AN ANTARCTIC CLASSIC REVIVED

COLD: THE RECORD OF A SLEDGE JOURNEY. Gould, L. M. 1984. Northfield, Minnesota, Carleton College. 213 p. $19.95. (Available from the Book Store, Carleton College, Northfield, MN 55057 USA)

Laurence McKinley Gould, born in August 1896, served as a geologist and second-in-command of Richard E. Byrd's first Antarctic expedition, 1928–30. This book, first published in 1931 by Brewer, Warren and Putnam of New York, has been republished by Carleton College, where Gould was for long head of the Department of Geology, and college president 1945–62. It is a reprint of the earlier edition, with an introduction by Carleton's 1984 president, Robert H. Edwards, a foreword by James H. Zumberge, friend and Antarctic colleague of Gould's, and an 11–page epilogue by Gould himself, highlighting Antarctic events since the Byrd expedition, particularly the work of the International Geophysical Year 1957–58.

The book tells first of a geological reconnaissance to the nearby Rockefeller Mountains, 200 km east of the main base at Little America on the Ross Ice Shelf. Gould vividly describes the blizzards that demolished the airplane which had brought his field party to the mountains. It tells also of life in the close quarters of Little America during winter, a time spent mainly in preparing for the field work of the following spring and summer, making sleds and preparing food rations for field parties. Boredom was relieved by comedy skits and plays that spoofed various members of the expedition. Most of the rest of the book describes the sledging journey and geological survey of the Queen Maud Mountains. Gould was exhilarated at being the first to walk on rocks never before seen, except for the pathway sledged through the Queen Maud Mountains by Roald Amundsen on his South Polar trek in 1911. He discovered new mountains and compared their rocks with those of the South American Andes and New Zealand, and speculated on land connections between the southern continents. His main results were published in geological journals, but this book tells of the adventurer in Gould, the drama of day-to-day survival, and the bonds developed between Gould, his companions, and the dogs that pulled the sleds. As in Amundsen's time, some of the dogs had to be killed as the food rations were depleted, and emotions are apparent in Gould's discussion of this unfortunate but necessary practice. As a geologist, Gould summarizes well the reasons for conducting research in Antarctica and enduring the associated hardships and privations. In the last sentence of the 1931 edition, he stated that he 'had rather go back to the Antarctic and find a fossil marsupial than three gold mines.' There are still no gold mines in Antarctica, but Gould has lived to see the discovery of fossil marsupials, and his speculations on land connections fully justified. (John Splettstoesser, University of Minnesota, St Paul, Minnesota 55114–1057, USA)

ENGINEERING, THE ARCTIC OCEAN AND THE FUTURE

ARCTIC OCEAN ENGINEERING FOR THE 21ST CENTURY. Gerwick, B. C. Jr. 1985. Washington DC, Marine Technology Society. 234p, illustrated, soft cover. ISBN 0–933957–00–9.

I wish I could have attended the First Spilhaus Symposium, on which this book is based. Dr Athelstan Spilhaus is a founder member of the Marine Technology Society, author of numerous learned articles and books, cartoonist, inventor– a man of many talents. The Spilhaus Concept, as the volume editor calls it, is a series of symposia modelled on the Gordon conferences in science, but addressing future developments in ocean engineering.

Conferences are small; only eminent scientists and experts are asked, and programmes are informal to ensure interchange of ideas between delegates. The First Spilhaus Symposium concerned engineering in the Arctic Ocean.

Arctic Ocean Engineering for the 21st century is intangibly addictive. Had I seen it while browsing in a bookshop I would not have rushed to buy it. Having read it from cover to cover, and re-read some chapters several times, I still cannot pin down what makes me go back for more. I am not sure I even agree with the Spilhaus Concept (though this may be sour grapes because I was not invited to the conference). Perhaps it is the originality of free thought, derived from knowledgeable people waxing poetic, that makes the concept work. About to say that this is no reference tome, I checked again and found it a mine of information once you know where to dig. Rey on geophysical and environmental issues, Armstrong on Arctic transportation (with special emphasis on the Soviet Union) and Kildow on US Arctic policy, all give useful facts and learned predictions. A particularly entertaining paper by Ostreng discusses both strategic and offshore developmental aspects of the Arctic Basin. The four appendices include a list of participants, the text of the Arctic Research and Policy Act of 1984, abstracts that had been distributed before the conference, and a set of extended papers. From this final section, papers by Croasdale, Jumppanen, Zaleski-Zamenhof and Itoh on engineering design problems under Arctic conditions deserve special mention; so does the paper by Brigham on Soviet Arctic transportation. I found the workshop report section somewhat turgid, perhaps because the reports try to summarize too many often disparate ideas. However, pulled together into a single volume, these papers are of great value to all who are interested in polar matters.

The First Spilhaus Symposium was an adventurous project. I think it worked. Its proceedings will interest engineers, lawyers and policy makers who wish to read around the Arctic aspects of their subjects. (Vernon A. Squire, Scott Polar Research Institute, Lensfield Road, Cambridge CB2 1ER.)

PORTRAIT OF A LAND BRIDGE

BERINGIA IN THE CENOZOIC ERA. Kontrimavichus, V. L. (editor). 1985. Rotterdam, Balkema. 724p, illustrated, hard cover. ISBN 90–6191–4450. £28.50, Fl.120.00.

This volume is a translation of a set of 57 contributions to a symposium on 'The Bering Land Bridge and its role in the history of Holarctic floras and faunas in the Late Cenozoic' held at Khabarovsk in 1973. The volume was published in Russian in 1976.

Beringia is a critical area for any consideration of Holarctic biogeography, since sea level changes and tectonic history control the extent and timing of the land-bridge between Asia and North America. The translation will therefore be welcomed by a wide variety of scientists, be they botanists, zoologists, geologists, geographers or archaeologists. This is especially so since the great majority of contributors are Soviet authorities on these matters, and even though there has been a considerable lapse of time between writing and publication.

The papers are presented under five general headings: the geological history of Beringia (11 papers), vegetative cover and palaeogeography of Beringia (15), Beringia and fauna of the Holarctic: palaeontological data (11), Beringia and recent fauna of the Holarctic (10), and Beringia and the problem of human migration to America (10). They include general reviews of sea-level change, vegetation history, faunal history, climatic history, Asian and American flora and fauna elements (mammals, insects, helminths) and