IT'S A DOG'S LIFE IN ANTARCTICA: EXPLORING THE TRANSANTARCTIC MOUNTAINS BY DOG SLEDGE 1960–1962 – AND BEYOND. By PETER OTWAY. Tauranga, New Zealand: Self Published, Kale Print (www.kaleprint.co.nz), 2015. ISBN 978-0-473334-642. 276 p., maps, b&w and colour illus., end dedication note. Softbound. NZ\$100.00, including postage charges.

The era of heroic and arduous dog sledging in Antarctica is over. Dogs are no longer allowed to be on the continent, but this excellently illustrated book describes in detail three survey and geological journeys undertaken by Peter shortly before the ban on dogs was imposed. I have never seen a polar book that is so focused on our canine friends, but it also shows the scenery of the Transantarctic Mountains vividly in brilliant 24-hour sunlight, engulfing storms, 24-hour winter darkness, and amazing celestial twilight. The book also describes and illustrates human life at a small base, the agonies of working through the American military bureaucracy for air support services, and the pitfalls facing mankind in semi-isolation. Not to be skipped is the educational description of surveying, from triangulation to celestial navigation to plotting the cartography. Peter enjoyed and endured about 30 months on "the ice" over the length of his working career, which included two full-scale dog-sledging trips from 1960 to 1962, a combined dog and motor toboggan sledging trip in 1962-63, and a motor toboggan-only trip with the University of Wisconsin in 1964–65.

During these surveying ventures, Otway developed a lifelong interest in measuring the movements on active volcanos, which led to three more trips to Antarctica in the 1980s to measure movements around the crater of Mt. Erebus. He completes his life story with brief descriptions of his other surveys between trips to the ice—to the Libyan Sahara Desert, the Zagros Mountains of Iran, and the Interior Plateau of British Columbia—as well as holiday rambles elsewhere, including his journey to the Antarctic Peninsula as a cruise ship guide. The stories in his book of 275 pages are illustrated and fortified by 103 pages of photographs, with one to seven images exquisitely laid out on each page: an outstanding 390 images in total, including 17 well-reproduced black-and-white photos and 12 maps.

The narratives of utmost importance describe the two sledging trips in 1960–61 and 1961–62 to New Zealand's Ross Dependency before the signing of the Antarctic Treaty. The New Zealand flag is boldly shown on many a sledge photo! The goal of the government was to map all mountainous terrain, namely the Transantarctic Mountains, within the bounds of the then declared dependency during their fourth and fifth years of exploration, which had begun with the highly publicized Trans-Antarctic Expedition by Sir Vivian Fuchs and Sir Edmund Hillary in 1957–58. To ensure satisfactory survey and cartographic results in 1960–62, the New Zealand government employed renowned British polar surveyor Wally Herbert to lead the parties and to import a fresh batch of huskies from Greenland to enhance the pedigree of their own decreasing inventory of dogs at Scott Base.

Peter arrived at Scott Base as a fresh 24-year-old recruit, after three months of vigorous training in New Zealand. I arrived at neighbouring McMurdo as a scientific assistant on almost the same day in mid-October 1960 and met Peter soon after, while skiing in the evenings on the Antarctic's only ski lift-assisted ski slope, at Scott Base. In late November Peter departed to the field with one of two parties working between the Byrd and the Nimrod, two huge outlet glaciers feeding into the Ross Ice Shelf. Peter was the assistant surveyor in the north party, while Wally was the surveyor for the south party. The appropriately named "Starshot Glacier" separated the two. Peter's survey efforts used "shots" to the stars, in 24-hour polar daylight, to determine exact geographic positions, which was a unique method and more exacting than using the sun as a target. The north party survey required 34 camps, concluding, in early February, with the survey at the Strain Gauge set up "off-shore" on the Ross Ice Shelf.

