

BOOK REVIEW

Classical and Contagious Discrete Distributions,
Proc. International Symposium held at McGill University, Montreal,
Canada, August 1963, edited by G.P. Patil,
distributed by Pergamon Press, Oxford, New York, London. XIV
+ 552 p., price £ 7.

The present volume containing forty papers on discrete distributions is a very valuable addition to the existing literature on the subject. A huge amount of information has been brought together in this volume on the theory of discrete probability distributions, and it is embarrassing to see a review of the amount of information which is at present available on this theory. The organizers, and the editor, who seems to be the man behind all the activities leading to the presentation of these proceedings are to congratulate on the outcome of the symposium.

The forty papers are classified in 12 groups: stochastic processes, structural properties, limit distributions, unified models and inference, some classical distributions, contagious distributions, inference for mixtures of distributions, certain distributions in biological sciences, finite populations, general topics and bibliography.

To start with the last group, a list of about 1250 papers on discrete distributions is given here, mostly referring to papers in English and published before 1964. This bibliography has been prepared by Patil.

It is impossible to review here all forty papers. We, therefore shall only mention some of the papers which are the more attractive ones from the viewpoint of reviewer's interest. First, there is the inaugural address by Jerzey Neyman. He reviews shortly the work done on contagious distributions and refers to the important studies on Polia's urn scheme. The effect of clusterings and the chance mechanism which produces clusterings are the main topics of Neyman's contribution. A very interesting study is given by Tosi Kitagawa on weakly contagious stochastic processes; it is a generalization in two directions of Polia's classical urn scheme, viz. the number of balls put back in the urn at each trial is not constant but a discrete variable; the second generalization is a continuous version of the replacing. E. L. Scott devotes an extensive study to cluster effects. He emphasizes the phenomena of clusters in epidemics, in astronomy of galaxies, in weather records and in biological processes. After describing a stochastic model for cluster effects, he is mainly concerned with these phenomena in galaxies. Lukacs presents a paper on characterization problems for discrete distributions. An extensive study on normal approximation to the classical discrete distributions, and a list of 196 references to this subject is given by Zakkula Govindarajulu. Discrete distributions limit theorems are discussed by Vivian Pessin. Asymptotic expansions for some contagious distributions form the subject of a contribution by Douglas. Katti & Sly consider the analysis of contagious data through behavioristic models. Rodhakrishna Rao presents a paper on discrete distributions arising out of methods ascertainment. Mixtures of discrete distribution are studied by Blischke. This paper contains 95 references. Rider introduces the zêta distribution.

These important proceedings should be available in the library of every statistical department.