

Reviews

ANTARCTIC SOILS

ANTARCTICA: SOILS, WEATHERING PROCESSES AND ENVIRONMENTS. Campbell, L. B. and Claridge, G. G. C. 1987. Amsterdam, Elsevier (Developments in Soil Science 16). 368 p, illustrated, hard cover. ISBN 0-444-42784-8. Dfl 220.00, £73.60.

Of the remarkably few Antarctic pedological studies, many have been made in the Dry Valleys of Victoria Land. To these Campbell and Claridge have contributed greatly in over 20 years' extensive work. Their research has culminated in this book, the most detailed and comprehensive account of soils of this formidable continent, where weathering and soil-forming processes are unique. The first four chapters introduce the continent, its environment and biota as they relate to soils; thus the geology, geomorphology, climate and biology of soils, with particular regard to development, are admirably summarized. There follow chapters on physical weathering and rock disintegration, and chemical weathering. Detailed coverage is then given to the soils themselves and to soil properties, followed by soil distribution and factors influencing soil pattern, the salts in Antarctic soils, and soil weathering and glacial history. The penultimate chapter discusses schemes of Antarctic soil classification; the final chapter sets the soil ecosystem in a conservation context, outlining the uniqueness of Antarctic soils, their value in the study of global pedology, the fragility of the soil ecosystem, its vulnerability to human impact, and the ease with which it can be damaged and polluted.

This excellent account is largely a personal record of the authors' extensive and detailed research. It includes a bibliography of over 400 references, though the relatively small number relating directly to soils and weathering processes illustrates how little work has actually been carried out in Antarctica. Only half of the 50 post-1979 references relate to soils, but unfortunately several important recent publications, particularly on the maritime Antarctic, are not included. This suggests that the book has had a rather long gestation period, and that the few 1983 and 1984 references were slipped in at the last minute. The book is profusely illustrated with black and white photographs and line illustrations, and 25 colour plates, all of sites in Ross Dependency. If it has a weakness it must be the inadequate coverage of regions beyond the Dry Valleys, in particular of the maritime Antarctic and its relatively diverse soil types. Typographic errors are very few. This is an invaluable addition to Antarctic scientific

literature, greatly expanding and updating J. C. F. Tedrow's 'Antarctic soils and soil forming processes' (1966, Antarctic Research Series 8, American Geophysical Union, Washington DC) and 'Soils of the polar landscapes' (1977, Rutgers University Press, New Brunswick). Because of the dearth of pedological research currently being undertaken in Antarctica, 'Campbell and Claridge' will be the standard reference for a long time to come. Unfortunately the cost will make it prohibitive for many individuals and restrict its purchase mainly to libraries. (R. I. Lewis Smith, British Antarctic Survey, Madingley Road, Cambridge CB3 0ET.)

SIBERIA: STRATEGIC IMPORTANCE AND DEVELOPMENT

SIBERIA: PROBLEMS AND PROSPECTS FOR REGIONAL DEVELOPMENT. Wood, A. (editor). Beckenham, Croom Helm. 233 p, maps, hard cover. ISBN 0-7099-3655-9. £30.00.

SIBERIA AND THE SOVIET FAREAST: STRATEGIC DIMENSIONS IN MULTINATIONAL PERSPECTIVE. Swearingen, R. (editor). Stanford, Hoover Institution Press. 298 p, maps, hard cover ISBN 0-8179-8361-9 US\$32.95; soft cover ISBN 0-8179-8362-7 US\$16.95.

Siberia—a storehouse of non-renewable resources awaiting technological cooperation from, and exploitation by, industrial powers? A Soviet way-in to the Pacific Rim Community? Home to a growing component of the USSR's military forces? Two new collections of essays look at Siberia as all of these, and evaluate its past, present and future roles in the Soviet and global economies. These works offer much in common. Both include a general overview of the geography and history of Russia east of the Urals (Siberia in its broadest definition); both offer chapters on transportation and communications, energy industries, strategic factors, and relations both commercial and political with neighbouring Asian countries. As the subtitles imply, Wood intends a broader survey than Swearingen, but complementary material and the occasional disagreement in analysis are there as well.

The two initial chapters in Wood's book, by D. Shaw and A. Wood, gracefully lay out the geographical and historical context in which current developments are rooted. Economic resources are summarized with characteristic thoroughness by T. Shabad; D Wilson describes in more detail the oil and gas industry, the foundation of the

Siberian economy today, and R. North tackles the problems facing the development of a comprehensive transport-communications network over the vast, sparsely-populated distances. Special attention is devoted by V. Conolly to the newly-constructed Baykal–Amur railway. J. Erickson's chapter on military and strategic factors I found weaker than its counterpart in Swearingen's book—a Who's Who of the Eastern Theatre rather than a synthesis of the historical geography of conflict along disputed borders with China and Japan. However, Wood's collection ends strongly with a summary by S. Kirby of Siberia's relations with its Asian neighbours, and a look by J. Stephens at past and potential involvement of Siberia in the world economy. This excellent survey of Siberia is enriched by maps and good bibliographies at the end of each chapter. Chapters contain frequent cross-references to each other, enhancing the book's integrity.

