

Roald Amundsen and Robert Scott: Amundsen's earlier voyages and experience.

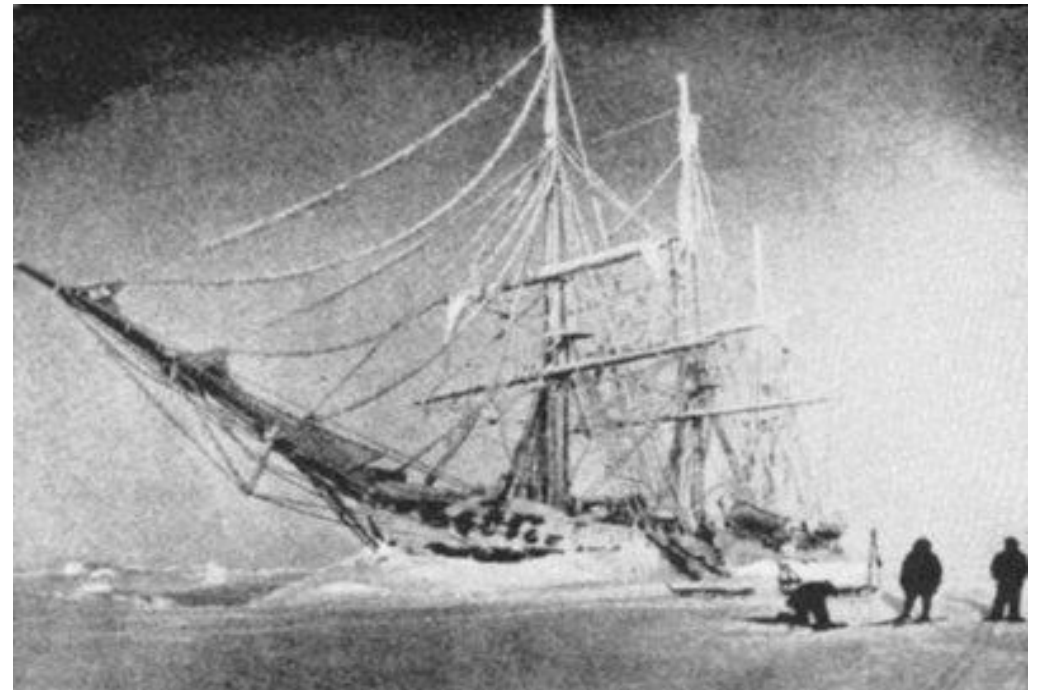
- Roald Amundsen joined the Belgian Antarctic Expedition (1897–99) as first mate.
- This expedition, led by Adrien de Gerlache using the ship the RV Belgica, became the first expedition to winter in Antarctica.



Voyage in research vessel Belgica.

- The Belgica, whether by mistake or design, became locked in the sea ice at 70°30'S off Alexander Island, west of the Antarctic Peninsula.
- The crew endured a winter for which they were poorly prepared.

- RV Belgica frozen in the ice, 1898.



Gaining valuable experience.

- By Amundsen's own estimation, the doctor for the expedition, the American Frederick Cook, probably saved the crew from scurvy by hunting for animals and feeding the crew fresh meat
- In cases where citrus fruits are lacking, fresh meat from animals that make their own vitamin C (which most do) contains enough of the vitamin to prevent scurvy, and even partly treat it.
- This was an important lesson for Amundsen's future expeditions.

Frederick Cook c. 1906.



Another successful voyage.

- In 1903, Amundsen led the first expedition to successfully traverse Canada's Northwest Passage between the Atlantic and Pacific oceans.
- He planned a small expedition of six men in a 45-ton fishing vessel, *Gjøa*, in order to have flexibility.

