Readings in Automatic Language Processing. DAVID G. HAYS. v + 202 pp. American Elsevier Publishing Co., 52 Vanderbilt Ave., New York 17, N. Y. 1966. $10.00.

This book consists of the following papers (all previously published): Specification Languages for Mechanical Languages and their Processors—A Baker's Dozen (S. Gorn); Natural Language in Computer Form (M. Kay and T. W. Ziehe); A High-Speed Large-Capacity Dictionary System (S. M. Lamb and W. H. Jacobsen, Jr.); Parsing (D. G. Hays); The Predictive Analyzer (S. Kuno); Connectability Calculations, Synthetic Functions, and Russian Syntax (D. G. Hays); The Grammar of Specifiers (D. A. Dinneen); Research Methodology for Machine Translation (H. P. Edmundson and D. G. Hays); On the Mechanization of Syntactic Analysis (S. M. Lamb); Keyword-in-Context Index for Technical Literature (H. P. Luhn); Automatic Phrase Matching (G. Salton); and A Framework for Syntactic Translation (V. H. Yngve). The papers were selected for their various ways, methods, solutions to problems, or approaches to the use of computers for the processing of natural language.

Compilation of Mass Spectral Data. A. CORNU AND R. MASSOT. xv + 617 pp. Heyden & Son Ltd., Spectrum House, Alderton Crescent, London N. W. 4. 1966. $42.00.

The principle parameters of the mass spectra of approximately 5000 organic compounds are listed by reference number, molecular weight, molecular formula, and fragment ion values (including the molecular ion). The compilation was sorted and arranged by computer techniques from a punched card index of the 5000 mass spectra collected over a period of years at the Mass Spectrometry Laboratory, Center of Nuclear Studies, Grenoble. Chemical names are given in French and in English. The 10 most intense peaks are arranged in order of decreasing relative abundance. This compilation is a valuable contribution to the identification and analysis of organic compounds by mass spectrometry.

Encyclopedia of Industrial Chemical Analysis. Vol. 1. FOSTER DEE SNELL, Editor-in-Chief; CLIFFORD L. HILTON, Executive Editor. xv + 763 pp. John Wiley & Sons, 605 3rd Ave., New York, N. Y. 10016. 1966. $35.00 (subscription); $45.00 (single copy).

The objective of this encyclopedia is to give an overall view of industrial analytical chemistry and a comprehensive coverage of the methods and techniques. Raw materials, intermediates, and finished products are covered from the chemical analysis and testing viewpoints. Volume 1 covers general techniques from A (Absorption and Emission Spectroscopy) to E (Extraction). Volumes 2 and 3 will complete this part and the main body of the encyclopedia will begin with Volume 4 (analysis of specific materials). Volumes subsequent to Volume 1 will appear at a rate of three per year until the total set of 15 volumes will have been issued. The contributors are authorities in their assignments and each article appears to be of high quality. This encyclopedia will fast become the major reference tool in industrial analytical chemistry.

Perspectives in Polymer Science. E. S. PROSKAUER, E. H. IMMERGUT, AND C. G. OVERBERGER, Editors. VI + 376 pp. John Wiley & Sons, 605 3rd Ave., New York, N. Y. 10016. 1966. $15.00.

A tribute to Professor Herman Mark on his 70th birthday, this volume covers all areas of polymer science and each contribution is a result of Professor Mark's works and teachings. The first part of the book is a series of reviews on synthesis, structure, and properties of polymers. These reviews are followed by the papers presented at a symposium held in Brooklyn on May 27 and 28, 1965, in honor to Professor Mark, and cover the following subjects: conformational stability of helical macromolecules, translating the genetic code, diffusion in glossy polymers, E.S.R. studies of polyethylene and polypropylene, transport in polymers, optical activity in polymers, viscoelasticity of amorphous polymers, chain length distribution, ammonia catalysis, and colloidal skeleton polymers.

Progress in Physical Organic Chemistry. Vol. 3. SAUL G. COHEN, ANDREW STREITWEISER, JR., AND ROBERT W. TAFT, Editors. IX + 385 pp. John Wiley & Sons, 605 3rd Ave., New York, N. Y. 10016. 1966. $16.00

This volume consists of the following contributions: pyrolysis of hydrocarbons (G. M. Badger); acidity of hydrocarbons (A. Streitweiser, Jr., and J. H. Hammons); reactions through charge-transfer complexes (E. M. Kosower); mechanisms of organic polarography (C. L. Perrin); and ultrafast proton-transfer reactions (E. Grunwald). The volumes in this series are making an important contribution to the interpretation and understanding of organic reactions and organic structural theory.

A History of the Modern British Chemical Industry. D. W. F. HARDIE AND J. DAVIDSON PRATT. XI + 380 pp. Pergamon Press, 44-01 21st St., Long Island City, N. Y. 11101. 1966. $3.95.

Although intended primarily as an historical introduction to a series of Pergamon monographs on specialized areas of the chemical industry, this book fills a gap in the literature of history and technology for the British chemical industry. The chemical industry over the years has changed mostly in the process field. As pointed out in this book, ethylene only a few years ago was made by a single process; today, it is being produced by a constellation of closely competing processes. Knowledge of chemistry alone, or of the economic and organizational changes of the industry alone is not enough; the interrelationship must be treated if the present is to be understood through the past. This book attempts to examine systematically the complex of factors from which the British chemical industry has evolved. The book lists the important British chemical companies and trade associations, thus enhancing its value as a reference tool.

