# Book Reviews

*Atomic and Free Radical Reactions.* vols. I and II. ACS Monograph Series. E. W. R. Steacie. Reinhold, New York, ed. 2, 1954. x + 901 pp. Illus. $28 the set.

This work, a revision and an enlargement of the one published in 1946, summarizes most of the known information about the gas-phase reactions of atoms and free radicals with organic molecules. The first chapter is a 12-page introduction to the concepts of chemical kinetics, principally those of particular application to free-radical reactions. The 58-page chapter on experimental methods is a systematic discussion of the methods for producing and measuring free radicals in the gas phase, and it is not a laboratory manual. The next chapter (28 pp.) is a critical discussion of the methods for determining bond dissociation energies, and it is a compilation of reasonably well-established values. The first volume ends with two chapters on the major thermal (176 pp.) and photochemical (207 pp.) reactions involving free radicals.

The second volume begins with a 24-page chapter summarizing the activation energies and frequency factors for several groups of elementary reactions, a typical group being the abstraction of H atoms by methyl radicals from a series of compounds. The bulk of this volume (278 pp.) is devoted to a systematic listing of information about the rates of 1034 elementary reactions, for example, $H + C_2H_6 \rightarrow C_2H_5 + H_2$. These are the elementary reactions, which, in combination, represent the mechanisms of most of the overall thermal and photochemical reactions discussed in the first volume. Volume II concludes with author, subject, and reaction indexes and with a bibliography of 2086 entries.

The book seems to be exhaustive and carefully done. The tenor of the discussions is cautious, and conflicting views are set out fairly. A serious fault is the price, one factor of which is the high unit cost of 3.1 ct per page compared with 2.6 ct for the average of 10 of the books advertised on the dust jacket, and with about 2.2 ct for some recent books of probably smaller general interest. It is, therefore, all the more desirable that the organization of the book minimize the total number of pages. The author's arrangement fails in this respect since, although it is a convenient one, it leads to considerable duplication. For example, the decomposition and polymerization of propylene is discussed in three pages of the section on free radicals in thermal reactions, the discussion referring to some 16 papers. In the detailed section on individual reactions, nine of these references are repeated, some with almost the same wording. Such duplication is not undesirable per se, since one reads the different sections for different purposes, but it is an expensive luxury. Another luxury is the format of much of the second volume, where each reaction is set off by itself even if the information is only a cross-reference, and where the information is given *in extenso*. One would think that a tabular presentation could have been devised that would serve for all except a few of the most-studied reactions.

With the accelerating growth of chemical research, it is more than ever necessary to have compilations such as this one that offer the chemist a critical and reasonably complete survey of the data of a particular field. Kineticists will be grateful to Steacie for filling so well the need in this field.

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*The Development of Medical Bibliography.* Estelle Brodman. Medical Library Association, 1954 (Order from: Archives Curator, Medical & Chirurgical Faculty of State of Maryland, Baltimore 1). ix + 226 pp. Illus. + plates. $5.

Foundations of modern librarianship were laid in the last quarter of the 19th century when the expanding literature made the "keepers of books" realize that a more systematic arrangement of books was necessary. Thus was developed that phase of librarianship which is commonly referred to as library economy. So important were these basic techniques considered that for many years they overshadowed in emphasis the necessity for scholarship so essential to true librarianship. As librarianship grew, the need of specialization within the profession began to develop. More than 50 years ago a small group of medical librarians and physicians assembled in Philadelphia to organize a professional association for furthering the aims of medical librarianship. This group has continued to promote standards for libraries and librarians. Progress has been made in establishing a profession of medical librarianship, but only recently has attention been turned toward the fundamental basis of any profession and that is scholarship. Brodman's monograph is a landmark in medical librarianship because it demonstrates that medical bibliography is a scholarly pursuit and that scholarly investigations can be undertaken within the field of medical bibliography.

Brodman's purpose, as stated in the preface, was to write a history of the development of medical bibliography. This history was to be interpretive, not simply a chronicle. Her approach to the problem was both logical and thorough. She examined all known bibliographies of medicine that were available, interpreting their place in the history of medical bibliography. She presented the problem of indexing of each era and the solution of this problem by the bibliographer. Each bibliography's contribution to the art of bibliography was then reviewed. Its failings were pointed out and discussed so that one has a clear picture of the place of this particular bibliography in history. It is the