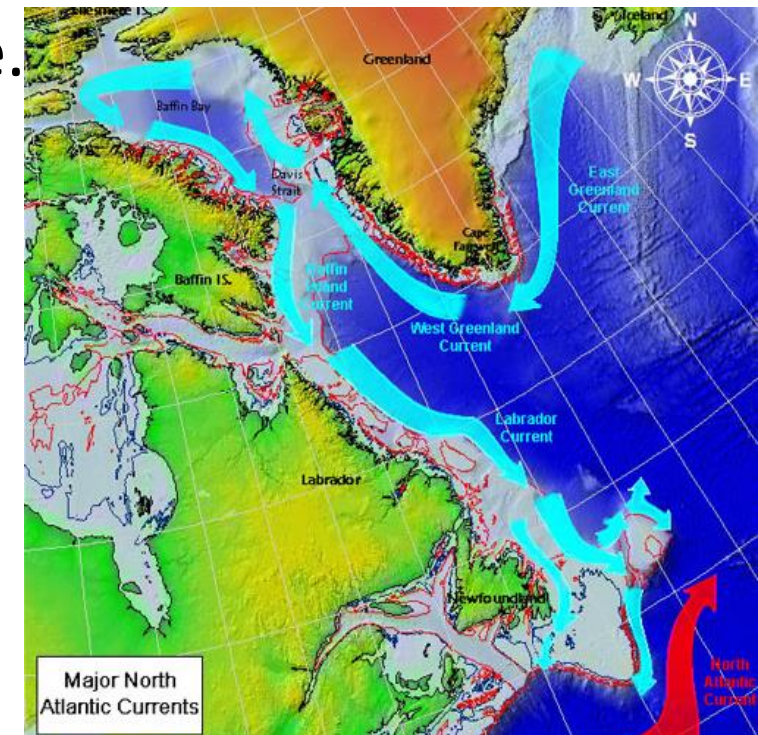


Gjøa today.



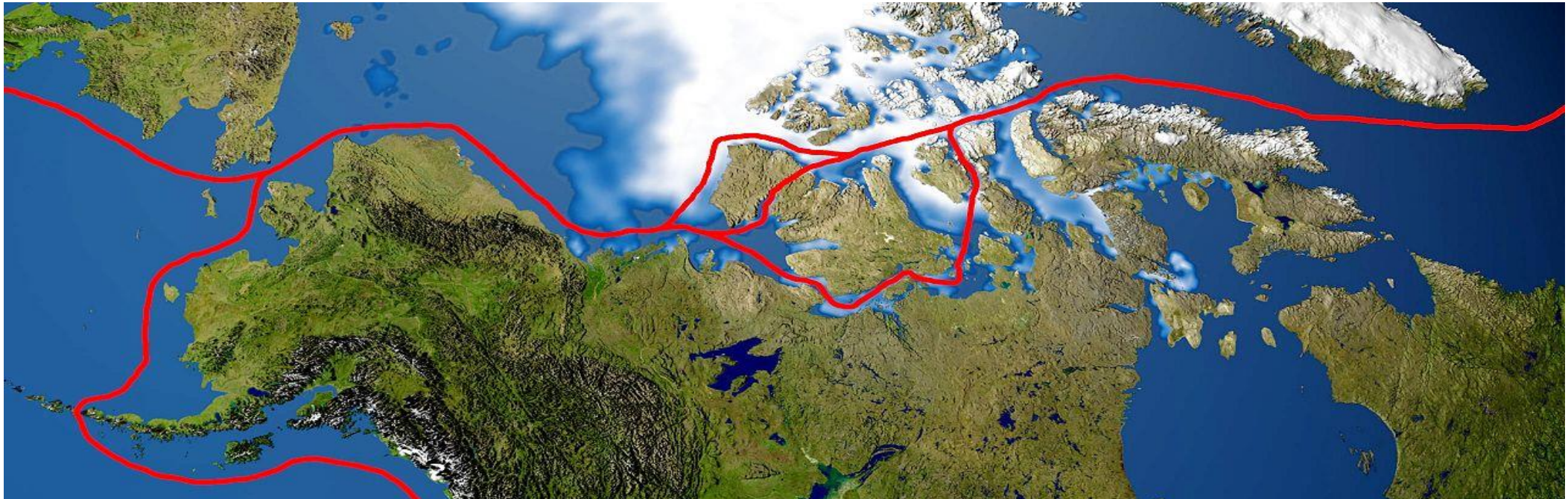
Sailing westward.

- His ship had relatively shallow draft. This was important since the depth of the sea was about a metre in some places.
- His technique was to use a small ship and hug the coast. Amundsen had the ship outfitted with a small gasoline engine.
- They travelled via Baffin Bay, the Parry Channel and then south through Peel Sound, James Ross Strait, Simpson Strait and Rae Strait.



Impact of Climate Change.

- Until 2009, the Arctic pack ice prevented regular marine shipping throughout most of the year.
- Changes in the pack ice (Arctic shrinkage) caused by climate change have rendered the waterways more navigable.



A layover of two years.

