

88). Some may take this to mean that "the conduct of life" may still be considered (*e. g.*, ethically or "philosophically") apart from science, and, conversely, that science may still have an aspect (*e. g.*, the pursuit of truth) that is independent of the conduct of life.

The author's captivating style is too well known to call for comment. The publishers have given the book a very attractive form.

A. W. MOORE

Allen's Commercial Organic Analysis. Volume IV., Resins, India-rubber, Gutta-percha and Essential Oils. Philadelphia, P. Blakiston's Son and Co. Pp. viii + 466. \$5.00 net.

The subjects covered in this volume are: Resins, by M. Bennett Blackler; India-rubber, Rubber Substitutes and Gutta-Percha, by E. W. Lewis; Hydrocarbons of Essential Oils, by T. Martin Lowry; Ketones of Essential Oils, by T. Martin Lowry; Volatile or Essential Oils, by Ernest C. Parry; Special Characters of Essential Oils, by Henry Leffmann and Charles H. LaWall.

As with the previous volumes of the series, the book contains a very large amount of detailed information which is very valuable for any one who has occasion to work with the great number of organic compounds which are used in industry. The preparation of the successive chapters by chemists who have expert knowledge of the subjects of which they write insures accuracy and a wealth of information which it would be impossible to secure in any other way.

W. A. NOYES

SCIENTIFIC JOURNALS AND ARTICLES

THE April number (volume 12, number 2) of the *Transactions of the American Mathematical Society* contains the following papers:

Anna J. Pell: "Biorthogonal systems of functions."

Anna J. Pell: "Applications of biorthogonal systems of functions to the theory of integral equations."

C. N. Moore: "On the uniform convergence of the developments in Bessel functions."

H. H. Mitchell: "Determination of the ordinary and modular ternary linear groups."

G. D. Birkhoff: "General theory of linear difference equations."

THE April number (volume 17, number 7) of the *Bulletin of the American Mathematical Society* contains: "Groups generated by two operators satisfying two conditions," by G. A. Miller; "Fundamental regions for cyclical groups of linear fractional transformations on two complex variables," by J. W. Young; "On the relative discriminant of a certain Kummer field," by Jacob Westlund; "Note on reciprocal figures in space," by Peter Field; "Mathematical physics for engineers," review of Gans' *Einführung in die Theorie des Magnetismus*, Schaefer's *Einführung in die Maxwellsche Theorie*, and Jahnke and Emde's *Funktionentafeln und Curven*, by E. B. Wilson; "Shorter Notices": Huntington's *Fundamental Laws of Addition and Multiplication in Elementary Algebra*, by N. J. Lennes; Borel's *Théorie de la Croissance*, by R. D. Carmichael; Tannery's *Elemente der Mathematik*, by J. B. Shaw; Weitzenböck's *Komplex-Symbolik*, by C. L. E. Moore; Staude's *Analytische Geometrie des Punktepaars, des Kegelschnittes und der Fläche zweiter Ordnung*, by D. D. Leib; *Festschrift zur Feier des 100 Geburtstages Edouard Kummers*, by L. E. Dickson; Thiele's *Interpolationsrechnung*, by H. L. Rietz; Slaughter and Lennes's *Plane Geometry*, by F. W. Owens; Breckenridge, Mersereau and Moore's *Shop Problems in Mathematics and Lester's Integrals of Mechanics*, by C. F. Craig; *Annuaire du Bureau des Longitudes*, by E. W. Brown; De Montessus' *Leçons élémentaires sur le Calcul des Probabilités*, by E. B. Wilson; "Notes"; "New Publications."

The May number of the *Bulletin* contains: Report of the February meeting of the society, by F. N. Cole; "On the classification of crystals," by Paul Saurel; "Horner's method of approximation anticipated by Ruffini," by Florian Cajori; Review of the New Haven Colloquium Lectures, by G. D. Birkhoff; "Shorter Notices": Bauer's *Vorlesungen*