Phys.) No. 107, 1963, 77p., (b) III. *Belgrade, Mat. Inst., Posebna izdanja,* Knjiga 1 (*Editions speciales,* 1), 1963, 200 p.

A number of tables by these authors have been reviewed in *Math. Comp.* from time to time. In recent years the tables have most commonly appeared, as does (a) above, in *Publ. Fac. Elect. Univ. Belgrade,* whereas in (b) we now have the first "book" in a new series of occasional special publications of the Mathematical Institute at Belgrade; the new series is destined to contain monographs, extended original articles and original numerical tables.

In (a) and on p. 13–156 of (b) we find two continuations of tables (*Publ. Fac. Elect.,* No. 77, 1962) already reviewed in *Math. Comp.,* v. 17, 1963, p. 311. The integers ${}^pP_n{}^+$ defined by

$$\prod_{r=0}^{n-1} (x - p - r) = \sum_{r=0}^{n} {}^pP_n{}^+x^+,$$

previously listed for $p = 2(1)5$, are now listed in (a) for $p = 6(1)11$ and in (b) for $p = 12(1)48$. In both (a) and (b) the values of the other arguments for given p are $n = 1(1)50 - p$, $r = 0(1)n - 1$; when $r = n$, the value of ${}^pP_n{}^r$ is obviously unity.

In the second part (p. 159–200) of (b) are tables of the integers ${}^\nu S_n{}^k$ defined by

$$t(t - 1) \cdots (t - \nu + 1)(t - \nu - 1) \cdots (t - n + 1) = \sum_{k=1}^{n-1} {}^\nu S_n{}^k t^{n-k},$$

where it is to be noted that the left side contains $(n - 1)$ factors, $(t - \nu)$ being omitted. The table is for arguments $n = 3(1)26$, $\nu = 1(1)n - 2$, $k = 1(1)n - 1$.

The tabular values were computed on desk calculating machines, and all are given exactly, even when they contain more than 60 digits. Various spot checks were made in the Instituto Nazionale per le Applicazioni del Calcolo at Rome and in the Computer Laboratory of the University of Liverpool. Details of some of the verificatory computations are given.

A. F.

6[I, X].—Peter Henrici, *Error Propagation for Difference Methods,* John Wiley & Sons, Inc., New York, 1963, vi + 73 p., 24 cm. Price $4.95.

This little monograph is a sequel to the author's now classic *Discrete Variable Methods in Ordinary Differential Equations,* published by Wiley in 1962. The subject here is the use of multi-step methods for systems of equations, and the treatment, though in the spirit of the previous volume, is independent of it. The author remarks, however, that to pass from one to several variables was "not a mere exercise in easy generalization," so that the reader would be well advised to read the volumes in the order of their appearance. The two together provide a unified treatment of the subject that will not soon be surpassed.

A. S. H.

7[K].—I. G. Abrahamson, *A Table for Use in Calculating Orthant Probabilities of the Quadrivariate Normal Distribution,* 5 p.+ 71 computer sheets, ms. deposited in UMT File.

This manuscript table gives the probability that four jointly normally distributed random variables will be simultaneously positive (orthant probability) when the distribution has a mean of zero and a correlation matrix of the form

$$\begin{bmatrix} 1 & A & 0 & 0 \\ A & 1 & B & 0 \\ 0 & B & 1 & C \\ 0 & 0 & C & 1 \end{bmatrix}$$

where A, B, and C are non-negative.

The values of this probability are tabulated to 6D for $A = 0(0.05)0.95$, $B = 0(0.05)0.95$, and $C = 0(0.01)0.99$, consistent with the correlation matrix being positive definite. The author claims accuracy of the tabular values to at least 5D, on the basis of a number of checks. She briefly discusses the question of interpolation, and presents a method for using this table to calculate the orthant probability in the general case.

J. W. W.

8[K].—NORMAN T. J. BAILEY, *The Elements of Stochastic Processes with Applications to the Natural Sciences*, John Wiley & Sons, Inc., New York, 1964, xi + 249 p., 23 cm. Price $7.95.

This book is highly recommended reading, and is a good introductory text in applied stochastic processes for three reasons:

(1) It is clearly written, proceeding by examples; it is very readable and contains a number of exercises.

(2) It attempts to be broad, covering a number of areas, and has chapters on recurrent events, random walks, Markov chains and processes, birth-death processes, queues, epidemics, diffusion, and some non-Markovian processes.

(3) It does not belabor any one topic; it is, therefore, not too voluminous, and hence is challenging to the interested reader.

The author's experience in the field has produced a very fine contribution.

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9[K].—Statistical Engineering Laboratory, National Bureau of Standards, *Table of Percentage Points of the χ^2-Distribution*, Washington, D. C., August 1950, 1 + 7 p. Deposited in UMT File.

This is a composite table made up from three previously published tables and by transformation or by interpolation in them.

The table uses the format of Thompson [2] and gives the percentage points of χ^2 for the following values of ν and P:

ν	P and $1 - P$
1(1)30	.005, .01, .02, .025, .05, .10, .20, .25, .30, .50
31(1)100	.005, .01, .025, .05, .10, .25, .50
102(2)200	.01, .10, .25, .50
2(2)200	.000001, .0001