



Courtesy Scott Polar Research Institute

Scott and his companions at Amundsen's tent at the South Pole.

Commentary

THE SOUTH POLE FIFTY YEARS AFTER

Walter Sullivan

Great God! this is an awful place and terrible enough for us to have laboured to it without the reward of priority

THAT cry of anguish from the diary of Robert Falcon Scott rings loudly in our memories this anniversary year, for it was 50 years ago last January that he and his four companions found that the Norwegians had beaten them to the South Pole.

The intervening half-century has been one of breathless change. We are separated from the "race" to the Pole by two world wars, by the transformation of empires, by technological advances that have revolutionized transport and communications. It is, in fact, difficult for the younger generation to appreciate the problems that confronted Scott and Amundsen.

Yet, with another great adventure before us, it is fitting to look back, both admiringly and critically, on the rival efforts of five decades ago. There are sufficient parallels to current preparations for landing men on the moon to encourage us to assess the triumph and tragedy that occurred in the antarctic summer of 1911-12.

It is often pointed out, particularly in Britain, that Scott and his men made great sacrifices to carry out a thorough scientific program. Thus, on the grim march back, as they started down the magnificent highway of the Beardmore Glacier, Scott recorded in his diary (February 8, 1912):

" . . . I decided to camp and spend the rest of the day geologising. It has been extremely interesting. We found ourselves under perpendicular cliffs of Beacon sandstone, weathering rapidly and carrying veritable coal seams. From the last Wilson, with his sharp eyes, has picked several plant impressions, the last a piece of coal with beautifully traced leaves in layers, also some excellently preserved impressions of thick stems, showing cellular structure. In one place we saw the cast of small waves in the sand . . ."

When, six weeks later, they camped, exhausted and half starved, at what became their last resting place on the Ross Ice Shelf, only 11 miles short of ample food, they had 35 pounds of rock specimens on the sledge that they had dragged the final agonizing miles.

There is no doubt that the fast-moving Norwegians were less interested in specimen-collecting. There was no one in Amundsen's party comparable to Dr. Edward A. Wilson — that remarkably gifted companion of Scott who served not only as a physician, but as a competent ornithologist, geologist, and student of nature, as well as a fine painter. Amundsen and his men did bring back rock specimens from Mount Betty, near the foot of Axel Heiberg Glacier, but being all granites the samples did not carry the tale of Antarctica's temperate past that lay in Wilson's coal samples.

Nevertheless, it seems unlikely that the scientific work of the Britons played a decisive role in their downfall. The causes of the disaster have been much discussed and many contributing factors cited. For example:

(1) The loss of ponies beforehand limited the supplies that could be hauled to the depots. Of 19 ponies brought south to aid in laying depots on the Ross Ice Shelf (traversed during the first and final quarters of the trek) nine were lost before the journey began.

(2) Had One-Ton Depot been placed at latitude 80° S., as planned, Scott and his two surviving companions could have reached it on their return march. Instead, because of the weakness of the ponies, it was placed some 31 miles short of there. Scott's party died only 11 miles away.

(3) The last-minute addition of Lieutenant Henry R. Bowers to the planned four-man pole party may have strained the rationing plans.

(4) The rations appear to have been vitamin-deficient. The party was so weak, even before reaching the Pole, that Scott wrote before the return march, "I wonder if we can do it?"

(5) The tins of cooking fuel cached along the return route were found to be partly empty, which forced the men to eat frozen food. Apparently the heat of the sun had vaporized part of the fuel, enabling it to escape past the corks.

(6) The weather on the return march seems to have been unusually bad. Scott wrote, in his final "Message to the Public": "... our wreck is certainly due to this sudden advent of severe weather. . . ."

(7) The complexity of the transportation plan made it vulnerable. It depended in part on motor-sledges, ponies, and dogs. However, three quarters of the distance was to be covered by man-hauling.

