to one interested in numerical work lies in its development of needed topics in the theory of matrices. Its lucid treatment of the topics covered makes it a fine addition to the literature. The inclusion of suitable problems also makes it useful for classroom use.

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57[J].—L. B. W. Jolley, *Summation of Series*, Dover Publications, Inc., New York, 1961, xii + 251 p., 20 cm. Price $2.00 (Paperbound).

This is a "revised and enlarged version of the work first published by Chapman & Hall, Ltd. in 1925". The 700-odd series in the former edition have now been increased in number to 1146. For most of these series a specific reference is listed. While there is much of use and interest here, there are also, in the opinion of the undersigned, numerous defects.

The notation used is often disturbingly original. Thus:

(71) $$1 - \tfrac{1}{2} + \tfrac{1}{3} - \tfrac{1}{4} + \tfrac{1}{5} \cdots \infty = \text{logh } 2$$

(97) $$1 + ax + \frac{a^2 x^2}{2!} + \frac{a^3 x^3}{3!} + \cdots \infty = \epsilon^{ax}$$

(361) $$\sum_1^\infty \frac{n^r}{n!} = \$_r$$

(373) $$\sum_1^\infty \frac{1}{(4n^2 - 1)^r} = \$_r$$

(1133) Sum of Power Series

$$\$_n = \frac{1}{1^n} + \frac{1}{2^n} + \frac{1}{3^n} + \cdots \infty$$

There are misprints and resulting obscurities:

(94) $$\$_{2n} = 1 + \frac{1}{2} + \frac{1}{3} + \cdots \frac{1}{2n} = \frac{\pi \text{ logh } 2}{8}$$

(335) If $\sum_1^\infty \frac{1}{n^s} = \zeta(s)$ 2, 3, 5 $\cdots$ p—are prime numbers in order

$$\tfrac{1}{1}s + \tfrac{1}{3}s + \tfrac{1}{5}s + \cdots \infty = \zeta(s)(1 - 2^{-s})$$

It is not clear what is being "summed" in:

(68) $$2 + 5 + 13 + 35 + \cdots n \text{ terms} = \tfrac{1}{2}(3^n - 1) + 2^n - 1$$

(793) $$\theta^2 - \tfrac{2}{3}\theta^4 + \cdots \infty = \text{logh } (1 + \theta \sin \theta)$$

(794) $$-\frac{\theta^2}{3} - \frac{7}{96}\theta^4 - \cdots \infty = \text{logh } \theta \cot \theta$$

since the continuations of the series on the left are not at all obvious.

The vigorously divergent

$$(976) \qquad \frac{1}{\epsilon}(1 - 2! + 3! - \cdots \infty) = \frac{0.4036526}{\epsilon}$$

is given without any tiresome commentary concerning convergence.

While a good handbook of infinite series is something much to be desired, it is doubtful whether the present book fully meets this need.

D. S.

58[K].—B. M. Bennett & P. Hsu, *Significance Tests in a 2 × 2 Contingency Table: Additional Extension of Finney-Latscha Tables*, March 1962. Deposited in UMT File. [See Review 9, *Math. Comp*, v. 15, 1961, p. 88–89; Review 20, *ibid.*, v. 16, 1962, p. 252–253.]

The authors present in these manuscript tables still another addition to the tables of Finney, first extended by Latscha. This latest extension covers the range $A = 31(1)45$, giving the exact test probabilities to four decimal places, as previously, and the significant values of b at the four levels presented in the Finney-Latscha tables and retained in the previous extensions thereto by the present authors.

J. W. W.

59[V].—Philip D. Thompson, *Numerical Weather Analysis and Prediction*, June 19, 1961. The Macmillan Co., New York, xiv + 170 p., 24 cm. Price $6.50.

In a rapidly developing field it never seems quite appropriate to freeze the state of knowledge in the form of a book. However, enough has evolved since the beginnings of numerical weather prediction to warrant a knowledgeable appraisal of the course of its development. Not only should such a book have a didactic objective but one would hope that the perspective be equally useful as a reference for active workers in the field. This would require the text to assess the road of experience well enough to define the problems and to indicate the avenues which are likely to yield a fruitful expansion of knowledge. Colonel Thompson's book represents a first such attempt. The fact that he has contributed materially to the evolution he sets out to document, taken together with his characteristically smooth expository style, amply qualify him for the task.

In Chapter 1, after a brief discussion of the inherent difficulties of observing and forecasting the atmosphere's evolutions, one finds a description of instrumental, aerological, and analysis techniques, and of the atmosphere's kinematical characteristics. The author then indicates the role of hydrodynamic laboratory models as a research tool and gives an historical development of numerical weather prediction: the antecedents heralding the Norwegian school and the contributions of Richardson, Rossby and the Princeton group.

Chapters 2 and 3 are given over to a summary of the hydrothermodynamic equations of meteorology, first in height coordinates and then in terms of pressure and of potential temperature. The transformation and interpretation of upper and lower boundary conditions are not given. Methods of central differencing and practical problems of numerical weather prediction, especially those engendered by the quasi-non-divergent character of the atmosphere, are then discussed. Chapters 4