

and the prospect of reaching the Pacific via a Northwest Passage. Nor was the polar route itself excluded, as Ann Savours shows in her paper on the Phipps expedition of 1773. Commerce played a great part in all this, and there are specialized papers dealing with the activities of the Basque whalers in Labrador, the Dutch whalers in Spitsbergen and French whalers from Harfleur in the Arctic. Dr John Bockstoe's review of American Arctic whaling leading to the beginnings of the Bering Strait fishery in the 1840s constitutes a valuable summary of his research in this field. With the flag sometimes went the Cross, as Louis Rey, editor of these proceedings, reminds us in his opening paper on the early Church in Greenland. Guy Mary-Rousselière takes the theme to modern times with his concluding paper on the evangelization of the Canadian North. In the general context of exploration history it is appropriate to consider early concepts of the law of the sea and notions of sovereignty; two papers deal with these themes. Nor are the native inhabitants of these polar lands entirely overlooked. There are papers concerning two reindeer herding peoples, the Koryaks and Saami, and a third paper considers the paleo-history of circumpolar paleolithic peoples adapting to the vagaries of the climate in the periglacial zone during the last glaciation.

*Unveiling the Arctic*, though inevitably arbitrary in its coverage of the topic and with a certain amount of overlapping of subject matter, nevertheless represents a valuable review of Arctic history at international level. Especially welcome to English readers are the translations of the French language contributions, and there is an invaluable index. (H. G. R. King, Scott Polar Research Institute, Lensfield Road, Cambridge CB2 1ER.)

### THE ARCTIC OCEAN: SPECIAL NUMBER

*OCEANUS*, 29(1), Spring 1986. The Arctic Ocean.

The journal *Oceanus*, published quarterly by Woods Hole Oceanographic Institution, can be described as a marine science analogy to *Polar Record*. Each issue is filled with a diverse selection of beautifully presented articles, of interest to the specialist who wants to read around his subject, but also of value to the non-specialist seeking to widen his experience of scientific and non-scientific facets of the world's oceans. The *Polar Record* analogy becomes even more obvious with this special issue of *Oceanus* dedicated to the Arctic Ocean. Inside a front cover depicting an unspoilt Arctic of extreme beauty, and a back cover illustrating the impact of Man, one finds a collection of articles offering a broad overview of current polar matters. Each article is well illustrated with photographs, tables and figures. The motivation for our sudden interest in this wild and inhospitable area is explained by Young in his paper 'The age of the Arctic', which deals with military implications, and by Curlin and Johnson's paper 'Arctic offshore petroleum technology'. An introduction by Zumberge provides some insight into policy. As well as their educational content, the various zoological articles included in the volume have a common theme—take care or you'll ruin it for later generations. However, as Dunbar points out in his paper 'Arctic marine ecosystems', the Arctic marine ecosystem is probably no more fragile than anywhere else. Sea ice, a commodity of abundance in the Arctic, is described by Untersteiner in his rather oddly titled article 'Glaciology—a primer on ice', by Newbury who considers biological implications, and to some extent by Weeks and Carsey who write about ice from the remote sensing standpoint. The Arctic Ocean has considerable effect on climate, and conversely, is influenced markedly by changes in climate; these aspects, and especially CO<sub>2</sub> warming, are dealt with by Baker in his paper 'The Arctic's role in climate'. Finally, Brigham writing on US, Soviet and Canadian icebreakers, and Horn and Johnson on MIZEX (the Marginal Ice Zone Experiment), remind us that active

research in Arctic and sub-Arctic seas is still most intense, with the need for a US research icebreaker and more international experiments being planned for the future.

The Arctic Ocean issue of *Oceanus* makes good reading, but then so does any other issue of this informative journal. Indeed, as a polar scientist I found earlier numbers more compulsive reading, for example 28(1) on marine archaeology, and 28(2) on the oceans and national security. I presume, however, that if I practiced marine archaeology for a living, I might be fascinated by the recent volume on the Arctic, and can therefore most highly recommend it and a subscription to the journal as a whole. (Vernon A. Squire, Scott Polar Research Institute, Lensfield Road, Cambridge CB2 1ER.)

### NORTH AMERICAN SEALERS

**THE WAR AGAINST THE SEALS: A HISTORY OF THE NORTH AMERICAN SEAL FISHERY.** Busch, B. C. 1985. Kingston and Montreal, McGill-Queen's University Press. 374 p, illustrated, hard cover. ISBN 0-7735-0578-4. \$29.95.

Briton Cooper Busch wrote this book for the best possible reason. He scoured the libraries for a history of the North American sealing industry, found there was no such thing, so wrote his own. A historian with little personal knowledge of seals, he relied on biologist colleagues for his zoology. They served him well; there is little to fault in his account of the animals themselves. The history is lucid, leading us in time from the late 18th century almost to the present, and covering everywhere from Arctic to sub-Antarctic where American sealers worked. Much of the text concerns the hunt for Bering Sea fur seals and Newfoundland harp seals, which together provided the backbone of the industry, but South American, South African and Southern Ocean stocks too are brought into the picture. Busch writes well of the sealers, their ships and their islands; no less important in his story are catch statistics, details of pelt processing, industrial disputes, markets, and the dealers and entrepreneurs who ultimately determined how many seals would die each year for the industry. A most readable story, marred for me only by a plethora of footnotes requiring frequent excursions to the back pages; if a fact is worth putting in, surely it is worth the trouble of building into the main text. This an essential book for libraries and students concerned with the sealing industry. (Bernard Stonehouse, Scott Polar Research Institute, Lensfield Road, Cambridge CB2 1ER.)

### AERIAL SURVEY OF GRAHAM LAND

**WINGS OVER ICE: AN ACCOUNT OF THE FALKLAND ISLANDS DEPENDENCIES AERIAL SURVEY EXPEDITION.** Mott, P. G. 1986. Long Sutton, Mott. Illustrated, hard cover.

Here is the long-awaited account of FIDACE, the aerial survey expedition that systematically photographed much of Antarctic Peninsula and adjacent islands some 30 years ago, in the summers of 1955-56 and 1956-57. FIDACE was organized by Hunting Aerosurveys Ltd on behalf of the British Colonial Office; it was both the first commercially-run Antarctic survey expedition, and the first fully-controlled aerial survey of a sector of Antarctica. Its terms of reference were to take vertical photographs between 62° and 68°S, provide a ground control framework for the preparation of accurate maps, and run airborne magnetic profiles in specified areas for geological investigations.

To this end the survey's two amphibian Canso aircraft flew some 130,000 nautical miles, covered 35,000 sq miles of territory, and took about 17,000 photographs. The survey was organized from a base on Deception Island, with ship and helicopter support