

ers can be obtained, he will publish a Journal of geology and paleontology, which he hopes will become an international magazine, since he will accept articles written not only in Italian, but also in English, French, and German. It is to appear on alternate months, and contain from fifty to a hundred quarto plates a year. The subscription price is fixed at thirty scudi (dollars).

—The fifth annual meeting of the Ottawa field-naturalists' club was held on Tuesday, March 20. The report of the council shows that the club continues successfully the work for which it was organized. Three excursions were held during the summer, and five *soirées* during the winter. The club received during the year many valuable donations and exchanges, and published Transactions (No. 3), consisting of sixty-six closely printed pages, and two good plates. The number of members is a hundred and eight. Sixteen new members have been elected during the year. Notwithstanding the cost of publishing transactions, and increased general expenses, the club has a satisfactory balance on hand. The following officers were elected for 1883-84: president, H. B. Small, M.D.; vice-presidents, R. B. Whyte and Prof. J. Macoun; secretary, W. H. Harrington; treasurer, W. P. Anderson.

—Dr. George M. Steinberg has written a book, soon to be published, on 'Photomicrographs, and how to make them,' which will be illustrated with seventeen heliotype plates.

—In SCIENCE, p. 192, column 1, lines 10, 11, the clause, "the coal next the mouth not partaking of the motion of that farther in the hill," belongs to the preceding, and not the succeeding sentence.

RECENT BOOKS AND PAMPHLETS.

Arnold, G. M. Robert Pocock, the Gravesend historian, naturalist, antiquarian, and printer. London, *Low*, 1883. 8°.

Bonnier, G., et Leignette, A. Premiers éléments des sciences usuelles. Leçons des choses: or, argent, monnaies. Paris, *Dupont*, 1883. 36 p., illustr. 12°.

Boston society of natural history. Constitution and by-laws, with a list of officers and members. [Boston], 1883. 35 p. 16°.

Braconnier, M. A. Description géologique et agronomique des terrains de Meurthe-et-Moselle. Nancy, *imp. Berger-Levrault et Cie*, 1883. 444 p., illustr. 8°.

Bradshaw, J. New Zealand as it is. London, *Low*, 1883. 8°.

Brogie, duc de. La science et la religion: leur conflit apparent et leur accord réel; leçon d'ouverture du cours d'apologétique chrétienne professée à l'Institut catholique de Paris. Paris, *imp. Levé*, 1883. 62 p. 18°.

Cadet, F. Lettres sur la pédagogie, résumé du cours de l'hôtel de ville (mairie du 3^e arrondissement). Paris, *Chaix*, *imp.*, 1883. 310 p. 16°.

Caspari. Détermination de positions géographiques en Cochinchine. Paris, *imp. nationale*, 1883. 30 p. 8°.

Cassino, S. E. The international scientists' directory; containing the names, addresses, special departments of study, etc., of amateur and professional naturalists, chemists, physicists, astronomers, etc., in America, Europe, Asia, Africa, and Oceania. Boston, *Cassino*, 1883. 8+150+299 p. 12°.

Catalogue de la collection archéologique provenant des fouilles et explorations de M. Désiré Charnay au Mexique et dans l'Amérique centrale pendant les années 1880, 1881, 1882, exposée provisoirement au palais du Trocadéro. Paris, *Tremblay*, 1883. 14 p. 8°.

Charles, E. Lectures de philosophie, ou Fragments extraits des philosophes anciens et modernes. 2 tom. Paris, *Belin et fils*, 1883. I., 8+556 p. II., 500 p. 12°.

Charpentier, A. Étude de l'influence de la coloration sur la visibilité des points lumineux. Paris, *imp. Davy*, 1883. 7 p. 8°.

— Note complémentaire relative à l'influence de la surface sur la sensibilité lumineuse. Paris, *imp. Davy*, 1883. 7 p. 8°.

Church, A. H. Precious stones considered in their scientific and artistic relations; with a catalogue of the Townshend collection of gems in the South Kensington museum. With a colored plate and woodcuts. London, *Chapman*, 1883. 116 p. 8°.

Dauge. Leçons de méthodologie mathématique à l'usage des élèves de l'école normale des sciences, annexée à l'Université de Gand. Gand, *G. Jacqmain*, 1883. 416 p. 4°.

