

cleared up are as in the case of the nerve cord, such as will require the free use of macerations and surface preparations of fresh tissue.

H. V. WILSON.

SCIENTIFIC JOURNALS.

The American Journal of Science for October opens with an important article by Professor C. Barus, describing experiments on the incompressibility of celloids. The author points out that as with gelatine the same body may manifest itself both as a liquid and a solid, so the same ether may act, as the case may be, either as a liquid or as a solid. Professor C. E. Beecher concludes his series of articles on the origin and significance of spines. He has shown that spinose forms were all derived from non-spinose ancestors, and were simple and inornate during their young stages. Spines represent an extreme of superficial differentiation and out of spinose types no new types are developed. Director Chas D. Walcott writes on the brachiopod fauna of the quartzitic pebbles of the Carboniferous conglomerates of the Narragansett Basin and Rhode Island. The number also includes articles on the eolian origin of loess, by C. R. Keyes; on dikes of felsophyre and basalt in Paleozoic rocks in central Appalachian Virginia, by N. H. Darton and A. Keith; on diaphorite from Montana and Mexico, by L. J. Spencer; on the detection of sulphides, sulphates, sulphites and thiosulphates in the presence of each other, by P. E. Browning and E. Howe, and on twinned crystals of zircon from North Carolina, by W. E. Hidden and J. H. Pratt.

The American Naturalist for September publishes the Vice-Presidential addresses at Boston of Professors Packard and Farlow and contains in addition an article by Mr. E. O. Hovey, describing the museums he visited last year when in Europe attending the International Geological Congress. Special attention is paid to geology, mineralogy and paleontology.

PROFESSOR H. POINCARÉ, of the University of Paris, contributes to the October *Monist* an article 'On the Foundations of Geometry,' in which he considers the questions of the origin of space and the feeling of direction, of the

classification of displacements, of the properties of groups and sub-groups, of continuity and discontinuity, of the notion of point and number of dimensions, etc. In the same number Professor Ernst Schroeder, of Karlsruhe, has an article 'On Pasigraphy,' in which he sums up the history of the movement, and briefly characterizes the present state of research in this department. Dr. Topinard concludes his series, 'Science and Faith,' with an article on 'The Social Problem,' in which he outlines a plan for the rehabilitation of society by systematic interference with the workings of so-called 'natural' evolution.

THE Educational Review for October contains the following articles: 'The Public Education Association of New York,' by Mrs. S. Van Rensselaer; 'Study of Education at the German Universities,' by Walter L. Herve; 'Herbartian Philosophy and Educational Theory,' by Arnold Thompkins; 'Why College Graduates are Deficient in English,' by Annie E. P. Searing; 'The New Jersey System of Public Instruction,' by James M. Green, and 'What Modern Philosophy Offers Secondary Education,' by O. L. Manchester and H. H. Manchester.

NEW BOOKS.

Thermodynamics of the Steam-engine and other Heat-engines. CECIL H. PEABODY. New York, John Wiley & Sons; London, Chapman & Hall, Ltd. 1898. 4th Edition. Rewritten and Reset. Pp. iv + 522. \$5.00.

The Discharge of Electricity through Gases. J. J. THOMSON. New York, Charles Scribner's Sons. 1898. Pp. x + 203. \$1.00.

Theories of the Will in the History of Philosophy. ARCHIBALD ALEXANDER. New York, Charles Scribner's Sons. 1898. Pp. viii + 357. \$1.50.

Four-footed Americans and Their Kin. MABEL OSGOOD WRIGHT. Edited by FRANK M. CHAPMAN. New York and London, The Macmillan Company. 1898. Pp. xii + 432.

Differential and Integral Calculus. P. A. LAMBERT. New York and London, The Macmillan Company. 1898. Pp. x + 245. \$1.50.

An Introductory Logic. JAMES EDWARD CREIGHTON. New York and London, The Macmillan Company. 1898. Pp. xiv + 392. \$1.10.