to magnetic disturbances at the same station, and that the same relationship can also be definitely traced between aurorae and magnetic disturbances as far apart as Cape Evans and Cape Adare."

When Wright had analysed his observations of the period of swing of the Potsdam pendulums, he concluded that the possible errors in the first two series of swings—made in the ice cave in the first year—were too large to be acceptable, and neglected the observations. The second year's results gave values of gravity of 983.004 and 983.003 cm/sec/sec., but Wright was clearly disappointed with the possible errors even in these values, and with the changes in the period of the pendulums at Christchurch and Melbourne that he observed before and after the Antarctic work in 1910 and 1913. As he noted in his memoir, the Potsdam authorities refused in October 1913 to take back one of the pendulums, so that Wright had to pay for the construction of a replacement. Wright kept the faulty instrument until his death,
when it was given to his friend and fellow physicist, F. N. Spiess, at Scripps Oceanographic Institute, La Jolla, California.

Wright had analysed some of the terrestrial magnetism results, largely in connection with the auroral observations. However, the full analysis was made by Dr. Charles Chree, F.R.S., whose report also appeared in 1921.

Originally, the publication committee of the expedition had intended to include Wright’s report on the physiography of the Beardmore Glacier area as part of the larger report by Griffith Taylor. However, owing to the war and to the other work in which he was occupied, Wright found it impossible to complete the Beardmore Glacier area report in time. Consequently Taylor’s report was published in 1921 as *The Physiography of the McMurdo Sound and Granite Harbour Region*, while Wright’s report carries the date August 29, 1923. In the introduction he wrote: “The Author feels much diffidence in presenting this Report, for the reason he is not a trained physiographer but owes such knowledge of the subject as he possesses chiefly to discussions with Griffith Taylor during the first summer’s sledge journey. . . .” He included photographs of eleven of Dr. Edward Wilson’s sketches made during the Polar Party’s ascent of the Beardmore Glacier, so that all of Wilson’s sketches were reproduced either in this report or in Cherry-Garrard’s *The Worst Journey in the World*.

However, it was as a glaciologist that Wright made his biggest contribution to the expedition and to science. Originally, his was the responsibility for all of the glaciology report but, as he started to include the material that Priestley had gathered in the Cape Adare area, he realized that there were great advantages to a joint effort. Years later, in a tribute to Priestley after his death in 1974, Wright wrote, “I think this was a wise decision, since my interest was chiefly in the causes—the why’s and wherefore’s—whereas Ray’s were in the mass effects [of glaciers and glaciation].” At that time, there were no general texts in English on the dynamics of glaciers and their effects on the land over which they moved. Consequently there was good reason for Wright and Priestley to organise their writing, not so much as a report of observations, but in a broader fashion, covering much of the subject and using
their observations to illustrate their discussions and theories. Wright wrote the chapters entitled *Snow and its Derivatives; Ice Crystals Formed From Vapour; Crystalline Structure of Ice; The Mechanism of Glacier Movement; Ablation and Thaw, With Particular Reference to Antarctic Glaciers; A Review of the Causes of Glaciation;* and part of the chapter entitled *Ice Formations Characteristic of an Advanced Stage of the Glacial Cycle.*

In the foreword, Wright and Priestley expressed their views of the expedition and its leader: “Finally, all would not be said, if we failed to acknowledge the great debt due from us to our late leader, Captain Scott. Never in the history of Polar exploration can the scientists of an expedition have drawn their inspiration from, or owed the opportunity for their work to, a leader whose insight into pure science made him so well able to appreciate the results of their researches. Never can there have been a leader who has personally contributed so much towards the scientific results made possible by his own energy and efforts in geographical discovery.

“The calibre of the southern party of Scott’s last Expedition was proved when, beside their bodies, was found the treasured bag of geological specimens they had refused to jettison when all went wrong with them and hopes of ultimate safety disappeared. So, right to the end, amongst the intimate thoughts recorded in their journals, may be found many gems of information—shrewd observations made even at the point of death—on every branch of science which fell within their range of observation. Glaciology, as every other science, owes a great debt to Scott and his comrades. . . .

“[Scott] was, it is believed, the first man to put forward the theory—since accepted by many eminent glaciologists—that the recent partial deglacierisation of the Antarctic Continent has been due to decreased temperatures, with consequent diminution of precipitation in the continental region about the Pole. . . .

