

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."