centuated by the failure of two authors to deliver promised manuscripts in time for publication. The editor wisely chose incompleteness in preference to obsolescence, but, despite the omission of the two late chapters, much of the material was clearly written nearly two years prior to the date of publication. Many chapters contain no late-1964 or 1965 references at all.

This volume contains some good chapters and one or two that are excellent. They deserve better company. The editor notes in the preface that his work was carried out "in a period of hardship and calamity." Perhaps under improved circumstances succeeding volumes will be improved.

The ready availability of this book in the laboratories and on the desks of those who work in the field is precluded by its price. It will be largely confined to the shelves of reviewers and scientific libraries. Perhaps not all of the latter will find its acquisition a necessity; it cannot be considered a bargain.

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Reflection Measurements

There are all too many spectroscopists—particularly those working in the infrared region—who consider that the only way to record the spectrum of a material is to put it into solution and measure its transmission. For this group, as well as the analytical chemists who have samples that cannot be handled in the conventional manner, and for those interested in reflection measurements in general, **Reflectance Spectroscopy** [Interscience (Wiley), New York, 1966. 306 pp., illus. $12], by Wesley Wm. Wendlandt and Harry G. Hecht, will prove to be well worth studying. Included are fairly lengthy treatments of the theory of specular and diffuse reflectance, together with chapters on applications and instrumentation, a discussion of internal-reflection spectroscopy, treatments of high-temperature and dynamic-reflectance spectroscopy, descriptions of color-measurement methods, and a section on the integrating sphere. The descriptions of commercially available instrumentation are especially good.

Perhaps because most reflection work has been done in the visible and ultraviolet regions of the spectrum, relatively small portions of the book are devoted to the infrared region. Much of the information pertaining to visible and ultraviolet wavelengths can be extrapolated into the infrared, however.

Since the current trend in infrared analysis is more and more toward the examination of samples *in situ* by specular reflection, internal reflection, and emission techniques, *Reflectance Spectroscopy* will serve as a highly useful introduction to these new methods for the infrared spectroscopist. In addition, it provides a summary of classical reflection procedures for those working in the visible and ultraviolet.

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New Books

Mathematics, Physical Sciences, and Engineering

Advances in Analytical Chemistry and Instrumentation. vol. 5. Charles N. Reilley and Fred W. McLafferty, Eds. Interscience (Wiley), New York, 1966. 408 pp. Illus. $14. Six papers: "Determination of molecular weights by ebulliometry" by Clyde A. Glover; "Automation of the analytical process through continuous analysis" by W. J. Blaedel and R. H. Laessig; "The solvent extraction of metal chelates" by George K. Schweitzer and W. Van Willis; "Interpretation of K-edge x-ray absorption spectra of transition metal compounds" by Richard M. Levy and John R. Van Wazer; "Analytical applications of microwave spectroscopy" by David R. Lide, Jr., and "The determination of molecular structure by single-crystal x-ray diffraction methods" by Robert F. Bryan.

Advances in Astronomy and Astrophysics. vol. 4. Zdeněk Kopal, Ed. Academic Press, New York, 1966. 358 pp. Illus. $14. Five papers: "Objective prisms and measurement of radial velocities" by Ch. Fehrenbach; "The figure and gravity field of the moon" by C. L. Goudas; "The relativistic degenerate gas" by A. W. Guess; "Exchange of matter and period changes in close binary systems" by A. Kruszewski; and "The stray bodies in the solar system" pt. 2, "The cometary origin of meteorites" by Ernst J. Öpik.

Advances in Cryogenic Engineering. vol. 11. Proceedings of a conference (Houston, Texas), August 1965. K. D. Timmerhaus, Ed. Plenum Press, New York, 1966. 728 pp. Illus. $19.50. Seventy-six papers on the following topics: Insulation (9 papers); Refrigeration (8 papers); Space Technology (10 papers); Cryogenic Properties (7 papers); Phase Equilibria and Thermodynamics (7 papers); Mechanical Properties (9 papers); Heat Transfer (10 papers); Equipment (6 papers); Superconductivity and Magnets (8 papers) and Invited Papers (2 papers).

Advances in Inorganic Chemistry and Radiochemistry. vol. 8. H. J. Emeléus and A. G. Sharpe, Eds. Academic Press, New York, 1966. 375 pp. Illus. $14.50. Six papers: "Substitution products of the group VIB metal carbonyls" by Gerard R. Dobson, Ingo W. Stolz, and Raymond K. Sheline; "Transition metal cyanides and their complexes" by B. M. Chadwick and A. G. Sharpe; "Perchloric acid" by G. S. Pearson; "Neutron diffraction and its applications in inorganic chemistry" by G. E. Bacon; "Nuclear quadruple resonance and its application in inorganic chemistry" by Masaji Kubo and Daiyu Nakamura; and "The chemistry of complex aluminohydrides" by E. C. Ashby.

Aerospace Telemetry. vol. 2. Harry L. Stiltz, Ed. Prentice-Hall, Englewood Cliffs, N.J., 1966. 271 pp. Illus. $10.95. Prentice-Hall Space Technology Series. Five papers: "Satellite and space probe telemetry" by Robert W. Rochelle; "FM data systems" by J. H. Crow; "Single sideband FM telemetry" by Walter O. Frost; "Adaptive telemetry—data compression" by Daniel Hochman and Donald R. Weber; "PACM-pulse amplitude/code modulation" by Warren F. Link.

Analysis of the New Metals: Titanium, Zirconium, Hafnium, Niobium, Tantalum, Tungsten and Their Alloys. W. T. Elwell and D. F. Wood. Pergamon, New York, 1966. 287 pp. Illus. $9.50.

Analytic Geometry. Murray H. Protter and Charles B. Morrey, Jr. Addison-Wesley, Reading, Mass., 1966. 328 pp. Illus. $6.75.

Analytical Instrumentation: A Laboratory Guide for Chemical Analysis. Galen W. Ewing. Plenum Press, New York, 1966. 171 pp. Illus. $7.50.

Annual Review of Astronomy and Astrophysics. vol. 4. Leo Goldberg, Ed. Annual Reviews, Palo Alto, Calif., 1966. 521 pp. Illus. $8.50. Fifteen papers: "Abundance determinations from stellar spectra" by R. Cayrel and G. Cayrel de Strobel; "The long-period variable stars" by Józef I. Smak; "Problems of close binary systems that involve transfer of angular momentum" by Su-Shu Huang; "The accuracy of trigonometric parallaxes of stars" by S. Vasilevskis; "Absolute intensity calibrations in radio astronomy" by J. W. Findlay; "Magellanic clouds" by B. J. Bok; "The structure of radio galaxies" by Alan T. Moffet; "Evolution of protostars" by Chushiro Hayashi; "Astronomical measurements in the infrared" by Harold L. Johnson; "Hydrogen molecules in astronomy" by G. B. Field, W. B. Somerville, and K. Dressler; "The polarization of cosmic radio waves" by F. F. Gardner and J. B. Whiteoak; "Magnetic stars" by P. Ledoux and P. Renson; "Pulsation theory" by R. F. Christy; "Superdense stars" by John Archibald Wheeler; and "Spectral classification through photoelectric narrow-band photometry" by Bengt Strömgren.

Antenna Analysis. Edward A. Wolff. Wiley, New York, 1966. 532 pp. Illus. $25.

Applied Climatology: An Introduction. John F. Griffiths. Oxford Univ. Press, New York, 1966. 128 pp. Illus. $6.

Applied Mechanics for Engineers. vol.

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