

international scientific background (contributed by Walton himself), five on marine and terrestrial biology (I. Everson), four on ice and rocks (C. S. M. Doakes), four on climate and atmosphere (J. A. Dudeney), and the last chapter is a round-up of science under the Antarctic Treaty, current and future (R. M. Laws).

The scientific work is well and clearly described; Inigo Everson's contributions are a particularly masterly summary of a complex field, but they are all written and illustrated up to the best *Scientific American* standard. I would have been glad to see the sources of many of the diagrams recorded more fully, so that readers could turn up the originals if they wanted to. Well-described too is the international scientific organization, with its awful acronyms familiar to readers of *SCAR Bulletin*, and the Antarctic Treaty Organization, now maturing to solemn middle-age. There is an excellent selection of photographs, both colour and black-and-white. This is a well thought-out, well produced book. The price is daunting for a popular book, but the text is right for school, college and university libraries, for polar and non-polar scientists, for readers of *Polar Record*, favourite nephews and nieces, and for anyone with even a remote interest in what goes on in Antarctica. (Bernard Stonehouse, Scott Polar Research Institute, Lensfield Road, Cambridge CB2 1ER).

SAFETY IN SEA ICE

ICE SEAMANSHIP. G. Q. Parnell. 1986. London, Nautical Institute. 87 p, illustrated, soft cover. ISBN 1-870077-01-6. £17.00.

This monograph of 78 pages is divided into two parts. Part I, 'Ice', describes different types of floating ice, the formation of ice and its changing appearance to help identification. Internationally-accepted ice terminology is explained and well illustrated. Part I concludes with an Ice Summary that warns of the not-readily-apparent perils associated with ice navigation. Part II, 'Ice Seamanship', lists seven Basic General Safety Rules, which form the heart of the treatise. They are elaborated with illustrations, and their prudence is aptly emphasized by reminding the reader of the *Titanic* disaster.

In one of many welcome touches of humour the author suggests that every ship in ice might benefit from a statement, in gold letters on the bridge, of the simple law of physics—that impact varies with the square of speed. Using illustrations, the basic principles of negotiating pack ice unaided and under ice breaker escort are explained. Dangerous situations arising from anchoring and mooring in drift ice, lack of understanding in the use of charts with scanty information, incorrect assumptions on radar targets, are all dealt with. If asked to find fault I would have only two comments. Firstly, in Part II under the sub-heading 'Avoiding and negotiating ice', I would reiterate the warning given in the Ice Summary of Part I, that a major danger of becoming beset is that drifting ice may take the ship toward such unwelcome dangers as the

shore, reefs, or grounded bergs. This is a very real hazard when working pack ice off Antarctic Peninsula. Secondly, where the author deals with radar interpretation, I would add that bergs and bergy bits in pack ice are often most readily identified on radar by the shadow sector they cause.

I strongly recommend this excellent publication to all masters and officers who operate ships where ice is or may be encountered. To shore-side ship managers and superintendents who have authority over ships that may meet these hazards, I recommend that copies be made available on all their ships, and that its reading be backed by Standing Orders. Yachtsmen also who venture to high latitudes would find its advice and knowledge very applicable. The book is simple in style, makes precise statements, is economic in words, uses illustrations admirably, and misses nothing. Humour makes it readable and—most importantly—memorable. It is now on the bridge of my ship, to be read in conjunction with my other Standing Orders, and I have indented for the appropriate law in gold lettering, to be supplied of course at owners' expense. (Capt C. R. Elliott, RRS *John Biscoe*, British Antarctic Survey, Madingley Road, Cambridge CB3 0ET.)

THE ANTARCTIC TREATY SYSTEM

THE ANTARCTIC TREATY SYSTEM: LAW, POLITICS AND DEMOCRACY. Myrhe, J. D. 1986. Boulder, Westview Press. 162 p, soft cover. ISBN 0-8133-7286-0. £17.50.

THE ANTARCTIC TREATY REGIME: LAW, ENVIRONMENT AND RESOURCES. Triggs, G. D. (editor). 1987. Cambridge, Cambridge University Press. 239 p, illustrated, hard cover. ISBN 0-521-32766-0. £30.00, US\$54.00.

These are very different additions to the extensive literature on Antarctica; the first adds to one narrow aspect, the second provides a comprehensive, up-to-date overview of all the issues deriving from the Antarctic Treaty and its related instruments.

Myrhe is a newcomer to this field, now a freelance writer. His slim volume (40 pages consist of documents, etc) is based on his PhD thesis, which made use of the records of the first three months of the Antarctic Treaty Consultation Parties, which have only recently been made available, though explanatory background and a chapter on the current minerals negotiations are included. The issues and positions remain surprisingly familiar and it is interesting to read Myrhe's account of their first appearance. Antarctica watchers will want to acquire this book because it is the first to use this material, but that said, it is not otherwise an outstanding work. The background is merely sketched in. The analysis is superficial, Myrhe has not fully overcome the problem many students find of handling accounts of meetings in a thematic rather than an episodic descriptive manner, and there are several gram-

matical, typographical and stylistic errors. Though his view that 'All the world loves a conflict' influences his approach, he concludes that the Consultative Parties do seem to be moving towards a successful conclusion of a minerals regime.

