

Reviews

TO THE SIXTH CONTINENT: THE SECOND GERMAN SOUTH POLAR EXPEDITION 1911–1913. Wilhelm Filchner. William Barr (Translator and Editor). 1994. Bluntisham: Bluntisham Books; Banham: Erskine Press. 42 + viii + 253 p, illustrated, hard cover. ISBN 1-85297-038-3. £49.95; US\$85.00.

This volume presents a translation of Wilhelm Filchner's *Zum sechsten Erdteil: die zweite Deutsche Südpolar-Expedition*, first published in Berlin in 1922. It also includes the text of a *Feststellungen* written by Filchner towards the end of his life and published posthumously, in which he gives details of the problems he had relating to the expedition. There are four appendices, consisting of the expedition record compiled by Filchner and Richard Vahsel (the captain of the expedition vessel *Deutschland*) and notes and letters from Erich Przbyllok, 'astronomer and magnetologist', and Alfred Kling, 'watchkeeping officer' and then captain of *Deutschland* after the death of Vahsel on 8 August 1912. The translator's introduction is the comprehensive and discursive essay, placing the events in their historical milieu, that one has come to expect, and welcome, in William Barr's translations. There is also an outline biography of Filchner himself drawing attention to the 'practice expedition' that he organised to Svalbard in 1910 and to his very extensive work in central Asia, which he continued after his return from the south. Indeed, Filchner was in Nepal when the Second World War broke out, and he spent the period until 1945 interned in India. The preparation of this introduction alone must have necessitated very considerable original research.

The expedition led by Wilhelm Filchner (1877–1957) was, as is indicated in the title of the book, the second German effort in the Antarctic, the first being that of Erich von Drygalski in *Gauss* in 1901–1903. Filchner's expedition was directed towards the Weddell Sea area and was directly contemporaneous with those of Scott and Amundsen. The expedition is less appreciated than it deserves because of the heroic events that were occurring on the opposite side of Antarctica at the same time. As Barr points out, when Filchner prepared his proposal for the expedition, very little was known about the part of the continent facing the Atlantic. Filchner's plan, which included a crossing of Antarctica, related to the possibility that the Weddell Sea could be an embayment into the continent at least equally as deep as the Ross Sea, and that there might be an equivalent ice shelf to its south.

Deutschland left South Georgia and encountered the first ice on 14 December 1911. By the end of January 1912, Filchner had sighted the ice shelf now named after him, had proceeded along the Prince Regent Luitpold Coast and had arrived at a bay, which he named Vahsel Bay, which seemed suitable for the establishment of an interim base.

This he attempted to do. However, the site was on an iceberg that broke loose at a spring tide. *Deutschland* had an eight-month drift beset in the ice of the Weddell Sea before being freed on 26 November 1912; the expedition then headed back to South Georgia.

Barr, in his preface, gives full prominence to the difficult, almost impossible, interpersonal frictions that developed on board, including the evidence that Vahsel 'had deliberately sabotaged the main objectives of the expedition' in relation to the selection of the site for the base. Filchner did not directly comment on this in the text of the book and only replied twice to the false publicity and contumely concerning the course of events, which continued long after the expedition's return. The first occasion, shortly before his death, was a letter in *Der Tagesspiegel* in 1956, and the second, in detail, was in the *Feststellungen*.

In preparing his book, Filchner aimed to provide a full but straightforward account of the expedition, including its planning, preparation, and proceedings. As he was concerned not to reveal the details of the difficult position on board, the officers having in effect divided into factions, the text seems somewhat bland. Certainly, there are indications of difficulty only with Vahsel and only the merest hints of poor morale. For example: 'The men spent the greater part of their evenings in their cabins,' which surely would not have been the case had harmony reigned on board. In this respect, the contrast between the book and the *Feststellungen* would surprise a reader who came to the latter after having a previous knowledge of the former.

As Barr's translation is of the full text, the original illustrations appear, and these, together with the maps, enable the reader to gain a full appreciation of the circumstances of the expedition and of the volume of scientific work that was accomplished. Particularly noteworthy sections of the book are the detailed account that is presented of whaling in South Georgia; the terse chapter entitled 'Result of the spring tide,' concerning the difficult position that *Deutschland* was in after the breakup of the part of the Barrier upon which a start had been made in establishing the interim base; and Kling's account of his sledge journey to search for 'Morrell Land.'

The book is well-presented and moderately priced for its quality. There is a full index covering not only the main text but also the introduction and the appendices. The photographs have been reprinted clearly, and the maps are excellent, although a separate one illustrating the introduction would have been useful. Even the front cover is historically significant, bearing a silhouette in silver of a picture appearing on page 152, of Kling on horseback, this being one of the few Antarctic expeditions to use that form of transport.