Peter's narrative of the venture is a series of direct quotes from his field diary that, though very interesting, tends to be repetitious and tedious in detail. But this was his first trip to Antarctica, and such an eye-opening adventure seduces one to record everything, from the weather, to the food, to camping conditions, to the habits of the dogs and the equipment in use. The weather before Christmas had been almost too warm, as I had experienced at the same time in McMurdo, but switched to frustratingly unfavourable afterwards. The weather at the Strain Gauge was described as comparable to that of Scott's last days 49 years earlier, at nearly the same spot! However, the survey of the Strain Gauge produced interesting results. Over 15 months, Byrd Glacier, 160 km to the west, had pushed and squeezed the ice on the shelf eastward about 4.3 m over a linear distance of 3220 m, whereas the north-south component had elongated the ice shelf by about 3.0 m over the same distance.

While overwintering before the most exciting sledging was to take place in 1961-62, Peter did not keep a diary, and in these chapters he relies on his photos and his 50-year-old memories to describe the life and tasks at the base. In the autumn, preparation of dog food (seals and mutton) and looking after newborn pups dominated the activity. In my opinion, his description and photos of unfavourable weather overly embellished the task. I was also there at the time and recall that poor weather conditions were few in that season. I often worked outdoors without an anorak or mitts, or even with no gloves at all. Both Scott Base and McMurdo had personnel problems in winter, but nothing extraordinary, and Peter's photos of winter life outweigh the nuances in his narrative regarding a few personnel who shirked their work and became a nuisance. During the winter, Peter developed a great friendship with Wally Herbert, who began the detailed planning and setup for their sledging surveys between Beardmore and Axel Heiberg Glaciers that would take place in 1961-62. Initially, Peter had been assigned to a northern party located between the Nimrod and Beardmore Glaciers. During the winter, however, rumours (the Antarctic is rife with them)

began to circulate that the United States Geological Survey (USGS) was going to embark on an extensive Transantarctic Mountain survey that would focus on collecting "ground truth" positioned stations. The USGS had the latest in survey equipment, as well as helicopters for all transport. Late in the preceding summer, the USGS surveyors complained loud and clear that air photo missions without backup ground surveys were useless in map-making, a fact that the U.S. military was having a difficult time accepting. As late winter rumours all but confirmed that the ground truth survevs were on and would extend from McMurdo south and easterly to the Beardmore region and beyond to the Axel Heiberg Glacier and even farther, Wally Herbert began to squirm. Fearing that their field effort was going to be a redundant exercise, he fired off a telegram to his bosses in Wellington demanding clarity and answers. As a bystander, I was witnessing a political battle brewing. Several Americans were adamant that the New Zealanders' goal in mapping the Ross Dependency was to secure "their" new geographic names, overriding any that the United States might wish to impose! All Kiwi maps produced to date were filled with their named geographic designations. The issue was not resolved, but orders from Wellington said they were to continue with sledging preparations on both sides of the Beardmore. Upon Wally's insistence, Peter was swapped to his party, giving him the comfort of a nowseasoned surveyor in charge of that work, and Peter excelled at celestial methods of navigation and precise positioning of geographic features. They were soon to enter hallowed ground, operating on the Beardmore between the footsteps of Shackleton and Scott, and on the Axel Heiberg along the ski tracks and airplane route of Roald Amundsen and Admiral Byrd, respectively, in their historic race to reach the South Pole!

In the first week of November, the party landed on the edge of the Polar Plateau at the head of the Mill Glacier tributary to the Beardmore. It was a surprisingly smooth landing operation, given the location and the use of a DC-3 plane on skis to reach it. Again, Peter used his diary for the narrative of day-to-day operations, noting that the weather was unusually pleasant and warm before Christmas but steadily worsened thereafter: 44 days in the field were unfit for surveying during their three months of movements between the Beardmore and Axel Heiberg Glaciers. This portion of the diary lacked the tedium of his entries for the previous year. Sledging conditions varied from a satisfactory firm snow surface, to smooth, wind-polished ice, to damaging sastrugi and vast patches of ice with embedded, but protruding, particles of sharp pebbles. At the end of the season, there was much fresh snow on the Axel Heiberg Glacier. It was too deep for the dogs; the sledges had to be constantly unloaded to relay the baggage in half loads, but they still had to be pushed even on downhill grades. The worst and longest day was spent at a survey station on the summit of Mt. Fridtjof Nansen (4070 m). It was a long slog to reach it. The party spent 8.5 hours making observations with the theodolite and another 8.5 hours to ascend and descend. At