'The Antarctic Treaty Regime' is an altogether more solid work, excellently edited, and packing a vast amount of factual information and well-informed comment into one succinct volume, since each chapter is written by an expert in the particular field. It consists of the proceedings of a conference that addressed the question 'Whither Antarctica?', held in 1985 at the British Institution of International and Comparative Law. This brought together a number of people with serious and informed interests in all aspects of Antarctica. The standard of presentation and discussion was very high, and the editor has made use of the discussion in a novel way which illuminates each chapter and whets the reader's appetite; the points arising are given *before* each chapter, not in the more usual form of a somewhat incoherent verbatim record at the end.

The book is divided into six parts. Part I includes impressive papers by Drewry and Laws on Antarctica's physical environment and the many opportunities it provides for scientific research. In Part II the subtleties of the legal issues are discussed in some depth by Trolle-Anderson, Orrego Vicuña, Triggs and Lady Fox. Conservation of Antarctic resources and protection of the marine environment are dealt with by Gulland, Holdgate, Bonner and Barnes in Part III. Bonner pungently attacks both the recent Convention on Conservation of Marine Living Resources as 'a philosophical scientists' convention' (of whose successful practical outcome non-quiche-eating scientists apparently despair), and the well-intentioned activities of Greenpeace which he sees as likely to destroy the existing regime. Barnes puts a strong case for establishing an Environmental Protection Agency, wilderness areas, reserves free of krill fishing and a moratorium on mining, with NGOs (non-governmental organizations) as the watchdogs. Triggs and Watt grapple in Part IV with the thorny legal problems of negotiating a minerals regime, despite Larminie's pessimistic assessment of minerals prospects. Part V asks 'Whither Antarctica?' Heap gives the treaty parties' answer, Zain-Azraai the very different view of most non-treaty parties, including developing states, which want the regime to be more accountable to the international community. Rowlands canvasses the idea that Antarctica could become a World Conservation Area.

Summing up in Part VI, Triggs points out that the subtle internal accommodation of some parties' sovereignty claims, that has been effected by the Antarctic Treaty Consultative Parties, has no legal effect on the rights of the international community. She reminds us that the ATCPs, as they struggle externally to accommodate the latter, include all five permanent members of the Security Council, and that the UN still holds a watching brief while the

ATCPs struggle to defuse demands for a 'universal' regime by opening up the system to ensure responsible management. Even this worthy work cannot, however, predict precisely where Antarctica will stand in the 21st century. (Dr Patricia Birnie, Law Department, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK.)

BRIEF REVIEWS

THE ICE: A JOURNEY TO ANTARCTICA. Pyne, S. J. 1986. London, Arlington Books. 428 pages, illustrated, hard cover. ISBN 0-85140-709-9. £12.95.

The UK edition of a book by a US historian who, after several months in Antarctica, has reviewed the influence of the frozen continent on mankind through the ages. 'This unusual combination of scientific, historical and literary aspects of Antarctica is successful and well worth reading'; for a full review see *Polar Record* 23(146): 605-06 (1987).

CANADA'S SUBARCTIC UNIVERSITIES. Adams, P. and Parker, D. (editors) 1987. Ottawa, ACUNS. 282 p, illustrated, soft cover. ISBN 0-921421-01-X. Can \$17.50 or Can \$20.00 outside Canada.

The product of an ACUNS-sponsored meeting in 1986, this is a compendium of papers covering the northern research and teaching of four Canadian universities; Lakehead, Chicoutimi, Laurentian and Abitibi-Témiscamingue. The Yukon and NWT, being territories, have no higher education at university level, and Canada's northernmost campus (Alberta) is not represented here. However, these four institutions muster a deal of northern interest between them, as the 33 papers (in English and French) clearly show.

CAMERA IN CONVOY. Saul, I. 1987. Royston, Ellisons' Editions. 92 p, illustrated, soft cover. ISBN 0-946092-52-4. £10.00.

A slim volume of World War II reminiscences by one who served as a signalman in HMS *Inglefield*, a destroyer involved in many lively runs, including Murmansk convoys. One of a series of limited editions representing unofficial, individuals' views of stirring events, this records a view from the lower deck during historic voyages in Arctic waters, 1941-42; includes many photographs.

BIBLIOGRAPHY OF WHALE KILLING TECHNIQUES. Mitchell, E. D., Reeves, R. R. and Evely, A. 1986. Cambridge, International Whaling Commission (Reports of the IWC Special issue 7). 161 p, illustrated, hard cover. ISBN 0-906975-14X. £12.00: obtainable direct from IWC, Red House, Histon, Cambridge, postage and packing £5.00.

A comprehensive, well annotated bibliography of whale killing methods from aconite poisoning to explosive har-