

Euro-Canadian houses in northern communities is often based on such factors as terrain, the provision of utilities, and fire prevention, Strub suggests that settlement layouts have tended to disrupt traditional patterns of coexistence through the segmentation of the extended family. To illustrate, elders may occupy houses at the opposite ends of the community from those of their nieces, nephews, children, and grandchildren, perhaps hindering the sharing of food, labour, and information.

The book also addresses the impact of the shape, perimeter, and internal volume of a building on construction and heating costs. Strub states that the most economical building forms utilize the least wall perimeter to enclose the greatest possible floor area. Many of the earliest houses constructed by the Canadian government for Inuit families, the one-room "Illukallak" models, for example, appear to have been designed with this principle in mind. Strub goes on to explain that the size or internal volume of shelters constructed by human groups is almost always inversely proportional to the harshness of the external environment. Thus, cold climates warrant the construction of small shelters because they are easiest to keep warm. The ethnographic record, however, suggests that among historic Inuit groups, social factors occasionally determined dwelling size to a greater extent than environmental conditions. Many of the Iglulingmiut snow house complexes recorded by Mathiasen (1928), for example, were impressively large structures that could accommodate as many as five nuclear families, including dogs, food, and equipment.

One of the real strengths of *Bare Poles* is Strub's comprehensive overview and discussion of the behaviours of various construction materials when stressed by the effects of sunlight, temperature, wind, rain, snow, and humidity. Important information on the design and construction of vapour barriers, roofs, floors, window frames, and doorways are all based on years of experience working in the Canadian North. In addition, concepts such as air locks, vapour barriers, and building envelopes are clearly described in the text and illustrated effectively using simple diagrams. Buildings are variably described as "space-suits," "islands," and "heavier than air, semi-rigid balloons," and Strub's use of such analogies makes the more technical aspects of the book easier to understand for the nonprofessional. At the end of the book, Strub provides a useful glossary of technical terms, a comprehensive series of climate charts, and detailed descriptions of building elements (foundation, window, and door types, etc.). Consequently, while building professionals will find *Bare Poles* an invaluable resource for architectural design work in northern regions, the book is enjoyable and interesting reading for anyone interested in either architecture or the Canadian North. Anthony Ward (1996:40) has recently stated that for many years, the architect was essentially viewed as either a "genius magician, or a black box—an impenetrable mystery whose inner life was unknowable, but could be inferred by objective analysis of design outputs." *Bare Poles* effectively demonstrates that contemporary architects are neither. They are, instead,

self-monitoring and reflective human beings who learn from their mistakes and experiences.

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COLD COMFORT: MY LOVE AFFAIR WITH THE ARCTIC. By GRAHAM W. ROWLEY. Montreal: McGill-Queen's University Press, 1996. xiv + 255 p., maps, b&w illus., index. Hardbound. Cdn\$29.95.

Rowley's book begins with an admonition, delivered in 1776, to glory-seekers who misrepresent the Arctic—a tendency that persists and nowadays includes a new ingredient of political correctness. This story is an effective response to the purple prose school: an autobiographical tale, told in clear and lively language, about the eastern Canadian Arctic as it was between the two world wars.

The story began with a visit in 1935 by Tom Manning, explorer and Cambridge graduate, to that university in search of members for an expedition the following year to Foxe Basin, off the west coast of Baffin Island. The objectives of the expedition were to complete the mapping of the Baffin Island coastline and to study the archaeology and biology of the region, including Southampton Island. Five young men joined Manning, all with some relevant expertise, and all but one with some experience of the Arctic. That one was Graham Rowley, the expedition archaeologist.

The book draws on the diaries and memories of several expedition members. It conveys the thoughts and feelings of the author, the progress and achievements of the expedition, and an intimate, affectionate account of the region's people and wildlife. Events unfold chronologically in 29 brief chapters that cover two and a half years in the Arctic, with a break of eight months midway, when most of the expedition members returned to Britain. Several themes are interwoven, with the threat of war in Europe as a distant backdrop.

Rowley's English is unpretentious, but has a wealth and clarity that one might expect from a writer who reads Sterne, Shakespeare, and Dickens in the igloo. His story is laced with

humour and lovely passages, such as one about fulmars gliding to feed over a glassy sea, or another in homage to the beauty of Udloriaq (“the Star”), a woman so old that the land has risen perceptibly in her time.

The description of the preparations in Britain for the expedition is short but entertaining. The result was a barely adequate supply of food, equipment, and money, which included a small grant for the collection of lice from birdskins.

The second chapter gives a concise, comprehensive picture of the eastern Arctic in 1935—the Inuit still living from and with the land; the missionaries, traders, and police of the scattered posts; and the annual ship patrols that, together with infant radio, linked a rigorous Shangri-La to a distant South.

