SCIENCE

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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 LAST QUARTER—A REMINISCENCE AND AN OUTLOOK.*

NINETY years ago, a botanist holding a professor's chair in Williams College for the supposed mismanagement of an estate in Columbia county was confined for a short period in a debtor's prison in New York City. Years afterward he related to a friend that as a relief to the monotony of confinement he found amusement in teaching botany to the keeper's son whom he described as a bright youth of fourteen years. From such an inauspicious beginning came the real development of botany in this city, for while Hosack had attempted to develop his Elgin Gardens earlier in the century, the above episode was the beginning of a career that resulted in the rapid advance of botanical science in New York. It is only proper to add that the professor above noted was no less a personage than Amos Eaton, author of the first series of American botanical manuals, and the willing pupil was none other than John Torrey, the Nestor of American Botany.

Were we tracing the full pedigree of botany in New York, it would be necessary to follow the record two generations back of Torrey, for it was Hosack, the originator of the first botanic garden of New York who instructed and assisted Amos Eaton in his early botanical studies while the latter was still a law student in New York City, and more specially after he had passed on to his higher work of instruction. Hosack's Botanical Garden at 54th Street and Madison Ave. was too far out of town for the New Yorkers of 1801–1806 to visit, and it passed over finally to Columbia College and laid a solid foundation for the financial endowment of that institution, as property

* Address of Retiring President, Botanical Society of America.

by inoculation with pure cultures of bacteria obtained from the Cuban leaf, but without success. Perhaps the most interesting part of Dr. Loew's work is the proof that microbes play no essential part in the normal tobacco fermentation, and that the active agents are oxidizing enzymes. These exist in the green leaf, but are able to manifest their peculiar power of utilizing atmospheric oxygen also during curing and fermentation, when unopposed by the normal physiological processes of the living cells. At least three of these are present—an oxidase, a peroxidase and catalase. The documents contain much interesting information on the subject of oxidizing enzymes, together with speculative discussion of their nature and mode of action, which may or may not stand the test of future developments. With the revival of the study of catalytic phenomena now in progress from the standpoint of physical chemistry it is to be hoped that vegetable physiology will not have to wait long for important light on this still obscure subject.

The documents encourage the hope that the preparation of tobacco, which up to the present has been based on empirical procedure, will before long be conducted in as scientific a manner as is already the case with alcoholic beverages. They also afford an excellent illustration of the manner in which a government department, existing and working solely for practical purposes, is nevertheless compelled to encourage studies of broad scientific interest.

H. N. Stokes.

The Birds of Eastern North America. Part II, Land Birds. Key to the Families and Species. By Charles B. Cory. Illustrated. Special edition printed for the Field Columbian Museum, Chicago. Boston. 1899. Small 4to. Pp. 131–387.

Ornithologists, during the rapid growth of popular bird study in the past few years, have witnessed the production of all kinds of bird literature. In the great variety that has been put forth, the general effort has been for untechnical descriptions with sufficient accuracy to stand the test of practical utility. Mr. Cory has accomplished this end to a considerable degree in several of his books. In the 'Land Birds,' we have neither an exhaustive manual nor a pocket key, but an easy ornithology for beginners in the shape of a profusely illustrated key. It is continuous in pagination with the volume already published on the water birds and the two are obviously intended to be used together, for the useful introductory preface and glossary of the first part are not reprinted in the second. The book begins with a key to families, illustrated by outlined drawings of bills, wings, tails, and feet, and much reduced halftones of species characteristic of the various families. After this comes the key to species, which is the body of the book; then follows a systematic list of both land and water birds, giving in general terms the geographic distribution of each. The species are divided into groups by absolute characters, such as length of wing and distinctive colors, which could not be misconstrued even by the veriest amateur; technical terms are avoided as far as possible. The descriptions are brief, scarcely more than diagnoses, but more detailed than those of an ordinary key. The illustrations are not of uniform excellence, but serve their purpose fairly well. They are conveniently inserted in the text which refers to them and are repeated when necessary. The book is a little large for use in the field, but for the actual work of identification at the study table it should be a most valuable aid, particularly to the beginner.

W. H. Osgood.

SCIENTIFIC JOURNALS AND ARTICLES.

