SCIENCE

FRIDAY, OCTOBER 12, 1900.

CONTENTS:

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson N. Y.

*THE REVIVAL OF ORGANIC CHEMISTRY.**

CUSTOM has placed upon the presidents of the Chemical Society the duty of delivering an annual address, and in pursuance of that duty I spoke to you last year upon the 'Revival of Inorganic Chemistry.'† I endeavored to show that this branch, so long overshadowed by organic chemistry, so long but little more than a collection of almost unconnected facts, subordinate to analytical and technical chemistry and to mineralogy, is gradually, and especially since the discovery of the Periodic Law, rising to the rank of an independent and important division of our science.

I have chosen for my present topic one which is complementary to the former, 'The Revival of Organic Chemistry.' I may perhaps appear to most of you almost facetious in speaking of the revival of a branch of chemistry which has been in rapid growth for so many decades, which never counted a greater number of adherents than to-day, and which, regarded from the systematic standpoint, is not only the most highly developed portion of chemistry, but also one of the most highly developed of all the sciences. Yet I believe that the use of the term *revival* is justifiable. I do not share the opinion which appears to be held by some inorganic and physical chem-

* Annual Address of the President of the Chemical Society of Washington, October 11, 1900.

† SCIENCE, April 28, 1899.

Messrs. D. Appleton & Company include a new edition of Herbert Spencer's 'First Principles' and 'Elementary Physics,' by C. Hanford Henderson, Ph.D. 'Physical Experiments,' a laboratory manual, by John F. Woodhull, Ph.D., and M. B. Van Arsdale. 'Animal Life,' a first book of zoology, by David Starr Jordan, M.S., M.D., Ph.D., LL.D., and Vernon L. Kellog, M.S. 'The Elementary Principles of Chemistry,' by Abram Van Eps Young, Ph.B. 'An Analytical Key to some of the Common Wild and Cultivated Species of Flowering Plants,' by John M. Coulter, A.M., Ph.D. 'A Text-Book of Geology,' by Albert Perry Brigham, A.M. 'Plant Studies,' an elementary botany, by John M. Coulter, A.M., Ph.D.

BOOKS RECEIVED.

Street Pavements and Paving Materials. GEORGE W. TILLSON. New York, John Wiley & Sons. London, Chapman & Hall, Limited. 1900. 8vo., xii + 532 pp.; 60 figures. $4.00.

Die partiellen Differential-Gleichungen. HEINRICH WEBER. Braunschweig, Friedr. Vieweg & Sohn. 1. Band. 4th ed. Pp. xvii + 506. M. 10.

Untersuchungen zur Blutgerinnung. ERNST SCHWALBE. Braunschweig, Friedr. Vieweg & Sohn. 1900. Pp. vi + 89. M. 2.50.

Verhandlungen der deutschen Zoologischen Gesellschaft. J. W. SPENGEL. Leipzig, Wilhelm Engelmann. 1900. Pp. 170. M. 6.

Chemie der Eiweisskörper. OTTO COHNHEIM. Braunschweig, Friedr. Vieweg & Sohn. 1900. Pp. x + 315.

Lehrbuch der Mechanik. ALEX. WERNICKE. Braunschweig, Friedr. Vieweg & Sohn. 1900. Vol. I., pp. xv + 314. Vol. II., pp. xi + 373.

Leçons de chemie physique; Relations entre les propriétés et la composition. J. H. VAN'T HOFF. Paris, A. Hermann. 1900. Part III. Pp. ii + 170.

SCIENTIFIC JOURNALS AND ARTICLES.

The American Naturalist for September opens with an account of 'Unusual Modes of Breeding and Development among Anura,' by Lilian V. Sampson, to which is appended a valuable bibliography of literature on the subject. 'The Intestine of Amia calva' is described by William A. Hilton, most of the paper being devoted to its microscopic structure. It would seem best not to use the term 'intestinal convolutions' where the folds of the lining only are meant since the phrase is in general use among zoologists to denote the folds of the entire intestine. Frank Russell presents some 'Studies in Cranial Variation' based on some two thousand skulls of aboriginal Americans. Part XIII. of 'Synopsis of North American Invertebrates,' by G. H. Parker is devoted to the Achnaria. It is to be presumed that this series when completed will be published in book form on account of its great value to the 'general zoologist' as well as the student. There are the customary numerous reviews.

The Plant World for September contains the following articles: 'The Harts-tongue in New York and Tennessee' by William R. Maxon, 'Some Local Common Names of Plants' by C. F. Saunders, 'The Twin-flower (*Linnæa borealis*) in Pennsylvania' by Thos. C. Porter, 'Naturalized Compositæ' by Frank Dobbin, an extensive list of 'Plant Names of the Southwestern United States' by Myrtle Zuck Hough and 'The Southwestern Limit of *Juniperus Sabina*' by E. J. Hill. In the supplement, under 'The Families of Flowering Plants,' Charles Louis Pollard treats of the orders Scitamineæ and Microspermæ.

