# BOOK REVIEWS

Selection of books for review is based on the editors' opinions regarding possible reader interest and on the availability of the book to the editors. Occasional selections may include books on topics somewhat peripheral to the subject matter ordinarily considered acceptable.

*Title* Scientific and Technical Communication, A Pressing National Problem and Recommendations for Its Solution

*Author/ Editor* Committee on Scientific and Technical Communication (SATCOM)

*Publisher* National Academy of Sciences, National Research Council, 2101 Constitution Ave., NW Washington, DC 20418

*Pages* xiii + 322

*Price* $6.95

*Reviewer* Margaret Butler

In February of 1966 a Committee on Scientific and Technical Communication (SATCOM) was appointed by the National Academies of Science and Engineering at the request of the National Science Foundation "to examine in broad perspective and to make recommendations on the present status and future requirements of the members of the scientific and engineering community with respect to the structuring, flow, and transfer of scientific and technical information and insight." In June of this year, following three years of study, the Committee published this report. It is a comprehensive and detailed survey, covering 336 pages, describing preceding studies and panel reports and ongoing private and government scientific-and-technical-communication activities all, as background for the presentation of a set of 55 recommendations for the future.

The first, and primary, recommendation proposes the creation of a nongovernmental Joint Commission on Scientific and Technical Communication within the framework of the National Academies to stimulate cooperation and coordination among private agencies and to function as an avenue for liaison with governmental information activities and organizations.

SATCOM categorizes the remaining 54 suggestions as follows—10 others are also concerned with *planning, coordination, and leadership at the national level*; 16 with *consolidation and reprocessing services for the user*, i.e., preparation of reviews, compilations, need-group and information center services; 16 with the *classical services*, such as abstracting, indexing, and the technical meeting; 2 with *personal, or individual-level, communication;* 8 urge or suggest *studies, research areas, and experiments* and 2 stress *standardization*. There is something for everyone! Of particular relevance to this review are those recommendations addressed to the scientific and technical societies who are prodded to expand their information services, offer specialized services to natural subdisciplinary need groups, improve the quality and timeliness of their journal publications and initiate additional semiformal communications experiments and letter journals. While few members of the Society would quarrel with the value of such services, most would be concerned with the effect of such offerings on the levying of membership dues and subscription prices.

Two of the proposals direct themselves to the "page charge" issue. The first advocates enlarging the scope of such charges to include the additional processing steps required beyond publication such as review, evaluation, abstracting, and repackaging for mechanized storage and retrieval operations. The second stresses the need for continued acceptance of the page-charge concept by both government and private research-funding sponsors.

During the three-year period SATCOM convened two panels and two task groups. One panel was established to advise on the information problems of the Department of the Interior, and a second to report on the effects of copyright on computer-usage. The task groups were created to design with the National Library of Medicine a computer-based system for processing toxicological information and to investigate the possibilities and problems of interchange of bibliographic records between large machine systems.

The volume will be necessary reading for those scientists and engineers engaged in information activities and those serving on Society policy-making committees. It can serve as a review of the information scene for others. An abbreviated 30-page version as well as the complete report is available from the National Academy of Sciences.

To be deplored is the subtitle "A Pressing National Problem and Recommendations for Its Solution." One wonders what is *not* a pressing national problem these days.

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*Code Center since its establishment in 1960. The Center maintains a library of computer programs for the solution of problems in nuclear physics, reactor design, and engineering, and has pioneered in the development of standards and practices to facilitate the exchange of computer programs. Mrs. Butler currently serves on the ANS Publications Committee and was Chairman of the Society's Mathematics and Computation Division in 1966-67.*

*Title* Sources of Tritium and Its Behavior upon Release to the Environment

*Author* D. G. Jacobs

*Publisher* Clearinghouse–TID 24635, US Department of Commerce, Springfield, Virginia 22151

*Pages* 90

*Price* $3.00

*Reviewer* Benjamin M. Ma

The book (or report) is the first in the USAEC Critical Review Series. The author has reviewed published information on tritium and provided a concise account of the information on the sources of tritium production, the behavior of tritium release in the environment, and the potential use of tritium as a fuel for a controlled fusion reactor when thermonuclear power becomes a reality.

Beginning with the introduction and the properties of tritium and its compounds (Chaps. 1 and 2), the author proceeds with the sources of tritium production and its release, the procedures for tritium enrichment, and the monitoring practices, instruments for the detection and assay of tritium (Chaps. 3 through 5). Chapters 6 and 7 discuss the movement of tritium in the environment and projects tritium production in a nuclear power economy and its impact upon local and worldwide populations. The book concludes with a short summary and conclusions (Chap. 8). Related and reasonable references have been given at the end of each chapter except Chap. 8.

Most of the material presented in the book is descriptive and informative. Since the book was prepared by the Nuclear Safety Information Center, it purposes are to comply with the setup for the principal services of the Center. The nuclear safety of radioactive tritium will naturally cause public concern when large amounts of the projected tritium production in fuel reprocessing plants of fission reactors comes into effect.

A thoughtful question is often asked: Will fission reactors be eliminated when economic nuclear power of fusion reactors becomes a reality? Since large amounts of tritium can be produced as a by-product in fission reactors (espeially light and heavy water reactors) to supply fuel for fusion reactors, it appears that, in principle, fission and fusion reactors will cooperate and compensate for each other.

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*Title* Engineer's Guide to High-Temperature Materials

*Author* Francis J. Clauss

*Publisher* Addison-Wesley Publishing Company, Inc.

*Pages* ix + 401

*Price* $14.95

*Reviewer* Monte V. Davis

This compilation is a graphic example of the adage "Don't get it right—get it written." There is a paucity of reference work in the technological area this book purports to cover, i.e., presenting high-temperature materials to an engineer; however, this work does not mitigate the problem. In the first 71 pages the high temperature materials discussed are primarily lead, aluminum, and carbon steel.

Throughout, the book is a collection of manufacturer's specifications that are nonuniform with regard to units. The omissions of many specifications are bad. For example: only the American Lava and General Electric data on alumina are displayed with nothing from the other organizations that fabricate equivalent products.

Early in the book (p. 2) misprints and errors creep in. Some are only irritating such as misspelled words; however, others are more serious. On p. 165 all trade names are omitted from the table and independent variables are not listed on the following page.

In the 401-page book there are only 74 pages devoted to molybdenum, columbium/niobium, and tungsten. Following the above-mentioned 74 pages on refractory metals there are only 32 pages discussing oxides, intermetallics, and cermets. (The author presents most carbides as cermets.)

Major omissions that are particularly unfortunate are the other much used high-temperature materials, particularly tantalum, titanium, zirconium, and alloys using these refractories as a base.

The only value for the book is that it compiles some manufacturers' literature into a single volume. It is too abbreviated and poorly proofed and contains too many manufacturers' data to be a text. However, it is of some value as a reference because it contains the tables and graphs of useful data.

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