

ing information systems. It is proposed that such systems be investigated by building mathematical models, so that their performance can be predicted quantitatively. Techniques which could be applied to the determination of similarity or relevance include symbolic logic, matrix algebra, and statistical analysis.

The emphasis, however, is almost exclusively on means for increasing the effectiveness of retrieval systems through improvements in the physical organization of files. Theories of logical organization are largely ignored except those based upon patterns of usage. In particular, the authors regard an *a priori* organization of descriptive terminology from a semantic viewpoint as being too confining and inflexible in any operational situation. Despite this, the book is one of the most informative yet to appear and is a welcome addition to the field.

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25 [X].—H. S. M. COXETER, *Regular Polytopes*, second edition, The Macmillan Company, New York, 1963, xix + 321 p., 23 cm. Price \$4.50 (Paperback).

This second edition is essentially the same as the first edition of 1948, but in paperback by another publisher, with slightly larger pages and appreciably larger plates. Corrections and minor additions have been made, and six pages have been revised.

It still remains the most extensive and authoritative summary of the derivations and enumeration of the  $n$ -space generalizations of the regular and quasi-regular polyhedra. It includes their metric, topological, and group properties, and the history of their development. Although the subject of polyhedra is quite ancient, new discoveries concerning these polytopes have been made since the first edition, many by the author. Some of the new work is mentioned in the text and in the extensive bibliography.

A review of the first edition by the present reviewer appeared in *Mathematical Reviews*, v. 10, 1949, p. 261.

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26 [X].—OYSTEIN ORE, *Graphs and Their Uses*, Volume 10 of the *New Mathematical Library*, Random House, New York, 1963, viii + 131 p., 23 cm. Price \$1.95.

This is an excellent introduction to graph theory. The exposition is elementary, although less so than that of most of the volumes of this series. The intended audience (for the series) of "high school students and laymen" may have some difficulty with a number of the proofs, but a reader with a little more mathematical maturity, who is seeking a simple introduction to the subject, could hardly do better.

There are nine chapters. In the list of these that follows we add in parentheses the problems to which the corresponding concepts are applied. 1. What is a Graph?