

Obituary

Lt-Cdr JAMES PATRICK CROAL RCN (Ret), for many years an Arctic specialist with the Royal Canadian Navy, died in Ottawa on 13 January 1985 aged 67. Born in Kitchener, Ontario in 1917, he was educated in Scotland but returned to Canada as a young man. He joined the merchant marine before World War II, then enlisted in the Royal Canadian Navy in 1944 and saw service in the North Atlantic. As a Lieutenant in 1946 he took part in the Canadian military Exercise Musk-ox, in which a column of ten snow-mobiles, commanded by the late Lt-Col P. D. Baird (*Polar Record* 22(137): 207–08), crossed the barren lands north from Churchill to Cambridge Bay, thence south to Edmonton via Coppermine and Norman Wells. Croal's particular task was to supervise the water crossings during the spring break-up.

From 1946 Croal served briefly as a civilian with the Defence Research Board, at Churchill on the testing of vehicles, clothing and rations, and in 1948 as a Canadian observer with a United States expedition concerned with preparations for constructing the DEW line. In 1949 he gained a regular commission in the RCN and, until his retirement in 1965, was given a variety of assignments in the Arctic. He served as an instructor on survival techniques in the barren lands, and further involvement with the US Navy on DEW line work led to his award of a US Citation of Merit. From 1954 to 1956 he served aboard HMCS *Labrador* which, in 1954, became the first Canadian icebreaker to sail through the Northwest Passage, subsequently circumnavigating North America via the Panama Canal. He was later seconded to the Geophysics Section of the Defence Research Board in Ottawa for work on Arctic projects. In 1957–58 he served as liaison officer with USCG and USN icebreakers in the relief and re-supply of the Canadian IGY station at Lake Hazen, and in 1962 he was similarly employed in CGS *Macdonald* in establishing a further station at Tanquary Fiord, which marked the furthest north reached by a Canadian icebreaker at that time. His final years with the Navy were spent on full-time liaison work, for which by his easy manner and natural courtesy he was ideally suited. Following retirement he undertook consultant work for various organizations including the Arctic Institute of North America, of which he was a Fellow.

Jim Croal was an impressive looking man of great strength, standing well over six feet and immensely broad of shoulder. In his time he had lit fires in many an Arctic camp, and had warmed them also by his genial and utterly dependable presence. He was well fitted indeed by physique and temperament for Arctic service. In his leisure he was a scratch golfer and, for the amusement of his friends, no mean cartoonist. Loyalty to his family, his service and his friends was his watchword. We shall sadly miss the grip of the big hand, the broad smile and the welcoming 'Come aboard'.

Geoffrey Hattersley-Smith

Contre-Amiral JEAN CORNUAULT died in Paris on 18 January 1984. Author of *Les Forceurs du Passage du Nord-Ouest* (Paris, France-Empire, 1971), he was born in Paris on 1 January 1906. He entered the Ecole Navale at Brest in 1926 and rose to the rank of Contre-Amiral in 1959. Besides receiving numerous other decorations, he was made a Commandeur de la Légion d'Honneur in 1961. He saw no polar service, but his interest in the history of the Arctic, particularly that of the North West Passage, made him a polar maritime historian of note. He was President of the *Comité de documentation historique*

de la Marine from 1971 to 1982, and will be much missed, especially by French maritime historians. The writer remembers with gratitude the warmth of the welcome given her at their home by Amiral and Madame Cornuault some years ago.

Ann Savours

RICHARD WALTER RICHARDS, GC, physicist on Shackleton's Ross Sea Shore Party and last survivor of the 56 men of the Imperial Trans-antarctic Expedition 1914–17, has died at his home at Point Lonsdale, Victoria, Australia, aged 91. He was the last of the Shackleton men, and the last of the Antarctic explorers of the 'heroic' era. He was one of a sledging party who during the southern summer from September 1915 to March 1916 laid a series of five depots at each degree of latitude from 79° S to 83° S, and one further depot at Mount Hope (83°37' S) at the foot of the Beardmore Glacier. The party suffered great hardship. These depots were laid for the proposed Trans-Continental crossing by Sir Ernest Shackleton and his party from the Weddell Sea, a crossing which did not eventuate due to the loss of their expedition ship *Endurance* in the Weddell Sea pack-ice.

