

wattles, probably *Casuarium galeatus*, Vieill.; and a Masked or Blue-faced Gannet (*Sula cyanops*, *S. personata*) from the Royal Scottish Museum.

*The Elder Edda and Ancient Scandinavian Drama.* By Dr. Bertha S. Phillpotts. Pp. xi+216. (Cambridge: At the University Press, 1920.) 21s. net.

THE publication of this important monograph on the Elder Edda furnishes a scientific basis for the interpretation of this collection of primitive Icelandic poetry. Up to the present the attempt to localise these poems by differentiating between the literary and historical outlook of the Norwegians and Icelanders has yielded contradictory results, and the same is true of the effort to establish a relative chronology of the poems by attributing cases of similarity of expression or even of metre to direct imitation. In short, the reliance on philology, and on philology alone, as a key to the problem has proved to be fruitless. The line of investigation now followed, based on recent work in connection with the drama generally, and particularly with that of the Greeks, promises more hope of success. The poems are now shown to have originated in primitive folk-drama, for the existence of which ample evidence is adduced. The Eddic poets failed to secure epical expression because they were hampered by this dramatic tradition. The book is not easy reading, because the author has tried to combine the historical with the literary interpretation, and its completion has been hindered by the loss of some notes and manuscript while she was engaged in war work. It is, however, a fine piece of literary criticism, and the translations of passages in the Edda which form an important part of the text are so good that it may be hoped that the author will supply a complete version of this remarkable collection of early poems.

*An Introduction to Bacterial Diseases of Plants.* By Erwin F. Smith. Pp. xxx+688. (Philadelphia and London: W. B. Saunders Co., 1920.) 50s. net.

THIS treatise, the first of its kind on the bacterial diseases of plants, is written by a recognised authority, whose work epitomises a considerable part of the history of the subject from the time when Burrill discovered, in 1882, that the fire-blight of apple- and pear-trees is due to *Bacillus amylovorus*. Since that time the number of known bacterial diseases in plants has greatly increased, and such diseases have now been described and studied in a large number of orders of flowering plants, as well as in Cycads and Pinaceæ. The first part of this work deals with the general relations of the bacteria to the host plants, the second part with methods of culture and technique—a field in which the author is a past master—while the main body of the work is devoted to a detailed study of fourteen selected diseases, including *Bacterium campestre*, the cause of black-rot in Crucifers; *Bacillus phytophthorus*, which produces a black-rot in potatoes;

*B. amylovorus*, and *Bacterium tumefaciens*, the cause of crown-gall in many plants. The last-named produces tumours in the plant which the author, in his pioneer studies of cross-inoculation, has not hesitated to compare with cancer. The work is admirably illustrated, and will be of great service to all who are interested in plant pathology. R. R. G.

*Highways and Byways in Northumbria.* By P. Anderson Graham. Pp. xviii+380. (London: Macmillan and Co., Ltd., 1920.) 7s. 6d. net.

THIS volume is mainly of architectural and archaeological interest, and should prove a delightful companion to all whose interests lie in those directions. Mr. Graham takes his readers up and down the country, missing little that is quaint or has the romance of age. Naturally, he has much to say about the Roman wall and Holy Island, but the book is well balanced, and shows no undue favour to any part of the county. There is some account of the wild-cattle of Chillingham, and a few notes on the bird life of the Farne Islands, but otherwise natural history comes in for little notice. More than a hundred sketches by the late Mr. Hugh Thomson add to the charm of the book.

*Botany with Agricultural Applications.* By Prof. J. N. Martin. Second edition, revised. Pp. xii+604. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1920.) 21s. net.

ALTHOUGH another introductory botanical textbook might seem superfluous, yet this one, written especially for agricultural students, has certain features which justify its existence. The first part is concerned with the structure and physiology of seed plants, and a useful feature is the almost exclusive use of plants which are of interest particularly to the farmer in the Middle Western States, where the work was written. The second part takes up all the plant groups, and again plants of economic interest are introduced in many instances. The final chapters form an elementary introduction to the subjects of ecology, variation, heredity, and evolution in plants. Many new drawings are introduced, and although they vary much in quality, some of them will form a useful addition to plant illustrations.

*Phytoplankton of the Inland Lakes of Wisconsin.* Part i. By G. M. Smith. (Wis. Geol. and Nat. Hist. Survey, Bull. No. 57, Scientific Series, No. 12.) Pp. iii+243+51 plates. (Madison, Wis., 1920.)

THIS work is a systematic treatment of the Myxophyceæ, Phæophyceæ, Heterokontæ, and the Chlorophyceæ, excluding the Desmidiaceæ, of the region mentioned. The large number of forms considered are well illustrated with line drawings, and several new genera and species are described.