tors that employ lead sulfide, lead selinide, and other materials.

The part of the book that deals with materials, sources, and detectors contains 290 pages, somewhat less than half of the volume. The remainder deals with probability theory and its application to random fluctuations, electronic noise, space filtering, and information theory. In the final chapter an attempt is made to apply all this material to the general question of design of infrared systems.

The book is well-written, logically arranged, and nicely printed. It achieves unusual unity for a book written by five authors. Thus, it is a "must" for anyone interested in the theory and design of infrared systems.

PARRY MOON
Department of Electrical Engineering, Massachusetts Institute of Technology

Astronomy

Space Age Astronomy. Symposium held at the California Institute of Technology, August 1961. Armin J. Deutsch and Wolfgang B. Klemperer, Eds. Academic Press, New York, 1962. xxi + 531 pp. Illus. $16.50.

One wonders of what value a book of this sort can be. Into 526 pages are crammed a total of 56 articles, many of which are written by some of the world's most prominent astronomers. By and large, the quality of the writing is good, the illustrations are clear, and the overall format is appealing. The volume ends with an adequate index, which must have been difficult to compile. However, over and over again I found that I was left with a sense of frustration upon completing an article. The subject matter was treated superficially, and seldom was there any opportunity to learn something about the details of work described. Clearly it was not the intention of those who planned this book to go further than skin deep into any one topic.

More and more often today we see volumes of this sort: a collection of write-ups of invited talks given at a symposium sponsored by a large corporation. The Douglas Aircraft Company sponsored this symposium, which took place in August 1961 at the California Institute of Technology. Coming just before the large meeting of the International Astronomical Union held in Berkeley, the symposium boasted a most impressive roster of participants. The book is divided into three different sections: (i) accomplishments, current projects, and proven techniques; (ii) desiderata for future astronomical observations from stations in space; and (iii) solar system problems. Recorded discussions followed some of the papers; frequently I found these interchanges more stimulating than the preceding article.

Presumably, the sponsor paid the transportation to California for many of the speakers. This is good. I would guess that the sponsor found the symposium worthwhile, too.

WILLIAM LILLER
Department of Astronomy, Harvard University

Note

Organic Chemistry

Volume 3 of *Absorption Spectra in the Ultraviolet and Visible Region* (Akademiai Kiado, Budapest, 1962; Academic Press, New York, 1963. 424 pp. Illus. $20), edited by L. Lang, presents 172 ultraviolet and visible spectra, and thus brings the total reported in the series to 521 [vols. 1 and 2 reviewed in *Science* **136**, 519 (1962)]. Results for some inorganic substances and organic complexes of inorganic ions are again included in this predominantly organic collection. The format in which the data are presented is identical with that of previous volumes, as is the information given with respect to the experimental details of the spectral determinations. Some Polish and a few Russian and British contributions are included among those of Hungarian origin, thereby meeting the editor's avowed objective of making the series an international endeavor.

Indexes to the present volume are provided. According to the preface, compilation of volume 4 is in progress; it is to be hoped that, as the series progresses, the editors will consider preparing cumulative indexes, in order to facilitate reference to this useful collection.

BASIL G. ANEX
Sterling Chemistry Laboratory, Yale University

New Books

Mathematics, Physical Sciences, and Engineering

Advances in Electronics and Electron Physics. vol. 17. L. Marton and Claire Marton, Eds. Academic Press, New York, 1962. 461 pp. Illus. $14.

Advances in Mass Spectrometry. Proceedings of a conference (Oxford, England), September 1961. R. M. Elliott, Ed. Pergamon, London; Macmillan, New York, 1963. 646 pp. Illus. $20.

Advances in Organic Chemistry. Methods and results. vol. 4. Ralph A. Raphael, Edward C. Taylor, and Hans Wynberg, Eds. Interscience (Wiley), New York, 1963. 369 pp. Illus. $14.50.

Advances in Upper Atmosphere Research. Papers presented at the NATO Advance Study Institute (Corfu), July 1960. B. Landmark, Ed. Pergamon, London; Macmillan, New York, 1963, 348 pp. Illus. $12.25.

Aerodynamics. A space-age survey. John E. Allen. Harper and Row, New York, 1963. 128 pp. Illus. $2.95.

Air Chemistry and Radioactivity. Christian E. Junge. Academic Press, New York, 1963. 394 pp. Illus. $13.50.

Alternating Current Polarography and Tensammetry. B. Breyer and H. H. Bauer. Interscience (Wiley), New York, 1963. 308 pp. Illus. $12.

Applications of Graph Theory to Group Structure. Claude Flament. Translated from the French by Maurice Pinard, Raymond Breton, and Fernand Fontaine. Prentice-Hall, Englewood Cliffs, N.J., 1963. 136 pp. Illus. $6.95.

Basic Astronomical Data. K. Aa. Strand, Ed. Univ. of Chicago Press, Chicago, 1963. 513 pp. Illus. $12.50.

Basic Electronics. Royce Gerald Kloeffler, Maurice Wilson Horrell, and Lee E. Hargrave, Jr. Wiley, New York, ed. 2, 1963. 653 pp. Illus. $11.

Basic Mathematics for the Physical Sciences. Haym Kruglak and John T. Moore. McGraw-Hill, New York, 1963. 368 pp. Illus. Paper, $3.95.

Chemical Concepts. Jay A. Young. Prentice-Hall, Englewood Cliffs, N.J., 1963. 166 pp. Illus. Paper, $2.95.

Chemistry: A Survey of Principles. Galen W. Ewing and E. Gerald Meyer. Wiley, New York, 1963. 249 pp. Illus. $4.95.

The Chemistry of Wood. B. L. Browning, Ed. Interscience (Wiley), New York, 1963. 699 pp. Illus. $25.

Chromatographic Reviews. Progress in chromatography, electrophoresis, and related methods. vol. 5. Michael Lederer, Ed. Elsevier, New York, 1963. 254 pp. Illus. $11.

Coordination Chemistry. Seventh international conference (Stockholm and Uppsala, Sweden), June 1962. Butterworth, Washington, D.C., 1963. 129 pp. Illus. $5.

A Course of Mathematical Analysis. pt. 2. A. F. Bermant. Translated from the Russian edition (1959) by Ian N. Sneddon. Pergamon, London; Macmillan, New York, 1963. 386 pp. Illus. $9.