

islands and possibly to their political status. At present there is almost no pool of unemployed skilled manpower. Even some of the more modest, short-term measures suggested will require imported labour. Instigation of any of the vital medium-term projects, such as offshore fisheries development, would result in a substantial influx of workers. Most of them would be from nations other than the UK, and in particular from neighbouring South America. The urgent requirements for improved communications must of necessity lead to closer ties with South American nations (especially Argentina), who will be primarily responsible for operating air and sea services to the mainland. Any implementation of the Yacimientos Petroliferos Fiscales (the Argentinian state oil company) fuel agreement will also induce closer co-operation with Argentina. Indeed Argentina has already built, at its own cost, bulk storage oil facilities near Stanley. In the event of any movement towards the development of potential offshore hydrocarbon resources, close collaboration with Argentina is mandatory, and it is likely that concessions will have to be made in order to secure a mutually beneficial settlement.

In conclusion, it is the reviewer's opinion that the report holds bleak comfort for those who wish to see the survival of the Falkland Islands community in its present state. Although a commitment may be forthcoming from the UK to assist a prospective development strategy, its success will surely depend upon the degree of support given to it by the islanders themselves. In any event it must be recognized that the future of these islands is uncertain and that radical changes lie ahead.

[*Economic survey of the Falkland Islands* has already been the subject of fierce controversy and will doubtless continue to provoke strong reactions. The editor would welcome comments from other readers of the report, in particular from those who could be most directly affected by its content—the islanders themselves.]

THE GEOLOGY OF GREENLAND

[Review by David Matthews of *Geology of Greenland*, edited by A. Escher and W. Stuart Watt, Copenhagen, Grønlands Geologiske Undersøgelse, 1976, 603 p. DKr 195.]

This compilation on Greenland geology has been long-awaited. Published by Grønlands Geologiske Undersøgelse (GGU), it is a comprehensive review of the current state of knowledge and understanding of this complex land. Although it is acknowledged in the preface that the work has been some years in preparation, revision and amendment of most of the contributions up to 1975 or, in isolated cases 1976, has been miraculously achieved by the editors. This is, in fact, the first comprehensive geological work on Greenland since Lauge Koch's *Stratigraphy of Greenland* (1929), other recent volumes being more restricted in scope and confined to specific topics. It draws on the immense amount of data stored in *Meddelelser om Grønland* and other journals.

The book is an edited collection of contributory chapters written by specialists on individual aspects of Greenland geology; most of the contributors are present or past staff members of GGU. Presentation varies a little from chapter to chapter, but in general each contains a major statement and review of current information, including some new and original data, followed by an interpretation, which tends to be more personalized but is none the less valuable for that.

The study of the Precambrian in particular has, over the past decade or so, received a major boost from work in Greenland, thanks to the magnificent rock exposure and relative ease of access in southern Greenland. It therefore seems right that almost one-third—nearly 200 pages—of this book is devoted to the Precambrian. Archaean rocks, including the Amitsoq gneisses, currently among the oldest known in the world, are described and figured in detail, together with the layered complexes and associated supracrustals. A structural synthesis is provided, but as yet no overall theory of crustal genesis. The latter is no doubt partly due to lack of comparable data from elsewhere, but is likely to materialize within the next ten years.

Similarly, the later Precambrian, post-Archaean areas preserved in the various mobile belts, the Nagssugtoqidian (separated into east and west Greenland areas), Rinkian, Ketilidian, and the Gardar period with all its exotic igneous rocks, are each accorded a chapter and reviewed in

considerable detail. Only the chapter on the Nagssugtoqidian of east Greenland is a short one, reflecting the relative paucity of data from that area.

The chapter on the Caledonian fold belt of east Greenland is interesting in that this is the only topic to have had major recent coverage in another textbook—J. Haller's *Geology of the east Greenland Caledonides* (London, John Wiley, 1971)—which was based largely on Lauge Koch's famous series of expeditions from 1926 to 1958. More recent work by GGU in the southern part of this Caledonian belt is presented in *Geology of Greenland* not only as a much more detailed structural analysis of the Scoresby Sund area, but also as a basis for revising the whole of Haller's interpretation of the Caledonian orogeny in east Greenland. It is a controversial re-interpretation based largely on new geochronological evidence, attributing much of what was previously held to be metamorphism and deformation of Caledonian age back to the Precambrian. Such an extrapolation of the limited recent work to the whole Caledonian belt is a highly speculative and individual contribution. In 61 pages, it cannot hope to rival the wealth of descriptive detail to be found in Haller's 320 pages.

A chapter on north Greenland is an excellent summary and synthesis of the rather scattered information from various exploratory expeditions. Much old material has lately been re-examined preparatory to a recently initiated GGU project, which should add greatly to our knowledge of this vast and remote region.

Apart from the last 150 pages of the volume, which are devoted to contributions on a series of special topics such as economic geology (including separate sections on coal, mineral, and petroleum geology), palaeontology (flora and vertebrate), kimberlites, and Quaternary geology, this work is completed by sections on the sedimentary basins and the Tertiary volcanic provinces of east and west Greenland respectively. The chapter on the Tertiary of east Greenland is unfortunately lacking several very recent developments which challenge, for instance, the long-held concepts on the Skaergaard intrusion and on the coastal flexure and dyke swarm. As far as the major plutons are concerned, a little is added to the summaries of these presented in L. R. Wager and G. M. Brown, *Layered igneous rocks* (Edinburgh, Oliver and Boyd, 1968).

The sedimentary basins of east and west Greenland are well described, and the complex faunal and stratigraphical problems of west Greenland discussed in some detail. Much of the more recent thinking on continental rifting is incorporated in the accompanying syntheses. In the case of west Greenland, particularly, oil exploration is likely to play an increasingly important role in providing new geological data and understanding.

This is then, an excellent volume for accurate and up to date coverage of its subject, although a few sections are already a little out of date due to material appearing during the period of compilation. Three areas of the work are likely to date more rapidly than the rest: the Precambrian, particularly geochemical and geochronological aspects where experimental work is advancing fast; north Greenland, where GGU exploration is currently gathering momentum; and west Greenland, where oil exploration is likely to lead to rapid accumulation of new data, particularly offshore. Nevertheless, the volume will provide an invaluable foundation for the building of future results. The editors are to be congratulated on their painstaking work, and not least for keeping the price of such a handsomely produced book down to 195 DKr, a most reasonable figure for these days.

A TRUE TALE

[Review by Roland Huntford* of William McKinlay's *Karluk*. London, Weidenfeld and Nicolson, 1976, 170 pp, illus. £4.95.]

Vilhjalmur Stefansson was a splendidly controversial figure. A luminary of the barnstorming days of exploration in the American Arctic, he could hardly be anything else. He had a flair for publicity. He could make enemies—sometimes on the expeditions that he led. But whatever his failings, he was a man of first-class intellect, rarely short of ideas. His books are eminently readable, and he could compose a dictum: the most often quoted and, it may be, the most penetrating is

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