Richards did not meet Shackleton until he and six other survivors of the Ross Sea Shore Party were rescued when their expedition ship *S.Y. Aurora* returned under the command of Captain J. K. Davis in January 1917. Richards immediately struck up a rapport with Shackleton, who presented him with the prismatic compass which Richards had used on the southern sledging journey to Mount Hope. On his return home, Richards had further contact with Shackleton in Australia, where Shackleton gave a series of public lectures in aid of the family of the late Captain Aeneas Mackintosh, leader of the Ross Sea Party. Mackintosh, with Londoner Victor Hayward, had perished when attempting to cross on the sea ice from Hut Point to Cape Evans, against the advice of Richards, Ernest Wild and Ernest Joyce, on or about 8 May 1916.

The death of Richards occurred on 8 May 1985, 69 years to the day after the disappearance of his two sledging mates and 70 years (to within a day) of the breakout of *Aurora* and her complement of 18 men from the winter moorings at Cape Evans on the night of 6–7 May 1915. The ship drifted for ten months in the ice before limping in to Port Chalmers, New Zealand on 3 April 1916. *Aurora's* unexpected breakout changed the course of the expedition. The ship carried with it most of the clothes and equipment that were meant for the sledging party, who were left to improvise from what they could find around Scott's hut at Cape Evans, which served as their shore base.

Richards was born at Bendigo, Victoria, Australia on 14 November, 1893, the son of a verger of All Saints Anglican Cathedral. He attended Bendigo High School where he proved himself as a capable student and sportman. He studied mathematics and science for two years at Melbourne University and was lecturer at the Junior Technical School, Ballarat when, at the age of 21, he applied for the position of physicist with the Ross Sea Party. He was interviewed in Sydney by Mackintosh and joined the expedition three days prior to its sailing from Hobart on 24 December 1914. Richards was one of four Australians of a total complement of 28.

On the voyage south he worked in the engine room and soon after the ship reached the ice was attached to the motor party for the autumn sledging. Mackintosh was intent on following Shackleton's instructions and laying the preliminary depot at 80°S before the onset of winter. The motor sledge soon broke down and was of no practical help. Richards was in the field manhauling supplies to a depot abreast of White Island, half-way to the Bluff Depot at 79° S, until his return to Scott's old 'Discovery' hut at Hut Point on 2 March 1915. This month in the field was an important lesson in learning the art

of sledging, as only Mackintosh and Joyce had prior sledging experience. The most serious sledging was carried out by Mackintosh, Hayward and Joyce who carried on manfull to lay the depot at 80°S but at the cost of the loss of all but four of the working dogs. Back at Cape Evans, Richards and three others of the shore party set up base in the Cape Evans hut. After the disappearance of the ship they were joined on 2 June by the six remaining members of the sledging party, who had been held up at Hut Point.

Three months later the southern journey commenced and, using improvised equipment, a journey of some 2 400 kilometres over 169 sledging days was achieved. The dogs, Con, Oscar, Towser and Gunner played a crucial role. Richards was aged 22 at the time of the southern journey, and had the physical and mental strength and fortitude to see the party through. After Mackintosh's severe scurvy, leadership of the party rested by consensus between Richards, Joyce, Wild and Hayward. The young Church of England padre, the Reverend Arnold Spencer-Smith, collapsed from scurvy and was left for a week in a tent near 83°S while the others pushed on to Mount Hope. He was not to walk again, and was pulled on a sledge for a distance of 570 kilometres over a period of 40 days before he died just two days out from Hut Point. At one desperate stage, the scurvy-weakened party was held up in a blizzard, and Richards with Joyce, Hayward and the four dogs fought their way at an estimated half-kilometre per hour, over three days to the Bluff Depot, 16 kilometres away, to retrieve food and fuel and return to the others at what was known as 'Starvation Camp'. Richards' navigation with the prismatic compass, and the combined strength of these three weakened men and four dogs, made the difference between life and death. The Bluff Depot reached, they had difficulty turning the dogs to face the weather coming from the south, so 'we started them north and slowly worked them around' wrote Richards. Two days later they picked up Wild and his two seriously ill patients, Mackintosh who was 'very weak and he could just stagger' and Spencer-Smith, who was 'very low but still cheerful'. They turned northward but eight days later they were still 70 kilometres out from Hut Point. Two desperately sick men, and often three, were hauled on the sledge by Richards, Wild, Joyce and the four dogs. Mackintosh at his own request was left in a tent while the rest of the party pushed on to Hut Point.

