bers of the second kind, herein designated $S(n, k)$. The table is complete for $k \leqq n = 1(1)95$; however, for $k \leqq n = 96(1)100$, a total of 98 tabular omissions occur because of the arbitrary restriction that all entries shown be less than 10^{109}.

These numbers occur naturally in the study of distributions, as is noted in the Introduction. Also of importance in combinatorial analysis is the sum

$$\sum_{k=1}^{n} S(n, k),$$

which is included in the present table, for $n = 1(1)95$.

The most extensive previous table of Stirling numbers of the second kind appears to have been in a manuscript of Miksa [1], for the range $k \leqq n = 1(1)50$, part of which has been reproduced in the NBS *Handbook* [2]. The sums of $S(n, k)$ over k were also given by Miksa, and a more extensive tabulation, for $n = 1(1)74$, has been given by Levine and Dalton [3]. None of these references is cited in this report.

The introduction to the present table includes the definition of the Stirling numbers of both the first and second kinds and the derivation of several of their properties. For more details the table-user is referred to the well-known book of Riordan [4].

The arrangement of the tabular data and their use is also described in the Introduction.

Immediately preceding the table is a description of the computer program used in performing the underlying calculations on the ILLIAC II system. The printed output consists of juxtaposed computer words in which high-order zeros were not printed; consequently, all such spaces are to be read as zeros, as noted on p. 12 of the Introduction.

Despite this imperfection in the editing of the computer output, the rather poor reproduction of the tabular material, and the omission of a bibliography, this table is a valuable addition to the literature dealing with Stirling numbers and their applications.

J. W. W.

1. F. L. Miksa, *Table of Stirling Numbers of the Second Kind*, deposited in the UMT file. (See *MTAC*, v. 9, 1955, p. 198, RMT **85**.)
2. M. Abramowitz & I. A. Stegun, Editors, *Handbook of Mathematical Functions with Formulas, Graphs, and Mathematical Tables*, National Bureau of Standards, Applied Mathematics Series, No. 55, U. S. Government Printing Office, Washington, D. C., 1964, p. 835.
3. J. Levine & R. E. Dalton, "Minimum periods, modulo p, of first-order Bell exponential integers," *Math. Comp.*, v. 16, 1962, pp. 416–423.
4. J. Riordan, *An Introduction to Combinatorial Analysis*, Wiley, New York, 1958.

4[J, L, P, X].—V. Mangulis, *Handbook of Series for Scientists and Engineers*, Academic Press, New York, 1965, viii + 134 pp., 24 cm. Price $6.95.

Suppose one is given a function and one asks for its power series' representation or, for example, its representation in series of Bessel functions. On the other hand, suppose one is given a power series or, for example, a series involving Legendre polynomials, and one desires to identify the sum of the given series. This handbook should prove a convenient tool to answer the posed problems. As in the case of tables of pairs of Laplace transforms, no table can be complete, since such tables are by their nature infinite in character. Nonetheless, pure and applied workers should find this compendium useful.

The volume is divided into three parts. Part I states some tests for the convergence of a series and conditions for series rearrangement, multiplication, etc. Some expansion methods are briefly outlined. These include Taylor's theorem, Fourier series and Euler's summation formula. This section is by no means complete since, for example, general expansion formulas in series of orthogonal functions and Bessel functions are not mentioned, though many samples of such expansions are listed in Parts II and III. Part II is a list of series corresponding to a given function. This is divided into 12 subsections, for example, rational algebraic functions, trigonometric functions and Bessel functions of the first kind. Part III gives sums of series and is in a way the inverse of Part II. Here we are given a series, and we seek the function it represents. This portion is divided into 6 subsections, for example, series involving only natural numbers, series of algebraic functions and series of Bessel functions.

In Parts II and III, some data are given beside each entry to identify the source from which the series was taken or was deduced. This is useful to check entries and to aid in the evaluation of similar series not given in the table. In one instance, see p. 107, the author incorrectly deduces the "formula" $\int_x^\infty Y_\nu(t)dt = 2\sum_{n=0}^{\infty} Y_{2n+1+\nu}(x)$, $R(\nu) > -1$, a divergent expansion, from the source's correct formula $\int Y_\nu(z)dz = 2\sum_{n=0}^{m-1} Y_{2n+1+\nu}(z) + \int Y_{2m+\nu}(z)dz$, $m = 1, 2, \cdots$. Our casual reading has revealed some typographical errors. On p. 5, top of page, line 2, for $(2m + 2)$ read $(2m + 1)$. On p. 27, the letter c has been omitted in the spelling of the inverse hyperbolic functions. Aside from these and other possible discrepancies, we believe this to be a worthwhile volume.

Y. L. L.

5[K, S, X].—E. B. Dynkin, *Markov Processes*, Vols. I and II, Die Grundlehren der Mathematischen Wissenschaften in Einzeldarstellungen, Vol. 121, Springer-Verlag, Berlin and Academic Press, New York, 1965, xii + 365 pp., 24 cm. Price $12.00.

This is a translation from the Russian book which appeared in 1963. In the last decade the theory of Markov processes in continuous time has become a serious subject. Thus it was found necessary to re-lay the foundation as the author did in his book *Die Grundlagen der Theorie der Markoffschen Prozesse* (Springer-Verlag, Berlin, 1961). The present book developed the general concepts and tools (characteristic operators, additive and multiplicative functionals, transformations, stochastic integrals), related them to known theories of harmonic functions and partial differential equations, and examined certain particular cases such as processes with continuous paths and diffusion and Wiener processes. These topics are still undergoing intensive research for which this book will be a valuable guide. It is fortunate that it is written in the author's usual careful, explicit and expansive style. Nonetheless, a casual perusal would not be easy owing to rather heavy cross-references within the book itself and to the *Grundlagen* cited above. The book would become even more useful if another more specialized and more concrete summary