

dioxide; friend or foe?' the present volume is much more detailed, but less well printed and presented. Over 2000 references fill one third of the volume, of which over half refer to work dated 1985 or later. So many references in such a controversial field make one suspect that one can find an authority to support any point of view. However, in contrast to the earlier volume, Idso expresses the view that the wide range of scientific questions that need to be solved are now being asked and are being tackled, although the answers are still distant. (G. de Q. Robin, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

A CONTINENT UNSPOILED?

THE EXPLORATIONS OF ANTARCTICA: THE LAST UNSPOILT CONTINENT. Fogg, G. E. and Smith, D. London, Cassell. 224 p, illustrated, hard cover. ISBN 0-304-31813-2. £16.95.

This is an unusual book, far removed from run-of-the-mill polar coffee-table fare. Dedicated to British Antarctic Survey, it is written by a biologist who has had much to do with the Survey over many years. Fogg's text is mainly a historic account of the unfolding of Antarctica and its assimilation into science. The story has been written often enough, but rarely by a scientist who perceives so clearly where each small tile of information fits into the overall mosaic. There is also a deal of comment, based on the author's summer working visits to Antarctica with the Survey, and broad background knowledge of the continent's curious politics. The black and white pictures are a carefully-chosen mixture of historic drawings, photographs and illustrations from early works, that embellish and enlarge on the text.

But this is not primarily a history book. As a very substantial bonus comes a selection of reproductions of contemporary oil and water-colour paintings by David Smith, one of Antarctica's most distinguished living artists. Some are lovely, some magical, some garish: all are interesting and evocative of Antarctica in its range of moods. Smith's work reproduces well, though I am not sure if he will be delighted with the quality of some of the printing. This is a fireside book for browsing. I wish I could agree with the implication of the subtitle: to those who knew it before IGY, Antarctica is a continent already badly spoilt by decades of insensitive mismanagement. Nowhere is there a greater need for cherishing than in the peninsula sector that these authors know and depict so well. (Bernard Stonehouse, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

ASSESSING WHALE STOCKS

THE COMPREHENSIVE ASSESSMENT OF WHALE STOCKS: THE EARLY YEARS. Donovan, G. P. (Editor). 1989. Cambridge, International Whaling Commission. (Reports of the International Whaling Commission, Special Issue 11). 210 p, illustrated, hard cover. ISBN 0-

906975-22-0. £25.00 (\$45.00) plus £5.00 (\$8.00) postage and packing.

The 1982 meeting of IWC introduced into the Schedule to the Convention a promise to itself to undertake, by 1990 at the latest, a comprehensive assessment of the effects on stocks of a pause in commercial whaling, and a further comprehensive assessment of the effects of new management schemes on aboriginal subsistence whaling. As the editor of this volume points out, they neglected only to say what the term 'comprehensive assessment' entailed, leaving the responsible Scientific Committee to decide for itself. In 1986 the Committee determined that a Comprehensive Assessment (now dignified by capitals) was '... an in-depth evaluation of the status of all whale stocks in the light of management objectives and procedures [including] the examination of current stock size, recent population trends, carrying capacity and productivity', and identifying three major areas of work, 'to review and revise current knowledge concerning methodology, stock identity and data availability; to plan and conduct the collection of new data; and to examine alternative management regimes.'

Comprehensive indeed, and making it clear that whale management, while still requiring field biologists and others to provide new data, has for many years required substantial inputs from mathematicians and modellers. This volume starts with reports on four Comprehensive Assessment workshops held in Cambridge April 1986, Reykjavik March 1987 and Lowestoft 1989. There follow three reports on specially-funded reviews and studies; 'Survey techniques for estimating abundance of cetaceans' (Hiby and Hammond — an evaluation of standard methods of stock size assessment from ships, shore and aircraft, with a guide to non-specialist observers), 'Molecular techniques for examining genetic variation and stock identity in cetacean species' (Hoelzel and Dover) and 'Analysis of southern hemisphere minke whale mark-recovery data' (Buckland and Duff). The final section includes five papers on management modelling: 'Simulation studies of two whale stock management procedures' (Cooke), 'Further simulation studies on management procedures' (De la Mare), 'A feedback strategy to regulate catches from a whale stock' (Magnusson and Stefansson), 'Results of first-stage screening trials for a proposed whale stock management procedure' (Punt and Butterworth) and 'A simulation study on management of whale stocks considering feedback systems' (Sakuramoto and Tanaka).

Whales are notoriously difficult to count and their stocks are almost impossible to evaluate accurately. Here we see gallant attempts to provide useful models for management. For the sake of the whales, let us hope that the biologists, mathematicians, modellers and managers find a common language, and that research funding is available not only to develop models, but to test them adequately by field observations. This volume is obtainable from the International Whaling Commission, The