The Journal of the Boston Society of Medical Sciences for June brings the fourth volume to a close and is accompanied by the index. The opening article on 'Pathological Changes affecting the Islands of Langerhans of the Pancreas' is by Eugene L. Opie, and 'The Influence of Defibrination on the Secretion of the Kidney' is discussed by Franz Pfaff and Vejux-Tyrode. 'A New Method of distinguishing Human from other Mammalian Blood in Medico-Legal Cases' is described by Ernest L. Walker, based upon the different characters of the granules of the polymorphonuclear leucocytes of the blood of various mammals and the ability to recognize these differences in dried blood by appropriate treatment and methods of staining. 'Some

Laboratory Apparatus' is noticed by Frederic P. Gorham and 'Methods of staining Flagella,' by W. H. Robey, Jr. Finally an abstract is given of a paper on the 'Action of Drinking-water on Metals,' by Charles Harrington, in which among other interesting points it is noted that the same water may act very differently at different times.

The Osprey for June begins with Part VI. of 'Birds of the Road,' by Paul Bartsch; some 'Bird Notes,' by Lady Broome, are reprinted from the *Cornhill Magazine*, and in the fourth part of William Swainson and his Times,' by Theodore Gill, we are told of his literary work. The editor discusses the 'Significance and Etymology of the Word Mammals,' calling attention to the fact that the commonly accepted derivation of the word is incorrect, and that the term Mammalia, from which it comes, was coined by Linnæus in analogy with *animalia*, to describe the class mammalia which he was the first to correctly define.

The Auk for July is an unusually large number, containing articles of much interest, not only to the professional ornithologist, but to the general reader. The 'Occurrence of *Larus glaucescens* and other American Birds in Hawaii' is noted by H. W. Henshaw, and this is followed by a graphic and gracefully written article, 'Notes on the Breeding Habits of the American Golden-eye Duck or Whistler,' by William Brewster. The 'Ecology of the Maryland Yellow-throat and its Relatives' is treated at length by William Palmer. 'Notes on a Few Species of Idaho and Washington Birds' are contributed by John O. Snyder, and a 'Description of a New Shearwater from the Hawaiian Islands' is given by H. W. Henshaw. A. W. Anthony tells of the Nesting Habits of the Pacific Coast Species of the Genus *Puffinus*.' E. W. Nelson gives 'Descriptions of Thirty New North American Birds,' and Reginald Heber Howe describes 'A New Subspecies of the Genus *Hylocichla*.' 'An account of the Nesting Habits of Franklin's Rosy Gull (*Larus franklinii*), as observed at Heron Lake in Southern Minnesota,' is given by Thomas S. Roberts, and the concluding paper 'Notes on a Collection of Bahama Birds,' is by Outram Bangs. The articles on nesting habits are all illustrated, the plate showing the burrows of the Wedge-tailed Petrels being remarkably interesting. The customary numerous notes and reviews complete the number.

THE *New York Medical Journal*, long published by Messrs. D. Appleton & Co., has been sold to Mr. R. Elliott, an advertising agent in New York City. It is to be hoped that the Journal will remain under the same editorial management as at present, as it is one of the few American medical journals that have consistently maintained a high standard.

The Proceedings of the Zoological Society of London for June contains Dr. A. Smith Woodward's full paper on the much-discussed remains of *Grypotherium* (*Neomylodon*) *listai* from Patagonia. The specimens are described in detail and the affinities of the animal made clear. They were found on the floor of a cave, in a large enclosure, associated with cut hay and much excrement, and Dr. Woodward concludes that we can hardly refuse to believe that this great ground sloth was actually kept and fed by an early race of man.

DISCUSSION AND CORRESPONDENCE.

KITE *vs.* BALLOON.

EDITOR OF SCIENCE: The high kite-flight described in SCIENCE of July 6, 1900, was exceeded on July 19th, when, by means of six kites attached at intervals to four and three-quarters miles of steel wire, the meteorograph was lifted 15,170 feet above Blue Hill, or 15,800 feet above the neighboring ocean. At the time that the temperature was 78° near the ground, it was about 30° at the highest point reached, the air being very dry and the wind blowing from the northwest with a velocity of 26 miles an hour.

The altitude reached in this flight probably exceeds the greatest height at which meteorological observations have been made with a balloon in America. The highest observations that have been published were made by the late Professor Hazen of the Weather Bureau in an ascent from St. Louis, June 17, 1887, to a height of 15,400 feet.

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