



ALBERT P. CRARY
1911-1987

ALBERT PADDOCK CRARY, one of the outstanding pioneers in glaciogeophysics in both polar regions, died on 29 October 1987 in Washington, D.C. He was born in Pierrepont, New York, on 25 July 1911, graduated *magna cum laude* from St. Lawrence University (B.S. in chemistry) in 1931, and received an M.S. in physics from Lehigh University in 1933. That same year, he began geophysical research with Maurice Ewing, with whom he published papers on various topics in seismology, electrical resistivity of rocks, and submarine geophysics, including the first of the landmark series of papers on "Geophysical investigations in the emerged and submerged Atlantic Coastal Plain".

From 1935 to 1945, Crary worked in geophysical prospecting for oil in Columbia, Venezuela, and England, with interruptions for anti-submarine research during 1941-42 at Woods Hole Oceanographic Institution, and for a short period of oil exploration in the Persian Gulf. His research on upper-air acoustics for the U.S. Air Force resulted in a series of papers on upper atmosphere winds and temperatures.

Crary made contact with polar glaciology, his primary concern for the next 25 years, in 1951. From 1951 to 1955 he worked on an assortment of problems dealing with sea ice, ice islands, ice shelves, and the ocean. When ice island T-3 ("Fletcher's Ice Island") in the Arctic Ocean was occupied in 1952, Crary became chief scientist for U.S. Air Force work on the island, continuing until T-3 was abandoned in 1955. It was while working on T-3 that he discovered and explained "Crory waves", an unusual type of guided, elastic-plate wave, and also flew to, and landed at, the North Pole.

In 1955, he set up the Glaciological Headquarters for the U.S. National Committee for the International Geophysical Year, and organized the U.S. Antarctic work in glaciology, including oversnow traverses. In 1957 he went to Antarctica as Deputy Leader of the U.S. scientific efforts and scientific leader at the Little America Station. He remained in Antarctica until 1959, leading the summer traverses on the Ross Ice Shelf and in Victoria Land.

As the man in charge of the oversnow traverse program, Bert Crary always arranged it so that the hardest traverse — the dangerous one — was the one he took. He

had the skill and the perseverance to get through the crevassed zones, even when a benighted member of his group ignored his warnings and walked off into a crevasse, or when a SnoCat broke down and he had to wait for a spare part to be flown out.

He also had the dedication to do the job right — the science was always of primary importance, not the adventure of exploring unknown areas. On the Ross Ice Shelf, for example, he had the patience, and foresight, to measure ice-surface elevations by the precise but frustratingly slow leapfrog technique, with the result that his measurements stand up to contemporary satellite observations, and have recently made it possible to identify a significant thinning of the ice shelf near the feature that bears his name — Crary Ice Rise.

Skillful and persistent as he was, however, Crary never courted danger. He used to comment wryly on a previous traveller's claim that Skelton Glacier was "just a great highway to the inland plateau", because when he took the first Victoria Land traverse up that way there were crevasses all around. He said that the only way to get along with crevasses was to stay away from them. Nevertheless, 2 years later, when he was Chief Scientist of the Office of Polar Programs in the U.S. National Science Foundation, when he no longer wanted to undergo another traverse season, he went back to McMurdo and led another traverse up the same treacherous highway, because it needed to be done for scientific reasons, and to leave it to a neophyte would endanger lives.

That 1960-61 traverse to the South Pole was Crary's last one, although in 1966 he returned to the Antarctic again aboard the research vessel *Eltanin*. He ceased active work in Antarctica thereafter, but he continued to play a vital role in the organization, direction, and support of Antarctic research through his successive positions in the National Science Foundation as Chief Scientist of the U.S. Antarctic Research Program, and Deputy Director and then Director of the Division of Environmental Sciences. From 1974 to 1976 he was Chairman of the Advisory Committee on Antarctic Names of the U.S. Board on Geographic Names.

While he was Chief Scientist, he was in effect doing two full-time jobs. He would get up at 4 a.m., work on his data analysis at home for 4 or 5 hours, then spend the day at his office, after which he would return home and work on his analyses again until about midnight. He produced seminal scientific reports, yet he sought no recognition for himself, only recognition for the importance of continuing polar research, especially in the field.

His research was as versatile as his output was large, and he well deserved his reputation as one of the outstanding scientists in his field. Recognition of his work has come in the form of many awards: the U.S. Department of Defense Distinguished Civilian Service Award, the Cullum Medal of the American Geographical Society, the Patron's Medal of the Royal Geographical Society, Honorary Membership of the International Glaciological Society, the U.S. Department of Navy Distinguished Public Service Award, the Vega Medal of the Swedish Society of Anthropology and Geography, a medal from the Soviet Academy of Sciences commemorating 100 years of international geophysics, and an Honorary D.Sc. degree from St. Lawrence University.

After retirement in 1976, he lived in Bethesda, Maryland, with his wife Mildred and their son Frank, who together became the center of his interest. He combined an old-fashioned devotion to his family with a more modern desire to spend time with them, as shown, for example, by walking young Frank to and from school when Frank was just starting in.

Bert Crary's death marks the end of an era but, to those who knew him, it marks, more importantly, the passing of a friend. He was amiable and modest, approachable and a good listener, expectant of high standards in others, but always more demanding of himself, tenacious without being dogged, and always with some good story to recall. Many people will miss him, and share in his family's grief.

CHARLES R. BENTLEY

It is an honour to add a few lines about my old friend Albert Crary on behalf of all of us who knew him as friend, family man, or illustrious polar scientist and field companion without fear.

In 1954, Crary and I were members of a small Canadian-United States expedition to Ward Hunt Ice Shelf on the north coast of Ellesmere Island, whence ice islands originate. With his previous experience on T-3, Crary made sure that no aspect of the physical environment should escape scrutiny, so that he was concerned not only with the structure and regime of the ice shelf, but also with the meteorological, oceanographic, and bathymetric conditions in the area. Drawing as much from his remarkable geophysical insight as from his unremitting 17 hour day, his personal efforts formed the core of our work on the ice shelf which established in general the parameters for its existence.

On a more personal note, our two Greenland Eskimo guides — veterans of pre-War expeditions — soon found a happy rapport with Crary, for across the bounds of language and culture there was no mistaking the man he was. As a mark of their friendship, they made for him exact in every detail a miniature *komatik*, which he greatly prized. In that same summer, Crary's close interest was turned to the other end of the Earth, perhaps for the first time. This was because I had with me a copy of Cherry-Garrard's *The worst journey in the world*, conveniently and appropriately in the Penguin edition, which he read twice and which we would discuss in our tent. It did not cross his mind that within 3 years he would himself visit the Antarctic, thereby adding to the scientific fame that he so richly deserved but for its own sake never sought.

GEOFFREY HATTERSLEY-SMITH

[Photograph by courtesy of the U.S. National Science Foundation.]