The variables sampling plans given are to be preferred to most other such variables plans (including the MIL STD plans) in cases where the protection of the consumer is of primary interest and the costs of items are high. These plans may also be preferred in other circumstances but an analysis of costs of the alternative plans should precede any decision on which plan to use.

AUTHOR'S SUMMARY

11 [K].—MARVIN ZELEN, editor, *Statistical Theory of Reliability*, The University of Wisconsin Press, Madison, Wisconsin, 1963, xvii + 166 p., 25 cm. Price $5.00.

This volume contains six papers presented at a seminar sponsored by the Mathematics Research Center, U. S. Army, at the University of Wisconsin May 8–10, 1962. The papers survey recent research developments and results in the statistical theory of reliability. They were written mainly for mathematical statisticians doing research in the area rather than for analytical statisticians or engineers wishing to use the latest techniques. However, the volume does contain some techniques immediately useful to the applied statistician with adequate mathematical background.

A paper by Richard E. Barlow, entitled "Maintenance and Replacement Policies," includes two tables that could be used in developing a replacement policy when the distribution of component life is not known but the first, or the first and second, moments of the distribution can be estimated.

The other articles are: "A Survey of some Mathematical Models in the Theory of Reliability," by George H. Weiss; "Redundancy for Reliability Improvement," by Frank Proschan; "Optimum Checking Procedures," by Larry C. Hunter; "Confidence Limits for the Reliability of Complex Systems," by Joan Raup Rosenblatt; and "Problems in System Reliability Analysis," by William Wolman.

BERNARD M. LEVIN

Data Processing Systems Division
National Bureau of Standards
Washington 25, D.C.

12 [K].—L. E. MOSES & R. V. OAKFORD, *Tables of Random Permutations*, Stanford University Press, Stanford, California, 1963, 233 p., 24 cm. Price $7.00.

This book presents random permutations of integers: specifically, 960 permutations of the integers 1–9; 850 permutations of the integers 1–16; 720 of 1–20; 448 of 1–30; 400 of 1–50; 216 of 1–100; 96 of 1–200; 38 of 1–500; and 20 of 1–1000.

The permutations were created from the RAND deck of a million random digits by an algorithm especially suited to machine computation and for which a flow chart is given. The randomness of the permutations of size 50 or less was studied by means of goodness-of-fit tests on the observed distributions of (a) the longest run up or down, (b) rank correlation with order position, (c) Friedman's analysis-of-variance statistic, and (d) the distribution of the square of a linear function of the deviation from expectation of the number of runs (up or down) of length 1, 2, and 3. The tests show two results significant at the 1 % level: in test (a) for permutations of 1–30, and in test (d) for permutations of 1–16. Such performance would certainly