

## BOOK REVIEWS

*Antarctica: the next decade.* A report of a Study Group chaired by Sir Anthony Parsons. Cambridge University Press, 1987. 164 pp. ISBN 0 521 33181 1.

Much of the literature on Antarctica in the early post-IGY period was written by scientists, but the decade of the 1980s saw the emergence of non-scientific literature dealing with international law, questions of conservation and protection of the environment, and other matters not directly concerned with scientific investigations. These two aspects of Antarctica, science and the political-legal aspects are combined extraordinarily well in this slim book.

The credibility of the book is reflected in the 13 members of the Study Group under the leadership of Sir Anthony Parsons. I recognize at least half of them who are either seasoned Antarctic hands or have been involved in Antarctic science or politics for most of their careers. The input of these veterans, therefore, assures the reader that the ideas and concepts in this book are based on working experience rather than armchair musings. The individual chapters of the book are not attributed to any member or members of the Group. Sir Anthony, however, writes in his preface that individual members of the Group drafted various chapters which were then circulated to other members of the Group for comment. Sir Anthony assumed the task of reconciling differing viewpoints represented in the Group, and the tone of the book reflects his skillful editorial efforts throughout.

The book is divided into three parts: I, The Antarctic Treaty System Under Stress? (35 pages); II, Uses of Antarctica (53 pages); and III, The Future (16 pages). Four appendices: I, Text of the Antarctic Treaty; II, Texts of Relevant Conventions and UN Resolutions; III, Antarctic Treaty Member States and their Affiliations; and IV, Members of the UN Group of 77 and the Non-Aligned Movement. Notes and references for each chapter, plus an index, complete the volume. The organization of the book is logical and the appendices are very useful. The writing is lucid, to the point, and void of ramblings and ambiguities, but not differences of opinions.

The three chapters of Part I deal mainly with the Antarctic Treaty: (1) its origin and continuing value, (2) the case for change, and (3) non-governmental organizations, conservation, and the environment. Of these, I was particularly drawn to the lucid comparison between the views of the Antarctic Treaty Consultative Parties (ATCPs) who are dominated by the industrialized nations of the world, and those of the non-aligned group of states led by Malaysia and who are dominated by the developing countries of the New International Economic Order (NIEO). The contrast between the views of these two alignments is skilfully outlined in Table 2.1 of Chapter 2 (p. 27) which summarizes the essential differences in policy elements of the two groups.

The writer of Chapter 2 concludes that, 'The time seems ripe for a *fundamental reappraisal* of arrangements for Antarctica...' (p. 33, emphasis added). This statement stands in contrast to the conclusion at the end of Chapter 1 where the writer strongly endorses the Antarctic Treaty as being... 'fully consistent with the principles and purposes of the United Nations Charter...' and '...stands as one of the major achievements of international cooperation in modern times' (pp. 15-16). A third opinion is expressed in Chapter 3 where it is asserted that the Antarctic Treaty has been strained by the position of the Non-Governmental Organizations (NGO) who want more participation in Antarctic decision making with respect to conservation, environmental protection, and especially, mineral exploitation.

The fact that the book deals so openly with these diverse and conflicting issues is

a measure of its usefulness to those who must grapple with these contentious matters in the future.

Part II, Uses of Antarctica, is the longest, and consists of four chapters: 4, Science; 5, Living Resources and Conservation; 6, Mineral Resources; and 7, Military Potential. Part II reflects the wide range of experience and knowledge of the authors of these four chapters.

The writers of Chapter 4, Science, review all the scientific disciplines involved in Antarctic research, and make a strong defence of the Antarctic Treaty System (ATS) in its support of basic scientific research.

The writers of Chapter 5, Living Resources and Conservation, question whether the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) is able to deal with the future exploitation of some marine creatures if the harvesting of certain species is greatly expanded. They acknowledge that the current rate of harvesting the minke whale and krill is negligible with respect to their populations, but express dissatisfaction as to how CCAMLR has dealt with the management of the fin fish, *Notothernia rossi*.

Chapter 6, Mineral Resources, was written by someone who is not only professionally qualified on this subject, but is also knowledgeable about the economic limitations of hydrocarbon and other mineral exploration and exploitation in remote areas. He concludes that the hydrocarbon basins in Antarctic offshore areas eventually will be explored, but this activity will be far in the future.