Delage, A. Éléments d'histoire naturelle des pierres et des terrains (programmes officiels du 2 août, 1880), pour la classe de quatrième. Paris, *imp. Martinet*, 1883. 173 p., illustr. 16°.

Eve, H. W., Sidgwick, A., and Abbott, E. A. Three lectures on subjects connected with the practice of education, delivered in the university of Cambridge in the Easter term, 1882. Cambridge, *Cambridge Warehouse*, 1883. (Pitt press series.) 92 p. 12°.

Fabre, G. Étude sur les eaux minérales de Caprem (Hautes-Pyrénées). Paris, *imp. Davy*, 1883. 56 p. 8°.

Greer, H. The storage of electricity. N.Y., *Coll. electr. eng.*, 1883. 40+14 p. 8°.

Hamard. L'Age de la pierre et l'homme primitif. Lyon, *imp. Wallener et Cie*, 1883. 13+503 p., illustr. 18°.

Hanstein. Le Protoplasma considéré comme base de la vie des animaux et des végétaux. Traduit de l'allemand. Paris, *Coulommiers*, 1883. 132 p. 18°.

Hoffman, F., and Power, F. B. A manual of chemical analysis as applied to the examination of medicinal chemicals. Philad., *Henry C. Lea's Son & Co.*, 1883. 628 p. 8°.

Hull, E. Contributions to the physical history of the British Isles. With a dissertation on the origin of Western Europe and of the Atlantic Ocean. London, *Stanford*, 1883. 150 p., illustr. 8°.

Jacques, V. Éléments d'embryologie, leçons recueillies à l'Université de Bruxelles. Bruxelles, *H. Manceaux*, 1883. 108 p., illustr. 12°.

Kengla, Louis A. Contributions to the archeology of the district of Columbia; an essay to accompany a collection of aboriginal relics, presented for the Toner medal, 1882. Washington, *Waters, pr.*, 1883. 4+42 p., 5 pl., map. 8°.

Lorentz, B., et Parade, A. Cours élémentaire de culture des bois créée à l'école forestière de Nancy. Paris, *Poitiers*, 1883. 28+721 p. 8°.

Malley, A. C. Micro-photography; including a description of the wet collodion and gelatino-bromide processes; together with the best methods of mounting and preparing microscopic objects for micro-photography. London, *Lewis*, 1883. 142 p. 8°.

Morelle, E. Recherches chimiques sur la bergénite. Lille, *imp. Danel*, 1883. 30 p. 8°.

North Carolina.—Agricultural experiment station. Second biennial report of the director, Charles W. Dabney. 1881-82. Raleigh, *State*, 1883. 24 p., pl. 8°.

— *The same.* [Bulletins.] i-iv. 3 nos. [Raleigh], 1883. 20, 32, 16 p. 8°.

Page, D. Advanced text-book of physical geography. 3d ed., revised and enlarged by Charles Lapworth. London, *Blackwoods*, 1883. 350 p. 8°.

Pillsbury, J. H. Development of the planula of *Clava leptostyla*, Ag. N.Y., *Thompson & Moreau, pr.*, 1882. 3 p., 1 pl. 8°.

Report of the scientific results of H.M.S. Challenger. Zoology, vol. vi. London, *Longmans*, 1883. 4°.

Rogers, J. E. T. Ensilage in America; its prospects in English agriculture. London, *Sonnenschein*, 1883. 162 p. 8°.

Rollet, J. Influence des filtres naturels sur les eaux potables. Lyon, *imp. Giraud*, 1883. 46 p. 8°.

Romanes, G. J. Animal intelligence. N.Y., *Appleton*, 1883. (Intern. sc. series.) 14+520 p. 12°.

Scott, R. H. Elementary meteorology. London, *Paul*, 1883. (Intern. sc. series.) 420 p., illustr. 8°.

Teale, T. P. Economy of coal in house fires; or, how to convert an ordinary fire grate into a slow combustion stove at a small cost. London, *Churchill*, 1883. 50 p., illustr. 8°.

White, W. F. Ants and their ways. With an appendix giving a complete list of genera and species of the British ants. London, *Religious tract society*, 1883. Illustr. 8°.

Wild flowers of Switzerland; or, a year amongst the flowers of the Alps. By H. C. W. London, *Low*, 1883. 76 p. 4°.