

formation in the volume is overwhelming, and one of the author's achievements is the deft way in which he treats so much material in so little space. More important is the selection of material, and here again the author is to be congratulated. The specialist will quibble over the inclusion or omission of one or two reactions in his field of special interest, but the quibble will be concerned with only a percentage or so of the total material in the book.

For the purpose for which the book was written—to cover the reactions of organic chemistry for students who have had an introduction to the subject—Fuson's book is the best treatment available, and I know of nothing else that can be compared with it. If we consider the amount of information presented, the number of errors is small and most of them are so obvious that they will cause no trouble. Attention should be called to the following points however. (i) The course of the nitration of *p*-bromotoluene is said to be interesting, but the results of nitration are not given (p. 30). (ii) The formula for chloramine T is incorrect (p. 246). The reaction schemes on pages 176, 185, 195, and 203 should be corrected to show the gain or loss of a proton. (iii) The statements about the reaction between alkoxide ion and acetate ester on page 255 and the one on page 479 are contradictory. (iv) The mechanism of cine substitution on page 387 requires correction. (v) The description of the preparation of phenyl isothiocyanate from ammonium dithiocarbamate as an oxidation by lead nitrate is inaccurate. (vi) The statements about pinacol formation (p. 548 and p. 585) are inconsistent.

A. H. BLATT

Department of Chemistry,  
Queens College, Flushing, New York

## New Books

### Mathematics, Physical Sciences, and Engineering

**Astronautical Guidance.** Richard H. Battin. McGraw-Hill, New York, 1964. 416 pp. Illus. \$15.

**Azeotropy and Polyazeotropy.** Wojciech Świątowski. K. Ridgway, Ed. Pergamon, London; Macmillan, New York, 1963. 226 pp. Illus. \$10.

**Bibliography of African Hydrology.** J. Rodier. UNESCO, Paris, 1963 (order from Columbia Univ. Press, New York). 166 pp. Paper.

**Calculus of Variations.** I. M. Gelfand

and S. V. Fomin. Translated from the Russian edition by Richard A. Silverman. Prentice-Hall, Englewood Cliffs, N.J., revised English ed., 1963. 240 pp. Illus. \$10.60.

**Chem Study Materials.** *Chemistry: An Experimental Science*, George C. Pimentel, Ed. (textbook, 482 pp., \$5.80); *Chemistry: An Experimental Science*, Lloyd E. Malm, Joseph E. Davis, Jr., and Margaret Nicholson, Eds. (laboratory manual, 150 pp., paper, \$1.60); *Teachers Guide*, A. L. McClellan, George C. Pimentel, and Keith MacNab, Eds. (793 pp., paper, \$7); *A Programmed Sequence on Exponential Notation*, Eugene Roberts (31 pp., paper); *A Programmed Sequence on the Slide Rule*, Eugene Roberts (64 pp., paper). Freeman, San Francisco, Calif., 1963. Illus.

**Chemical Applications of Infrared Spectroscopy.** C. N. R. Rao. Academic Press, New York, 1963. 697 pp. Illus. \$19.50.

**Chemical Engineering.** vol. 1, *Fluid Flow, Heat Transfer, and Mass Transfer*. J. M. Coulson and J. F. Richardson. Pergamon, London; Macmillan, New York, rev. ed. 2, 1964. 504 pp. Illus. \$7.50.

**Chemistry.** George W. Watt, Lewis F. Hatch, and J. J. Lagowski. Norton, New York, 1964. 592 pp. Illus. \$6.95.

**Chemistry in the Laboratory.** George W. Watt, Lewis F. Hatch, and J. J. Lagowski. Norton, New York, 1964. 208 pp. Illus. Paper, \$3.50.

**Classical Thermodynamics of Non-Electrolyte Solutions.** H. C. Van Ness. Pergamon, London; Macmillan, New York, 1964. 174 pp. Illus. \$6.

**College Calculus with Analytic Geometry.** Murray H. Protter and Charles B. Morrey, Jr. Addison-Wesley, Reading, Mass., 1964. 911 pp. Illus. \$11.50.

**Complexing and Hydrothermal Ore Deposition.** Harold C. Helgeson. Pergamon, London; Macmillan, New York, 1964. 142 pp. Illus. \$8.50.

**Contact Angle, Wettability, and Adhesion.** Kendall Award Symposium, American Chemical Society (Los Angeles, Calif.), April 1963. Frederick M. Fowkes, Ed. American Chemical Soc., Washington, D.C., 1964. 399 pp. Illus. \$8.

