

switching, and logic circuits, and finally a miscellaneous category containing those circuits that are not readily classifiable.

The book is particularly good in its wide range of pulse and timing circuits. It appears to be adequate in its treatment of power supply circuits but is perhaps somewhat deficient in RF circuits. Radio amateurs might very well be disappointed in the attention given to this activity. However, the principal merit of the book is undoubtedly its use as a source of ideas for the inveterate experimenter.

Most of the circuits were apparently designed in response to a need for an electronic subsystem that could perform a certain definite function. As a consequence not many of those included in this volume will be found in a standard textbook. In selecting circuits for publication an effort has evidently been made to include those least likely to become obsolete. Although many of the circuits use transistor types that would be considered by some to be out-of-date, the average experimenter will have little difficulty in substituting newer types because of better performance or availability.

There are, of course, omissions that were, perhaps, necessary to keep the volume to a reasonable size. Little attention is given to some of the newer semiconductor devices that are rapidly gaining acceptance in the industry. Integrated circuits, MOS devices and hot carrier diodes, for example, are given only limited treatment. Future editions of the *Handbook* will undoubtedly reflect the increased use of these newer semiconductor devices by

the forward-looking experimenter. In the meantime, the present edition will provide a valuable storehouse of circuit ideas that can be used to satisfy a wide variety of circuit requirements. — *Waldemar J. Poch*, 19 Cranbury Neck Rd., Cranbury, NJ 08512.

USA Standard COBOL, X3.23-1968

Published (1969) by United States of America Standards Institute, 10 E. 40 St., New York, NY 10016. 464 pp. Price \$6.50 (USASI members, \$5.00).

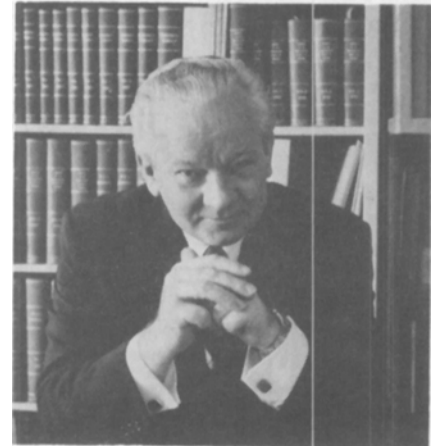
Since 1959, when the conference on Data Systems Language (CODASYL — a group comprising members of the government, computer manufacturers and users) agreed upon the development of a common language for programming commercial problems, the Common Business Oriented Language (COBOL) has undergone considerable refinement and standardization.

This standard describes the COBOL language in terms of a nucleus and seven functional modules with both a high and low level of standard defined. The users may request the level of language best suited for their needs and the computer manufacturers have a better means of defining the level of language associated with their equipment.

The standard defines a new language, with English-like notation, which is reasonably machine-independent and upwards compatible. This means that to a great degree a program written for one machine may be run on another with little or no modification provided that the level of

COBOL on the second machine is at or higher than the level of the first. Furthermore, because of the standardization of the language there is less chance of misunderstanding as the program passes hands. The program logic is reasonably readable by non-programmers due to the English-like quality of the notation.—*Steven Itzkowitz*, Computer Software Systems, Inc., 460 Summer St., Stamford, CT 06902.

Obituary



Lloyd E. Varden

Lloyd E. Varden died January 15, 1970, at the age of 58. He was internationally known as an authority in the field of photographic science and engineering. At the time of his death he was Professor of Photographic Science and Engineering at Columbia University and a leading consultant to the photographic industry in this country and abroad. He was born in Evansville, IN, and was educated at Maryville College (where he majored in chemistry) and the University of Kentucky. He received the honorary degree of Doctor of Science from Maryville in 1964.

He was Director of Education for Ansco at Binghamton, NY, from 1934 to 1945 and he was Technical Director and Vice-President of Pavelec Color, Inc., New York, NY, from 1945 to 1955. He joined the faculty of Columbia University in 1960.

During his active professional career he received many honors. He was a Fellow of the Royal Photographic Society of Great Britain and a Fellow of the Photographic Society of America. He held U.S. Patents for motion-picture developments, among his inventions being an electronic coding apparatus and a color analyzer.

He was the author of numerous articles on scientific, technological and aesthetic aspects of photography which were widely published in journals throughout the world. The photographic library accumulated by Dr. Varden is, with the exception of the Eastman Kodak collection, the largest in the world, containing more than 10,000 volumes.

Dr. Varden joined the Society in 1943. Papers which he authored appear in various issues of the *Journal*, among them, "Concerning Photography as an Art in America" (June 1942); (with E. G. Seary) "Rapid Test for Ferricyanide Bleach Exhaustion" (June 1949) and "Semiautomatic Color Analyzer" (February 1951).

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