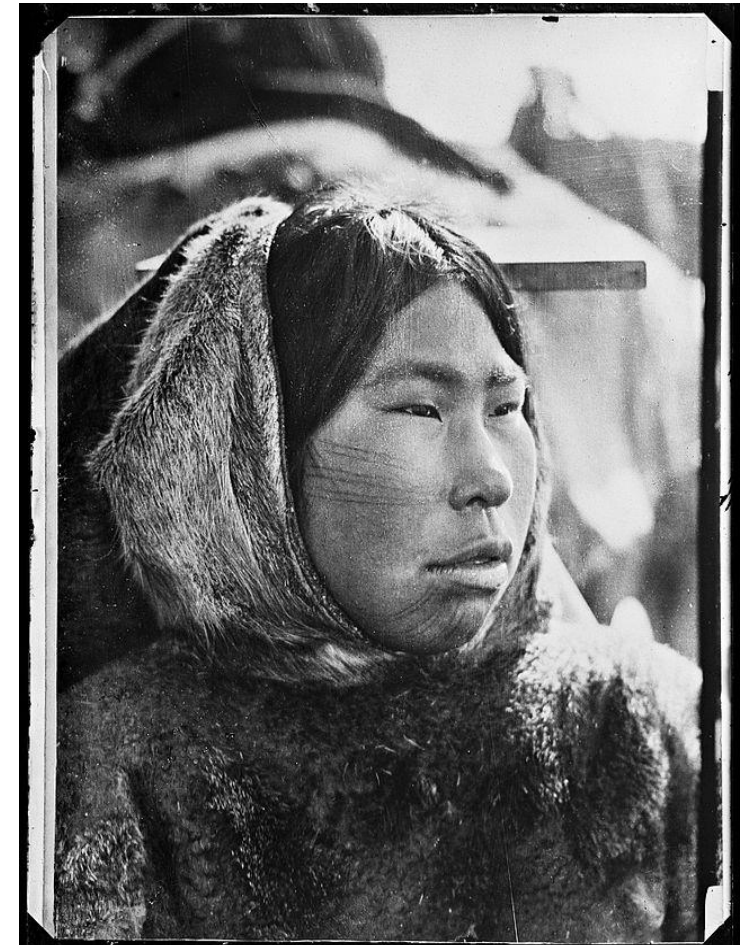
- They spent two winters (1903-1904 and 1904-1905) at King William Island in the harbor of what is today Gjoa Haven, Nunavut, Canada.



Valuable knowledge.

- During this time, Amundsen and the crew learned from the local Netsilik Inuit people about Arctic survival skills, which he found invaluable in his later expedition to the South Pole.
- For example, he learned to use sled dogs for transportation of goods and to wear animal skins in lieu of heavy, woollen parkas, which could not prevent the loss of body heat when wet.

Kablonka, a Netsilik from 1903-05.



One Goal not achieved.

- In September 1909 Roald Amundsen (16 July 1872 – c. 18 June 1928) was planning for the first expedition to reach the North Pole when he heard that the American Explorer Robert Peary had already reached it.
- Robert Edwin Peary, north pole explorer.
- There are some that dispute Peary's claim.



Somewhat devious.

- Amundsen did not disband his group but pretended that he was sailing to the North Pole for scientific research.
- His real goal was to be the first to reach the South Pole for which he set a course after he had left Norway in the Fram(Forward).

Fram in Antarctica.



14th December 1911, Amundsen reaches the South Pole before Scott.

- Roald Amundsen and his crew looking at the Norwegian flag at the South Pole, 1911.



Two visits to the Antarctic

- Captain Robert Falcon Scott (6th June 1868 – 29th March 1912) was a British Royal Navy officer and explorer who led two expeditions to the Antarctic regions: the Discovery Expedition, 1901–04, and the ill-fated Terra Nova Expedition, 1910–13.



A significant meeting.

- Early in June 1899, while home on leave from the navy, Scot had a chance encounter in a London street with Clements Markham, President of the Royal Geographical Society (RGS), and learned for the first time of an impending Antarctic expedition with the Discovery, under the auspices of the RGS.

- Clements Markham.



Scot's first voyage to the Antarctic.

- The British National Antarctic Expedition, later known as the Discovery Expedition, was a joint enterprise of the RGS and the Royal Society.
- Scott may not have been Markham's first choice as leader but, having decided on him, the older man's support remained constant.
- National Antarctic Expedition ship Discovery, moored in the Antarctic in 1902.



Lack of confidence in Scott.

