

tion of this work gradually became the generally recognized starting-point, and of late years has become officially so recognized in all modern codes of nomenclature. In the meantime the British Museum Catalogue had reached completion on the old basis, and a strongly grounded spirit of conservatism compelled adherence to the practises of earlier days. Hence we have in the "Hand-list" a work that, while of the highest utility as a catalogue of the genera and "species" of birds, is out of touch at many points with modern ways; but, with this fact in mind, the specialist can easily avoid the pitfalls. It should hence be remembered (1) that names, generic or specific, founded before 1766 (except Brissonian names) are here ignored; and (2) that emended forms of names are employed where a name as originally propounded is believed to have been incorrectly constructed.

It is with the greatest regret that, in reviewing the "Hand-list" from the present generally accepted standpoint of nomenclature, these criticisms seem necessary. No one can have a greater admiration for Dr. Sharpe's work in systematic ornithology than the present reviewer, who regards him as without a peer in his special field of activity, and his "Hand-list" as a fitting close to a long series of monumental works in ornithology.

J. A. ALLEN

*Anfangsgründe der Maxwellschen Theorie verknüpft mit der Elektronentheorie.* By FRANZ RICHARZ. 8vo, pp. ix + 245. Leipzig, Teubner. 1909.

This book, developed from a course of lectures to teachers, assumes on the part of the reader a knowledge of elementary experimental and theoretical electricity, as well as some acquaintance with analytical mechanics, potential theory and differential equations. It is not intended as in any way a complete exposition of electrical theory, but aims, and with success, to treat clearly and with precision a number of fundamental subjects, ranging from simple problems in electrostatics to the electromagnetic theory of

light in media at rest. The treatment, while exact and of necessity involving many equations, is physical rather than mathematical. In the opinion of the reviewer it would be improved by making less use of potentials. Considerable use is made of dynamical and thermal analogies, and the electron theory is in evidence throughout, contributing much to the interest of the work. But few statements in the text are in need of correction. According to one of these *true* magnetism ( $\text{div } \mu H$ ) corresponds to the magnetic pole strength of experimental physics, although a virtual modification of this statement occurs a little later. Also the electromotive force of a generator supplying power is referred to as the potential difference between its terminals on open circuit—an old error of remarkable vitality. The reviewer often wonders what one who defines the electromotive force of a generator in this way thinks about a series dynamo, for example, whose electromotive force for normal current may be thousands of volts, while its terminal potential difference on open circuit is practically nothing. According to another statement of the author, no direct experimental proof had been given, when the book was written, of the development of an electric intensity in an insulator by a changing magnetic field—the converse of the Rowland effect. It will be remembered, however, that such a proof was given some years ago by the experiments of Crémieu, as correctly interpreted by Larmor and H. A. Wilson. With only a few oversights in need of attention, the work as a whole is very free from errors. The printing is excellent.

S. J. BARNETT

#### SCIENTIFIC JOURNALS AND ARTICLES

THE opening (January) number of Volume 11 of the *Transactions of the American Mathematical Society* contains the following papers:

H. F. Blichfeldt: "Theorems on simple groups."

Virgil Snyder: "Infinite discontinuous groups of birational transformations which leave certain surfaces invariant."

E. B. Lytle: "Proper multiple integrals over iterable fields."

C. F. Craig: "On a class of hyperfuchsian functions."

W. D. Macmillan: "Periodic orbits about an oblate spheroid."

THE December number (Volume 16, number 3) of the *Bulletin of the American Mathematical Society* contains: Report of the Princeton Colloquium of the society, by Virgil Snyder; Report of the September meeting of the San Francisco Section, by C. A. Noble; Report of the Winnipeg meeting of the British Association, by J. C. Fields; Report of the Salzburg meeting of the Deutsche Mathematiker-Vereinigung, by E. Dintzl; "Gergonne's pile problem," by H. Onnen; "The integral equation of the second kind, of Volterra, with singular kernel," by G. C. Evans; "Descriptive geometry" (review of recent works by Müller, Loria-Schütte and Wilson), by Virgil Snyder; Review of Jackson and Milne's *First Statics* and Martin's *Text-book of Mechanics*, by F. L. Griffin; "Shorter notices": Beltrami's works, by Eduard Study, Laplanche's *Etudes sur les angles imaginaires* and Thomae's *Bestimmte Integrale und die Fourierschen Reihen*, by J. B. Shaw; "Notes" and "New Publications."

THE January number of the *Bulletin* contains: Report of the October meeting of the society, by F. N. Cole; "Note on the groups generated by two operators whose squares are invariant," by G. A. Miller; "The solution of the equation in two real variables at a point where both partial derivatives vanish," by L. S. Dederick; "Tables of Galois fields of order less than 1,000," by W. H. Bussey; "Bôcher's Integral Equations," by G. A. Bliss; "Shorter notices": Pasch's *Grundlagen der Analysis*, by F. W. Owens; Bennecke's *Zweidimensionale Logarithmentafel*, by E. J. Townsend; Young and Jackson's *Elementary Algebra*, by E. B. Lytle; "Notes," "New Publications."

THE February number contains: Report of the meeting of the Southwestern Section, by O. D. Kellogg; "Note on a new number theory function," by R. D. Carmichael; "Baire's Leçons d'Analyse," by E. R. Hedrick; "Infinite series" (review of Nielsen's

Unendliche Reihen), by J. B. Shaw; "The collineations of space" (review of Sturm's *Geometrische Verwandtschaften*, Volume III.), by Virgil Snyder; "A synoptic course for teachers" (review of Klein's *Elementarmathematik*, Volumes I. and II.), by J. W. Young; "Correction"; "Notes"; "New Publications."

#### THE FORTY-FIRST GENERAL MEETING OF THE AMERICAN CHEMICAL SOCIETY

THE forty-first general meeting of the American Chemical Society was held in Boston in connection with the annual winter meeting of the American Association for the Advancement of Science, December 28-31, 1909. Nearly 600 chemists were present, making this the largest meeting ever held by the society.

On Tuesday, December 28, excursions were made to the breweries of Massachusetts Breweries Company and to the factories of Walter Baker & Co., chocolate and cocoa preparations, the New England Gas & Coke Co. and the Forbes Lithograph Manufacturing Co. In the evening the members enjoyed a complimentary smoker given by the members of the local section at the Hotel Brunswick.

On Wednesday the members of the society went to Cambridge, where a general meeting was held in the New Lecture Hall of Harvard University. They were the guests of the university at lunch at the Harvard Union. The following papers were read:

*Report for the International Committee on Atomic Weights*: F. W. CLARKE.

*Methods Employed in Precise Chemical Investigations*: T. W. RICHARDS.

*On the Constitution of Curcumine—the Coloring Matter of Tumeric*: C. LORING JACKSON and LATHAM CLARKE.

*The Application of Physical Chemistry to the Study of Oleoresins*: CHARLES H. HERTY.

*The Function of Chemistry in College Education*: LYMAN C. NEWELL.

*The Cause of Color in Organic Compounds*: RICHARD S. CURTISS.

*The United States Pharmacopœia and the American Chemical Society*: JOSEPH P. REMINGTON.

*J. A. R. Newlands*: CHAS. E. MUNROE.

*The Past and Future of the Study of Solutions*: LOUIS KAHLBERG.

*The Chemist's Place in Industry*: A. D. LITTLE.

In the evening the president of the society, Dr.