

REVIEW

J. L. DAVIES. *Landforms of cold climates*. Cambridge, Mass., and London, The M.I.T. Press, Massachusetts Institute of Technology, [1969]. xvi, 200 p., illus. (An Introduction to Systematic Geomorphology, Vol. 3.) 70s.

THIS is one of a series of seven volumes dealing with the geomorphology of different structural and climatic environments, and it is the one of most interest to glaciologists. The preface explains that it is aimed chiefly at university students, though in the case of British universities at least, its level of approach is more suitable for first-year than more advanced students.

Within the limits set by length, it covers the field of glacial and periglacial geomorphology in an adequate and clearly written manner. Ch. 1 distinguishes between glacial, periglacial and nivational process systems, and is followed by three chapters, comprising nearly one-third of the book, on periglacial geomorphology. A short chapter on nivation, under which heading avalanches are included, links the periglacial and glacial sections of the book. Glaciers as such are dealt with in some twenty pages, in which their morphology, regimes, flow characteristics, and classification are summarily described. Later chapters deal with "glacial processes", "proglacial processes", and the landforms of various types of glaciated terrain.

The fact that many, if not most, of the examples are drawn from Australasia limits the appeal of the book and means that many primary examples of glacial and periglacial phenomena from other parts of the world are necessarily omitted. More than a quarter of the photographs and 17 of the 84 line drawings are from Tasmania alone. It is odd that the last map in the book, showing the extent of glaciated and periglacial zones in Australia and Tasmania, should not have included New Zealand.

At times, the treatment becomes rather superficial, listing and defining terms without reference to some of the controversies associated with them, or describing forms without analysing critically the processes thought to have created them, but part of this undoubtedly stems from the compression needed to cover such a broad field in a book of this length. A little more space might have been devoted to the internal temperature characteristics of glaciers and to glacier flow (where the only references to the work of Glen and Nye date from 1952). There are no data presented on the rates of glacial erosion (though rates of periglacial mass movement are discussed). The section on small-scale forms of glacial erosion (striations, crescentic gouges, etc.) is very thin in comparison with the space devoted to macro-forms (troughs, hanging valleys, etc.). It is curious that all melt-water phenomena, even subglacial phenomena, are considered under the heading of "Proglacial processes", and there is no reference to the work of Sissons or Price.

But as an introduction for sixth-formers or first-year university students, and for those with a particular interest in Australasia, the book provides an easily readable text and a useful selection of references.

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