

graphite-moderated reactor installation. The generalizations may be warranted for reactors of that type but some of them tend to be inaccurate when applied to other types described in the second part of the book. "The individual who may be desirous of entering the field" would be advised to take the generalizations with a grain of salt.

It is not likely, however, that the book will attract many readers on this side of the water who are not already engaged in the business. Some of those who are, may find it interesting as a way of comparing notes and, because of its organization, it may adjust their focus on the interrelationships of all the phases of nuclear fuel handling.

As Mr. Wordsworth points out, "it is neither possible nor desirable to cover the precise technical design problems in great detail." As might be expected, the amount of detail is greater for the British installations than for the others. The descriptions for some, such as that for Piqua, are so cursory that they add practically nothing to the book. The initiated will, therefore, find parts of the book rather shallow but may uncover some helpful ideas.

The reviewer has referred "Nuclear Fuel Handling" to the fuelling-equipment design engineers associated with him. Mr. Wordsworth has put many of the common requirements of nuclear fuel handling in perspective and reading his book may throw another light on their own appreciation of the subject. Presumably, other fuelling-equipment designers could benefit in the same way and it is to this select readership, on the basis of one to an office, that I recommend the book.

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*About the Reviewer: Mr. J. S. Foster is a graduate of Nova Scotia Technical College and holds degrees in both mechanical and electrical engineering. His association with the nuclear program began in 1953. When design work for the Nuclear Power Demonstration station was started by Canadian General Electric Company Limited in 1955, Mr. Foster was loaned by his company, Montreal Engineering Company Limited, to take the appointment as Head of the Design Engineering Group.*

*In 1958 the Nuclear Power Plant Division was formed by Atomic Energy of Canada Limited to carry out the design of a full-scale power plant. Mr. Foster was selected as Deputy Manager of this Division. With the decision in 1959 to build the 200,000 kilowatt Douglas Point Station, he became Manager of this project and is now General Manager, Power Projects in A.E.C.L.*

**Siting of Reactors and Nuclear Research Centers.** Proceedings of a Symposium, Bombay, 11-15 March, 1963. International Atomic Energy Agency, Vienna. International Publications, Inc., 317 East 34th St., New York, N. Y. 509 pp. \$10.00.

Probably no subject in the last 15 years has stimulated more scientific and lay debate than the one covered by the present volume. It is said to represent the first symposium under international auspices in which an attempt has been made to reconcile public safety with the practical desire for reactor installations to be near population centers.

That the issue is still very much alive in the United States and elsewhere is attested by the exchange between the first and present chairmen of the Atomic Energy Commission as to what is safe for the site of a power reactor. The tremendous heat generated in the press (almost matching the artificial kilowatts projected for the projects) in New York City and in California (on the sites at Pendleton, Malibu and Bodega Bay) make abundantly clear that site selection has not yet moved from the emotional art to the scientific or technologic formula.

It may be expected, therefore, that the interested bystander might well turn to this array of papers for intellectual guidance in the development of a public position. Do the papers provide such guidance?

Thirty papers, participated in by 120 authors and others attending the meeting, rehearse the atmosphere, ground and hydrologic environmental factors; the questions relevant to containment; the problems of criteria for site selection, and some experiences with actual site selections for both nuclear research centers and power reactors. Since the papers represent principles and practices in some twelve countries, it is not surprising that conclusions often reflect the restraints of geography and population density as much as they do the resulting philosophies of individual authors. General criteria, as is true in most of life, give way to the realities of the local scene. Principles become adjusted to the exigencies of the individual case, in the particular region of a particular country. Thus, positions vary widely from the comment of V. S. Rao: "it might conceivably be possible to establish a 5-20 mile (or other appropriate) zone around cities, from which nuclear reactors would be banned" (p. 165) to that of E. C. Watson (p. 163). The latter feels that frequent inversion conditions, per se, should not automatically rule out large regions for power reactor sites (suggested by F. Duhamel).

The conclusions of the participants, plus their views as to future criteria, are set forth in pp. 491 to 500 inclusive. Here pithy comments abound,

such as G. Bell's: "One thing that is certain is that these terms (maximum credible accident) make no sense" (p. 499).

In spite of the high quality of all the papers, and the discussions, it is unlikely that the volume will provide the guidance for public policy referred to above. The translation of scientific data into intelligible understanding and acceptance by the public is grossly lacking. The relevance of all this to the economics of nuclear power production, and what it does or can mean to the consumer, is distinguished primarily by its absence. Perhaps the next international symposium may concern itself with the problem of translation and communication with the public.

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*About the Reviewer: Abel Wolman has been Professor of Sanitary Engineering at the Johns Hopkins University since 1937. His many services to science, engineering, and the government include a total of 23 editor-years for several publications, 13 years on the Reactor Safeguard Committee of the U. S. Atomic Energy Commission, several years in municipal sanitary problems in corners of the world ranging from Ceylon to Taiwan. He is a member of the National Academy of Sciences.*

**The Optical Model in Nuclear and Particle Physics.**  
By P. B. Jones, Interscience Publishers, New York, (1963). 118 pp. \$4.50.

The optical model has become an extremely useful tool in dealing with nuclear reactions and certainly deserves to be "immortalized" by a book devoted to that subject. In this reviewer's opinion such a book should be addressed to a wider audience than the professional physicist who is already familiar with this subject. Unfortunately, this slim contribution of Dr. Jones does not fill the bill. There are three chapters in this book. Exclusive of the index and references these three chapters comprise 110 pages. This includes two short appendices. By the decision to compress the material within these narrow confines, the author, advertently or otherwise, has paid a stiff price in clarity.

The first chapter, which is an introduction, necessarily tells little. The second chapter is entitled "Justification of the Model." Here all the elaborate mathematical machinery of the model is brought into play but after working through the fifty pages or so devoted to this part of the book it is doubtful that anyone who did not know how to use

the model before reading the book will be in any better position to do so. The third chapter which is, in part, devoted to phenomenology and connections with nuclear structure will be, for many, of greater interest than the rest of the book. Unfortunately it is too abbreviated to be very effective.

On the credit side it is readily conceded that the book is fairly well referenced so that it can be useful as a guide to the literature. For those who are not expert in the theoretical aspects of the problems here discussed, the exposition of the theory adds little to the already existing literature.

To get down to specifics, the nature of the giant resonance could easily have been discussed in more physical terms. This is only one example of the inadequate pedagogical style which makes this book less attractive than it might have been.

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**Diagnosis and Treatment of Radioactive Poisoning.** (Proceedings of the Scientific Meeting on the Diagnosis and Treatment of Radioactive poisoning jointly organized by the World Health Organization and the International Atomic Energy Agency). (Editorial Staff of International Atomic Agency, Vienna, Ed.) Printed by the International Atomic Energy Agency, (February 1963); distributed by the National Agency for International Publications, Inc., 317 East 34th Street, New York 16, N. Y. 450 pp. \$9.00.

This is one in a series of volumes produced jointly by WHO and IAEA on the health aspects of atomic energy. Like its predecessor volume "Diagnosis and Treatment of Acute Radiation Injury," it constitutes the proceedings of a scientific meeting. The meeting was held in Vienna 15-18 October, 1962 and dealt with the problem of the diagnosis and management of persons with radioelements deposited in the body.