

of goodness of fit and on the theory of the  $\chi^2$  test describe asymptotic methods, and, in particular, the "best asymptotically normal estimates" which have been found very valuable in a large variety of applications."

C. Kraft, Université de Montréal

Joint statistical papers, by J. Neyman and E. S. Pearson.  
University of California Press, 1966. 299 pages. Selected papers \$6.75.

This volume contains ten joint papers of J. Neyman and E. S. Pearson which were published between 1928 and 1938. The publication of this volume permits a study of Neyman's and Pearson's ideas leading to, and associated with, their basic and, now, classic theory of testing hypotheses. The papers include their proposal and application of the likelihood ratio test, the Neyman-Pearson lemma and its extension to similar tests, relations between tests and sufficient statistics; and regions of types A,  $A_1$ , and C. One paper, written in 1933 and which treats the problem of tests and a priori probabilities, contains a discussion of how a testing problem with a well-defined loss function (i. e. a decision-theoretic problem) can be solved for a given a priori distribution.

C. Kraft, Université de Montréal

Topics in algebra, by I. N. Herstein. Blaisdell, 1964/1965.  
342 pages. \$9.50.

This is a superb book. It is a first course in abstract algebra, introducing students to groups, rings, modules, and fields, and it puts most other books in this area deep into the background.

The first edition was ridden with misprints, but these have almost completely been corrected and one can enjoy the full pleasure of this giant uninterruptedly.

On the surface it looks like any other book on abstract algebra and one does not savour all its goodness until it is used in class. I have had an opportunity to actually use it and though I don't understand exactly why it works beautifully, I can say that it does.

Herstein has a free and easy style. He faces difficult parts squarely and honestly but does not fall into the trap of trying to show off his mathematical know-how to his colleagues. The book is for students, not for professors - a rare achievement.

There are often two or more streams of students taking courses in abstract algebra. One of these, the weakest stream, may have trouble with this text and should perhaps continue to feed off a book like Marie Weiss' "Higher algebra". Though I would like to see how they fare with this book.