“No more fitting tribute could be paid to the memory of Captain Scott than an adequate presentation to the public of the observations in the collection of which he played so large a part. Truly a monument more enduring than brass” (Wright and Priestley, 1922).
Wright and Priestley were aware of the limitations of their work and of their knowledge of the glaciology of the Antarctic continent. But they were also aware that they had been largely responsible for greatly increasing our store of such knowledge, and that their work was the basis of other studies still to come. At the end of the foreword to *Glaciology* they wrote: "If geographical activity continues throughout the rest of the present century as in the first twenty years, the end of that period should see mankind in a position to draw the appropriate deductions from Antarctic observations, and to apply them with some certainty of success both to Antarctic prehistory and to the elucidation of the paleo-climatology of the world in general. Not only so, but Antarctic Glaciology must go hand in hand with Antarctic Meteorology in clearing up the weather problems of the southern hemisphere and, indeed, of the greater part of the world."

Wright's family continued to grow and his second daughter, Pat, was born in 1924. Wright continued his work at the Admiralty. In 1929, he was appointed Superintendent of the Admiralty Research Department at Teddington, London. In 1934, he became Director of Scientific Research, a position he held throughout World War II. In that capacity he played a major role in the early development of radar. Thus he came into close contact again with Raymond Priestley. Priestley was then Vice-Chancellor of the University of Birmingham and the major invention that allowed radar to be used on planes and ships, the cavity magnetron, was the work of three members of the Physics Department of that university.

In addition to his official work, Wright was a member of the Home Guard, which took over from the Royal Marines the job of guarding the Scientific Research Establishment in case of bomb damage and fire. As Wright commented in his memoir, they also took over the rum ration of the Marines until the mistake was discovered:

> But our section was pretty good and I found it possible and convenient to demote myself gradually from Sergeant to Lance Corporal—a simple process of reducing with a pair of scissors from three stripes to two and then to one.
In 1946, the Royal Navy Scientific Service was formed and Charles Wright was appointed as its first chief. He had been awarded the honour of Commander of the Order of the Bath. Also in 1946, upon receipt of appointment as a Knight Commander of that order (KCB), he became Sir Charles Wright.

At the age of 60, Wright retired from the Royal Navy Scientific Service, and returned to Canada, sailing with Edith in the SS *Aquitania* to Halifax in July 1947. He wrote in his memoir:

*I looked forward to a less sedentary life . . . after sitting in a chair for twenty-eight years, of which about eight were very active years in the expectation of and during World War II.*

In Canada he visited Griffith Taylor, then Professor of Geography at Toronto University, and spent three months visiting other friends in Canada and the United States before reaching Vancouver in October. However, before he could establish himself there, he was asked to become the Scientific Adviser to the British Joint Services Mission in Washington. Although he was much frustrated by some of the bureaucracy, he found the work interesting.

*But the climate of Washington was appalling in summer and no move was made by the Admiralty to replace me, so I took the bull by the horns and retired again.*

In 1951 he bought a house in Victoria, British Columbia, but again found that he spent little time there. Late in 1951 he was invited by the United States National Research Council to take the position of temporary Director of the Marine Physical Laboratory of the Scripps Institute of Oceanography in San Diego, California. There he stayed until 1955, conducting research in radio communication with submarines, geomagnetic noise, and many related subjects. Then he retired again to Victoria.

This time he joined the Pacific Naval Laboratory at Esquimalt, near Victoria, and was soon working on very small geomagnetic fluctuations and their relationship with aurorae. Both varied in intensity with the 27-day period of the sun's rotation. This work led to cooperative research with Stanford University,
conducting conjugate-point experiments, which involved the observation of magnetic variations simultaneously at the two ends of a magnetic line of force. It was proposed to use Great Whale River, Canada, and Byrd Station, Antarctica as conjugate points.

Thus, in 1960 and in 1965, Sir Charles Wright was able again to visit Antarctica. On these visits, most of his time was taken up with his work at Byrd Station, but he was able to fly with the U.S. Navy up the Beardmore Glacier on the way to the South Pole from McMurdo Sound, where the main U.S. station is situated. At last he had the opportunity to gain a much broader perception of the area that he had so much wanted to visit in the summer of 1912–13. On other occasions, he visited New Zealand’s Scott Base. Judging from the photographs he took, he was as enamoured with the sledge dogs as he had been in 1913 when he took two of the animals back to Canada. He also visited again part of the area that he had travelled with Griffith Taylor in the first summer of the expedition. And he flew along Wright Valley.

I had the privilege of naming that valley for him after my first expedition to the Antarctic in 1958–59. Unfortunately, he was unable in 1965 to accept our invitation to land in Wright Valley to see the glaciological work that we were doing on Meserve Glacier, one of the “hanging” glaciers that descend from the Asgard Range towards the floor of Wright Valley.

