

of the continental rise, and which are a characteristic feature of glaciated margins. Next, Elliot reviews the tectonic evolution of the northern part of the Peninsula utilising a vast range of geophysical and geological data, and developing links between uplift, climatic change, and the development of the ice cover. A paper by King and others on the crustal structure of the Powell Basin follows; this is a small ocean basin northeast of the tip of the Peninsula that is of considerable significance in deciphering plate tectonic movements associated with the development of the Scotia Arc.

Two new areas next feature in this volume, one dealing with the seismic expression of glacial sequences in the Bellingshausen and Amundsen seas (Nitsche and others), and the other concerned with the record of glaciation in Prydz Bay since the last glacial maximum (O'Brien and Leitchenkov), the latter being supported by short-core data.

Two papers deal with the Victoria Land area in the western Ross Sea. One is a radar survey of the sub-ice topography on land, which documents the degree of glacial erosion in the area (Deslisle). The other paper is a detailed description of a single 3 m long core from the Drygalski Basin, which dates from the last glacial maximum (Brambati and others), although the broader significance of this work is unclear.

Two useful general papers follow. The first, by Quilty, assesses Neogene biostratigraphy in Antarctica, pointing to the lack of diversity of biostratigraphic schemes and the need to study other fossil groups apart from that of diatoms, which does provide a workable scheme. Lastly, a process-orientated paper by Powell and Alley describes glacier grounding-line systems, and discusses the glaciological and stratigraphic inferences that can be drawn from them. This paper counterbalances the simplistic models derived from seismic data alone, and highlights the concept that glaciological conditions in Antarctica were once quite different.

The book is well-presented overall, except for a handful of typographical errors. The line drawings and seismic profiles are clear, whilst a couple of colour photographs liven up the contents. The absence of an index, as in the previous volume, however, is disappointing. Nevertheless, these minor quibbles aside, the book represents a major contribution to understanding the long-term history of glaciated continental margins. (M.J. Hambrey, Centre for Glaciology, Institute of Geography and Earth Sciences, University of Wales, Aberystwyth SY23 3DB.)

PHILLIPLAW: THE ANTARCTIC EXPLORATION YEARS, 1954–66. Kathleen Ralston. 1998. Canberra: AusInfo. xvii + 278 p, illustrated, soft cover. ISBN 0-644-38318-6. \$Aus 39.95.

Australia's proud record of Antarctic exploration and research immediately calls to mind the names of Sir Douglas Mawson before World War II and Dr Phillip Law since that war. In her previous book, Kathleen Ralston covered the first half of Law's life, up to 1954. In her new

book, the author ably describes Law's achievements during the next 12 'exploration years' for, like his illustrious predecessor, Law was an explorer in the true sense of that much misused word — one of the last on the surface of the Earth. He made 28 voyages to the Antarctic and sub-Antarctic, and under his direction more than 4000 miles of Australian Antarctic Territory (AAT) coast were accurately charted, and nearly 500,000 square miles of the inland area were mapped for the first time, before the advent of widespread air and satellite mapping. The author has had full access to Law's diaries and papers to provide lively and revealing detail on the day-to-day expedition work and on the frustrations imposed by climate and administrative problems.

In 1949 Law had succeeded Group Captain Stuart Campbell, RAAF, as director of the Antarctic Division, Australian Department of External Affairs, and as leader of the Australian National Antarctic Expeditions (ANARE). By 1953 he was setting his sights on extending the ANARE effort beyond its stations on Heard Island and Macquarie Island to the Antarctic mainland. From Knud Lauritzen, Danish shipowner and pioneer in the use of ice-strengthened ships in the Arctic, he chartered MV *Kista Dan* for the 1953–54 season. After sailing from Melbourne aboard *Kista Dan* in January 1954, Law found an ideal site for a mainland station on a rock outcrop at longitude 63°E in MacRobertson Land. On 13 February 1954, with construction almost completed, Law opened Australia's first permanent Antarctic station, naming it in honour of Sir Douglas Mawson. The ship then sailed east to explore the coast of Princess Elizabeth Land, thus setting the pattern for Law's future voyages on which, after resupply of stations, surveys of the AAT's long coastline were continued.

In ensuing years, very successful surveys were made far inland from Mawson Station. However, Law foresaw that, if Australia were to play her full part in the International Geophysical Year (IGY), 1957–58, a second permanent station on the continent was needed, and he decided to establish it in the extensive ice-free area at longitude 78°E on the coast of Princess Elizabeth Land. In the 1956–57 season, men and materials for the new station were taken south in *Kista Dan* on her annual resupply voyage and, on 13 January 1957, Law opened Davis Station, named in honour of Captain John King Davis, who had been ice-master to both Sir Ernest Shackleton and Mawson.

