

BOOK REVIEWS

Arctic and Antarctic by David Sugden. Basil Blackwell Publisher, Oxford, 1982. 472 + viii pp. £29.50.

David Sugden has undertaken research in various parts of the Arctic for several years and has made a number of visits to the Antarctic. He has organized a course in Polar Geography at Aberdeen University which has inspired many undergraduate dissertations and postgraduate theses so it is not surprising that he has drawn together his experiences in this book.

The opening chapter spells out the aims, scope and structure of the book, and assumes that the reader may have little knowledge of the polar regions or the possible approaches to regional geography. Understanding is not achieved simply by detailed description, and Sugden takes pains to point out that to put together a complete picture or synthesis, it is necessary to look at fundamental relationships: how the constraints and opportunities offered by the physical environment have affected Man's social and economic development of the Arctic and Antarctic and, in the case of the Arctic, what effect the expansion into the polar periphery by the developed nations of the world has had on the indigenous population. To emphasize that it is these links which count, Sugden uses the 'systems' approach to introduce independent variables – the causes (on a global scale, the environment system) and the dependent variables – the effects (on a global scale, the development of the polar regions).

The scale or level at which we see these systems is important. The book examines in its first half the physical environment on a world scale – the movements of tectonic plates and global climate – and then goes on to the 'sub-zonal' scale of the glacier system, the periglacial system and the polar marine system. At this stage the approach is naturally deterministic – we are seeing how nature dictates terms to man. However, the book never loses sight of the links between the two. Despite being a geomorphologist, Sugden is content to limit the discussion of thermal regime in a glacier, for example, to noting how the temperature at the glacier bed affects erosion, and does not try to turn the book into a geomorphology text.

By their very nature the glacial areas have restricted settlement to periglacial and marine environments and particular emphasis is placed on these two systems. The periglacial environment reacts violently to interference, but Sugden points out that it is not necessarily fragile: rather this is a natural feedback mechanism. Even permafrost disturbance by economic activity may only be a real problem in areas where considerable ice lenses have built up. Because of the paucity of species and the rapid response of major physical features such as glaciers and sea-ice to changes in climate, violent environmental fluctuations are the order of the day and indicate resilience rather than fragility.

We have been introduced to the interplay between man and environment in principle, but the second half of the book examines what happens in reality, and concentrates on a second important theme: the effect on indigenous peoples of the intrusion of modern society. To provide some basic assumptions Sugden uses two simple models as a yardstick for polar development. The first attempts to describe the transport networks and development of settlement in four phases of expansion into the hinterland of a non-developed country starting from a series of coastal ports. The second examines the flow of activity between 'core region' – a modern developed society thrusting outwards towards the 'resource frontier region' – in this case the polar periphery. The Norse colonization of Greenland is a good example. Chapter 8

uses this framework to follow the evolution, population and settlement of the Arctic and Antarctic and the following chapters examine the same features on a sub-zonal scale, first the indigenous Inuit settlement and then the intrusive development by modern societies of Greenland and Svalbard, Arctic Canada, Alaska, the Soviet Arctic and Antarctica.

Copious use is made of illustrations (240 figures and 23 tables) to assist a text which is very readable and anecdotal. One or two illustrations verge on the corny, but that is a small price to pay for the high level of interest throughout.

Several important conclusions are reached. Within the limitations imposed by nature, man has had considerable room for manoeuvre and the pattern of his development has also depended greatly on social factors. The development ethics of the modern intrusive system and of the indigenous systems are very different. The social and economic problems of today's Inuit culture – loss of hunting skills, alcoholism, disease and loss of self-esteem through an inability to come to terms with an 'unfriendly' culture – suggest that economic development along separate lines may be the way forward. Environmentalists, Sugden claims, have not helped by undermining sealing – one of the props of the Inuit economy – in the name of conservation.

Not having an indigenous population, the picture in Antarctica is very different. The various scientific communities enjoy a degree of international cooperation on the ground not obvious outside Antarctica, and although a considerable international success was scored with the signing of the Antarctic Treaty, subsequent development has been multi-national rather than international.

The book is timely. The conflict in the South Atlantic has focused attention on the future development of Antarctica. There is increased concern about environmental and socio-economic problems in the Arctic. This book is excellent background material for anyone involved in future political and economic developments. It is well produced, but at its price may not fall within the budgets of most students. Nevertheless, it will be valuable to all teachers of geography. Many of the particular points it raises can be applied in general elsewhere.

R. D. CRABTREE

Of Ice and Men by Sir Vivian Fuchs. Anthony Nelson, Oswestry (England), 1982. 383 pp. £13.95.

Of Ice and Men is largely a narrative account of the surveys and investigations by Operation Tabarin, FIDS and BAS. It is also an absorbing book. Indeed, it soon becomes clear that the author has made skilled and judicious use of BAS archives, personal journals, anecdotes and other writings in what must have been a daunting task. In his words: 'This book is an account of the first thirty years of an Antarctic expedition which has been continuously at work since 1943, first as a rather impromptu naval operation, then as a politico-scientific exercise, and finally dedicated to the interests of science'. Beside the narrative parts, there is an introductory historical chapter, one on how the administration expanded from 1953 to 1970, and a final chapter on the problems of isolation. There are also appendices on the scientific work and the list of stations occupied, a glossary and a nominal roll of wintering personnel.

Those involved in these expeditions, both in the field and at home (including Port Stanley), will relive past times, whether enchanting or otherwise, as they read this book. Perhaps, as the author says, some will think that more could have been made of this and that. But my judgement is that Sir Vivian has written a sure-footed and balanced account. Who else could have done it so well?

There is no call (or space) to review selected parts of *Of Ice and Men*. As the narrative unfolds one sees how each base has its own character and contribution to the entire endeavour. After a site is chosen there is always the Burn's factor; but most of 'the best laid schemes' don't 'gang aft agley' though there are unforeseen and tragic accidents. One's surroundings may suddenly change from heavenly to demonic, which has stimulated a growing professionalism, as in tent care and crevasse rescue, but are boating parties to be encouraged?

From their 'cloak and dagger' phase to their present pre-eminence, these investigations have not been free of trouble. There was a time when the Treasury proposed the closing down of all British Antarctic work as part of a national economy campaign. But support was forthcoming, especially from the Royal Society and Foreign Office, and eventually the Survey was transferred to NERC on 1 April 1967, perhaps, as the author says, 'an appropriate date after so many alarms and excursions. We were legitimate at last.'

Today, one has only to peruse an Annual Report to appreciate that BAS must enjoy substantial support and uses it to the full. It is good that this country is maintaining its lead in polar exploration. There is surely no need to make special pleas for scientific work down South. Such studies are integral parts of science. Moreover, remembering our increasing capacity to change our global environment, the great ice desert, its atmosphere and fertile ocean are nearer to us than we think.

N. B. MARSHALL