Early in 1967, Wright’s wife died. Later that year he retired again, transferring his allegiance to the Institute of Earth Sciences of the University of British Columbia, but continuing to work on the same problems that had held his interest at the Pacific Naval Laboratory.

However, in 1969 he retired permanently. With his artist daughter, Pat, he went to live in his cottage on Salt Spring Island, the largest of the Gulf Islands between Vancouver Island and the mainland. There, in the words of Harry King, who wrote one of his obituary notices, “he came to be regarded by the many who visited or corresponded with him as a kind of Antarctic elder statesman.” He continued research into geomagnetic micropulsations, oscillations of the earth’s magnetic field with periods from a fraction of a second up to several minutes. In this work
too, he was indefatigable—according to Jack Jacobs, who wrote another of the obituary notices.

Early in 1974 and continuing into 1975, he started to write his memoir, but at the beginning of November 1975—before it could be completed—he died. On November 13, 1975, his ashes were consigned to the Pacific Ocean in the course of a service on board HMCS Restigouche, off Esquimalt.

Soon after her father's death, Pat Wright started to prepare the present account, spending many years in producing the exquisite illustrations that accompany the volume.

I had the opportunity to meet Sir Charles only once. It was in 1969, when he visited London. I was at the time visiting Dr. Morley Whillans, Canadian Scientific Attache in London—and father of Ian Whillans, then one of my Ph.D. students in glaciology. We had a marvellous and most memorable lunch at the Athenaeum; Sir Charles regaled Dr. Whillans and me with stories from his long and most varied career, and again expressed regrets that he could not have visited us in Wright Valley to see the extent to which “his” science of glaciology had developed.

In 1986 I was delighted to accept Pat Wright's invitation to undertake the editing of this volume. To understate the matter—it has been a pleasure. I am delighted to have met, in the undertaking of the task, members of Sir Charles' family. In the course of working in detail through his diaries, the diaries of other members of Scott's last expedition, and other material from that outstanding scientific venture, I am also delighted to have learned so much more of the life and accomplishments of Charles Seymour Wright—a great Canadian scientist and always one of my own polar heroes.

I hope this volume proves worthy of this distinguished man.

Colin Bull, 1992
**Abbreviations**

As would be expected in informal and personal diaries, Wright used abbreviations, many of which are unconventional. To avoid confusion, a list follows:

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<th>Begum (a mule)</th>
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<td>B.A., b.a.</td>
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<td>mount, mountain</td>
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<td>N.G.</td>
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bob shilling (British currency)
brash ice fragments of sea ice
bung (as “gone —”) gone wrong; out of order
cag discussion
cropper (as “came a —”) a fall; to fall down hard
cryoconite holes nearly vertical cylindrical holes in the ice, formed when the sun’s radiation is absorbed by wind-blown patches of sand or silt
cwm cirque; deep basin on mountainside with steep walls, shaped like half a bowl
duddery clothing and personal effects
dump defaecate
fahrt glide
fascines ice formation with basketwork structure
fascicular crystals bundles of crystals
finnesko skin footwear, often sealskin, often packed with dried grass for insulation
fiskebolle Scandinavian “fish-balls”
fodder usually food for ponies or mules; sometimes toilet paper
frazil crystals/ice ice formed below surface of a super-cooled water body, usually on the bottom or on suspended solid objects
Glauber’s salt mirabilite; sodium sulphate
glither glide/slither
herring Pleuragramma antarcticum
hoops (one, two, etc.) descriptive term for wind speed; “one hoop,” a moderate wind; “two hoops,” a strong wind
Kieselguhr diatomaceous earth used as an absorbent
Mitschwingen correction due to the flexure of pendulums as they swing
mundungus pony dung
névé  literally “last year’s snow;” applied to snow hardened by wind and sun
paraselene “moon dog;” bright spot on lunar halo or corona
Phillips celluloid charger  device for charging electroscope
phut (as “go —”)  go wrong; break down
Primus  portable cooking stove, run on paraffin oil (kerosene)
pump-shippery  latrine
sastrugi  ridges formed by the wind on snow surface; quite frequently, especially after a heavy wind, large areas are covered by sastrugi closely parallel to each other and hence useful for maintaining direction of travel
screwed pack  pack ice formed into jumbled state by action of winds and currents
tarn  shallow pond in depression carved out by a glacier
thumb print ice  cuspate forms produced on ice surface by action of wind
venesta  thin plywood
Zamboni piles  chemical batteries for producing small steady electric currents
The following published works have been consulted in the preparation of this book:


In addition to these published works, much use has been made of unpublished material held in the archives of the Scott Polar Research Institute (SPRI) in Cambridge, England. In particular, reference has been made to the following:

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