The book is particularly timely, following as it does the

magnificent translation of Drygalski's *Zum Kontinent des eisigen Südens: Deutsche Südpolarexpeditionsfahrten und forschung des 'Gauss' 1901–1903* by Maurice Raraty, which was published, under the same imprint as the present volume, in 1989. Barr has placed us equally in his debt, and this book is warmly to be welcomed. It will be essential reading for polar historians, as it will restore Filchner's expedition to the standing it merits among early explorations in the Antarctic. He is to be congratulated on making so important a work available for the non-German speaking reader. One should also congratulate the publisher for having the vision to produce the work to such a high overall standard. (Ian R. Stone, The Registry, University of Kent at Canterbury, Canterbury, Kent CT2 7NZ.)

ANTARCTIC SCIENCE: GLOBAL CONCERNS. 1994. Gotthilf Hempel (Editor). Berlin, Heidelberg, New York: Springer-Verlag. xii + 287 p, illustrated, soft cover. ISBN 3-540-57559-6. US\$26.00.

In September 1991, the Scientific Committee on Antarctic Research (SCAR) sponsored an international conference on 'Antarctic science – global concerns,' convened in Bremen by Gotthilf Hempel, then director of the Alfred-Wegener-Institute in Bremerhaven. The conference had two objectives: 'to increase public awareness of the importance of Antarctic Science, particularly in relation to global problems, and to foster the interaction of Antarctic scientists working in different disciplines.' From the standpoint of the second objective, the conference was a great success — attendees from a broad spectrum of Antarctic sciences engaged in spirited discussion and debate. Unfortunately, much less success accrued to the first objective, owing principally to a disappointing failure to attract significant public representation at the meeting. Now 17 of the papers presented at that conference, edited by Hempel, have been published in a slim but meaty volume under the same title. The book, even more than the conference itself, will appeal broadly to scientists interested in Antarctic research, but will be unlikely to foster public awareness in the subject.

The papers presented at the conference were organized into four sections: 'The Antarctic in the global scene,' 'Antarctic research on global change,' 'Progress and frontiers in Antarctic science,' and 'The future of Antarctic science.' Those divisions have been dropped from the book, presumably because the absence of nine of the original papers, including three of the four in the first section, would have made the original groupings too unbalanced. The loss of that organization, however, has left the collection of papers oddly unfocused, since no substitute, such as grouping by traditional scientific disciplines, has replaced it. The papers that remain are left in their original order from the conference, but without any section headings. The subject matter wanders back and forth between the upper atmosphere, sea and land ice, oceanography, geology, and human biology with no apparent aim or purpose. Some cross-references between

papers, however, do diminish the sense of incoherence, and the organizational problems certainly should not deter any scientist interested in Antarctic research from acquiring and reading this book. Taken individually, the papers are excellent — expertly written, containing ample references, and, for the most part, readable by non-specialist scientists, although not by the general public.

As Hempel says in the introduction, the main focus is on the role of Antarctica and the Southern Ocean in the world climate system. Sea ice is particularly important. A contribution by Peter Wadhams strongly emphasizes the climatic implications of Antarctic sea ice, and not only summarizes its chief characteristics but contrasts them usefully with those of Arctic sea ice. Eberhard Fahrbach, Ernst Augstein, and Dirk Olbes present a discussion of the interactions between ice (both sea ice and shelf ice) and water, with a particular emphasis on the production of Antarctic bottom water in the Weddell Sea; Augstein adds a five-page prediction on future ocean-atmosphere research in the Antarctic. In a brief but informative review, Michael Spindler and Gerhard Dieckmann discuss the ecological significance of the large population of plants and animals in the sea ice and the immediately subjacent water, and Harvey Marchant examines the impacts of increased UV irradiance (due to the 'ozone hole') on Antarctic terrestrial and marine organisms, particularly those inhabiting the sea-ice zone, and the mechanisms that they have evolved to minimize those impacts. Finally, among the papers related strongly to sea ice, is one in which Jay Zwally discusses the detection of change in Antarctica by remote sensing from satellites; he focuses on changes in the extent of ice on land and sea and also includes a cogent warning about the difficulty of detecting significant temporal trends in time series, particularly when they are poorly sampled.

Two other papers discuss climate-related subjects. In his paper on biogeochemical cycles and their relation to climate change, Paul Tréguer deals first with the way the biogeosystem functions today and then discusses the evidence for a modified functional mode during the last glacial age. A summary by Hans Oeschger of the incredibly broad range of information about the paleoenvironment that can be obtained from ice cores is enhanced by a short section on the dramatic evidence of climatic instability in the North Atlantic region, which was detected recently in ice and ocean cores.

There are also non-climatic connections between the Antarctic regions and the rest of the world. Michael Rycroft's paper discusses Antarctic observations of solar-terrestrial physics, important because the geomagnetic field lines there thread all the interesting regions of the magnetosphere and near-Earth space, as well as the seasonal ozone depletion over Antarctica — the infamous 'ozone hole.' There is a substantial article by Stephen Nicol on the changing perceptions of the role (still recognized as central) of krill in the Antarctic ecosystem. Krill are of global concern because of their resource implica-