Chapter 7, Military Potential, is an example of the broad coverage of this book. This Chapter discusses some highly remote scenarios that might develop between the USSR and the United States, but makes the point that demilitarization explicitly provided for in the Treaty is the best provision in maintaining the current *status quo*. The author argues that '...in war the superpowers will act in their own security interests regardless of international agreements', but '...the security imperative driving either superpower to attempt a breach of existing arrangements would have to be very great – and much greater than is reasonably imaginable' (p. 107).

Part III, The Future, is the shortest in the book. It stands alone with no subdivisions into chapters and appears to have been authored by a single member of the Group. Four options are postulated for dealing with current Antarctic controversies in future years. These options are concerned with resolving the controversy between the Treaty powers and both the Malaysia group, who accept the ATS, albeit with substantial changes, and the more radical Non-Governmental Organizations (NGO) who seek a 'World Park' status for Antarctica. The writer of Part III is unequivocal in his assessment of the future of the Antarctic Treaty, and asserts the following: 'In all the circumstances analyzed in this chapter, I am led to the conclusion that future strains within the Treaty membership, combined with mounting pressure from a significant section of the international community, will make rigid adherence to the *status quo* both undesirable and impracticable...'. He suggests that recourse to Option 4 presents the best chance for success in resolving the problems of the ATS. This option requires that informal discussions should begin between the Malaysia Group and the ATS Membership to seek accommodation of their differences.

This writer's views on a minerals regime have already been overtaken by events. He states that because the geology of Antarctica is so poorly known, and that exploitation is so far in the distant future, 'It is more important, in the length of time available, to get the right minerals regime later, than to get the wrong one sooner'. (p. 120). Many readers of this book know that during the first half of 1988, the long negotiated Convention on the Regulation of Antarctic Mineral Resource Activities is

now (August 1988) being circulated for ratification. Whether it is the wrong regime too early, only time will tell.

This is an important and timely book. With a possible review of the Antarctic Treaty in 1991, many of the issues addressed in this volume will be argued when and if a review of the Treaty does materialize. The importance of the book is not so much in the new ground it covers, but rather in the inclusion of so much information and different points of view in such little space. Even a glossary on the inevitable and annoying acronyms used in the text appears up front.

I predict that many who will deal with the controversial elements of the Antarctic Treaty System in the decade of the 1990s, and beyond, will find frequent reference to this book indispensable. To Sir Anthony Parsons and the members of his Study Group, I say, 'well done!'

JAMES H. ZUMBERGE

*International Research in the Antarctic* by Richard Fifield. Oxford University Press, 1987. 146 pp. £25. ISBN 0 198 54216 X.

SCAR, to the many scientists involved in Antarctic research, represents the acceptable face of international involvement. Eschewing nationalism, politics and diplomatic wrangling over legal niceties, it has played a crucial role in co-ordinating and encouraging Antarctic science since 1958. Considering how amorphous and distant international committees can be, SCAR has been particularly successful in developing and maintaining a clear identity and accessibility in a world dominated by acronyms. The successes of its first 30 years are clearly worth proclaiming, both inside and outside the Antarctic community. This is what the book does, but not as well as it could or should.

The idea to produce the book was a good one. Even better was the suggestion that Richard Fifield, a popular science writer of a high calibre and with a special interest in the Antarctic, should be involved. The first failure of the book is that it does not show Fifield's abilities to the full and so misses an important opportunity to make Antarctic science readily accessible to a more general public. The problem is evident in the Preface where Fifield notes that 'I am, in fact, neither the author nor the editor of it... My role in the production of this book is really to conduct, for as wide an audience as possible, an account of the activities of the Scientific Committee on Antarctic Research... I am, then, the "conductor" of this opus.' The heavy hand of committee editing, scientific caution and, I suspect, interdisciplinary rivalry has not allowed the text to be written as it could have been by a man of Fifield's ability.

A second and equally sad failure is on the part of the publishers. Never before has public interest in Antarctica been higher. Not since IGY have so many scientists been involved in Antarctic research nor has the global importance of the science been more clearly demonstrated than in the past decade. Why then is this book, apparently meant for a wide readership, so expensive? At 17p a page it costs much more than most monographs and yet it has colour on only 42 pages. Using almost postage-stamp size illustrations the designer has certainly not done justice to the international set of photographs Fifield put together. Can it really be expected by the publisher to reach a wide audience with these drawbacks?

