theory of nuclear paramagnetic resonance and microwave spectroscopy. Next, a chapter presents the results of nuclear moment measurements with tables and complete references on measured values of nuclear moments, nuclear moment ratios, magnetic-shielding corrections, and hyperfine structure separations. The last part of the book covers a wide variety of topics on recent developments in chemical and solid state applications of resonance techniques.

Nuclear Moments is useful to those who desire an introduction to experiments and theory of current interest in radio-frequency resonance and also to those who are specialists in this field.

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The Philosophy of Science. Stephen Toulmin. Hutchinson's Univ. Library, London, 1953. (U.S. distr.: Ulric Nisbet, 62 E. 83 St., New York 28.) 176 pp. $2.25.

With so many books available on the subject, one may well consider the justification of introducing this additional work. Nevertheless, in discussing the philosophy of science, Toulmin writes succinctly, enabling the layman to comprehend better the role of science in today's world and assisting the scientist to grasp the significance of his endeavors.

The book is aimed toward the layman in that the author has assumed "no special knowledge either of mathematics or of natural science." It differs from many popular treatises, however, in that a rigorous philosophical presentation is advanced. In fact, it is this rigor that distinguishes Toulmin's work from that of many contemporary authors. With the help of frequent examples, the transition from common sense to science is unfolded. The relative roles of theories, hypotheses, principles, laws, and mathematics are all distinguished. For instance, in clarifying the role of physical law, we have

> . . . there is no need for us to be puzzled by the question whether Newton's laws are descriptions, definitions, or assertions about methods of measurement: rather, it is up to us to see how in some applications physicists may use them.

Again,

> . . . physics is not in the formulae . . . as we are often inclined to suppose. . . . The problem of *applying* the theoretical calculus remains in physics the central problem, for a science is nothing if its laws are never used to explain or predict anything.

Since the evolution of physics to quantum mechanics and relativity, much has been written in an attempt to assimilate philosophy and these modern concepts. Consequently, much of what is written now concerning the philosophy of science delves deeply into phases of physics not understood by the layman, most philosophers, and indeed not all physicists. Toulmin considers the philosophy of such basic scientific concepts as uniformity of nature, determinism, and induction. That he does so without sacrifice of rigor makes this introduction to the philosophy of science a compelling attraction for the scientist, the philosopher, and the student.

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A Glossary of Terms in Nuclear Science and Technology. National Research Council Conference on Nuclear Glossary. American Society of Mechanical Engineers, New York, 1953. 9 sections. $7.

The National Research Council established a Conference on Glossary of Terms in Nuclear Science and Technology in 1948 to prepare definitions of terms peculiar to the field of nuclear energy or used in that field differently or more frequently than in other fields. Separate sections were initially prepared on the following subjects by the individuals indicated: *Physics* (Henry Semat); *Reactor Theory* (Nicholas M. Smith, Jr.); *Reactor Engineering* (Clinton J. T. Young); *Chemistry* (T. O. Jones and Hoylande D. Young); *Chemical Engineering* (Arthur P. Weber); *Biophysics and Radiobiology* (Edith H. Quimby); *Instrumentation* (G. Wesley Dunlap); *Isotopes Separation* (Karl Cohen); and *Metallurgy* (Morris Kolodney). After review by a number of persons and by special committees, the sections were issued as preliminary editions from 1950 to 1953. They range in length from 7 pages for *Isotopes Separation* to 62 pages for *Physics* and can be purchased separately at prices ranging from 60¢ to $2.50 or bound together with an index for $7.

The index lists almost 2000 terms for the glossary as a whole. There are variations in the approach and amount of detail among the different sections, the one on *Physics* being the most thorough. The sections on *Chemical Engineering* and *Metallurgy* consist largely of terms in common usage in nonnuclear as well as nuclear fields. The section on *Physics* includes a number of equations and the section on *Reactor Theory* a number of mathematical terms, some of which are difficult to explain in a brief space. Numerous terms are included in two or more sections, often with different wordings of the definition. About 50 typographical errors were found in the entire glossary, the largest number being in the *Physics* section. Many of these errors are obvious but some are confusing.

This glossary is a useful one and fills a particular need, since the rapid growth of the field of nuclear energy has introduced many new or specialized terms into scientific and technical language. Their systematic collection and definition is a valuable undertaking that should assist in the clarification and standardization of usage. Now that all the sections have been issued, they need to be coordinated and consolidated into a unified glossary. The prefaces of the various sections indicate that this is under consideration.

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