**Nuclear Reactors for Power Generation.** Edited by E. OPENSHAW TAYLOR. Philosophical Library, New York; Newnes, London, 1958. 144 pp., 51 illustrations, 22 tables. $7.50.

This book is an edited series of seven topics related to nuclear power presented in condensed form and prepared by six contributors from the nuclear energy industry, and government and educational institutions in the United Kingdom. Each chapter is based on the lectures given at Heriot-Watt College, Edinburgh, comprising an advanced course for persons who will be involved, in one way or another, in construction, operation, or management of nuclear power plants, but who are not engaged in development or design.

Consequently, the scope of the book is large for its few pages and the technical aspects are covered superficially in the interest of giving the reader a broad view of many aspects of this complex field and some appreciation of the interrelation between the various technical and economic problems. The seven chapter titles are in order,

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| Introduction | (15 pp.) |
| Nuclear Physics | (13 pp.) |
| Types of Reactor (sic) | (14 pp.) |
| Materials | (36 pp.) |
| The Physical Basis of Reactor Design | (17 pp.) |
| Safety and Instrumentation | (20 pp.) |
| Applications and Economics | (25 pp.) |

The Introduction is a survey of the world power needs and fuel resources based primarily on the 1955 Geneva Conference on the Peaceful Uses of Atomic Energy and the Vienna World Power Conference (1956). This section appears to accomplish a purpose although as is often the case in this field much of the information is already somewhat out-of-date.

The chapter on Nuclear Physics is very superficial and might well have been integrated with the Physical Basis of Reactor Design as a chapter following the Introduction. The remaining chapters are presented in a logical sequence and do a reasonable job of covering the material.

For the most part the book is well written and edited. It is written in a clear style and reads well. Most of the chapters suffer from lack of specific references although specific authors' names have been mentioned in the text. The British authorship is clearly evident by the emphasis placed on the British reactor program, the jargon of the trade and other items peculiar to that country. Thus the book will have greater appeal in Great Britain than in the United States.

In summary, the reviewer thinks the authors have done a creditable job of condensing for the layman a broad view of the field of nuclear power. Many people who work on the fringes of the Nuclear Engineering profession will find the book useful in improving their ability to communicate with those in the profession. They should, however, not be misled by the fact that the book purports to be based on an "Advanced Lecture Course." It is clearly at the opposite end of the spectrum from an advanced technical treatment of the subject.

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(*About the reviewer: Mr. Schrock is an Associate Professor of Nuclear Engineering at the University of California, Berkeley. He was educated at the University of Wisconsin and University of California in Mechanical Engineering with specialization in thermodynamics, heat transfer, and fluid mechanics. Since 1955 he has worked in the field of Nuclear Engineering as a teacher, researcher, and consultant in reactor systems design.*)

**Encyclopedic Dictionary of Electronics and Nuclear Engineering.** By ROBERT I. SARBACHER. Prentice-Hall, Englewood Cliffs, New Jersey, 1959. 1417 pp., $35.00.

A *dictionary*, says Webster (who ought to know), is "A work of reference in which the words of any . . . province of knowledge are entered alphabetically and defined;" *encyclopedic* pertains to a "summary of a branch of knowledge." Dr. Sarbacher's work fits the definition admirably. The thousands upon thousands of definitions and explanations, long and short, include just about every reference one could think of. Among the many cross-references and short definitions, there are articles one to several hundred words long. For example, the first five pages yield *absolute altimeter*, *absolute system of units*, *absorber*, and *absorption*, all of them more than definitions.

Obviously, the poor reviewer cannot read critically 1417 pages of definitions. My studying has therefore been limited principally to the *a*'s, which, by the way, occupy 147 pages.

The definitions are very clear in almost all cases, although occasionally they appear trivial. Thus it is unsatisfactory to learn that *actinium* "has a radioactivity similar to that of radium and decomposes into elements of smaller atomic weight in certain intervals of time." True, after some more information, including a nuclear reaction for making actinium in a nuclear reactor and a cross-reference, the radioactive half-life, the daughter nuclide, and the emitted particles are given, although not the particle energy. In the discussion of *radium*, on the other hand, the half-life is given very straightforwardly, and the fact that Ra is an alpha emitter, but the reader has not even a cross-reference to help him find the daughter nuclide. This uneven character in the amount of information given decreases somewhat the general utility of the book.

Many excellent line drawings and tables illustrate and clarify the definitions; they appear to average more than one per page.

The author states in the Preface that the Dictionary is designed for the scientist, technician, or student working in the related fields of electronics and nuclear engineering. Certainly these fields are related; workers in the reviewer's own field of nuclear instrumentation and reactor control will find the combination a happy one. It is not clear just how valuable the true specialist in either electronics or nuclear engineering will find the book. There seems to be a great deal of detailed information included on radar and communication, but rather less about nuclear reactors, in spite of four pages of text on *reactor*, *nuclear*, and twelve pages of tables. The greatest value of such a work surely lies in its utility outside the reader's principal speciality; for this purpose the Dictionary's wide coverage is excellent.

Scientists and technicians whose personal or business budgets can stand the price will find the Encyclopedic Dictionary a very valuable addition to their book collections. Most students will have to consult the book at the