The contents comprise 16 chapters of which five are general or historical and the other 11 deal with scientific subjects, organized to correspond generally to the major SCAR committees and subcommittees. Two appendices list all the official SCAR publications and give a list of all the Treaty nations and their dates of accession. It is difficult to comment in detail on all the chapters but a few specific

criticisms must be made. Only three and a half pages are devoted to logistics, transportation and telecommunications. It is on these that almost all Antarctic funds are spent and it is developments in logistics that have allowed the development of science on the continent. The text gives almost no hard information about this at all. In the 23 pages devoted to biological subjects seven are given over to human biology and medicine. Measured either as output of papers or significant advances in a disciplinary field, Antarctic medical research does not justify this extended treatment at the expense of the rest of biology. The pioneering work on seabirds gets just one page and all the limnological studies are dismissed in less than that!

I do not like the format, which has far too many subheadings to make for easy reading. Misprints are almost absent (e.g. 'Antartic' on the contents page) and most of the photos are well reproduced, although some seem to have dust, scratches and hairs on them (e.g. pp. 32, 94, 110).

The critical question for this volume is – will it reach, inform and influence the audience that it was intended for? In my opinion it is too expensive for casual purchase by individuals, it is too vague to be of any use to scientists already involved in Antarctica, and not adequately designed for the general reader. SCAR has invested a great deal of time and effort in what should have been a volume to trumpet their excellent work to a wide and waiting audience. The 'conductor' has done a good job under the circumstances but a major opportunity has been missed.

D. W. H. WALTON

*Antarctic Mineral Exploitation: the Emerging Legal Framework* by Francisco Orrego Vicuña. Cambridge University Press, 1988. xxv+615 pp., with index. £60. ISBN 0 521 32383 5.

The Final Act of the Convention for the Regulation of Antarctic Mineral Resource Activities with Annex for an Arbitral Tribunal was agreed in June this year. It is a bold new legal structure to accommodate the internal and external interests and stresses currently involved in the Antarctic scene. Bold, because like its parent treaty of 1959 its authority derives not from acknowledged title but from the effective and expanding co-operation of some 33 East/West, North/South, developing/developed States including all the permanent members of the Security Council who, shelving their individual claims 'in the interests of mankind that Antarctica should be used exclusively for peaceful purposes', are preparing to exercise 'a global jurisdiction over the continent and its marine prolongations'. New, because no other model has provided for the commercial mining of internationalized territory under the supervision of a limited number of states; the Spitzbergen Treaty of 1920 conceded sovereignty to Norway with rights of access to minerals to other states. Under the Law of Sea (1982) the deep seabed area and its resources is declared the common heritage of mankind and the seabed authority, accountable to the whole international community, is to control mineral exploitation, engaging through the Enterprise in mining itself in parallel to any commercial venture. (The bureaucracy of these proposals has led to the alternative Reciprocating States Regime set up by treaty between the USA, Japan and a number of West European States.)

The draft Antarctic Minerals Convention is also a legal structure. It provides a complex institutional structure of Commission, Regulatory Committee and management scheme advised by a Scientific Committee, to determine where, when and how mining may take place subject to the proviso that no exploitation shall take place which will cause significant adverse effects to the Antarctic environment or ecosystem.

The evaluation of this Minerals Convention is likely to be prolonged; wide and varied expertise is necessary to assess its institutional framework, use of scientific advice, liability provisions, regulation by management scheme and dispute settlement procedures. Some general questions can none the less be asked. Does the Convention in effect give a clear go-ahead for mineral exploitation as soon as it becomes commercially practicable? Or is the determination of significant environmental damage capable of clear-cut decision and one where the *advice* of the scientific committee, when convinced of the likelihood of such damage, will be an effective obstacle to the proposed exploitation? On the other hand is the institutional machinery with its voting procedures and membership drawn from 'miners' and 'owners', with the USA and USSR acting as permanent referees, one likely to produce political deadlock and bureaucratic inertia?

