

chapter, a large bibliography, a table of contents and an index, give flexible coverage of all items without being cumbersome. It should enjoy a long life and constant use by all who find interest in this type of work.

G. E. SCHWEIGERT

Poisson's exponential binomial limit; Table I—Individual Terms; Table II—Cumulated Terms. By E. C. Molina. New York, Van Nostrand, 1942. viii+46+ii+47 pp. \$2.75.

If p is the probability of a "success" in a single trial, it is well known that the probability of x "successes" in n independent trials is given by

$$(1) \quad C_x^n p^x (1-p)^{n-x}$$

which is the $(x+1)$ st term in the expansion of the binomial $[p+(1-p)]^n$. If the limit of (1) is taken as $p \rightarrow 0$ and $n \rightarrow \infty$ in such a way that $np = a$, one obtains

$$(2) \quad a^x e^{-a} / x!$$

which is the $(x+1)$ st term of a distribution originally published by Poisson in 1837. This function not only arises as an approximation to the binomial term (1) for large n and small p , but also arises in other problems, as for example in the integration of the chi-square distribution.

Table I of the present book is a tabulation of values of (2) to six places of decimals for $a = 0.001(0.001)0.01(0.01)0.3(0.1)15(1)100$ and $x = 0(1)150$; x , of course, being carried far enough for each given value of a to cover values of (2) to six places of decimals, not all zero. Table II gives the values of $P(c, a) = \sum_{x=c}^{\infty} a^x e^{-a} / x!$ to six places of decimals for the same range of values of a and for $c = 0(1)153$.

The book has been lithographed by Edwards Brothers and is bound with a flexible paper cover.

Various parts of the tables have appeared in earlier publications. For example, L. v. Bortkiewicz (*Das Gesetz der kleinen Zahlen*, Leipzig, 1898) published tables of (2) to four places of decimals for $a = 0.1(0.1)10.0$ and $x = 0(1)24$. H. E. Soper (*Biometrika*, vol. 10 (1914)) published a table of (2) to six places of decimals for $a = 0.1(0.1)15.0$ and $x = 0(1)37$, which was reprinted in Karl Pearson's *Tables for statisticians and biometricians*, Cambridge, 1914. E. C. Molina (*Amer. Math. Monthly*, 1913) published tables of c for $P(c, a) = 0.0001, 0.001$ and 0.01 ; for $a = 0.0001$ to 928, and similar,