- After objections, and arguments among committee members, Scott was given overall command, before Discovery sailed for the Antarctic on 6th August 1901.
- HMS Discovery and HMS Alert in the Arctic during the 1875–76 expedition.



Ill-prepared.

- Experience of Antarctic or Arctic waters was almost entirely lacking within the 50-strong party and there was very little special training in equipment or techniques before the ship set sail.
- Dogs were taken, as were skis, but hardly anyone knew how to use them.



Tragedy from inexperience.

- In the first of the two full years which Discovery spent in the ice the expedition struggled to meet the challenges of the unfamiliar terrain.
- During an early attempt at ice travel, a blizzard trapped expedition members in their tent and their decision to leave it resulted in the death of George Vince, who slipped over a precipice on 11th March 1902.
- The cross on the hill behind Discovery Hut in memory of George Vince.



Some useful and some inaccurate scientific observations.

- The scientific results of the expedition included important biological, zoological and geological findings.
- Some of the meteorological and magnetic readings, however, were later criticised as amateurish and inaccurate.
- Discovery Hut erected by Scott.



A first attempt.

- The expedition had both scientific and exploration objectives; the latter included a long journey south, in the direction of the South Pole.
- This march, undertaken by Scott, Ernest Shackleton and Edward Wilson, took them to a latitude of $82^{\circ} 17' S$, about 850 km from the pole.
- Ernest Shackleton, Scott, and Edward Wilson before their march towards the South Pole during the Discovery Expedition, 2nd Nov 1902.



Discovery hut: a lasting memorial.

- A harrowing return journey brought about Shackleton's physical collapse and his early departure from the expedition.
- The second year showed improvements in technique and achievement, culminating in Scott's western journey which led to the discovery of the Polar Plateau.
- Discovery Hut, 2007 at Ross Island, Antarctica. Photo shot from Hut Point with McMurdo Station in the background.



Map showing the Discovery Expedition's general field of work, 1902–04.

- RED line; *Southern journey to Farthest South, November 1902 to February 1903.*
- BLACK line; *Western journey through Western Mountains to Polar Plateau, October–December 1903.*
- BLUE line; *Journeys to message point and Emperor Penguin colony at Cape Crozier, October 1902, September and October 1903.*



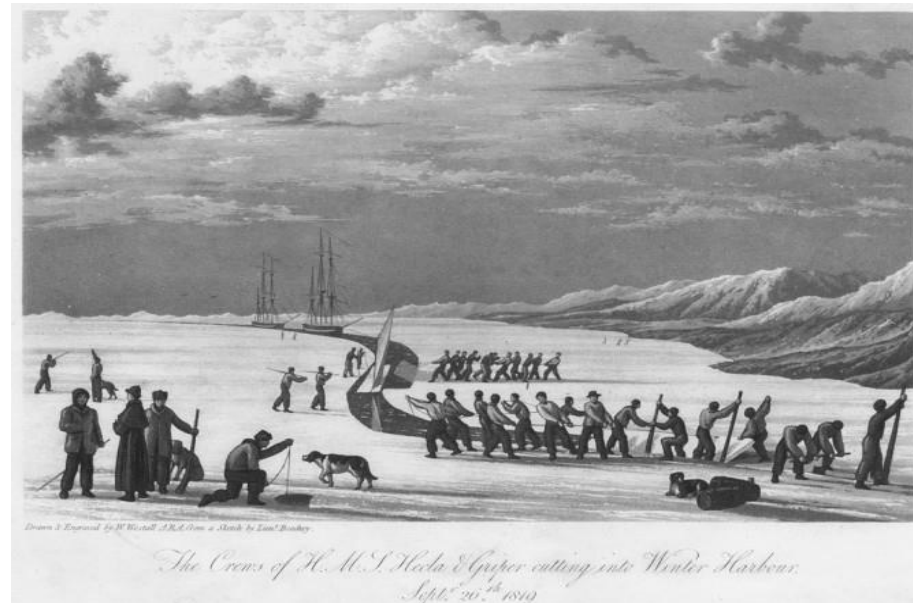
An unfortunate conclusion.

- At the end of the expedition it took the combined efforts of two relief ships and the use of explosives to free Discovery from the ice. Afterwards, Scott remained unconvinced that dogs and skis were the keys to efficient ice travel.
- A modern photograph of the *Discovery's* old anchorage in Winter Quarters Bay, McMurdo Sound, alongside the Hut Point hut in the right background



Searching for a better way?

