

Review

ZRYD, Amédée. 2001. *Les glaciers: la nature dans les Alpes*. Éditions Pillet. Société Valaisanne des Sciences Naturelles; Saint-Maurice, Switzerland. 325 pp. ISBN 2-940145-27-X, paperback, 199 Fr (approx. €30/US\$31/£20).

Amédée Zryd's elegant book has no counterpart in English. Nor is it likely to have, because the author employs the unusual, though successful, device of geographically focusing the book on the glaciers and glacial landscapes of the Valais, the canton that contains the headwaters of the Rhone and 680 of Switzerland's more than 1800 glaciers. Arguably these glaciers are the best known and most visited of any in the world, and seven of the ten largest glaciers in Switzerland are located there, among them Aletsch-, Gorner- and Fiesch-gletscher. This organizational strategy provides a unity of place and takes the book in interesting directions. The Valais has a long human history that stretches back to Mesolithic time, and has been the site of dreadful glacier catastrophes (e.g. the Giétrogletscher disaster of 1595 which killed more than 100, and the repeating problems with Allalingsletscher which culminated in the 1965 Mattmark dam disaster and the death of 88 workers). Zryd is well versed on glaciers, having completed a glaciology doctorate at ETH Zürich, and is a gifted popularizer. A measure of the book's success is that its focus on the Valais does not diminish its generality and appeal to non-Valaisian and non-Swiss readers.

Les glaciers begins with a preface by Hans Röthlisberger and Martin Funk which is followed by an historical introduction and chapters on mass balance, flow mechanisms, glacial geomorphology, glacial and climate history, glacier hazards and glacier-human interactions from prehistory to modern times. The final chapter, on the major glaciers of the Valais, reads almost like a guidebook and gives a brief overview of the 33 principal glaciers, including map references. Although it is gorgeously illustrated, to describe *Les glaciers* as a coffee-table book would trivialize its aim. The book has a serious educational purpose and could well serve as an introduction to glaciers for an undergraduate course in physical geography. Without invoking mathematics, it touches satisfactorily upon topics like Weertman sliding, Nye and Röthlisberger channels and polythermal glaciers. Scientifically

the book is pleasingly up to date, with discussions of Milankovitch cycles, ice-core records, global positioning systems, and references as recent as 2000. Nor are side-issues that seem to captivate the general public but torment specialists brushed aside: Why is ice blue? How does cryocone form? What gives a red colour to old snow?

An encapsulated history of scientific glaciology provides unexpected rewards including portraits of leading contributors like de Saussure and Venetz and a charming painting of Louis Agassiz crouched in his boulder shelter, the "Hôtel des Neuchâtelois", on Unteraargletscher. The spectacular recession of Rhonegletscher over the past three centuries is beautifully captured by early engravings and later photography. Many of the schematic diagrams and graphs appear to be hand-drawn, without the use of a ruler to enforce straight lines and right angles. This has a disarming effect on the reader and helps to marry the historical material with contemporary data, establishing a kind of parity that helps the scientific quality of the early work to shine through. One is left not so much with a sense of the relentless march of scientific progress as with a respect for the bonds that link modern work with that of earlier contributors like Agassiz, Mercanton and Forel.

So who might wish to buy this book? I would suggest that all Swiss glaciologists and many glaciologists with a reading knowledge of French will find *Les glaciers* deserves a place alongside Post and LaChapelle's *Glacier ice* and Sharp's *Living ice*. Those with no ability to read French might nonetheless get pleasure from the profusion and fine production of the colour plates. Perhaps these readers should insist that their university libraries invest in a copy.

Department of Earth
and Ocean Sciences
University of British Columbia
6339 Stores Road
Vancouver, British Columbia
V6T 1Z4, Canada

GARRY K. C. CLARKE