considered of importance. For example:

$(a_1..f_1NW/\alpha\alpha\alpha) + (a_2..f_2\alpha\alpha/RTT) + (a_3..f_3\alpha\alpha/CCF)$

$+ (a'..f'...NM/*) + (a'..f'...\alpha\alpha = a''..f''...\alpha\alpha/\alpha\alpha\alpha)$

$+ (a'..f'... = a'''..f'''..\alpha\alpha/\alpha\alpha\alpha)$

$a'..f'...$; $a''..f''...$; or $a'''..f'''...$ being $a_1..f_1...$; $a_2..f_2...$; or $a_3..f_3...$. The flow pattern described in Figure 2 would respond to this search question, the block correspondence in Table II being found in the linear line notation.

REFERENCES AND NOTES

(1) R. N. Shreve, "The Chemical Process Industries", 1st ed, McGraw-Hill, New York, 1945, Chapters I and II. T. R. Olive and R. N. Shreve, "Chemical Engineering Flow Sheets", Chemical & Metallurgical Engineering, New York, N.Y., 1944.
(2) Kirk-Othmer, "Encyclopedia of Chemical Technology", Vol. 15, 2d ed, Interscience, New York, N.Y., 1968, pp 13–17. U.S. Patents 3702292, 3801495, and 3801444.
(3) F. De Laet "Coding and Recording of Chemical Flow-Sheets for Mechanical Search", *Rev. Int. Doc.*, **32**, 91–98 (1965).
(4) R. Fugmann, H. Nickelsen, I. Nickelsen, and J. H. Winter, "TOSAR - A Topological Method for the Representation of Synthetic and Analytic Relations of Concept", *Angew. Chem., Int. Ed. Engl.*, **9**, 589–595 (1970).
(5) E. Meyer "Mechanization of Chemical Documentation", *Angew. Chem., Int. Ed. Engl.*, **4**, 347–352 (1965).
(6) J. E. Dubois and H. Veillard "Systeme DARC", *Bull. Soc. Chim. Fr.*, 900–919 (1968); 839–848 (1971).
(7) C. H. Davis and J. E. Rush, "Information Retrieval and Documentation in Chemistry", Greenwood Press, London, 1975.
(8) J. E. Ash and E. Hyde, "Chemical Information Systems", Ellis Horwood Ltd., London, 1975, p 276.
(9) J. E. Dubois, "French National Policy for Chemical Information and the DARC System as a Potential Tool of This Policy", *Chem. Doc.*, **13**, 8–13 (1973).
(10) H. Skolnik, "The Multiterm Index", *J. Chem. Doc.*, **10**, 81–84 (1970).

NEWS AND NOTES

BOOK REVIEWS

Computer-Readable Bibliographic Data Bases. A Directory and Data Sourcebook. Compiled and edited by MARTHA E. WILLIAMS and SANDRA H. ROUSE, American Society for Information Science, Washington, D.C. 1976. 814 pp. $68.00.

This directory of 301 data bases is an update of the 1973 "Survey of Commercially Available Computer-Readable Bibliographic Data Bases", edited by J. H. Schneider, M. Gechman, and S. E. Furth, which reported on 81 data bases. A growth rate of 370% in three years is quite phenomenal and certainly justifies the production of the new edition in a three-ring binder with $8^1/_2 \times 11$ pages for updating on a six-month schedule for the data bases and annually for the indexes.

Information on each data base includes the following if applicable or available: data base name, producer, distributor, generator, availability, size, frequency, scope, subject matter, document types covered, data elements, etc. There are four indexes: subject category; name/acronym/synonym; producer; and processor. Each data base description begins on a new page and is assigned as many pages as required but without page numbers. Entries are arranged alphabetically by the data base acronym, such as ABIPC for "Abstract Bulletin of the Institute of Paper Chemistry".

There are 91 data bases listed in the index under Chemistry and Chemical Engineering, almost one-third of the total. There is no entry for Market Information. Although considerable information is given for each data base, the kind of information that enables a user to evaluate value is missing. The directory will be most meaningful to producers and processors and least valuable to users.

Cumulative Index to Volumes 1–10, Annual Review of Information Science and Technology, 1966–1975. Edited by J. L. HARRIS, P. L. ASKEY, and C. HINDELS, American Society for Information Science, Washington, D.C. 1976. viii + 215 pp. $27.50.

This cumulative index to the first ten volumes of ARIST, as the series is commonly called, is an update and continuation of the one published in 1972 covering the first seven volumes. The indexing by subject and names is thorough and easy to use, especially with the employment of running heads at the top of each page. See references, especially for acronyms, are plentiful and helpful to the user.

NEWS ITEMS

Mass Spectral Data

The U.S. Environmental Protection Agency has contracted with the American Chemical Society's Chemical Abstracts Service to produce a Mass Spectra Handbook corresponding to the content of the EPA/National Institutes of Health machine-readable mass spectral data base. The handbook will contain mass spectra for approximately 30 000 substances along with the substances' structure diagrams, names, molecular formulas, molecular weights, and CAS Registry Numbers. It will include previously unpublished mass spectral data.

The handbook will be compiled and organized entirely by computer and composed through CAS's computer-directed photocomposition system. Mass spectra in the handbook will be generated and photocomposed from computer-readable data provided by EPA. Names and molecular formulas will be extracted automatically from the CAS Chemical Registry System, and most structure diagrams in the handbook will be generated algorithmically from connection table records stored in the CAS Registry files.

The handbook is being produced by CAS under an extension of a contract with EPA's Management Information and Data Systems Division under which CAS has been registering chemical substances in various data files, including the mass spectral data base, and providing Registry Numbers, names, and connection tables for use in the NIH/EPA Chemical Information System. CAS has registered approximately 100 000 substances for EPA under this contract since 1974.

Symposium on Patent Information

The German Society for Documentation (Committee for Patent Documentation (DGD/APD) and the German Patent Office (DPA) in cooperation with the World Intellectual Property Organization (WIPO) will organize an International Symposium on Patent Information and Documentation, at the Sheraton Hotel, Munich, from May 16 to 18, 1977.