Computers in Libraries—A Select Bibliography. D. E. BAGLEY. 15 pp. Hertis Publication, Hatfield College of Technology, Hatfield, Hertfordshire, England. 1966. $0.30.

The books and journal articles in this short bibliography were selected by the author from the viewpoint of their potential value to the librarian for learning the background information on computers. Eight references are listed under the General Class; 10 under Information Retrieval; 21 under Library Mechanization; and three under Index Compilation. Most of the references listed are relatively recent ones.

Advances in Organic Chemistry—Methods and Results. Vol. 5. Edited by R. A. RAPHAEL, E. C. TAYLOR, AND H. WYNBERG. 337 pp. John Wiley & Sons, Inc., 605 Third Ave., New York, N. Y. 10016. 1965. $13.50.

The contents are: The Use of Dipolar Aprotic Solvents in Organic Chemistry, A. J. Parker; The Chemistry of the Cyclic Diterpenoids, R. McCrindle and H. K. Overton; and The Determination of Intramolecular Hydrogen Bonding by Infrared Spectroscopy and Its Applications in Stereochemistry, M. Tichy. Each of these three papers is thoroughly and expertly handled, covering the literature into 1964.

Scientific Information Activities of the National Academy of Sciences—National Research Council. Publication 1291. 116 pp. Washington, D. C. 1965.

This report of the Office of Documentation covers the studies of scientific information and communication and well-defined information services provided by NAS-NRC. Activities summarized are: publications—e.g., data collection and processing centers,data tables, glossaries, handbooks, translations, etc.; information centers—e.g., data collection and processing centers, libraries, etc.; information services—e.g., data compilations, literature searching, etc.; and studies—e.g., information needs of scientists, uses made of information, communication problems, information storage and retrieval systems, etc. The report is a revision of the one prepared in 1962 (NAS-NRC Pub. 1031) and is arranged alphabetically by divisions of the Academy-Research Council.

Directory of Graduate Research. American Chemical Society, 1155 Sixteenth Street, N. W., Washington, D. C. 20036. 1965. $5.00 ($4.00 for students).

This directory, prepared by the ACS Committee on Professional Training, covers the 1965 faculties, 1963-5 publications, and 1965 doctoral theses in Departments of Chemistry, Biochemistry, and Chemical Engineering at United States universities. It is particularly useful in serving the user who needs to know what degrees are available and what fields of specialization are pursued in each institution. The information is given in sufficient detail to describe the research interests of individual faculty members. There is no doubt that the directory will be useful to undergraduates in choosing a graduate school, to personnel directors for choosing graduates to interview in specialized areas, and to chemists in general who wish to know what's going on in the academic world.

Proceedings of the Symposium on Education for Information Science. Edited by L. B. HEILPRIN, B. E. MARKUSON, AND F. L. GOODMAN. XIV + 175pp. Spartan Books, Washington, D. C. 1965.

The 24 papers comprising this book were prepared for presentation at the ADI symposium of September 7-10, 1965, at the Airlie House, Warrenton, Va. The topics covered were: contributions toward information science theory, operational constraints in design of information systems, pedagogical aspects of information science, administrative problems, and computer sciences in the information curriculum. The objective was to clarify the structure of information science, what information science is concerned with, and the part played or to be played by library science and information science schools. Two dilemmas expressed in two separate papers keynote the problems: "Training information scientists without basic knowledge of the professions that they are to deal with is comparable to training teachers... without knowledge of subjects that they are to teach" (Barnett, p. 60), and "the highways and byways of information science have yet to be mapped" (Rees, p. 71).

A Methodology for the Analysis of Information Systems. DAVID E. SPARKS, MARK M. CHODROW, AND GAIL M. WALSH. Information Dynamics Corp., 2 Lakeside Office Park, Wakefield, Mass. 01880. May 1965.

This report basically applies Simulation Techniques to the evaluation of Information Systems. The author used standard mathematical approaches suitably modified for this specialized application.

The report is quite detailed and covers a variety of information systems as well as different basic concepts within the field. The author is correct in recommending that additional work should be done along these lines especially in the case of large volume systems. The work required to use these techniques makes them practical only in the case of large systems.

Computer Typesetting—Experiments and Prospects. M. P. BARNETT. XVI + 245 pp. The M.I.T. Press, Cambridge, Mass. 02139. 1965. $10.00.

In addition to reporting the results of the author's work in computer typesetting, a prospective is presented of the potentialities and problems of the use of computers in this already active area. The experiments described in great detail were conducted at the M.I.T. Cooperative Computing Laboratory. Basically computer typesetting involves a typewriter prototype input with concomitant production of a punched paper or energized magnetic tape that is used to operate a typesetting machine. Computers thus simplify the keyboard work when type is set from manuscript, without the need for typesetters, by introducing details of typography and style at the typing stage. The author produced control or operating tapes for the Photon 560 phototypesetting machine on an IBM 709/90. Text material was keyboarded on a Flexowriter equipped with a reading unit through which a previously punched tape is fed to retype the text. The mechanics of the operation are well described. But not so the economics.