

quibble in relation to the excellence of the book, but not without importance. Too often in comparing the Russian and American North insufficient allowance is made for the very much less favourable natural conditions in North America, and although the author of this book makes no such comparisons he by implication supports this attitude.

In his introduction Dr. Armstrong states that the book cannot be a fundamental work of scholarship owing to the inaccessibility of much of the archive material. This may be so, but we may be sure that he has searched as deeply as is possible to a westerner. He had the rare opportunity to work for a time in the library of the Arctic and Antarctic Institute in Leningrad, and his fluent command of Russian enabled him to make the most of this experience. No doubt there are archive sources he was unable to tap, but he does present a wealth of information not previously available in English, information that has been evaluated and interpreted by an extremely well qualified scholar, and if the result is not a fundamental work of scholarship it is as near as we are likely to get to one for some time. Furthermore it is written in such a way as to be accessible not only to scholars but to anyone with a general interest in the subject. Some good clear maps and interesting and informative appendices round out the work, and a fine long list of references will help those who seek to dig more deeply into the subject.

MOIRA DUNBAR

SOUTH: MAN AND NATURE IN ANTARCTICA. By Graham Billing and Guy Mannering. *Seattle: University of Washington Press. 1965. 9 x 11¼ inches, 207 pages, 207 photographs, 155 in colour. \$15.00.*

In this contribution of the New Zealand Government to antarctic exploration, regional geography and the natural and physical sciences are almost equally divided between pregnant words and "live pictures". The text comprises

twelve chapters; each chapter heading sets a theme beautifully and convincingly backlighted by the illustrations, grouped under the same motif. The reader is led easily through the sequence of events described. A mere repetition of the chapter titles conveys the force of events which provoke the imagination and the desire to look more closely at what here is being said. The first chapter identifies Antarctica and particularly New Zealand's Scott Base and serves to introduce the reader to the chapters that follow: The Elements, the Ice, the Land, the Day, the Night, the Sea, the Animals, the Journeys, the Machines, the Men, and the Future. It is not easy to discuss these subjects in the limited space allotted them, from five to eight pages for the most part, without losing sight of their real meaning or a respect for facts presented; but the authors manage well and in the process they bring out the fascination of travel to and in the vast polar region. They vividly portray the beauty and particular charm of Antarctica and effectively review the recent, remarkable scientific activities which have brought about a renaissance in antarctic exploration and which set this White Continent apart from the great polar ice fields at the other end of the earth. It is overwhelmingly apparent in the photographic section that this is, as yet, a man's world. The photographs are largely in colour and for the most part, well reproduced and include a number of pictures by "Antarcticans" whose principal off-duty occupation appears to be "kodachroming". The effectiveness of the colour reproductions is greatly enhanced by the use of choice black and white photographs. The lily-pad ice of plate 106 should have been in non-colour film; but admittedly, plate 104 reveals a delicate colouring which black and white photography could never have captured. At any rate, the combination gives contrast, pleases the eye, and provokes exciting imagery.

It is obvious that much of the knowledge that has been laboriously extracted from Antarctica by painstaking and serious research has furnished the grist

for this text. One familiar with the scientific literature of Antarctica recognizes the source of these findings, here bereft of their customary bibliographic references and grateful acknowledgements. At times, the text is slightly askew as if it were out of context but this is the way of much popular writing and undoubtedly is the reason why more technical papers do not command as wide and unsophisticated an audience. Not to be overlooked is the fact that with the exception of Robert Falcon Scott and his Queen and possibly one or two others of their time, the writers have succeeded in producing 84 pages of text without mention of the names of the many very personable, highly individualistic, and very able young New Zealand chaps whose activities have made the New Zealand research programme the success it has proven to be. One glimpses their spirit amongst the kodachromes.