- For some time Scott continued to express the British preference for man-hauling (i.e. propelling sledges by manpower, unassisted by animals).
- But, in a memorandum of 1908, he admitted that man-hauling to the South Pole was impossible and that motor traction was needed.



A vision that was fully realised in 1957.

- Snow vehicles did not yet exist however, and so his engineer Reginald Skelton developed the idea of a caterpillar track for snow surfaces.
- This vehicle was the one of four Snow-cats used to make the first overland crossing of Antarctica by the Commonwealth Trans-Antarctic Expedition in 1957 – 1958.
- Nicknamed Able, the Snow-cat was used as the command vehicle for the expedition's leader Vivian Fuchs.



In the meantime: the Nimrod Expedition.

- During 1907–1909 Ernest Shackleton and three companions established a new record farthest South latitude at 88°S, only 180 km from the South Pole, the largest advance to the pole at that time.

- Nimrod Expedition South Pole Party (left to right):
- Wild, Shackleton, Marshall and Adams.



THE SOUTHERN PARTY ON BOARD THE "NIMROD." LEFT TO RIGHT: WILD, SHACKLETON, MARSHALL, ADAMS

A range of travelling methods.

- During trials of the motors in Norway in March 1910 Scott realised that motors were unlikely to get him all the way to the Pole.
- He decided to take ponies (based on Shackleton's near success in attaining the Pole, using ponies), as well as dogs and skis.

- In Antarctica:



Glacier an obstacle that dictated procedure.

- Man-hauling would still be needed on the Polar Plateau, on the assumption that motors and animals could not ascend the crevassed Beardmore Glacier.
- Aerial view of the Beardmore Glacier in 1956.



Naïve?

Dog expert Cecil Meares was going to Siberia to select the dogs, and Scott ordered that, while he was there, he should deal with the purchase of Manchurian ponies.

Meares was not an experienced horse-dealer, and the ponies he chose proved mostly of poor quality, and ill-suited to prolonged Antarctic work.



Setting sail.

- On 15th June 1910, Scott's ship Terra Nova, an old converted whaler, set sail from Cardiff, south Wales.
- Scott meanwhile was fundraising in Britain and joined the ship later in South Africa.



The race is on.

- Arriving in Melbourne, Australia in October 1910, Scott received a telegram from Amundsen stating: "Beg leave to inform you Fram proceeding Antarctic, Amundsen.", indicating that Scott faced a race to the pole.
- Four Girls in Shallow Water, St Kilda Beach, circa 1910.
- I wonder if they saw the Terra Nova.



A succession of setbacks.

- The expedition suffered early misfortunes which hampered the first season's work and impaired preparations for the main polar march.
- On its journey from New Zealand to the Antarctic, Terra Nova nearly sank in a storm and was then trapped in pack ice for 20 days, far longer than other ships had experienced, which meant a late-season arrival and less time for preparatory work before the Antarctic winter.



Misfortune upon misfortune.

- At Cape Evans, Antarctica, one of the motor sledges was lost during its unloading from the ship, breaking through the sea ice and sinking.



Ponies unsuited to the work required of them.

- Deteriorating weather conditions and weak, un-acclimatised ponies affected the initial depot-laying journey, so that the expedition's main supply point, One Ton Depot, was laid 56 km north of its planned location at 80° S



Ignoring advice and loss of ponies before any real progress.

- Four ponies died during the depot-laying journey either from the cold or because they slowed the team down so they were shot.
- Lawrence Oates, in charge of the ponies, advised Scott to kill ponies for food and advance the depot to 80° S, which Scott refused to do. Oates is reported as saying to Scott, "Sir, I'm afraid you'll come to regret not taking my advice."



Practicing for the trip to the pole.

- Scott, Bowers, Simpson and Evans in man-hauling harnesses pull a sledge down a hillside away from the hut. Skis stand in the snow and other expedition members stand watching.



Uncertainty about the fate of the ponies.

- Shortly after Scott learned of the presence of Amundsen, camped with his crew and a large contingent of dogs in the Bay of Whales, 320 km to their east more ponies were lost (when sea-ice unexpectedly disintegrated) casting doubt upon the possibility of reaching the pole at all.
- 20 horses were bought.
- 19 survived to Antarctica.
- Alternative 1: 9 died while transporting supplies to the depots.
- Alternative 2: 6 of the 8 ponies transporting supplies to the depots died.
- 10 joined the main expedition to the pole point and died or were killed on the way.

Information that must have been discouraging.