THE first article in *Bird Lore* for October is on 'The Bower-birds of Australia' by A. J. Campbell, illustrated with some fine photographs of the bowers of these interesting birds. Captain Gabriel Reynaud gives the second and concluding part of his article on 'The Orientation of Birds' concluding that the power to return over long distances is due to the sense of direction located in the semi-circular canals. Mrs. Henry W. Nelson tells, with illustrations of 'A Pair of Killdeer' and Thos. H. Montgomery, Jr., describes 'The Bird Course at the Marine Biological Laboratory, Woods Holl, Mass., during the summer of 1900,' the main aim of the course being to present suggestions as to lines of work. In the section 'For Young Observers' Alick Wetmore gives an interesting sketch entitled 'My Experience with a Red-headed Woodpecker' and in the 'Notes' Caroline G. Soule relates an experiment tried by her of attaching a painted paper flower, con-

taining a small bottle of syrup, on a trumpet vine, and finding that it was regularly visited by a humming-bird. The editor discusses the province of the Audubon Societies and there are reports from some of the Societies themselves.

The *Popular Science Monthly* for October, completing the 57th volume, opens with the presidential address of Sir William Turner before the British Association for the Advancement of Science, describing the development of biological science during the present century. Professor Frederick G. Novy's article on the 'Bubonic Plague' reviews especially its ravages in the past. There follow articles on 'Gasoline Automobiles,' by William Baxter, Jr., on 'Some Scientific Principles of Warfare,' by William J. Roe, on 'Modern Mongols,' by F. L. Oswald, on 'The Religious Beliefs of the Central Eskimo,' by Professor Franz Boas, and on 'Mental Energy,' by Edward Alkinson. The present instalment of 'Chapters on the Stars,' by Simon Newcomb, is devoted to variable stars and the parallaxes of the stars. The number contains the index to the current volume. A journal such as the *Popular Science Monthly* is essential for the development and recognition of science in America, and the contents of the first volume under its new management show that the *Monthly* has secured the cooperation of the leading American men of science.

The Mazamas, a mountaineering club of the Western States proposes to publish a quarterly magazine devoted to the mountains, forests and natural scenery of America, especially of the northwest. The subscription which is $1.00, may be sent to Mr. W. G. Steel, 407 Ross St., Portland, Ore.

DISCUSSION AND CORRESPONDENCE.

AN EMINENT AMERICAN MAN OF SCIENCE.

To the Editor of Science: In Science for August 17th and 31st (pp. 277, 346) are names suggested for inscription 'in the Hall of Fame of the New York University.' Those of naturalists are John James [not Adam] Audubon, Spencer F. Baird, Asa Gray, Isaac Lea, John Torrey, and, later, O. C. Marsh, E. D. Cope, James Hall, J. D. Dana, J. S. Newberry and Alexander Winchell. There is one naturalist at least as much entitled to such recognition as almost any one of the preceding—Thomas Say, once of Philadelphia. If it is intended to indicate the historical development of biology in America, Thomas Say should stand pre-eminent. He was by odds the most versatile and accomplished of the early American naturalists and has left his impress on the zoology of the country to a greater extent than any of his contemporaries or, in fact, if we measure the range of his studies, than any of his successors. He was fully abreast of the science of his times and to a greater extent than any English naturalist, except Leach. A large proportion, if not most, of the common species of several orders of invertebrate animals were first named and intelligibly described by him. Numerous of the most common land and fresh-water shells, crustaceans, worms, and insects were introduced into the system by him. He paid attention also to the mammals, birds and reptiles, leaving the fishes alone to his friend, C. A. Lesueur.

You ask: "Are any of the readers of this Journal prepared to suggest how many men of science should be included among the 100 most eminent Americans no longer living, and who they should be?" Whatever the number, Say should be accorded a place in the very first rank among zoologists. In my judgment Dana and Cope are the only ones whose rank is equally high. Not far behind are Joseph Leidy and William Stimpson (I suppose that Louis Agassiz has not been proposed because he was born and became eminent in another land.)

It may be of interest to learn that Say's name has been inscribed among those of illustrious Americans in the vestibule of the Library of Congress. The Hon. Bernard R. Green, superintendent of the Library building, did me the honor of consulting with me on the selection of men of science for such distinction, and I suggested to him the title of Say. His name was paired with Dana's near the entrance into the Librarian's office. I understand that he has been congratulated on the aptness of the selection.

Theo. Gill.

Washington, October 1, 1900.