The story of the initial journey of the expedition from England to the Arctic is well told. It included a dinner one moonlit night with Lady Tweedsmuir, wife of the Governor-General, and their son, author John Buchan, followed by a rough-and-ready ride to Churchill, colonist class on the Muskeg Express.

In Churchill the explorers learned to handle their whaleboat, the *Polecat*, and acquired such skills as baking bannock and sewing dog harnesses. The departure of their overloaded boat, with dogs on top, prompted an old trapper to make the illogical but priceless comment: “If one of them dogs pisses, she’ll sink” (p. 22).

Even Rowley’s very factual account evokes the discomfort and danger of the *Polecat*’s voyage in wind, tides, and ice, under sail or erratic engine power—danger that was later brought home by the drowning death of Reynold Bray, the ornithologist. The novices learned fast, however, and Rowley explains, with some illustrations, the making of sleds, igloos, clothing, and other products of Inuit technology.

The author records many impressions and insights, such as the realization, at one point, that he was entirely alone for the first time in his life. His mention of a persistent toothache and the rough surgery attempted makes a reader wince. He comments with kindly humour on the habits of his companions—Bray’s tendency to pack arsenical soap in the butter tin and Keeling’s quirk of wearing mismatched boots. Little is said about the internal harmony of the group, but Rowley’s preferences among his teammates are easily discerned and hint at the eventual dissolution of the group into separate ventures.

Tom Manning is described as someone who “seemed to enjoy discomfort of any kind” (p. 30), and the grim experience of the *Polecat* trip convinced Bray and Rowley that they would be better off travelling with the hospitable and protective Inuit. It was a fortunate decision, leading to a sustained, intimate experience of life with Inuit who were, in most respects, living in the ancient way. Rowley describes hunger, with breakfast a spoonful of raw, frozen brains; string games played by the light of a seal-oil lamp; dancing in the igloo; and the boy who preferred to stand rather than sit, in order to have strong legs for the hunt. The description of youths who achieved a high by self-strangulation anticipates the gasoline-sniffers of the present. Rowley’s sojourn with the Inuit resulted in lifelong friendships, and the rags-to-riches story of his protégé, Mino, is a treat.

At the “whitemen’s” posts the expedition members were given lodgings and the luxury of hot baths, cooked food, bridge games, beds, and news of the “outside.” Rowley writes about residents such as the trader Voisey, who hated his radio so much that the transmission of a message in Morse code made him ill, and Father Schulte, the flying priest, who was the first airplane pilot in the region. The author pays tribute to the travelling skills of missionary Jack Turner, but questions the rigidity of his religious views. Rowley also gives an example of the problems that interfaith rivalry raised for the Inuit.

The excitement of annual ship time is well expressed with the arrival of the “annual ships cold,” crew and passengers pitching in to build the new post of Fort Ross before freeze-up, and the arrival of wives into a new, lonely world.

Human activities are described against a background of observations on topography, weather, ice and snow conditions, and all living things. The passages painting late spring at the Abverdjar excavation site and a raven that frightens a whole dog team are two of many examples. Casual readers may find the detailed description of long dogsled journeys rather tedious, but such journeys over flat ice and land *are* tedious, and Rowley filled the mental void by reciting poetry to himself.

Despite its haphazard character, the expedition achieved its main objectives. Bray and Manning added to the ornithological record of the region; Bray and Rowley completed the mapping of the Baffin Island coastline, often working with little more than watch, compass, and an eye for perspective. Rowley mapped two routes across Baffin Island and made significant archeological discoveries that confirmed Jenness’s theory of a Dorset culture preceding that of the Thule whalers. Rowley also anticipated the now-accepted view that the Thule people were direct ancestors of the Inuit.

The narrative ends abruptly with the arrival of a missionary supply ship bearing the news that Germany had invaded France. The comment of an old Inuk on that occasion is a classic: “War again?” “Yes.” “Germans again?” “Yes.” “You go fight war?” “Probably.” “Damn fool, you stay here!” (p. 235–236). Rowley went, however, and like the other members of the expedition, served in the armed forces for the duration of the war.

The editor’s opening note refers correctly to Rowley’s Inuit name as *Makkuktunaaq*, but errs in its alternative spelling, since there is no “e” or “i” sound in the Inuktitut pronunciation. Also, *Makkuktunaaq* can mean either a young man or a young woman, and the addition of the suffix “naaq” makes it a small young person.

The last paragraph on page 5 refers to the west coast of Foxe Basin as the least explored part of Canada at that time; however, the maps and other references in the book indicate that what was meant was the east coast of Foxe Basin, or the west coast of Baffin Island.

The book is easy on the eye, with balanced editing, clear print and spacing, appealing and accurate line drawings, well-reproduced old photographs, and more recent air photographs. The maps, including one by an Inuk, are well drawn and useful.