the time, this peak was the highest that had been ascended on the continent. From the summit, they had a good view of the Axel Heiberg Glacier below them, as shown by the photos in the book. Back at camp after an exhausting two days, Wally and his assistant set off to flag a route down the Axel Heiberg while Peter worked on more triangulation at several points about its head. A suitable route was found, exactly the one used by Amundsen, and plans were laid to finish the surveying by descending the glacier to the Ross Ice Shelf, where a U.S. Military ski plane would pick up the party near Mt. Betty. When the plans were relayed by radio to Scott Base, which often required Peter's Morse code abilities, an international uproar ensued for days on end!

The military bureaucracy demanded that the survey party return to the place where they were dropped off three months earlier and used a variety of unfounded excuses to support this request. But Wally was equally stubborn, and eventually the Superintendent of the Antarctic Division (NZ) had to fly to the Antarctic to twist the arms of an American admiral and the flight commander to pick up the team on the Ross Ice Shelf. The exercise proved to be painless for the pilot when he did arrive.

After this epic field exercise, Peter and Wally returned to New Zealand over the winter to produce a map, which is shown in three pieces, with an enlargement of the Axel Heiberg Glacier section. The maps are fascinating, although it helps to use a magnifying glass to read the fine print. There are no such maps of equivalent format for their first surveys in 1960–61.

The following spring, Peter returned to the Antarctic to help survey a new project north of Ross Island in the Mawson and David Glacier region. Another objective was to evaluate the use of motor toboggans (rudimentary by today's standards) to replace sled dogs. The project was hampered by broken-up sea ice that they had to cross to reach the mainland, the crash of a DC-3 at one of their re-supply points, and other mechanical and dog problems. My brother, John Ricker, one of the two geologists on this survey, found Peter to be too engrossed in his photography during his time in the field. Despite this, there are not many photos in the book of this venture, and a map showing where they went is lacking altogether. When Peter returned to the Antarctic in 1964–65, to survey for the Americans in the Ellsworth Mountains near the base of the Antarctic Peninsula, his mellowness had surfaced. The work was done from one camp only, using motor toboggans to reach all of his survey stations, and the diet had changed from meat bars to steak and eggs. But again, there is no map of his survey work.

In the final 23 pages, Peter describes his diligent surveys on the New Zealand Alpine Fault (where the Pacific Plate collides with the Australian Plate), and on several active volcanoes in Washington, California, Hawaii, Antarctica, and his home ground, Mt. Ruapehu and White Island in New Zealand. As a geologist, and also a helping hand with a crater survey on Mt. Ruapehu in 1988, I found this section fascinating. The work also notes the dangers involved with

volcanoes, as Otway was caught in an eruption on Ruapehu, as well as another one in Hawaii. Aside from crossing weak snow bridges, these blasts marked the second and third time he had escaped fatality; the first was being kidnapped by gun-toting gangsters in the Zagros Mountains.

The book ends with the description of a final farewell reunion, numerous photos of Peter's Antarctic colleagues, gracious compliments to Sir Wally Herbert, whom Peter had visited several times before Herbert passed away in 2007, and a final dedication to other now-departed sledge-mates.

The highlight of this marvelous book, however, is the 63-page description of the Beardmore to Axel Heiberg survey, with its unbelievable photos and colour maps. This area was the cradle of heroic Antarctic explorations, and its survey provided an excellent exposé of what transpired so many years earlier.

The book is self-published by Peter and printed near his residence in Tauranga, New Zealand. Only 300 copies have been produced (so far). They are selling for NZ\$100, which includes overseas mailing charges. That is a bargain, and the book should be in every private and public polar library.

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BOOKS RECEIVED

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