

thermodynamic conditions are difficult to imagine, the process is dismissed by experimentalists as unlikely to be important in nature.

The final section (5 pages) is a summary of the third and fourth sections applied to freshwater and marine limestones and the process of dolomitization.

This book is an important addition to the library of all students of carbonate rocks, to be used, as Dr. Lippmann suggests, in conjunction with the already existing works on carbonate petrography.

P. BUSH

STRAND (T.) and KULLING (O.). *Scandinavian Caledonides*. New York and London (Wiley-Interscience), 1972. x+302 pp., 190 figs., 2 geol. maps, 4 geol. sections (in back pocket). Price £18.75.

There has long been a need for a comprehensive work on the Scandinavian Caledonides, and this one is by the leading Norwegian and Swedish authorities on the subject. It is written as two separate and quite different sections, the first by Strand on the Norwegian Caledonides, the second by Kulling on the Swedish Caledonides. There has been some attempt by the authors to agree upon common formation names across the international border (for example, Strand uses the older Swedish term 'Vemdal sandstone' for the formation commonly described in Norway as 'Kvartssandsten') but the only major structural unit agreed between the authors to be recognizable on both sides of the border is the Rödingsfjäll nappe, which lies high in the structural sequence at about the latitude of the Arctic Circle. Although Kulling's section is the second, readers would be advised to begin with it because it opens with a brief clear summary of the tectonic scheme, which Kulling uses as a framework for his regional descriptions. Although the scheme is perhaps over-simple, it is probably right in principle, and in the critical nappe region of central southern Norway it has supplanted Strand's own earlier views, as he acknowledges (p. 32). Strand has a more difficult task than Kulling's, because of the greater area and complexity of the Norwegian Caledonides, and tackles it geographically, avoiding sweeping tectonic syntheses. His account is encyclopedic, and includes not only most published work up to 1967, but also summaries of Diploma theses of Norwegian universities, which often go unpublished. It can only be followed with the aid of a large-scale geological map of Norway: the publishers do not provide one. Strand's caution has been justified by research since 1967, which has produced revisions of the major tectonics of the Trondheim area, Nordland, and the Seiland mafic-ultramafic province. The book is more concerned with stratigraphy and tectonics than with metamorphism and igneous activity, but it is a valuable source-book for serious research workers interested in all aspects of the Caledonides. It is a pity that it has taken so long to produce, has no accompanying geological map, and is so expensive.

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