

topics naturally lead on to discussion of classificatory schemes. The authors adhere to Lindgren's classification throughout the remaining chapters. Each chapter is devoted to a particular type of deposit and generally two or three well-selected illustrated examples of each type are given. In the chapter dealing with magmatic segregation deposits the Bushveld complex is given a welcome respite. For each described deposit the geological setting, form, mineralogy, and paragenesis are presented in an interesting, readable manner and long boring mineral lists are omitted. Examples are given of deposits that owe their origin to magmatic segregation, pegmatitic, igneous-metamorphic, hypothermal, mesothermal, epithermal, telethermal, xenothermal, sedimentary, and weathering processes. The last two chapters deal with supergene sulphide enrichment and metamorphism of ores, the latter merely emphasizing the paucity of data on such a topic.

Throughout the work, in which detectable errors are few, emphasis is placed on field observations and expounding principles as an aid to discovering future deposits. Unbiased controversy is rife to acquaint students with the many arguments that rage over ore deposition. Line drawings are numerous and clear, and many points in the text are additionally emphasized by photographs. References cited are quoted at the end of each chapter and chapters dealing with specific types of deposits contain an additional reference list to selected deposits.

This absorbing book presents a welcome approach by bringing together in one place in a clearly defined fashion, numerous aspects of ore deposits; it should improve students' understanding of, and teaching approaches to metalliferous deposits.

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THRUSH, (P. W.), editor. *A dictionary of mining, mineral, and related terms*. Washington (Bureau of Mines, Dept. of the Interior), 1269 pp., 1968. Price \$8.50.

This volume edited and compiled by the staff of the U.S. Bureau of Mines carries about 150 000 definitions of about 55 000 terms in three columns. The terms in the Dictionary are stated to 'apply to metal mining, coal mining, quarrying, geology, metallurgy, ceramics and clays, glassmaking, minerals and mineralogy, and general terminology'. 'Petroleum, natural gas, and legal mining terminology—has been excluded'.

Over 300 different sources are cited including many authoritative publications of the type issued by the ASTM and the British Standards Institution. Mineralogical definitions are mostly taken from the 6th and 7th editions of Dana's *System*, the current Dana-Hurlbut, George English's *List* (1939), Fleischer's *Index* (1966), Larsen and Berman (1934), Hey's *Index* (1955), and Sinkankas' *Gemstones of North America* (1959). For igneous petrology reliance now seems to be placed on Johannsen but there are also citations to CIPW.

The coverage of geological terms is extensive, much material being taken from the the AGI Glossary. Modern trends are reflected in the inclusion of thermodynamic

terms, e.g. enthalpy (3 definitions), entropy (4 definitions), entropy change, and entropy unit. Many terms are defined both in isolation and in combination, e.g. 'heat' and 52 combinations thereof from 'heat balance' to 'heat work'.

It seems that an attempt at full coverage of mineral names has been made; unfortunately the intent or policy of the editor in this regard is not stated. In many cases the definitions are from strange sources. That of animikite is from the *Standard Dictionary*, 1964, and that of ankerite is in part from the *Glossary of Coal Terms*, (British Standards Institution, 1960), resulting in a somewhat biased definition, 'A white, red, or greyish calcium-magnesium-iron carbonate,  $\text{CaCO}_3(\text{Mg,Fe,Mn})\text{CO}_3$ ; commonly occurring in the partings of coal; rhombohedral'.

Considering the diversity of sources of this compilation and the overwhelming task of the editor a fair degree of consistency has been attained, but some curious lapses can be found. On page 1248 one may find definitions of the following four terms set forth separately and consecutively: 'X-ray analysis', 'X-ray crystal analysis', 'X-ray crystallography' and 'X-ray diffraction'. The first and last of these are from the *Dictionary of Mineral Technology* by Edmund J. Pryor (1964), the second from Sinkankas (1959), and the third from *Dictionary of Civil Engineering* by Rolt Hammond (1965), surely curious sources for definitions of such terms, with the result that there is much overlap and some confusion.

In spite of such minor shortcomings this must be regarded as a monumental work. This reviewer knows of no other of comparable scope. The book can be of great value to any mineralogist or geologist who uses it with some discrimination.

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