It was this last factor that probably was decisive. Man is a poor beast of burden, as was shown in the terrible experience of Scott, Shackleton, and Wilson in their thrust to the south of 1902-3. However, Scott relied chiefly on man-hauling in 1911-12 because ponies could not ascend the glacier midway to the Pole. The Norwegians correctly guessed that dog teams could go all the way. Furthermore, they used a simple plan, based on their native skill with skis and on dog-driving methods that were tried and true. The moon will be reached by burning up a succession of rocket stages and casting them off. This, in effect, is what the Norwegians did with their dogs, the weaker animals being sacrificed to feed the other animals and the men themselves.

Such a procedure was distasteful to the British, although they were willing to eat ponies. These were introduced to Antarctica in 1908 by Shackleton, who had seen the hardy little animals in action on a visit to Shanghai and had heard of their resistance to cold during the Russo-Japa-

nese War of 1904-5. "I placed little reliance on dogs", Shackleton wrote, and Scott's attitude was similar. Both men used transport methods whose efficiency, under polar conditions, was uncertain. Shackleton brought an automobile and Scott had with him three motor-sledges specially built for the expedition. None of the motor-sledges got more than 40 miles from Scott's base at Hut Point, and it was not until a generation later that mechanized vehicles reached a level of development and reliability that made them suitable for polar transport.

Both Scott and Shackleton were innovators and made significant contributions to the technology of polar exploration, but by innovating they forfeited reliability. Later their countrymen made skillful use of dogs in both polar regions and drove the tractors that first crossed Antarctica.

It is sometimes said that, had Scott had the good sense to turn back when he saw the danger signs — as Shackleton had done — he could have saved his party, but this overlooks the heavy burden of national pride that Scott carried on his shoulders, particularly after learning that the Norwegians were striving for the same goal.

The heroic manner in which the Britons met their fate, as recorded in Scott's diary, has inspired men ever since. Their tragedy is almost better known than Amundsen's success. Nothing quite like it has ever recurred, for never again is it likely that men will set forth on foot into the unknown, cutting themselves off so completely from their fellows. Even when our astronauts are far out in space, their bodily functions are monitored on earth. When signals from Scott Carpenter's capsule indicated it was overheating, he was told from the ground to drink more water. What a contrast to the Britons, freezing in utter isolation, although 9 days earlier potential rescuers had been only 11 miles away.

The southernmost point in the world is today the site of the U.S. Amundsen-Scott South Pole Station, where moving pictures are shown almost nightly and a local post office displays the "wanted" posters typical of a more cosmopolitan environment. Congressmen, elderly veterans of Scott's expeditions and journalists reach the Pole with no more exertion than climbing an aircraft gangway.

Scientific observations, the *raison d'être* of the station, are carried out extensively, throwing new light on the earth's magnetism, the role of the Van Allen radiation belts in producing auroras, and the effect of Antarctica on world weather. Because pack ice at the opposite end of the world is unsubstantial and constantly on the move, the South Pole is the one place where earth satellites in north-south orbits can be monitored on each trip around the world. Such polar orbits are the most desirable for communications and for weather observations, since they cross all latitudes. Monitoring equipment already has been used experimentally at the South Pole and the role of that station as a space observatory may increase.

Because of the twelve-nation treaty opening Antarctica to research by all nations and closing it to military activity, the South Pole has also become a symbol of international co-operation in the cause of science. Terrestrial

claims have been, in effect, shelved and researchers have left their political differences behind. Here again the implications, in so far as the moon is concerned, are obvious.

At first glance there seems little in common between the astronauts of today and the brave Englishmen who carried the pride of a great empire to the Polar Plateau half a century ago. The Soviet and American astronauts may appear to have more in common with the dashing Norwegians who rode, exuberant, behind their dogs.

Actually, the astronauts are pioneers of a different age. They talk of burnout, re-entry, and drogues, as opposed to hoosh, crampons, and crevasses. Although stamina, ability to navigate, and bravery are still basic criteria, a remarkable technological aptitude has become essential.

Nevertheless, fundamental considerations that controlled the outcome in 1911-12 still apply. It may be the party with the least elaborate plan and the most reliable transport that gets there first, whereas those with the more ambitious scheme may bring home the scientific prizes.



Courtesy Scott Polar Research Institute

Scott's polar party on the trail.