

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