The appendices comprise a moving sonnet to Attaguvtaalluk, who ate the flesh of her family to survive; an Inuit board game; brief life histories of twelve men mentioned in the book; and a list of publications by expedition members. Graham Rowley reaches his goal of recording a significant piece of Arctic history from personal experience.

The book, however, is more than a history. It is a warm, colourful tale of scientific and self-discovery, of two distinct cultures sharing and shaping a region and an era. The phrase “something for everyone” is hackneyed, but it describes well the wide spectrum of readership that *Cold Comfort* can serve.

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WEDDELL SEA TECTONICS AND GONDWANA BREAK-UP. Edited by B.C. STOREY, E.C. KING, and R.A. LIVERMORE. Bath, England: The Geological Society Publishing House, 1996. 284 p., maps, b&w and colour illus., index. Hardbound. US\$93.00/£56.

This moderately technical book is the culmination of perhaps decades of research on a little-known part of the Antarctic continent's adjoining seafloor, the Weddell Sea, lying between about 0° and 60° West longitude. Its visible southern boundary is the barrier of the Filchner-Ronne Ice Shelf at about 75° to 78° South latitude, and northeast of the barrier is the coastline of the more ancient landmass known as East Antarctica, where rocks along that coast have been dated at more than a billion years old. (The oldest rocks found in Antarctica are much older, comparable with those forming the foundations, or basements, of all continents, approaching nearly four billion.) Those familiar with the concept of Gondwana (or Gondwanaland) will assume correctly that the contents of the book pertain to the formation of the Weddell Sea as a result of the separation of the various components of a large southern hemisphere landmass (Gondwanaland) that began to break up into smaller units beginning about 180 million years ago or so, depending on the location. Those major components are presently Antarctica, South America, Africa, Australia, and India, with lesser crustal units including New Zealand, Madagascar, and the Falkland Islands, for example.

Geologically speaking, this is a very significant volume, consisting of 18 individual chapters by well-known investigators writing on separate aspects of the subject. For geological reasons, the subject area extends into southern South America, the Falkland Islands, and the coastal area east of the Greenwich Meridian. An introductory chapter by the book's editors provides a very good summary of what follows. The objective of the volume is to answer questions relating to the history of seafloor spreading in the Weddell Sea and a number of related questions. The volume is the product of an international conference held in Cambridge, England in June 1994.

Most of the authors are from Britain, but representation from Germany is high because of the continuing studies in the Weddell Sea from the German icebreaker *Polarstern*. The remaining authors are from Belgium, Japan, Russia, South Africa, and the United States.

The reader should keep in mind that “seafloor spreading” is a term related to plate tectonics and continental drift, all of which gained considerable recognition in the late 1950s and early 1960s, when the process became better understood. The mechanics of plate movement could explain the distribution of landmasses on the globe, as well as many geological features such as volcanoes, earthquakes, and oceanic trenches. Crustal plates move at rates of only several centimetres per year, on average, but given geological time of millions of years, this movement can displace entire continents over considerable distances.

The first person to sail into the Weddell Sea was James Weddell, on the sealing brig *Jane* in 1823. Weddell did not know or care about the formation of the seafloor, of course. Nor did the later explorer Sir Ernest Shackleton on the *Endurance*, a ship that became trapped in the sea ice and eventually sank in 1915. Ships in the Weddell Sea today are often there on seismic surveys or to collect bottom samples in efforts to accumulate data on the history of the seafloor and of the Antarctic ice sheet, for example.

It is apparent from some of the chapters that the general or regional fit of major continents within Gondwana is reasonably well established, but there is still debate over the number and earlier positions of microplates within the Weddell Sea region. For example, instead of neat and orderly major landmasses like the crust of East Antarctica (not all of which is simple), West Antarctica has smaller crustal units (“blocks”) composed of major mountain ranges plus adjacent outlying mountains that seem to have become detached from perhaps larger features. Their crustal properties are in some cases not well known, but might be transitional between oceanic and continental crust in thickness. As scientists reassemble these “blocks” to form the earlier Gondwana, some of them do not appear to fit the overall configuration because there is not enough room for them. The puzzle of the Falkland Islands (Islas Malvinas) block, believed by Adie (1952) and others on geological grounds to have become detached from the southeastern coast of Africa, rotated about 180 degrees, and then been carried along with the South American plate to its present location, now has a different explanation. In their contribution on the geological evolution of the Falkland Islands continental shelf, Richards et al. favour a nonrotational history on the basis of offshore seismic and gravity-magnetic data. This is only one example of reinterpretations resulting from later technological developments of a more sophisticated nature, including satellite mapping of large-scale crustal features through high-resolution Geosat altimetry, ERS-1, and others.

Some chapters benefit from colour illustrations of satellite imagery, geophysical maps, and geologic cross sections, which provide easier viewing of data. Printing and reproduction quality are excellent. The book's editors have done a