

also presented with the less salubrious aspects of life on the North Slope: the premature death by tuberculosis of Bodfish's step-father left him alone at fifteen to hunt and trap for his mother and her children until she remarried. In sum, this is above all the life history of a distinguished Inupiaq hunter for whom upon retrospective reflection 'the happiest time of our lives, in all those years, [was] when I was hunting'. As such it is both a revealing and entertaining tale. (M. J. Whittles, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

POLAR ICE TECHNOLOGY

ICE TECHNOLOGY FOR POLAR OPERATIONS. Murthy, T. R. S., Paren, J. G., Sackinger, W. M. and Wadhams, P. (editors). 1990. Southampton, Computational Mechanics Publications. 426 p, illustrated, hard cover. ISBN 1-85312-091-X. £83.00.

This book contains the proceedings of the second conference on Ice Technology for Polar Regions, held at Scott Polar Research Institute, Cambridge, in September 1990. The 31 papers are divided into the following areas: Ice environment; Vessels and structures in ice; Ice operations and management; Remote sensing of sea ice; Ice forecasting; and Ice acoustics. The quality of the papers varies considerably and the presence of several errors — particularly grammatical errors — in some leads one to suspect that editing may have been superficial and rushed. Although the main emphasis of the book is on technology, several papers are of a purely scientific nature, the most notable being 'The wave structure in the seas off an ice edge' by Cox and Squire. Here a more rigorous treatment has led to a more complete solution for this difficult wave dynamics problem, an improvement to existing theory that will be much appreciated by both the scientific and the engineering communities.

Of the review papers, the two most useful are by Wadhams on sea ice thickness measurement techniques and by Horn on the design, planning and execution of large multi-national arctic experiments. Of the eight papers on icebreakers I found the one by Kennedy, Voelker and St John on the design and operation of a new US Antarctic research vessel most informative. Clearly the excellent RV *Polarstern* will soon have a worthy rival in the southern hemisphere. In the category of gripping reading, the account by Voelker and Siebold of a polar icebreaker caught in an active shear zone near Prudhoe Bay, Alaska, is definitely the winner. This unscheduled field test should give icebreaker designers food for thought.

No fewer than seven papers on remote sensing indicate area of technology development that is likely to be most active for the foreseeable future. Holt, Kwok, Carsey and Curlander give an excellent overview of the Alaska SAR facility which undoubtedly intends to be in the front line of research efforts to produce usable products from the ERS-1, JERS-1 and RADARSAT satellites. In summary, the book is a useful library reference. However, it hardly warrants an investment of £83.00 by the individual.

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BRIEF REVIEWS

WEIRD AND TRAGIC SHORES: THE STORY OF CHARLES FRANCIS HALL, EXPLORER. Loomis, C. C. 1991. Lincoln, Nebraska, Bison Books. 388p, illustrated, soft cover. ISBN 0 8032-7937-X. £12.30.

Reprint of the classic account of the Cincinnati engraver, newspaper publisher, mystic and enthusiast who set out in 1860 to discover the whereabouts of Sir John Franklin's missing expedition, and died in mysterious circumstances on a later journey toward the North Pole. A fascinating story of one of the Arctic's more colourful explorers, with an afterword written for this edition.

TO THE SOUTH POLAR REGIONS. L. Bernacci. 1991. Bluntisham, Bluntisham Books. 348p, illustrated, hard cover. ISBN 1 85297 035 9. £39.95, US\$80.00.

Another beautifully-fashioned reprint of a polar classic from Bluntisham, with cover and contents styled to match the 1901 original — a collector's item. But this is also a highly readable account of the Antarctic (*Southern Cross*) Expedition 1898–1900, a small private expedition, funded by publisher Sir George Newnes and led by Carsten E. Borchgrevink, that was the first to winter on the Antarctic continent. Louis Bernacci, the Tasmanian expedition physicist, wrote it soon after his return from Antarctica and shortly before joining Scott's *Discovery* expedition. There is an informative introduction by D. W. H. Walton. A limited edition of 450 copies, obtainable directly from Bluntisham Books, Oak House, East Street, Bluntisham, Hunts. PE17 3LS, UK: prices include postage.

A PRACTICAL GUIDE TO THE EUPHAUSIIDS OF THE WORLD. Baker, A. de C., Boden, B. P. and Brinton, E. 1990. London, Natural History Museum Publications. 96 p, illustrated, soft cover. ISBN 0-565-00985-0. £25.00.

Indeed a practical guide, well illustrated and annotated, to the 86 species so far recognized of this cosmopolitan and ecologically-important group. Lie-flat binding will facilitate use in the laboratory, for which the practical guide is no doubt intended. Identification is restricted almost exclusively to morphological criteria, using what seem to be clear and precise keys. Those interested in biogeographical or seasonal distribution, breeding times and other biological information on euphausiids will need to look elsewhere. In this the list of references may be helpful, though it does not include, for example, Miller and Hampton's key *Biology and ecology of the Antarctic krill (Euphausia superba Dana): a review*, published in 1988.

ULTIMA THULE. Malaurie, J. 1990. Paris, Bordas. 320p, illustrated, hard cover. ISBN 2-04-018400-7. 495 FF.

An elegantly illustrated history, in French, of the 170-year relationship between the northernmost people on earth and the explorers, adventurers and conquerors, military and