Transactions of the International Astronomical Union. vol. VIII. Eighth General Assembly, 4–13 Sept. 1952, Rome. P. Th. Oosterhoff, Ed. Cambridge Univ. Press, New York 22, 1954. ix + 887 pp. Illus. $10.50.

This volume contains the reports of the 38 commissions of the International Astronomical Union that were made at the eighth general assembly, held at Rome in 1952. Important additions included in this volume of the transactions are the papers given at four symposia. These provide excellent current surveys of stellar evolution, astronomical instrumentation, problems of astrometry of faint stars, and spectra of variable stars. The book concludes with a list of the more than 800 members of the International Astronomical Union.

It is manifestly impossible in a short review even to outline the scope of a volume of nearly 900 pages that compiles the astronomical research completed or in progress through 1951. It is certainly one of the most important volumes of astronomical research in print, with the subjects treated ranging all the way from the history of astronomy to radio telescopes. This single volume will be an indispensable guide and reference for astronomical research in all fields and in all parts of the world.

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Physical Methods of Organic Chemistry. vol. I, pt. III of ***Technique of Organic Chemistry.*** Arnold Weissberger, Ed. Interscience, New York–London, rev. ed. 2, 1954. xi + 433 pp. Illus. + plate. $8.50.

This series has become a standard reference work for the graduate student and investigator. Instead of rewriting volume I, parts I and II, this third part is published as a new volume in order to bring the other two parts up to date and also to include the more recent techniques in the physical methods of organic chemistry by adding new chapters. This was a wise decision in that it is psychologically easier to add a volume to one's library than it is to throw one away and replace it by a new edition.

Part III treats the following new topics as chapters: "Electron microscopy" (F. A. Hamm), "Microspectroscopy" (E. R. Blout), "Determination of streaming birefringence" (R. Singer), "Measurement of dielectric constant and loss" (J. G. Powles and C. P. Smyth), "Radio-frequency spectroscopy" (B. P. Dailey), and "Neutron diffraction" (J. M. Hastings and L. M. Corliss).

Each topic is discussed in detail from the standpoints of definition and limitations of the method and of special techniques for application of the method. The theoretical and mathematical backgrounds are not too difficult to be grasped by most organic chemists. Physical chemists will have no difficulty in these respects. In most chapters examples are included that seem to have been selected with a desire to elucidate the scope of the procedures described. Some examples also illustrate the limitations that are encountered in using the methods.

The following supplementary chapters to parts I and II are included: "Viscometry of dilute polymer solutions" (T. E. McGoury and H. Mark), "Determination of crystal structure of organic compounds by x-ray diffraction" (D. Harker), "Electron diffraction by the sector-microphotometer method" (L. O. Brockway), "Determination of magnetic susceptibility" (P. W. Selwood), and "Determination of radioactivity by scintillation counting" (J. F. Bonner).

These supplementary chapters discuss theoretical developments and some experimental examples that have appeared since publication of the earlier parts. Descriptions of actual techniques are limited in this section, and the investigator should refer to parts I and II for these details.

Two points stand out in this book. First, the explanations are very clear, and anyone who is not familiar with all the newer physical techniques as applied to organic chemistry (and who is!) will find very little difficulty in following the development of the various topics. Second, the mathematical background has been limited to the necessary material required to understand why and how the methods operate.

An encouraging feature of this series is the fact that the authors of the various chapters are listed on the title page; failure to do this has been deplorable in some other collaborative work. However, listing them as "contributors" should be changed to "authors," since this has a more exact semantic content.

The general make up of the book is excellent, and the index is adequate without being unnecessarily long.

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Decision Processes. R. M. Thrall, C. H. Coombs, and R. L. Davis, Eds. Wiley, New York; Chapman & Hall, London, 1954. viii + 332 pp. Illus. $5.

This volume contains a collection of 19 papers either presented at or an outgrowth of an 8-week seminar series on "The design of experiments in decision processes" held in 1952 at Santa Monica. Indirectly, it stems from a series of seminars on the role of mathematics in the social sciences that were started in the fall of 1950 at the University of Michigan.

> The title *Decision Processes* does not imply that the papers are limited to the branch of statistics bearing that name. The individual papers range in character from pure mathematics to experiments in group dynamics, but all are directed at the application of mathematics to behavioral sciences in general and at decision processes in particular. [p. vi]

The introductory paper by R. L. Davis serves to lend a degree of unity to the collection. Of particular interest is the second paper by Coombs, Raiffa, and