

in the Pacific. Some of these papers provide information of general importance in understanding manganese nodule genesis, such as Pautot and Melguen's illuminating discussion on the influence of bottom currents on nodule development, the results of which could probably be successfully applied elsewhere. The final four chapters address themselves to the problem of nodule growth rates, but do not solve it.

Overall, the papers in this book are of a reasonable to high quality, and there are a few gems. Its high price would probably put it outside the student or individual researcher market, but any Institution or Company dealing with marine affairs should have a copy in its library.

D. S. CRONAN

Sorem (R. K.) and Fewkes (R. H.). *Manganese Nodules: Research data and methods of investigation*. New York and London (Plenum Press), 1979. x + 724 pp., 375 figs. Price \$95.00.

Unlike the other manganese nodule book reviewed here, this one deals with a specific study by a group of individuals at one institution, the Washington State University. Sorem and his colleagues have built up a reputation over the past 15 years for careful detailed microscopic, micromineralogical, and microchemical studies on manganese nodules, which have provided a data base for much of the discussion on their origin. This book places in the public domain many of the raw data collected by Sorem and colleagues during these years, which has hitherto been unavailable to the scientific community at large.

The first fifth of the book deals with the techniques of preparation of nodules for the studies described, and a discussion of their internal structures and micromineralogical and chemical variations. This is a useful summary of the subject, and serves well to introduce the main body of the book which is a catalogue of sectioned manganese nodules in the Washington State University Collection. Sorem has long been renowned for producing the best photographs of polished sections of nodules, and here are enough of them to satisfy even the most ardent collector. All the specimens have been carefully prepared and beautifully photographed, producing a result which is aesthetically pleasing as well as scientifically valuable. Each photograph is accompanied by available basic data on the specimen in question such as mineralogical and chemical composition, nature of the nucleus, etc. which provides some hard facts to accompany the visual impression.

This book could be considered as a monument to the work of Sorem and his co-workers over the

past decade and a half, and even to a generation of students of manganese nodules who valued them for their intrinsic scientific worth rather than their potential commercial value. No serious student of the subject can afford to ignore it.

D. S. CRONAN

Spriggs (M. J.) and Castell (K. D.), Editors. *Uranium Supply and Demand. Proceedings of the Third International Symposium held by The Uranium Institute, London, July 12-14, 1978*. London (Mining Journal Books Ltd), 1980. xiv + 370 pp., 59 figs. Price £15.00 (\$30.00) surface mail, £18.00 (\$36.00) air mail.

The Uranium Institute was established in June 1975 to provide a forum for its membership, drawn mainly from the major uranium producers, processors and consumers, to discuss all aspects of the nuclear fuel industry. Emphasis is placed on co-operation between various sides of the industry and the annual symposium (which is open to non-members) examines world-wide issues such as nuclear power and safety, public acceptability, non-proliferation policies, etc. which affect future development.

In consequence, the proceedings of the Third International Symposium on Uranium Supply and Demand held in London in July, 1978, will be of most relevance to those scientists closely connected with the nuclear fuel cycle and of limited attraction to geoscientists whose interests lie elsewhere.

Furthermore, as the majority of uranium geochemists and mineralogists are involved mainly at the exploration/evaluation stages of the cycle, this volume, comprising as it does the transcripts of speakers' presentations in sessions on the uranium market, technical factors influencing supply, nuclear controversy, and non-proliferation, and fuel assurance, may be of general interest rather than a source for scientific data.

The principal exception among the twenty-nine published contributions is that by H. E. James and H. A. Simonsen entitled 'Ore-processing technology and the uranium supply outlook', which, in sixty-four pages of text and figures, provides an excellent review of the mineralogy and processing characteristics of the major types of uranium ore together with an assessment of the adequacy of existing flow-sheets and the scope for improvement in exploitation technology. Details of the mineralogy and its implication on ore processing are tabulated for each major producing area and should provide a most useful set of reference data for mineralogists and ore-dressers involved in the evaluation of new deposits.

In spite of these comments, it is certain that this