

*An Introduction to Electrodynamics.* By Leigh Page. Boston, Ginn and Company, 1922. 6 + 134 pp.

This book fills a gap between more advanced mathematical treatments and the purely physical expositions. It will be found very valuable on this account and because of its conciseness. The reviewer is sure that it would form a solid basis for an advanced course in mathematical physics.

Nevertheless there are certain criticisms which depend, perhaps, on mere personal taste. The author objects to the usual introduction through the laws of Coulomb, Ampère, and Faraday. Surely these laws are not of mere historical interest. They also constitute the foundation of the concepts of electrodynamics.

Professor Page has preferred to base his theory on the existence of electrons, on the principle of relativity, and on the hypothesis of "elements" moving with the speed of light throughout the space surrounding each individual electron. There is not room for a full reasoned criticism of this last hypothesis—as a basis for an introductory textbook. But in the present uncertain state of electric and dynamic theory it is better to keep in touch as far as possible with well-established experimental results.

The discussion on page 10 of related and ideal reference systems is not at all clear and appears to lack a little in rigor.

At the end of Chapter 4 the radius of the negative electron is asserted to be  $1.88 \times 10^{-13}$  cms. as if it did not depend on special assumptions with regard to the structure of which we know exactly nothing.

An index would have made the book more useful.

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*Wahrscheinlichkeitsrechnung und ihre Anwendung auf Fehlerausgleichung, Statistik, und Lebensversicherung.* By Emanuel Czuber. Vol. II, Third Edition. Leipzig and Berlin, Teubner, 1921. x + 470 pp.

*Die statistischen Forschungsmethoden.* By Emanuel Czuber. Wien, L. W. Seidel und Sohn, 1921. x + 238 pp.

The first of these books may be properly regarded as a reprint of the second edition (1910) with minor changes including a renumbering of the articles to make Volume II a continuation of the revised Volume I.

The second book seems to have been inspired largely by Yule's contributions to statistical theory. In fact, Yule's theory of the statistics of attributes, including the notation, is given in the first 34 pages of the book, and the outline of the entire book follows closely Yule's *Introduction to the Theory of Statistics*. Features of the book that appeal to the reviewer particularly are the inclusion of the summation method of computing the arithmetic mean and standard deviation, the derivation of the Poisson exponential limit in dealing with the problem of small probabilities, the treatment of the stability of percentiles, and the effective presentation of concrete illustrations. The treatment of correlation theory follows Yule closely. Throughout the book, the exposition of theory seems especially clear; but, on account of the fact that the development of theory follows Yule so closely, the book will be useful to the American student and teacher of statistics mainly as a source of concrete illustrations.

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