

Dóbrešov (N. L.), Sóbolev (V. S.), Sóbolev (N. V.), and Khléstov (V. V.). *The Facies of Regional Metamorphism at High Pressures*. Translated by D. A. Brown. Canberra (Australian National University Press), 1975, viii+361 pp., 71 figs. Price (paperback) \$ (Australian) 8.95.

This book is the English translation of vol. 4 of the series on metamorphism edited by V. S. Sóbolev. While it largely stands alone, a reader would need to refer to vol. 1, *The Facies of Metamorphism*, to appreciate the scheme of metamorphic facies adopted in the series.

This particular volume is focused on the major groups of metamorphic rocks that crystallize at depths near or below the base of the crust. As such it deals mainly with kyanite schists, glaucophane schists, eclogites, and the phases of the upper mantle and in particular mantle inclusions in igneous rocks and kimberlites. While the scheme of facies differs somewhat from some others commonly used this should present little difficulty to the reader.

For each major group of rocks discussed, the introduction deals with the nature of the facies, mineralogy, chemistry, etc., while there is a concluding lengthy section dealing with the global distribution of the rocks in space and time. Without doubt, one of the major contributions of the work is to present an up-to-date account of thoughts and observations from workers in the U.S.S.R. The bibliography is very complete and this reviewer noted only rare omissions of significant work (strangely one of these omissions involves Holdaway's work (1971) on the aluminosilicates, which might well have changed the general facies distribution diagram).

Two final chapters are devoted to certain related problems such as sources of heat, heat transfer, pore fluids and pore-fluid pressure, tectonics and metamorphism, magma generation, and finally to ore deposits in metamorphic rocks. These latter sections appear to be added as afterthoughts and are weak.

My general impressions: The work will be of value to research workers in this field of petrology; most of us will find much new information. The style is ponderous and the amount of verbal garbage great. Diagrams and tables are often crowded and difficult to read. The entire series shows signs of a lack of rigorous editorial work. But I will frequently have cause to refer to this book and as such, feel it should be in all our collections of works on metamorphic petrology.

W. S. FYFE

Rittmann (A.) and Rittman (L.). *Volcanoes*. London (Orbis Publishing), 1976. 128 pp., 26 figs., 147 colour photographs. Price £4.95.

This is a magnificently illustrated book on the world's most spectacular natural phenomena. The colour photographs are well chosen and together with the adequate text tell how volcanoes erupt, and demonstrate their products, their rocks and minerals, and their morphology. There is a comprehensive listing of active volcanoes throughout the world and an interesting chapter on the relationship between volcanic activity and the Earth's structure. But it is the photographs of volcanic phenomena that will make this book a desideratum for many petrologists.

R. A. HOWIE

Cook (E.). *Man, Energy, Society*. San Francisco and Reading (W. H. Freeman & Co.), 1976. xiv+478 pp., 113 figs. Price: cloth £10.40; paper £5.00.

The present and future production and use of energy in the world is something that concerns us all, and is of particular interest to geologists. Increased oil and gas prices, together with

a shortage of new discoveries in North America, have caused speculation about the size of the petroleum reserves available for production in the world. At the same time proposals to extend coal mining into new areas have led to objections from some of those people already living there. New and larger nuclear power plants may involve hazards unacceptable to many people. Alternative, renewable, sources of energy may involve large-scale civil engineering work.

This book provides a concise illustrated survey of these matters, paying particular attention to North American experience. However, the author is more concerned to relate his subject to the organization and government of different societies. He also discusses the ethical relationship between producers and consumers of fossil fuels and mineral resources. There is an interesting account of how decisions are reached on the exploitation of new fuel reserves, but this chapter is illustrated only by U.S. examples. Consideration of planning processes in western Europe might have led to very different conclusions.

This book is well illustrated and can be recommended as good bedside reading to geologists generally and especially to those working in industry.

H. C. POTTER

Brown (J. Coggin) and Dey (A. K.). *The Mineral and Nuclear Fuels of the Indian Sub-continent and Burma: a guide to the study of the coal, oil, natural gas, uranium, and thorium resources of the area.* London and New Delhi (Oxford Univ. Press), 1975. xx+517 pp., 63 figs., 6 pls., 25 geol. sketch-maps. Price £26.00.

The principal attribute of this book is that it gives a useful survey of the geographical distribution and geological occurrences of energy resources in the region. But the book suffers in two important respects. First, the delay in publication has rendered the statistics on reserves and production of energy resources of little consequence: second, the title of the book does not accurately reflect its contents. Without much reference to the region, the book attempts to act as an introductory textbook on topics ranging from the origin of coals through to their processing and gasification: from the chemical composition of petroleum and the origin of hydrocarbons through to the role of the geologist in petroleum exploration. Regrettably, the book carries out this instructional role poorly.

In the chapter on radioactive minerals (40 pp.) some details are given of prospecting methods and of types of occurrence of uranium and thorium in India.

It is a pity that due to circumstances, many of which lay outside of the author's control, the book cannot be recommended except as a general survey of energy resources of the sub-continent and Burma in which specific statistics must be treated with caution.

D. G. MURCHISON

Smith (D. G. W.), editor. *Short Course in Microbeam Techniques.* Edmonton (Mineralogical Association of Canada), 1976. v+186 pp., 74 figs. Price \$ (Can.) 7.50.

This small book consists of six chapters written by authors who are all well known for their work in electron-probe microanalysis. The title is somewhat misleading as the book is essentially about electron microprobe analysis although there are very brief sections on S.E.M. (scanning electron microscopy) and the ion-probe analyser. There is, however, no mention of