

went unnoticed for some time. In the 1960's, when it was unexpectedly discovered that the long-used coat of arms of the Society was illegal and must be replaced, the design for the new armorial bearings promptly incorporated the double helix as a symbol of the growth and advancement of science. Conversazioni, symposia, television programs, annual lectures for school children, new prizes, and fellowships have in recent years brought the Society in closer contact with the general public. Its membership has been widened and more fellows from the arts, letters, and technology have been added; women, never barred by charter, were admitted in 1949.

Family albums are understandably of greater interest to family members than to outsiders. This work will be more attractive to Scots and Scotophiles than to ordinary readers. Scholars will continue to turn to original sources in studying the Society. Nevertheless this slim volume, with its many anecdotes, exceptional illustrations, and well-organized information, serves as a useful introduction to a distinguished group.

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Geomorphology

The Mountains of Northeastern Tasmania. A Study of Alpine Geomorphology. NEL CAINE. Balkema, Rotterdam, 1983 (U.S. distributor, MBS, Salem, N.Y.). viii, 200 pp., illus., + plates. \$25.

Australia's poverty in mountains is redeemed in Tasmania. The mountains in the island's west are better known because of the glacial sculpture, temperate rainforest, most southerly Pleistocene spread of humans, and conservation conflict in that area. The mountains of northeastern Tasmania have received as much scientific attention in Caine's work on their geomorphology over nearly 20 years as have the mountains of the island's west.

Caine has published nearly a dozen papers and a monograph on these remnants of a faulted dolerite sill. Most of these earlier writings not only dealt with facets of the geomorphology of the mountains in isolation but also centered on elaborating methods for the study of these particular kinds of landforms. The earlier writings are drawn upon selectively in the book under review, and their essentials are amalgamated and

then fleshed out into a synthesis that incorporates a good deal of unpublished material.

Such a regional synthesis might have only an Antipodean audience; its wider appeal results from the intrinsic interest of the region and from the approach Caine has taken. The region has an array of transported blockfields of periglacial origin that is hard to match globally and a set of topples around its biggest mountain, Ben Lomond, that, because it is in a simple geological context, lends itself particularly well to analysis of its mechanism of emplacement. The systematic meaning of the zonal blockfields and the azonal topples cannot be appreciated fully except against their regional background. The fashion, fortunately now passing, to oppose the nomothetic and the idiographic aspects of geomorphology had its risks.

The approach of the book is catholic in its evenhanded attempt to evaluate the roles of structure, climate, and history, though in the upshot the climatic factor is assessed as subordinate to the structural; it is puritanical in its thoroughgoing endeavor to quantify (and by corollary to test statistically) not simply the morphometry and sedimentology but the implications of all genetic and historical interpretations, especially as a means of adjudicating between multiple working hypotheses.

The last point is vital because in the author's view present-day processes are almost irrelevant to understanding the landscape in northeastern Tasmania. Most Quaternary meso- and microforms, if not the largest elements inherited from the Tertiary, suggest virtual stability in warmer intervals such as the Holocene and development in colder periods, generally by periglacial processes and in the case of Ben Lomond by glacial actions as well.

Chronology is the weak part of the study despite gallant wrestling with meager evidence. Rind thickness and weathering pan size are crucial to this attempt at chronology. Given the general statistical rigor of the book there is an unaccountable failure to quantify the vital comparison of rind thickness of dolerite clasts belonging to the two glacial periods that Ben Lomond experienced.

One would have welcomed more discussion of the contrast between the two glaciations, the later one comprising but a few small cirque glaciers below a plateau that carried no ice but had nourished ice caps in the earlier glaciation. The impossibility of the survival of tors through an ice-cap glaciation, which is proclaimed to have been but lightly ero-

sional, needs to be argued rather than assumed, given contrary views elsewhere. Generally, however, there is frank recognition when matters remain problematic. There is no presentation of the wind regime, though weight is given to snow drifting. The place names of Ben Lomond and Mt. Barrow should have been put on maps. One has to refer to other publications of the author to follow parts of the argument.

This criticism amounts to little; the book is welcomed as stoutly representative of a modern geomorphology that has absorbed the quantitative revolution and yet remained firmly tied to the ground.

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Reproductive Ecology

Breeding Biology of the Adélie Penguin. DAVID G. AINLEY, ROBERT E. LERESCHE, and WILLIAM J. L. SLADEN. University of California Press, Berkeley, 1983. xii, 240 pp., illus., + plates. \$27.50.

The authors of the present book, who have produced more than a dozen publications between them on Adélie penguins at Cape Crozier, here treat their previous work cursorily and concentrate on material not previously published. The book might appropriately have been subtitled "A Study of Reproductive Success in Relation to Age." Copious details are given of how age affects behavior at the Cape Crozier colony, the likelihood of breeding, different measures of reproductive success, and subsequent survival. The authors also examine the interaction of age and experience, and this is one of the most illuminating facets of the book. Because there is great variation among them in age at first breeding (from three to eight years) the Adélies provide a particularly good opportunity to study this interaction. Moreover, Adélies change mates more often than most seabirds, allowing the role of mate fidelity to be evaluated. The book will be an indispensable reference for anyone dealing with these topics.

The study also provides new insights into the effects of position of breeding site within the colony on breeding success. Among the Adélies at Cape Crozier, unlike some other seabird colonies, sites in the center were not preferentially occupied by older breeders. The oldest birds were concentrated in a band be-