The dark and cold hut was like a palace to these men in their weakened condition, with their improvised clothing in tatters. Richards had 'an instinctive and compelling feeling' that their systems needed a tonic of fresh seal meat. The antiscorbutic effects had an immediate effect on them, and Richards, Wild and Joyce returned to the Great Ice Barrier and brought in their leader, Mackintosh. Just seven weeks later Mackintosh and Hayward made their fatal decision to set out for Cape Evans.

After Richards, Wild and Joyce returned to Cape Evans in July 1916, Richards became seriously ill and was looked after by the biologist and acting medico of the party, John Lacklan Cope. Richards partially convalesced and some months later, in January 1917, sighted the rescue ship at the ice front near to Cape Barne.

'Dick' Richards (as he was known in later years), returned to teaching and in 1946 became principal of the School of Mines & Industry at Ballarat, a position he held until his retirement in 1958. He was highly regarded in Australian educational and scientific circles. Richards was awarded the King's Silver Polar Medal with Clasps for 1914–16 and 1917, and in 1923, the Albert Medal in Bronze 'for Gallantry in Saving and Endeavouring to Save Life in the Antarctic 1915–16'. Other Ross Sea Party recipients of the Albert Medal were Ernest Joyce, Ernest Wild and Victor Hayward (posthumously). In 1972 the Albert Medal was substituted by the George Cross, which was presented to him in an investiture at Buckingham Palace. Richards' sledging diary was published in 1958 by the Ballarat School of Mines, and in 1962 the Scott Polar Research Institute, Cambridge, published his account of the expedition.

Richards felt gratitude for the manner in which the party was looked after in 1917 in New Zealand following their relief. In 1980 he donated his sealing knife, prismatic compass and medals to the Antarctic Centre, Canterbury Museum, Christchurch.

Richards Inlet, at the mouth of the Lennox-King Glacier (83°23' S, 168°30' E), 50 kilometres north of where the Mount Hope depot was laid, honours the name of a man whose old leader Aeneas Mackintosh in 1915 had described as 'an officer whom I hold in the highest esteem. His services have been such that no money can buy.'

D. L. Harrowfield, R. G. McElrea.

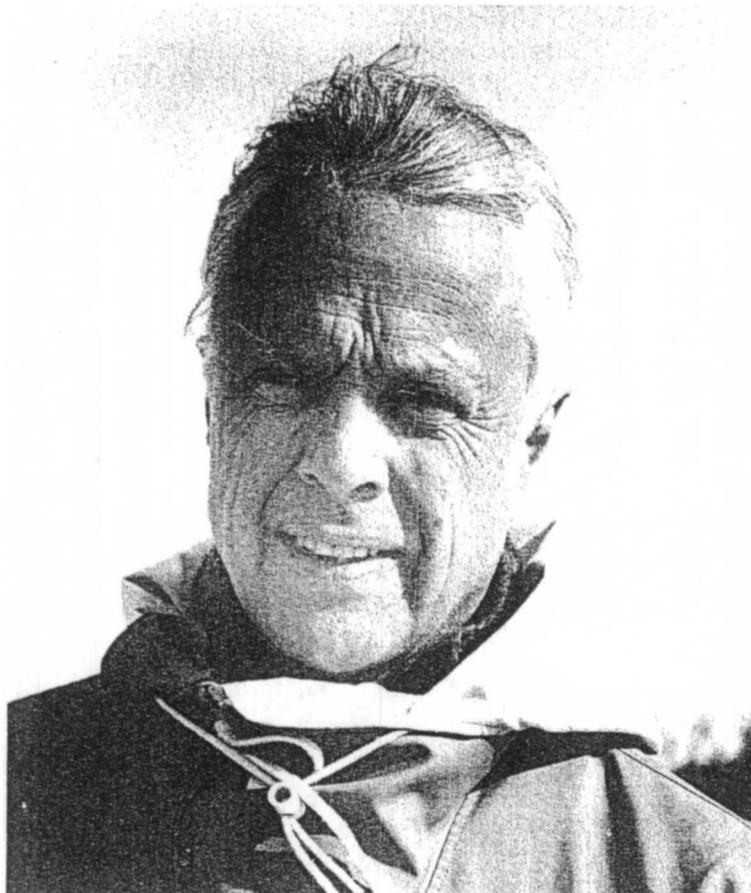
Professor VALTER SCHYTT (1919–1985). Valter Schytt died on 30 March 1985 while en route to his glaciological research station at Tarfala in northern Sweden. He was a leading figure in the small group of outstanding polar scientists in Sweden. He first became well known as senior glaciologist and second in command of the Norwegian-British-Swedish Antarctic Expedition (NBSAE) of 1949–52. From that time onwards he remained an influential figure both in international glaciology and in Swedish polar research.