In the following season, the new and larger Lauritzen ship MV *Thala Dan* was chartered instead of *Kista Dan* for the resupply of stations and for coastal surveys of Oates Land and Enderby Land. In February 1958, Law tested the feasibility of landing by sea at the Larsemann Hills, 50 miles to the east of Davis Station and already reconnoitred the previous August by a party from the station, landed by ski-aircraft. His hardest task in this project was to persuade the ship's master to move inshore in uncharted, ice-infested waters. He later wrote of the master's 'remarkable timidity,' when as leader he faced the same problem as

others on earlier Antarctic expeditions — the clash between the resolute leader, ever wishing to push further, and the ship's master, concerned only with the safety of his ship. In the event, Law succeeded in making three landings by launch at different places in the Larsemann Hills for survey and geological work. He later wrote: 'We had "cracked" the Larsemann Hills, a feat in those days (without helicopters) of no little difficulty.' As the present author does not mention, Law was honoured when, early in 1987, the ANARE established the auxiliary Law Base in this area in about 76°E.

As a result of negotiations conducted by Law, the United States IGY Wilkes Station at 110°E in Wilkes Land was transferred to Australia; it was later named Casey Station after Lord Casey, Australian Minister for External Affairs. By 1961, with three permanent stations on the continent, Australia had become a leading country in Antarctic exploration and scientific research, and Law's efforts were rewarded when Australia became one of the 12 original parties to the Antarctic Treaty, ratified in that year as a direct result of the uniquely successful cooperation in the IGY. With better ships and modern technology, the ANARE had achieved in a short time results inconceivable to Law's distinguished Australian predecessors in Antarctica.

However, after 16 years as director of the Antarctic Division, Law felt that he had had enough. He was worn down not by the seasonal struggle with Antarctic ice and weather, which he enjoyed, but by his continual battles with government officials. Others in equivalent posts elsewhere have fought similar battles with scientifically ignorant and ineducable bureaucrats, but none more tenaciously than Phillip Law. Strong-willed by nature, Law resented the constant questioning in his department of his requirements for running the Antarctic Division. As the government's principal adviser on Antarctic affairs, he believed that his superiors should either accept his recommendations or sack him. He had wanted to see the ANARE with its own ship under the Australian flag, and with long-range aircraft available for landing on airstrips in the Antarctic, but many more years were to pass before his ideas bore fruit. In particular, he had struggled to gain sufficient established and properly salaried positions for his senior scientific and administrative staff. In this he was also unsuccessful, and this was the main reason for his resignation as director in 1966, to the great loss of the ANARE but to the great gain of the Victoria Institute of Colleges, of which he became vice-chancellor.

Of the very fine selection of black-and-white and colour photographs in this book, two especially stand out. One shows the expedition ship moored to the ice edge with Law's late wife Nell seated on a folding chair and sketching a scene of almost surreal serenity; as an accomplished artist and expedition member in her own right, Mrs Law was accompanying her husband on the southern relief voyage of 1960–61. The other is a group photograph showing Law with Mawson, Davis, and the Norwegian

polar explorer and airman General Hjalmar Riiser-Larsen — the four men pre-eminent in the exploration of the AAT.

The author is to be congratulated on producing a book that is hard to put down, for it gives the full flavour of Phillip Law's forceful personality and style of leadership. As one member of the ANARE wrote, 'never again would ANARE or Australia's Antarctic involvement be so influenced by one individual.'

In his retirement, many honours and awards have come to Phillip Law, including his country's highest honour, Companionship of the Order of Australia, in 1995. In his mid-eighties he leads a very active life that would tax a much younger man, and, mellowed perhaps with the passing years, he is able to look back with detachment and in tranquillity on 'battles long ago.' (Geoffrey Hattersley-Smith, *The Crossways*, Cranbrook, Kent TN17 2AG.)

CONTESTED ARCTIC: INDIGENOUS PEOPLES, INDUSTRIAL STATES, AND THE CIRCUMPOLAR ENVIRONMENT. Eric Alden Smith and Joan McCarter (Editors). 1997. Seattle: University of Washington Press. xx + 156 p, soft cover. ISBN 0-295-97655-1. \$US20.00.

Beginning with the premise that the Arctic is one of the last frontiers of colonialism, where industrial societies are ruthlessly exploiting resources and undermining indigenous cultures, the contributors to *Contested Arctic* consider some of the major threats posed to the Arctic environment and how the indigenous peoples of the region are responding to them. The volume as a whole underlines the argument that sociopolitical and socioeconomic problems faced by Arctic communities cannot be viewed in isolation from ecological problems, and emphasises contemporary perspectives in the social sciences that suggest that scientific understandings of the Arctic environment need to be broadened to include the human environment. As Eric Alden Smith argues in his 'Introduction' to the chapters that follow, the circumpolar north has not yet entered a post-colonial or even neo-colonial period, but is the frontier of contemporary colonialism. The contemporary colonial agents are not representatives of nation-states as such, but of government agencies and powerful transnational corporations. The Arctic today, says Smith, is a contested historical and contemporary space where cultural, political, and ecological forces interact and collide.

The six authors of the chapters that comprise the book all illustrate Smith's argument with extremely detailed accounts of how these cultural, political, and ecological interactions affect specific localities, peoples, and communities. Aileen Espiritu, Gail Fondahl, and Craig ZumBrunnen show the environmental and cultural consequences of industrial development, pointing out how indigenous land claims and the formation of aboriginal nations are linked, among other things, to pollution and environmental degradation. Espiritu's chapter in particular considers the politicisation of native culture within this context, and illustrates how indigenous peoples in north-