Accepting that the institutions work as planned and that they have been given the correct decisions to make, will the elaborate apparatus of treaty provisions, measures of the Commission, regulations of the Regulatory Committee, and terms of the management scheme be effectively complied with and enforced? Draft Article 7 in this annexion augurs ill; after requiring each party to take appropriate measures within its competence, it immediately releases the state from responsibility if another party prevents it from ensuring compliance. Undisputed jurisdiction appears limited in the draft Convention to that exercised over a state's own nationals. Is that sufficient when nationals from many countries including non-treaty parties may be engaging in hazardous operations in a territory claimed by two or more claimant states? Maybe the separate Protocol on Liability still to be agreed (Article 8), will resolve these problems, but at present there is an air of jurisdictional unreality about the proposed regime. It is as if the legal fiction of Article IV (now Article 9) freezing all claims is expected to prevent the occurrence of individual misconduct or commercial litigation in Antarctica.

Faced with these questions and many more one turns for assistance to Professor Orrego's book. It provides the background to the negotiations, a discussion of the options available and the means to understand and appraise the likely effect of the Convention's proposals. Professor Orrego writes as an insider to the Antarctic system and is admirably equipped to act as a guide, though one should not overlook that he is a committed supporter of the present proposals. Throughout the mineral negotiations he has served as Chile's representative, he is Professor of International Law at Santiago University and editor of 'Antarctic Resources Policy', which, unique among published colloquia on polar matters, originated in a meeting actually held in Antarctica. [The total omission of any discussion as to how the law will apply to particular regions, locations, bases or geographical features in Antarctica is a surprising characteristic of most legal writing on the subject, heightening the general sense of abstraction and unreality.]

Professor Orrego divides his book into three parts. The first places the Antarctic Treaty System in the context of general international law. He describes the extension of the law-making powers of the consultative states beyond the Antarctic land mass to ice shelves and adjacent seas in order to give protection to the flora and fauna. If mining is to take place further extension will be required to the continental shelf and off-shore islands and, as Professor Orrego explains, international law recognizes such extension in favour of the coastal state which exercises territorial sovereignty but, by reason of Article IV which freezes claims, territorial sovereignty remains an unsolved issue under the Treaty. The draft Convention appears to dismiss these theoretical difficulties with the simple assertion that Antarctica has a special legal and political status.

In the second part of the book the author deals with the 'nuts and bolts' provisions which make up the accommodation internal to the Antarctic treaty parties. Whilst his book was completed before the final text of June 1988 his familiarity with the annually revised versions of the draft (first presented to the Bonn meeting in 1983 by Chris Beeby, the New Zealand ambassador), enables him to explain the options and reasons for the chosen scheme. He discusses in this part the principle of open access, the three phases of unregulated prospecting, followed by controlled exploitation and development, the role of the sponsoring state to guarantee the financial respectability of the commercial applicant and compliance with the Treaty requirements and the allocation of power between the central Commission, regional Regulatory Committee and local management scheme. Under the present draft much, including the applicable law and disposal of profits, is left to be agreed by hard bargaining over the management scheme between the sponsoring state and the consultative state, which is likely to be the territorial claimant of the area where the mining is proposed.

The third part of the book deals with the external accommodation. The proposals to treat Antarctica as part of the common heritage of mankind, or as an international park or wilderness, are here discussed as well as the manner in which to date Treaty parties have successfully resisted attempts to introduce UN supervision and defused criticism from FAO, UNEP and certain non-governmental organizations.

Professor Orrego's book is comprehensive in treatment but more a book of reference than one to read consecutively chapter by chapter. He assumes a basic knowledge of the Antarctic treaty system and addresses the issues in the order in which they arise for the minerals regime rather than systematically. Thus it is a little disconcerting to have to wait until the penultimate chapter for a discussion of 'objective regimes' after digesting the author's views on the norm-creating function of the consultative parties in chapter 2 and the application of Kelsen's theory of sovereignty in chapter 3. The threefold discussion of the subject on occasion makes for repetition, prolixity and lack of clarity. Professor Orrego's skill as a diplomat sometimes blurs legal definition, but this is a complaint more properly to be levelled at the whole Antarctic system and the ambiguities and legal fictions to which the consultative parties have resorted to maintain their 'aristocratie conventionnelle' over Antarctica.

The book has an index and extensive bibliography which includes six pages of primary sources – Antarctic (treaties, recommendations and final reports of Consultative Meetings) and national (implementing legislation and parliamentary debates) – and some further 50 pages of references to documentation of the UN and other international organizations, monographs and articles. It is produced to a high technical standard and is pleasant to handle. The work is undoubtedly an invaluable source book and guide to a difficult intriguing subject.

HAZEL FOX