Schytt was attracted to glaciology while studying under the late Professor Hans W:son Ahlmann in Stockholm. In 1945 Ahlmann helped him to start what became an important long-term study of Storglaciären on Kebnekaise, the highest mountain in Sweden. During the nineteen forties it was Ahlmann's enthusiasm for launching a research programme in Dronning Maud Land that led to the conception of NSBAE. Valter Schytt was the obvious person to lead the Swedish contingent and to become second in command to John Giaever, the Norwegian leader. The expedition was organized by a committee which included Harald Sverdrup, director of Norsk Polarinstitut, Hand Ahlmann from Sweden, and James Wordie, Laurence Kirwan, Launcelot Fleming, and Brian Roberts from the UK. As a result of their careful planning, the expedition broke new ground both in Antarctic science and international collaboration.

As senior glaciologist Schytt was responsible for a comprehensive glaciological programme which ranged over all parameters needed to understand the behaviour of the ice sheet. Studies around Maudheim, the expedition's base, and during inland journeys covered snow accumulation, crystalline structure, density, temperature, ice movement and strain rates. A third dimension was added by drilling and ice coring to a depth of 100 m, a record for Antarctica, and by seismic soundings of ice depth on inland traverses.

The glaciological programme of NBSAE set a pattern that was taken up and developed by many national expeditions some years later during the International Geophysical Year. As a result and in the space of only three decades, Man's understanding of the harsh Antarctic environment reached a level that on other continents took centuries to achieve. On returning to Stockholm University, Schytt wrote and published the results of his Antarctic work, continued his valley glacier studies in Kebnekaise, and then turned his attention to Arctic glaciers. He led the Swedish IGY expedition to Nordaustlandet 1957–58, which added greatly to knowledge of the ice budget, temperature, thickness and flow of the ice cap. This was a fitting extension of the work of his NBSAE sponsors, Ahlmann and Sverdrup, both of whom served in Svalbard in 1934.

In 1958 he was made Fil. dr. and Docent in the Department of Physical Geography in Stockholm. In the same year he was elected Secretary of the Scientific Committee on Antarctic Research at its first meeting. But lack at that time of a Swedish commitment to Antarctic research led to the transfer of the Secretariat to the Scott Polar Research Institute, after which Schytt served for some years as delegate of the International Geographical Union.



Valter Schytt

The Natural Science Research Council awarded him an *ad hominem* Professorship at the University in 1970. As the first non-British president of the Glaciological Society he expanded its activities and changed its name to the International Glaciological Society. The society now serves a scattered but enthusiastic band of glaciologists in many countries.

As a Fellow of the Swedish Academy of Sciences Schytt became scientific leader of the *Ymer* 1980 expedition to the Arctic which was organized to commemorate Norden-skjold's voyage through the North East Passage in 1878–80. His international team of scientists successfully carried out programmes in oceanography, glaciology, geology, and biology between north-east Greenland and Zemlya Frantsa-Iosifa. He gained much satisfaction from this indication of renewed interest in polar research in Sweden and also from the Swedish government's accession to the Antarctic Treaty in 1984. He was Chairman of the Swedish Travellers Club (1976–85) and Chairman of the Swedish Society for Anthropology and Geography (1977–79). Recognition of a more public kind came with his appointment as Lord Chamberlain in Waiting at the court of King Carl Gustav, a ceremonial post which he filled with distinction and pleasure.

In spite of such public responsibilities Valter Schytt remained a devoted family man. Anna Nora, whom he married in 1955, and their daughters Helena, Erika, and Anna all joined in running the Tarfala research station and supporting other glaciological activities. Friends in many lands will share the family's great loss.

Gordon Robin, Charles Swithinbank

CORRECTION

In the article 'Diverting Soviet rivers: some possible repercussions for the Arctic Ocean' by Dr H. Cattle in the May 1985 issue (*Polar Record* 22(140); 485–98), the plates for Figures 3 and 4 are reversed; the map shown on p 491 should accompany the Figure 3 caption on p 490, and vice versa. In Table 3 the figure for standard deviation of the Yenisey mean annual river flow has been displaced to the left; the flow is 562 km³, the standard deviation 44.