

BOOKS RECEIVED.

- Le système métrique des poids et mesures.* G. BIGOURDAN. Paris, Gauthier Villars. 1901. Pp. vi + 458. 10 fr.
- A Treatise on Electro-magnetic Phenomena and on the Compass and its Deviations.* COMMANDER T. A. LYONS. New York, John Wiley & Sons; London, Chapman & Hall, Limited. 1901. Pp. xv + 556.
- Phycomyceten and Ascomyceten.* ALFRED MÖLLER. Jena, Gustav Fischer. 1901. Pp. xii + 318 and 11 plates. Mk. 24.
- Elementary Questions in Electricity and Magnetism.* MAGNUS MACLEAN and E. W. MARCHANT. London, New York and Bombay, Longmans, Green & Co. 1900. Pp. 59.
- The Romance of the Heavens.* A. W. BICKERTON. New York, The Macmillan Co.; London, Swan, Sonnenschein & Co., Limited. 1901. Pp. iii + 284. \$1.25.
- Text-book of Zoology, treated from a Biological Standpoint.* OTTO SCHMEIL. Translated from the German by RUDOLF ROSENBLACK. Edited by J. T. CUNNINGHAM. New York, The Macmillan Co.; London, Adams and Charles Black. 1901. Pp. xvi + 493. \$4.00.
- Diseases in Plants.* H. MARSHALL WARD. London and New York, The Macmillan Co. 1901. Pp. xiv + 309. \$1.60.

SCIENTIFIC JOURNALS AND ARTICLES.

THE *Botanical Gazette* for April contains further descriptions of new species of North American trees by Professor C. S. Sargent. Among them are thirteen species of *Crataegus*, which is proving to be one of the most prolific of our genera in species, a new *Betula* from Alaska, and a new *Cupressus* from California. Professor C. O. Townsend writes upon the effect of hydrocyanic acid gas upon grains and seeds. Since this gas has become extensively used for fumigating purposes, it has become important to determine its effect upon the germination of seeds and upon their use as food. Professor Townsend has demonstrated that if the grain and seeds are dry the influence of the gas upon the vitality is far less marked than if they are moist. Dry seeds treated with the gas are not injured for food, but damp seeds should not be used until several hours after removal from the gas. Mr. A. C. Life contributes an interesting study upon the tuber-like rootlets of *Cycas revoluta*,

in which the rôle played by the fungi and by the algae upon the formation of these tubercles is worked out. Mr. Newton B. Pierce describes a new bacteriosis of the walnut which has become a well-marked disease in California. The active organism proves to be a new species of *Pseudomonas*. The usual book reviews, minor notices and notes for students complete the number.

THE second (April) number of Volume II. of the *Transactions* of the American Mathematical Society contains the following papers: 'Canonical Forms of Quaternary Abelian Substitutions in an Arbitrary Galois Field,' by L. E. Dickson; 'Certain Cases in which the Vanishing of the Wronskian is a Sufficient Condition for Linear Dependence,' by M. Bôcher; 'An Elementary Proof of a Theorem of Sturm,' by M. Bôcher; 'On the Determination of Surfaces capable of Conformal Representation upon a Plane in such a Manner that Geodesic Lines are represented by Algebraic Curves,' by H. F. Stecker; 'On the Existence of a Minimum of Integral $\int_{x_0}^{x_1} F(x, y, y') dx$ when x_0 and x_1 are Conjugate Points, and the Geodesics on an Ellipsoid of Revolution; a Revision of a Theorem of Kneser's,' by W. F. Osgood; 'On the Geometry of Planes in a Parabolic Space of Four Dimensions,' by I. Stringham.

THE March number of the *Bulletin* of the American Mathematical Society contains the following papers: 'Report of the December Meeting of the Chicago Section,' by Professor T. F. Holgate; 'Indirect Circular Transformations and Mixed Groups,' by Professor H. B. Newson; 'Pure Mathematics for Engineering Students,' by Professor A. S. Hathaway; 'Review of Adams' Unpublished Papers,' by Professor E. W. Brown; 'Notice sur M. Hermite' (translation of an address before the Paris Academy of Sciences), by M. C. Jordan; 'Notes'; 'New Publications.' The April number contains the following papers: 'Report of the February Meeting of the Society,' by Professor F. N. Cole; 'Green's Functions in Space of One Dimension,' by Professor M. Bôcher; 'On a System of Plane Curves having Factorable Parallels,' by Dr. Virgil Snyder; 'Possible