has the upper-bound-property. An appendix makes brief mention of a few related matters (such as infinite cardinals and the definition of a group).

The book contains many striking phrases designed to eliminate some common sources of confusion. Here are two examples. (1) "It should be stated emphatically that there is nothing undesirable about parentheses. Our efforts at removing them are directed toward devising a test to determine if two given expressions are equal." (2) "The reader is urged to distinguish between his everyday use of the words [*greater* and *less*] and the mathematical one; otherwise he will not be impressed by their similarities nor take seriously their differences."

There are also examples of bad didactic technique. They are all of the same type: some difficult concepts are not sufficiently motivated. Thus the empty set is introduced without so much as a by-your-leave and the possibility of a set being a member of itself is casually (and needlessly) referred to. The construction of the integers via ordered pairs is introduced by the following sentence: "The reader who finds our definitions arbitrary and somewhat bizarre should be informed that they are the product of a long evolution of which our exposition gives only the final stage." (The patronizing tone of this sentence recurs frequently.) The fact that the author is thinking of (7, 11) as $7-11$ is kept a secret from the reader.

Mathematically, the author's treatment of statements involving variables ("if x is even, then $x+1$ is odd") is probably unobjectionable but certainly peculiar. The assertion that "we shall only accept those statements that are definitions and those statements that can be proved to be logical consequences of the definitions" is somewhat startling, to say the least.

Enough has been said to communicate the flavor of the work. The book can be useful to a beginner as an outline of territory whose detail maps are not available to him. As such, the reviewer recommends it, but he recommends also that an experienced guide be taken along on the tour.

PAUL R. HALMOS

Theory of games and statistical decisions. By D. Blackwell and M. A. Girshick. New York, Wiley, 1954. 12+355 pp. $7.50.

Statistical decision theory originated in Wald's 1939 paper (Ann. Math. Statist. vol. 10, pp. 299–326), whose interest is now almost purely historical. It was designed to embrace all problems of statistical inference which are the raison d'être of statistics; with inessential modifications it still does. In its simpler form the statistician has to