

graphs are promised on contact metamorphic facies at low pressures, and on regional metamorphic facies at moderate and at high pressures. R. A. HOWE

DOWNIE (C.) and WILKINSON (P.). *The geology of Kilimanjaro*. Sheffield (Dept. of Geology, University of Sheffield), 1972. x + 253 pp., 44 figs., 11 pls., coloured geol. map (1:125 000). Price (post-free including map), £6.00.

This detailed account of the geology of one of the largest and most striking volcanological features in Africa will be welcomed by workers in many fields. The book is very comprehensive and deals with all the important facets of the geology. After a brief introduction and a summary of previous geological work on Kilimanjaro, two chapters are devoted to a description of the geomorphology, glaciology, and glacial history. This includes detailed maps of the present and former distribution of the ice, with comments on how the glacial history might correlate with that of Mt. Kenya. The geology of the three major volcanic centres Shira, Kibo, and Mawenzi is then described. A large amount of detailed information is given, including an account of the geological history of each centre, the nature of the major and minor intrusions, and, in some cases, flow by flow descriptions of the lava stratigraphy.

The concluding chapter, of sixty pages, deals with the petrography and petrology of the rocks. It includes a tabulated information on major and some trace-element data on eighty-four Kilimanjaro rocks; about half of the major-element and all the trace-element data are new and have not appeared elsewhere in print. This informative section is, in the opinion of the reviewer, unfortunately marred by the adoption of a very rigid scheme of nomenclature based on the normative compositions of the rocks. The well-accepted terms 'mugearite' and 'hawaiite' are rejected as 'these names are petrogenetically loaded' (p. 192) and 'trachyandesite' and 'trachybasalt' used instead. Many of the more salic rocks are termed 'latites' and 'nepheline latites' and the use of both of these terms to describe rocks from this very alkaline volcano seems most unfortunate. The petrology and geochemistry of the major centres is considered in turn, and in particular an attempt is made to assess the significance of volatile transport in the genesis of the Kibo rocks. It is perhaps unfortunate that comparisons with other Rift Valley sites, and in particular Mt. Kenya, are brief or have not been included. The detailed account of the Mt. Suswa phonolites by Nash *et al.* (1969) is not even listed among the references, nor are comparisons made with the 'plateau' phonolites of the Kenya Rift. Nevertheless, Mr. Wilkinson's chapter provides a sound geochemical basis for further work on the petrology of the Kilimanjaro rocks.

The book is accompanied by a colour-printed geological map of Kilimanjaro on the scale of 1:125 000. This has been carefully prepared and printed and many of the more striking volcanological features are apparent. The map forms a very useful appendix to the account that will be welcomed by not only the volcanologists, but also by other scientists working in the area. I. L. GIBSON