and with thorough indexing in several different ways; the printing, paper and binding are of the highest quality. These books should be in every earth science library, and almost every mineralogist and petrologist will be amply rewarded if he takes the time and effort to read the parts of interest to him of this gargantuan description and analysis of the group of minerals that constitutes over half the earth’s crust.

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the papers in Part II contain a short discussion of exploration guidelines (which, as it turns out, are almost entirely geological in nature, a factor to be considered in this age of ever-increasing technology in exploration). The geological descriptions are clear, concise, and accompanied by numerous diagrams, maps, and photomicrographs. All but three of the papers in Part II are authored by a member of the mine staff. Most of the 21 "deposit-papers" deal with the base-metal type of Kuroko ores but two describe barite and gypsum Kuroko-type deposits. One remarkable paper describes the sedimentary features found in one Kuroko deposit and contains a series of extremely convincing diagrams and photos. For the paleontologists, one paper contains a two-page list of fossils found in the Matsuki mine. Part III comprises 17 pages dealing with Special Topics. The papers can be conveniently grouped in the following manner (the number of papers dealing with each topic is shown in parentheses): magmatism (1), tectonics (1), associated volcanic rocks (1), alteration (4), ore minerals (4), ore textures (1), chemistry of sulphides (2), fluid inclusions (1), isotopes (1), and basement geochemistry (1). The last paper is interesting as it attempts to examine the effect of basement geochemistry on Kuroko mineralization and concludes that the base metals of the basement are reflected in the Kuroko ores. The isotope paper, in contrast, rules out the possibility of extracting metals from the immediate basement.

The book contains three pages of ore photos and photomicrographs in colour. Author, subject, and locality indices are included but a list of figures is not.

So complete is the coverage of Kuroko deposits that it is difficult to identify topics not covered in the Special Issue. Two, however, which are not included have been consciously omitted by the editors. The first, a discussion of the physico-chemical limitations in the formation of these ores, was omitted because the two papers pertaining to this subject have appeared in English in other journals (references for these papers are given). For completeness' sake, however, it would have been both relevant and convenient to have included them. A reader searching the book for a summary of current Japanese theories on genesis will not find one. Neither the word "genesis" nor "origin" appears in the subject index. Only two papers contain "genesis" in their titles and only a half dozen or so papers include even a brief discussion of the topic. Presumably the tight treatment of genesis is in keeping with the editors' objective of presenting largely factual data so that the reader is free to make his own interpretations. Nevertheless, a separate summary chapter, perhaps written by the editors, could have provided a useful insight into the breadth and nature of genetic ideas currently favoured by the geologists closest to the subject who, as shown by the bibliographic references, have been studying these deposits for decades. Reading between the lines of the various papers, however, the reader is left with little doubt that a majority of Japanese geologists favour some form of volcanic-exhalative process for the formation of these ores.

Spelling and typographical errors are remarkably few considering that over half the papers had to be translated from Japanese and all papers required clarification of the English. All maps, sections, photos, and photomicrographs include scales and are of generally high quality except the photomicrographs on p. 84-85, some of which are too dark to be of much use.

The title is somewhat misleading because, to best describe the contents, it should read "Geology of Japanese Kuroko Deposits." Kuroko ores are a deposit-type and there is nothing in the definition which specifies that Kuroko deposits must occur only in Japan even though it is understandable that the Japanese feel they are the first authority on the subject. Nevertheless, other texts on specific deposit-types have either been international in character (e.g., Magmatic Ore Deposits, Economic Geology Monograph 4) or have specified a particular area (e.g., Geology of the Porphyry Copper Deposits, Southwestern North America, Univ. of Arizona Press).

Nevertheless, the breadth of the topics covered and the general high quality of the contained papers will ensure that this book will become a classic on the subject of volcanogenic deposits and this reviewer unhesitatingly recommends that it be added to the bookshelf of every serious economic geologist.

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