- Scott conceded that his ponies would not be able to start early enough in the season to compete with Amundsen's cold-tolerant dog teams for the pole, and also acknowledged that the Norwegian's base was closer to the pole by about 96km.
- Roald Amundsen's Antarctic expedition.



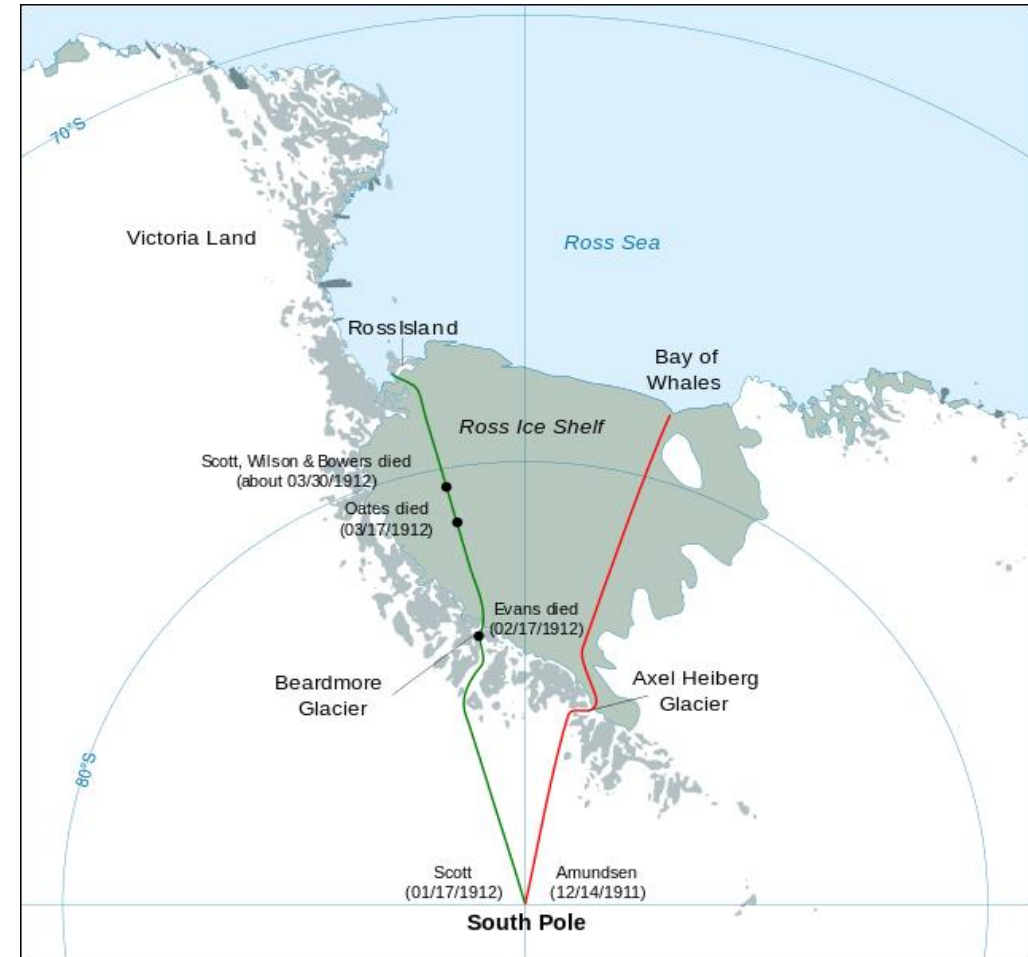
Self-confidence overruling judgement?

- However, during the 1911 winter Scott's confidence increased; on 2nd August, after the return of a three-man party from their winter journey to Cape Crozier, Scott wrote, "I feel sure we are as near perfection as experience can direct" (the journeys below were travelled in the earlier "Discovery" expedition).



The race is lost.

- The march south began on 1st November 1911.
- Scott, Edward Wilson, Henry Bowers, Lawrence Oates and Edgar Evans reached the Pole on 17th January 1912, only to find that Amundsen had preceded them by five weeks.
- The routes to the South Pole taken by Scott (green) and Amundsen (red), 1911–1912.



A bitter pill to swallow.

- Scott's group took this photograph of themselves using a string to operate the shutter on 17 January 1912, the day after they discovered Amundsen had reached the pole first.
- Scott's anguish is indicated in his diary: "The worst has happened"; "All the day dreams must go"; "Great God! This is an awful place".

