

The section on past variations in Antarctic glaciation brings in data from many fields such as the depth of the continental shelf and the nature of the bottom deposits. I found this section particularly useful as providing data in a field which I have not read widely, but which seemed to fit in with a physicist's picture. It is in such stimulation of thought by the summarizing of data from various allied fields that the book should fulfil a most valuable function for many specialists.

Other items of interest to glaciologists include discussions of the geological and oceanographical evidence for and against the existence of a *Senkungsfeld* between the Weddel and Ross Seas, the answer still being considered indefinite. Marine biology and bird life are dealt with at length in four chapters, but the relationship of plant life to glaciation has not been covered.

A map of Antarctica includes many place-names, but apart from an up-to-date coastal outline, in which some but not all known areas of the ice shelves are indicated, it is not of particular value.

The chapter on meteorology discusses the weather of the southern ocean thoroughly from the synoptic point of view, but scarcely touches the continent itself, or the question of the nourishment of the ice cap. Court's upper-air work at Little America in 1940 is not mentioned, and unfortunately Court's recent and very comprehensive paper on "Antarctic Atmospheric Circulation" was not apparently available to the author at the time of writing.

After mention of New Zealand's work at Campbell and Auckland islands, and an historical summary of Antarctic expeditions and their association with New Zealand, the book concludes with a plea that the time has come for "adventurous and qualified young New Zealanders to be given the opportunity to study their own portion of the Antarctic for themselves." We wish the New Zealand Antarctic Society every success in these efforts, and congratulate them on their enterprise in producing this useful book.

G. DE Q. ROBIN

AVALANCHE HANDBOOK. Published by the Forest Service, U.S. Department of Agriculture, 1952. 146 pages, tables, illustrations, diagrams. (Mimeographed.)

THE principal collaborators in this work are Mr. M. Atwater, snow ranger at Alta, Utah, and Mr. F. Koziol, of the Wasatch National Forest Service, both of whom, in 1948, produced *The Alta Avalanche Studies*; this was reviewed in this *Journal*, Vol. 1, No. 9, 1951. They have been helped in their studies by Mons. A. Roch, the mountaineer and a great authority on snow.

A notable advance in the subject has been made since the earlier work, which was "an attempt to gather all the relevant information." Since then the authors have culled experience and data from several other snowy and mountainous districts, which has considerably broadened their outlook.

It is claimed that the handbook serves a triple purpose—first as a textbook "which again summarizes our knowledge to date on avalanches"; secondly as a field handbook for the "guidance of administrators who have duties where avalanche hazard is a problem"; thirdly as a second "progress report." They go on to admit that the study of avalanches is far from being complete. With this the reviewer agrees. But he also believes that years of practical experience in the mountains is the best training for going safely on mountain expeditions. To those who have not had long experience a study such as this, carefully and scientifically compiled, is absolutely necessary in explaining basic causes. With this knowledge the inexperienced will know what dangers to look for. Thus can theory and practice help each other.

While the reviewer cannot find much, if any, new light on the avalanche problem, this book does, very admirably indeed, combine the most recent European research with American snow conditions, and its authors and publishers are to be congratulated on having produced something very worth while.

G. SELIGMAN

W. R. B. BATTLE

It is with great regret that the Society has learned of the death of Mr. W. R. B. Battle in an accident in Baffin Island. An obituary notice will appear in the next issue of this *Journal*.