

BOOK REVIEWS

URANIUM 81 edited by P. R. Simpson, Jane E. Plant and G. C. Brown (1982). Published by The Mineralogical Society; 232 pages, soft cover. Members £10.00, non-members £15.00. See *Can. Mineral.* 21, 166 for further information.

Uranium 81 is a collection of 23 papers originally presented at a meeting on "Uranium Mineralogy and the Geochemistry of Natural Radioelements in Crystalline Rocks", organized by the Applied Mineralogy and Geochemistry Groups of the Mineralogical Society. The papers were previously published in *Mineralogical Magazine* (December, 1981 and June, 1982).

The volume is aptly named, as uranium is essentially the only aspect that the papers have in common to justify their inclusion in a single book. In their brief preface, S. H. U. Bowie and Janet Watson state that "It is essential therefore that the processes which control its [uranium] occurrence and distribution be studied in detail and from all aspects", and this collection of papers is an example of the application of that philosophy. The papers are arranged in order of alphabetical sequence of authors' names, with no attempt to group related topics or to synthesize or summarize. They deal with subjects as diverse as analytical techniques, field methods of gamma-ray spectrometry, regional geophysics and geochronology, but most discuss the mineralogy, geochemistry and origin of uranium occurrences or uranium-bearing rocks. They have wide geographic coverage, including one or more papers

on areas in Canada, U.S.A., Nigeria, Switzerland, France, Great Britain, Ireland and Sweden. Deposit types covered include volcanic, sedimentary, metamorphic, pegmatitic and vein occurrences, but most (13 papers) deal specifically with uranium and related elements in granitoid rocks. The distinctive chemical characteristics of uraniferous granitoid rocks are emphasized by most authors, and are relatively consistent irrespective of age or geographic locale of the intrusion.

The book is compact, with small print, in the standard format of the *Mineralogical Magazine*. Illustrations are clear, and several papers contain relevant photographs of reasonable quality. A weak point of the book is a token attempt at unification provided by the insertion of an index at the back. It is essentially an author index with a few additional keywords selected with no apparent rationale. It is by no means an index that could guide the reader to topics of his or her interest any more than just looking at the list of Contents at the front.

This book will be useful to the exploration geologist involved in the search for uranium and to researchers interested in uranium occurrences, especially in granitoid rocks. Others would be best advised to go to the *Mineralogical Magazine* to read the particular papers of interest.

Sandra M. Barr
Department of Geology
Acadia University

FLUID INCLUSION RESEARCH (Proceedings of COFFI, volume II, 1978; 291 pages). Edwin Roedder, Editor and A. Kozłowski, Associate Editor. The University of Michigan Press, Ann Arbor and John Wiley and Sons Canada, Rexdale, Ontario. Price: \$10.00 (US).

Volume II of *Fluid Inclusion Research* contains, like its predecessors, abstracts or annotated bibliographic citations pertaining to fluid-inclusion research that were published in the year 1978. This covers "all types of fluid inclusions, causes and mechanisms of trapping, physical, chemical and isotopic data and data on experimental studies of systems pertinent to the interpretations of all types of phase changes occurring in inclusions as well as to the sources of such volatiles or fluids and their interaction with rocks."

There are 911 abstracts, citations or annotated citations. Nearly half (436 items) of these are from Soviet sources, 323 items are from the English language literature and 52 from sources other than

English and Russian. Both a subject index and a locality index have been provided.

Undoubtedly, this series has become an important source, not only for those who are actively engaged in fluid-inclusion work, but also for those wishing to find relevant references on fluid phases and related geological processes associated with them. The citations and the abstracts in English, including the translations of hitherto inaccessible Soviet references, add to the importance and necessity of this on-going series from COFFI.

The best way the editors can be lauded for their painstaking (and non-remunerative) effort in preparing this series is by recommending that volume II, like the earlier ones, should find a place in the personal libraries of all student and practicing geologists.

Jayanta Guha,
Sciences de la Terre,
Université du Québec à Chicoutimi

INORGANIC GEOCHEMISTRY by Paul Henderson (1982), Pergamon Press, Oxford, England. 353 pages. Paperback \$27.70 Can., Hardcover \$63.00 Can.

Geochemistry has shown such rapid increase in the last 35 years that it is now not possible to introduce the entire subject in a single volume. Dr. Henderson has restricted his subject matter to inorganic geochemistry and, hence, has produced a commendable textbook on the subject. The book is organized in a different (and better) way than most texts on this subject. The first section of the book starts with a good review of the distribution of elements in meteorites and the 'cosmos'. These data are used to constrain theories concerning the origin of the solar system and of the elements themselves. The section is completed by a description of the geochemical conditions that limit processes active in the earth-moon system. In the second section, control of element distribution is discussed in terms of thermodynamic,

kinetic and structural processes, with emphasis on materials that formed at high temperatures. In addition, the methods of isotope geochemistry are briefly but adequately discussed. The book concludes with two chapters on aqueous systems and their interactions with rocks. The book contains numerous compilations of data of geochemical interest and is well illustrated. The text is clear though brief, and the reference list is up-to-date. As with any textbook, there are omissions and lack of detail of the reviewer's favorite subjects. However, overall the text is very comprehensive and surpasses any other recent book on the subject. I would recommend it for use in both undergraduate and graduate courses; I hope that the binding survives the intense use this book will probably receive.

Michael D. Higgins
Department of Geology
McMaster University