

Southern comforts

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International Research in the Antarctic. Edited by Richard Fifield. *Published for SCAR and the ICSU Press by Oxford University Press: 1988. Pp. 146. £25, \$45.*

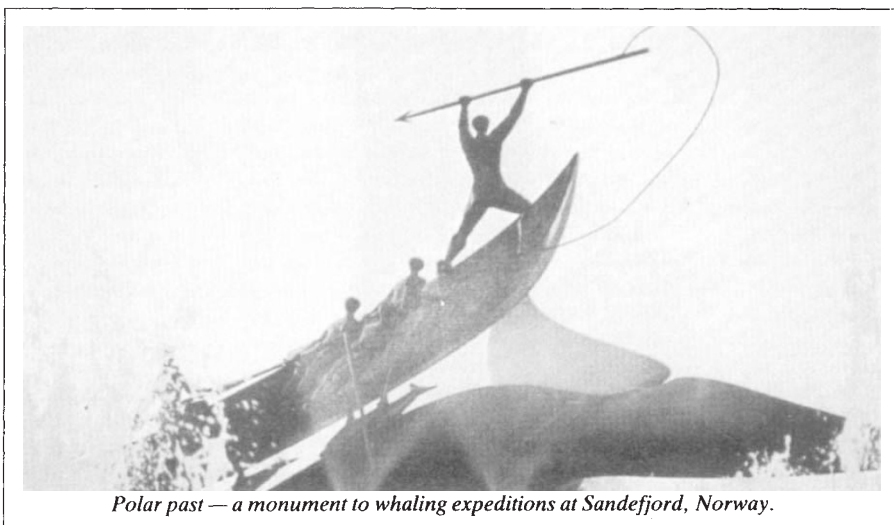
Antarctic Science. Edited by D.W.H. Walton. *Cambridge University Press: 1987. Pp. 280. £25, \$39.50.*

THIRTY years ago, those swept up by the excitement of plans for the 1957–1958 International Geophysical Year (IGY) sought and found little hard information on Antarctica. Despite the heroic record of exploration and hard-gained observations, the White Continent remained a blank space at the bottom of the world.

Following IGY, news correspondents provided the public with reports that at best gave an imperfect view of the scientific work that had been carried out, its objectives and how it had been planned. But for all the general lack of awareness of the fruits of IGY, cooperative endeavours were consolidated and extended under the multi-flag aegis of the Antarctic Treaty, a child of IGY, which was drawn up in 1959 and came into force in 1961. From 1957 onwards, research in the Antarctic has constituted an international success story. The continent is now the subject of a huge literature and a generation of scientists has been trained there. As Earth's scientific outpost, free from political or other outside interference, it has become identified as the Continent for Science.

The two books reviewed here cover scientific activity in Antarctica from IGY to the present. *International Research in the Antarctic* describes the structure and function of the eight permanent working groups of the Scientific Committee on Antarctic Research (SCAR), the coordinating body for research work. Details in the text about Antarctica itself, together with references to the instruments and methods used by scientists, are further clarified by appropriate illustrations. The final chapters — dealing with medicine, the environmental effects of man and freedom of exchange of information — are followed by two helpful appendices on SCAR publications and the Treaty, which conclude the book. Credit is due to the editor (or 'conductor', as he calls himself), Richard Fifield, for putting together this concise, clearly written and timely record. It meets a need that has existed since IGY for a popular but authoritative reference work on the means by which international scientific programmes evolve under the Antarctic Treaty.

The hallmark of the Treaty is *collaboration*, with free exchange of data and pooling of resources for large projects. Such has been the success of the system, which



Polar past — a monument to whaling expeditions at Sandefjord, Norway.

has generated huge amounts of new information, it has been hard to appreciate overall what has been done. All that information has now been brought together in *Antarctic Science*, an informative and readable account of what modern science has achieved on and above the continent.

The book starts with an introduction by Vivian Fuchs, a working scientist who played an important role in the development of the British Antarctic Survey (BAS), which is followed by five impressive sections each written by a BAS member. Part I sets the background by describing the events that led to the coming of age of science in Antarctica. Mention of whaling and the *Discovery* expeditions recalls the substantial bank of data on southern marine life, inherited from the British research on whales that began after the First World War.

Parts II, III and IV are the core of the book. Here, biological and physical phenomena are discussed in detail and there are descriptions of the pertinent research activities and findings. In "Life in a Cold Environment", Part II, marine and terrestrial organisms are contrasted, and their various adaptations examined; productivity, the intricacies of terrestrial, freshwater and marine food webs, and the need for the conservation of living resources are the main themes. Climate has a prominent place in both Parts III and IV. The former deals with the ice sheet, the underlying bedrock and associated matters, while the latter covers the Antarctic atmosphere and geospace. During IGY, these general research areas were well funded; international cooperation made the use of sophisticated instruments possible, and in part because Antarctica affords a unique platform for such work, a truly extraordinary range of studies on and over the Earth was carried out. The most recent finding was the discovery of the austral-spring ozone hole over Antarctica which, other implications apart, told the world that science in Antarctica is working.

Part V of *Antarctic Science* looks to the future. The research effort has always been unequally divided between the Treaty nations, but recently there has arisen the suspicion that sharing of natural resources rather than scientific research has become the main motive of the 'Club', the original Treaty signatories. Non-member Third World countries unable to meet the Treaty requirements have called for a takeover by the United Nations to make Antarctica part of the "global commons", while some 150 organizations from 37 countries, represented by the Antarctic and Southern Coalition, and including the International Union for the Conservation of Nature and Natural Resources, the Humane Society and the World Wildlife Fund, would set back the clock by designating Antarctica a protected wilderness, in effect giving the continent back to the Ice Ages.

These two books complement each other. They are a powerful argument in favour of the Treaty system which, though far from perfect, is preferable to anything else on offer. *International Research in the Antarctic* tells how the Antarctic experiment worked with SCAR in an advisory role to the Treaty of 1959, and how science developed in no man's land. *Antarctic Science*, richly illustrated with photographs and ingenious diagrams, documents the cornucopia of knowledge that has come from the joint efforts of scientists of many nationalities.

The message of the second book is to be found in the title of the sober yet searching final chapter, in which Richard Laws discusses current events and what they portend for science in Antarctica. "Cooperation or Confrontation?" — we could well get the answer in 1991, when, if a consultative party so requests, the Antarctic Treaty may be reviewed. □

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