Introduction to Boolean Algebras.

P. L. DWINGER.

Physica-Verlag Wurzburg. 60 *pp.* DM.12.

Boolean algebra is becoming a subject of increasing importance to operational research workers. It is realized that many problems connected with circuits, allocation, logic, etc., can be represented in terms of Boolean algebra and that this may facilitate their solution.

Although some books on operational research contain a chapter on the subject, these generally do not go very far and more comprehensive treatises are rare.

The book under review is based on a lecture course given by the author at Hamburg University during the summer of 1960. The subject is developed from first principles, but in spite of this the book will make heavy reading for anyone not familiar with the principles of the theory of sets. This is particularly so as the mathematical proofs are compact and not easy to follow due to the way they are set out. Too many definitions often follow each other.

First of all a Boolean algebra is defined as a distributive complemented lattice. Theorems about ideals, subalgebras and rings follow. A large part of the book is devoted to the topological representation of Boolean algebras for which some knowledge of topology is presupposed. Other subjects covered are the field representations of Boolean algebras and measures on Boolean algebras.

Although many problems are included in the text for solution none of these seem to have any application to operational research problems. Accordingly the book can only be recommended as a treatise in pure mathematics, but not as having any practical value for the operational research man.

<div style="text-align:right">J. R. BUZEMAN</div>

Probability Sampling of Hospitals and Patients.

IRENE HESS, DONALD C. RIEDEL and THOMAS B. FITZPATRICK.

Bureau of Hospital Administration, Research Series No. 1. *The University of Michigan, Ann Arbor,* 1961. 81 + 12 *pp.* $3.50.

Approximately one-third of the book is devoted to a simple discussion of sampling techniques noting in particular the Goodman–Kish method of controlled selection. The remainder describes the application of this method to the design of a statistical experiment: "The Study of Hospital and Medical Economics" in the State of Michigan, U.S.A. The emphasis throughout is on the design of probability samples rather than the data analysis, which is in fact only outlined in nine pages near the end. The book was written both to describe the