Swearingen aims at more specific themes—the 'guns over growth' trend of Siberian development and its implications for regional security and potential trade relationships. Some of the essays address this theme directly; others, while providing solid scholarship, touch on it more tangentially. Stricter editing could have enhanced the continuity and thematic cohesiveness of this work. V. Conolly (the only contributor to both volumes) provides a lively introduction to the environment and resources, including population, of Siberia. V. Mote contributes an informative and highly readable chapter on transport and communications. Energy industries are covered by T. Gustafson; M. Bradshaw analyzes the regional impact of trade and technology transfer in the Soviet economy, with special emphasis on Siberia. W. Czerniejewicz's treatment of economic linkages with Europe takes a while to home-in on Siberian trade, and would have benefitted from editorial contraction, but provides a useful analysis of the Siberian-Western European Gas Project. K. Ogawa discusses Siberian-Japanese trade, painting a darker picture of prospects for the future than does Kirby in Wood's volume, who refers to relationships between these two partners as 'extremely portentous'. H. Gelman gives a good overview of the military build-up in Siberia—the 'Pacific Shift' in Soviet troops and ordnance, rich in historic detail. In his chapter on strategic dimensions in the Pacific area, Swearingen elaborates on the significance of this build-up.

Especially commendable in Swearingen's book is the final chapter by P. Polansky on resources for research on Siberia, a terse yet invaluable guide providing a refreshing variation to the more-often proffered 'Further Reading' appendix. Listing bibliographies, journals, newspapers, institutes, libraries and publishing houses of vital interest to the student of Siberia, it is an example that more editors might follow. One grins at the minor editorial slip—Conolly's too-literal translations of Russian buzzwords, Mote's amusing entry of 'Not available' for data on passenger transport by pipeline in Table 2.2. One grimaces at Swearingen's summary dichotomy of 'peace-

loving nations' versus the Soviet Union (p 257), though by this juncture one has already caught on to the biases behind the book.

Wood's volume is the more useful and more readable for a general audience, and a valuable basic text for students of Soviet and northern geography and history. Swearingen's book, narrower in intent, caters to specialized interests, but also provides embellishing material and analysis complementary to Wood's offerings. Both should be read by those interested in Siberia. (Gail Fondahl, Department of Geography, University of California, Berkeley, California, USA.)

SCENIC ANTARCTICA

SHIP IN THE WILDERNESS. Snyder, J. and Shackleton, K. 1986. London, Dent. 208 p, illustrated, hard cover. ISBN 0-460-04719-1. £14.95.

WILDLIFE AND WILDERNESS: AN ARTIST'S WORLD. Shackleton, K. 1986. London, Clive Hollo-way Books. 120 p, illustrated, hard cover. ISBN 0-907745-06-7. £15.00

The first of these two outstanding books, subtitled 'Voyages of the MS Lindblad Explorer through the last wild places on Earth', covers the travels of a famous cruise ship to out-of-the-way places including the Aleutian Islands, Bering Strait, the Northwest Passage, Iceland, Greenland and Svalbard, several islands of the Southern Ocean fringe, and both East and West Antarctica. Jim Snyder's photography is superb, Keith Shackleton's illustrations and warm commentary are a blessing, the production is faultless and the price unbelievable. For those who prefer their Shackleton undiluted I no less strongly recommend the second. This too is the result of the artist's travels for 15 years as naturalist aboard *Lindblad Explorer*. Whoever thought up that job for him did the world a service. Keith Shackleton's enthusiasm and love for polar animals and scenes is patent in both the text and the marvellous pictures; I know no other writer or painter who catches the polar world so neatly. The last few years have brought many books covering the polar regions in black, white and colour. These are among the best—good value for the armchair traveller, and powerfully evocative for those who have been there. If you cannot manage a polar cruise, they may serve as the next best thing. (Bernard Stonehouse, Scott Polar Research Institute, Lensfield Road, Cambridge CB2 1ER.)

ENGINEERING FOR PERMAFROST

PIPELINES AND PERMAFROST: SCIENCE IN A COLD CLIMATE. Williams, P. J. 1987. Ottawa, Carleton University Press. 129 p, illustrated, soft cover. ISBN 0-88629-056-2. Can \$9.95.

This is a study of northern pipelines in Canada and Alaska. It concentrates on the geotechnical aspects of the projects,