**Continued Fractions.** A. Y. Khinchin. Translated from the third Russian edition (Moscow, 1961) by Scripta Technica. Univ. of Chicago Press, Chicago, 1964. 107 pp. Illus. Paper, \$1.95; cloth, \$5.

**Contributions to Differential Equations.** A serial issued under the auspices of the Research Institute for Advanced Study and the University of Maryland. vol. 2. J. P. LaSalle and J. B. Diaz, Eds. Interscience (Wiley), New York, 1964. 495 pp. Illus. \$16.50.

**Controlled-Delay Devices.** S. A. Doganovskii and V. A. Ivanov. Translated from the Russian edition (Moscow, 1960) by O. M. Blunn. D. K. Ghosh, Ed. Pergamon, London; Macmillan, New York, 1963. 77 pp. Illus. \$4.50.

**Cosmic Rays, Solar Particles, and Space Research.** Proceedings, Course 19, International School of Physics "Enrico Fermi." B. Peters, Ed. Academic Press, New York, 1963. 432 pp. Illus. \$16.

Twenty-eight papers presented at the 1961 session of the school.

**A Course of Mathematical Analysis.** pt. 1. A. F. Bermant. Translated from the Russian seventh edition (Moscow, 1959) by D. E. Brown. Ian N. Sneddon, Translation Ed. Pergamon, London; Macmillan, New York, 1963. 507 pp. Illus. \$10.

**Current Topics in Organic Chemistry.** vol. 1. Louis F. Fieser and Mary Fieser. Reinhold, New York; Chapman and Hall, London, 1964. 127 pp. Illus. Paper, \$2.75.

**Ergodic Theory.** Proceedings of an international symposium (New Orleans, La.), October 1961. Fred B. Wright, Ed. Academic Press, New York, 1963. 328 pp. Illus. \$8.

**Experiments in Nuclear Science.** Gratton D. Chase, Stephen Rituper, and John W. Sulcoski. Burgess, Minneapolis, Minn., 1964. 181 pp. Illus. Paper, \$3.50. A teachers guide (75 pp., paper, \$2.45) is also available.

**Flight Test Instrumentation.** vol. 2. Proceedings of the Second International Symposium (Cranfield, England), 1962. M. A. Perry, Ed. Pergamon, London; Macmillan, New York, 1963. 270 pp. Illus. \$11.50.

**Geology.** William C. Putnam. Oxford Univ. Press, New York, 1964. 494 pp. Illus. \$10.95.

**Geometric Dissections.** Harry Lindgren. Van Nostrand, Princeton, N.J., 1964. 175 pp. Illus. \$4.95.

**A Guide-Book to Mathematics for Technologists and Engineers.** I. N. Bronshtein and K. A. Semendyayev. Translated from the Russian edition by Jan Jaworowski and Michael N. Bleicher. Pergamon, London; Macmillan, New York, 1964. 783 pp. Illus. \$20.

**The Relation Between the Structure and Mechanical Properties of Metals.** vols. 1 and 2. Her Majesty's Stationery Office, London, 1963 (order from British Information Services, New York). vol. 1, 466 pp.; vol. 2, 344 pp. Illus. Set, \$12. National Physical Laboratory, Symposium, No. 15; proceedings of a conference held at the laboratory in January 1963. The papers presented at the conference, the verbal discussion, and some written discussion received afterwards are included.

**Relativistic Fluid Mechanics and Magnetohydrodynamics, Fundamental Topics.** Proceedings of a symposium (Michigan State Univ.), October 1962. Robert Wasserman and Charles P. Wells, Eds. Academic Press, New York, 1963. 251 pp. Illus. \$8.50.

**Treatise on Analytical Chemistry.** I. M. Kolthoff and Philip J. Elving, Eds. pt. 1, *Theory and Practice*; vol. 5, sec. D-3, *Optical Methods of Analysis*. Fred W. Billmeyer, Jr. et al. Interscience (Wiley), New York, 1964. 660 pp. Illus. \$16.

**X-Ray Optics and X-Ray Microanalysis.** A symposium (Stanford, Calif.), August 1962. H. H. Pattee, V. E. Cosslett, and Arne Engstrom, Eds. Academic Press, New York, 1963. 640 pp. Illus. \$22.

**Yearbook of Astronomy, 1964.** J. G. Porter and Patrick Moore, Eds. Eyre and Spottiswoode, London, 1963; Norton, New York, 1964. 223 pp. Illus. Paper, \$3.95.