The text contains a number of statements which might well be questioned: the skua, for example, is a skua, not a skua gull. Glaciologists, too, should not be left guessing about the marine debris off the Dailey Islands; the Weddell seal has learned to seek out the zone of tidal fractures in sea ice which permits his easy access to surface for air and for a shelf onto which he can haul himself to enjoy in the sun the fish captured at depths down to as much as 1400 feet. The headless fish often found in such situations by glaciologists are perhaps pleasant reminders of bygone meals. "Lichens flourish, insects hop among the rocks, penguin chicks grow fat among the rocks, and skua gulls (sic!) grow raucous." The truth is that lichens are often hard to find and they flourish only on a strict survival regime. Insects, with the exception of one wingless fly, in the Antarctic Peninsula are rare and largely replaced by mite-sized arthropods and these are relatively sluggish even in the best of weather. And, finally, it is the skuas that fatten on the penguin waifs.

In the section under "Animals", the authors describe the going out of the ice, and the greater freedom which seals

and birds enjoy in its absence. The narrators say that when summer comes the seals no longer grind their teeth on ice to carve breathing holes. The seal in question here is, of course, the Weddell. Its habit of cutting ice holes is the reason why the species survive throughout the harsh Antarctic winter and at such extremely high latitudes. It is wholly an instinctive habit, because even though the ice has broken open, or though other seals have enlarged the holes, the Weddells do not cease from carving on the ice as they emerge through from a dive. "Flying birds can fish the sea close to the restful land." This is not quite true. The petrel species which nest in the interior on nunataks several hundred miles from the sea-coast habitually fly out of sight of land to fish. Finally, it appears wholly unnecessary and, indeed, regrettable to substitute "McMurdo Oasis" for "Dry Valley". The latter term, by virtue of priority, usage, and regional distinction, should be the correct one. However, the fact remains that the text is good, flowing, and readable. In fact, Billing and Mannering have put together an exceptionally good story. The authors frankly emphasize New Zealand's accomplishments in Antarctica, and succeed to the extent that one wonders what is left for other nations to do. It is a picture of Antarctica viewed through New Zealand eyes and one that reiterates New Zealand's historical position in this part of the world. The Scott Base leader is identified as the Queen's representative in the Ross Dependency, New Zealand's antarctic territorial claim; this claim is delimited on the map on the back end papers.

The book is a good example of international cooperation even though the principals, man, the seals and birds of the Ross Dependency, and the authors are New Zealanders. The type was cast and the pages were printed in Japan for the University of Washington Press in Seattle. The source of the paper is not known but it is of good quality although rather reflective under direct light despite its dull finish. The pinkish, almost fluorescent tinge which appears

to have bled from the coloured plates and along the bound margin of the pages is a bit distracting. The 31 legends to the illustrations are placed on individual pages preceding each chapter related to the group of plates. It is a pity that these all too brief legends, no more than bare titles, could not have been placed closer to their pictures. It is a nuisance to weave back and forth from

title to numbered photograph. In the process, the pages will surely suffer in the hands of inconsiderate readers. But these criticisms are minor and serve only to re-emphasize the fact that the authors of "South: Man and Nature in Antarctica" have produced a very effective record of New Zealand's scientific accomplishments in polar research.

GEORGE A. LLANO

Obituary

B. Frank Heintzleman (1888-1965)

B. Frank Heintzleman, a Fellow of the Arctic Institute since 1955, died in Juneau, Alaska on 24 June, 1965. Mr. Heintzleman was an outstanding Alaskan and a leader in the development of the Territory for many years. After Alaska became a State, Mr. Heintzleman devoted most of his time to the encouragement and nurturing of its development possibilities. Frank Heintzleman was born in Fayetteville, Pennsylvania, in 1888. He was a forester and received his B.S. in Forestry from the Pennsylvania State College in 1907 and his M.F. from Yale in 1910. He was appointed the Regional Forester for Alaska in 1937 and held that position until 1953. During the same interval he was the Commissioner for Alaska of the Department of Agriculture. During World War II he directed the Alaska Spruce Log Program, a public agency formed to take Sitka spruce from Alaska forests for aircraft material. In 1953 he became the Governor of the Territory of Alaska, a position which he held until 1957. Alaska will miss Frank Heintzleman. His broad knowledge of the State, his long experience, his high principles and his dedication to the development of the State were invaluable.

JOHN C. REED