

ductory description of the mountain range and of adjacent areas from the standpoint of geology and climate as well as of vegetation types.

This is a useful local manual which is well prepared and which will be especially valuable for botanists and others in the region who wish to key out quickly the local species. For this purpose, the relatively simple keys should be useful, but they are oversimplified for application to the flora of the state as a whole. Statements of geographical distribution of species are restricted to the Santa Cruz Mountain localities, and the reader is referred to other works for general distribution.

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## Boolean Algebra

### Boolean Algebra and Its Applications.

J. Eldon Whitesitt. Addison-Wesley, Reading, Mass., 1961. x + 182 pp. Illus. \$6.75.

This is a text for a one-semester college course presupposing only a limited mathematical background. The course could be for either good engineering students or practically inclined students of mathematics.

In chapter 1 Whitesitt develops the algebra of sets intuitively from Venn diagrams, discovering the basic properties of complementation (denoted by  $'$ ), union (denoted by  $+$ ), and intersection of sets (denoted by  $\cdot$  or juxtaposition). In chapter 2, Boolean algebra is formalized from minimal postulates. The Stone representation theorem—that every abstract Boolean algebra is isomorphic to an algebra of sets—is stated but not proved. In chapter 3 the author treats the algebra of propositions in symbolic logic. He occasionally goes beyond Boolean algebra to discuss quantifiers and rules of inference. But the basic theme is the use of Venn diagrams and the formal simplification of propositional functions.

Chapters 4 to 6 are on the engineering side. After showing the use of Boolean algebra in series-parallel circuits, the author treats more complicated circuits, showing how to reduce them to series-parallel form. The design of  $n$ -terminal, double-contact switching circuits is discussed lightly. Next one reads of sequential relay circuits and, in chapter 6, of half-adders, adders, and

even parallel multipliers for digital computers. Chapter 7 discusses probability in finite sample spaces.

There are many illustrative examples, exercises for the reader (many involving complicated verbal puzzles to be untangled), and about half a dozen references at the end of each chapter. Answers to selected problems are provided at the end of the book.

I found the book very readable and informative. In addition to the applications, many important mathematical ideas arise naturally and simply in this subject (for example, duality, isomorphism, function), and these might justify such an off-beat course in a modern mathematics curriculum. But, on balance, for mathematics students the book and the subject appear better suited for self-study. I cannot judge the book as an engineering text.

The author's definition of a function (page 33) as an expression cannot be condoned in 1961. I was surprised to find so little use of the Karnaugh-Veitch diagrams which are so popular among engineers.

A closely related book is Franz E. Hohn's *Applied Boolean Algebra, an Elementary Introduction* (Macmillan, New York, 1960).

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## Relativity for the Layman

**What Is Relativity?** L. D. Landau and G. B. Rumer. Basic Books, New York, N.Y., 1961. vi + 72 pp. Illus. \$1.95.

This book, which is being published in Basic Books' Science and Discovery Series, is a translation from the Russian, the authors being well-known physicists of the Soviet Union. The translator, N. Kemmer, is himself an internationally known British physicist. With this formidable authorship, the book is a charming exposition of the basic principles of the special theory of relativity, intended for the youthful lay reader and enlivened with some 20 freehand sketches, some of them amusing, all instructive. The scope covered by this brief presentation is strictly limited; it is confined to a thorough conceptual exposition of the foundations of the theory, a discussion of the kinematic effects of special relativity, and an explanation of the vari-

ability of relativistic mass. The authors have avoided the use of even the simplest algebra; but they do use arithmetic calculations to illustrate their qualitative arguments. Nevertheless, the book is penetrating, rather than descriptive, and makes demands on the intellectual capabilities of the reader. It can be warmly recommended not only to high school students but also to college students who are not primarily science-minded.

The publishers are to be commended for having held the price down to a nonrelativistic level, even though they have provided the volume with a standard hard cover and a tastefully designed dust jacket.

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## Econology

### Bargaining and Group Decision Mak-

ing. Experiments in bilateral monopoly. Sidney Siegel and Lawrence E. Fouraker. McGraw-Hill, New York, 1960. x + 132 pp. Illus. \$4.90.

This book is one of the fruits of the interdisciplinary tree and one that may be equally palatable to both of the disciplines involved, namely, economics and experimental social psychology. It was awarded the Monograph prize of the American Academy of Arts and Sciences for 1959 in the social sciences. The authors point out that economics is the most advanced theoretically of the social sciences, while psychology is the most advanced in rigorous empirical methodology. The marriage of the strong aspects of the two disciplines has produced what appears to be a viable hybrid (econology?) consisting of explicit hypotheses for the psychologist to test and resulting modifications of theory for the economist to encompass and expand.

The experimental technique designed to test deductions from economic theory is simple and elegant. Pairs of college students were provided with isoprofit tables describing precisely various profit levels (in real money!) attainable and the prices and quantities of product X to be exchanged in order to reach certain levels of profit. The result of the ensuing bargaining between buyer and seller is that each goes home with the amount of money he decides is his largest possible profit. Bargaining is