

yard manure is the true restorer of fertility, the very milk of plants, the very life-blood of the soil, if such an expression may be allowed. Farmyard manure during its decay has its elements liberated from organic combinations gradually, and when wanted, as well as in a condition so available for the food of plants, that as a manure it is inimitable. No other manure can in all cases be applied to all crops with the same marked effects. It is strange that farmyard manure alone acts promptly and certainly upon leguminous crops such as beans, peas, and clover. No chemical manure, whether nitrogenous or phosphatic, can be relied upon to affect these crops, and yet farmyard dung tells upon them at once. Dr. Griffiths lays stress upon the fact that animals retain phosphates and nitrogen for the formation of bones, nerves, and muscles, and therefore to some extent rob the land. This fact is, however, entirely over-ridden by the customary importation of extraneous matter on to the farm in the form of foods purchased. The amount of phosphates and nitrogen removed by animals in their bodies is as nothing compared to the tons of cake, meal, hay, and even roots which are imported. Neither must we forget the town manure which is so often bought by farmers, and which will compensate for such a loss as that which Dr. Griffiths fears. Too much prominence is given to chemical manures, and too little importance is attached to stock-feeding as a manurial agency. Dr. Griffiths quotes many writers upon matters on which they are scarcely to be regarded as authorities. On such matters he might just as well have told us his opinion, instead of backing it up with the name of a solicitor who has been dead for years and whom nobody now knows of. Neither is an agriculturist, pure and simple, an authority on a chemical point such as the valuation of farmyard manure on the basis of its chemical constituent parts.

Dr. Griffiths claims to have made a discovery with regard to the use of iron sulphate as a fertilizer, and a good deal of space is devoted to this subject, which is not without interest. Half a hundredweight of iron sulphate per acre produces extraordinary results, according to experiments recorded in this book. No doubt this is Dr. Griffiths's great point, and far be it from us to detract from its significance. If it is as potent a fertilizer as Dr. Griffiths thinks, we shall probably hear more of it. He is evidently not the man to let the matter rest.

W.

## OUR BOOK SHELF.

*Histoire Naturelle des Cétacés des Mers d'Europe.* By P. J. Van Beneden. Pp. 664. (Brussels: F. Hayez. 1889.)

It is fifty-three years since the veteran Professor of Zoology in the University of Louvain published his first paper on the Cetacea, entitled "Caractères spécifiques des grands Cétacés tirés de la conformation de l'oreille osseuse." During the greater part of this long period he has made this group of animals especially his own, having industriously collected from every available source information upon them, which he has given to the world, not only in his great works on the osteology of the Cetacea and the fossil Cetacea of Antwerp, but also in a series of memoirs which have appeared from time to time in the publications of the Belgian Academy of Sciences. During the last three years the "Mémoires couronnés et autres Mémoires," published by that learned

body in octavo form, have contained a number of articles from his pen upon the Cetacea of the European seas, and it has been a happy idea of the author to collect these together, and republish them in a handy form, so as to render them accessible to many who would have difficulty in referring to them when scattered throughout the pages of the journal in which they first appeared.

The work treats systematically of all the species known to inhabit any of the seas by which Europe is surrounded, and under each species are sections devoted to the literature, the history, the synonymy, the characters, the organization, the habits, the geographical distribution, the mode of capture, the museums in which specimens are known to exist, the published figures, and finally an account of the commensals and parasites which dwell upon or within them. On all these subjects the information given is derived from years of close and diligent gathering, and the result is an exhaustive account of our present knowledge of the European Cetacea. As a book of reference to all who are engaged in the study of cetology this work is absolutely invaluable, and if figures, even in outline, of all the species had been added, it might have gone far to occupy the place of the much-needed popular hand-book of this still little understood, though interesting order of mammals.

The number of species admitted is judiciously restricted, many of those appearing in previous works being relegated either definitely or provisionally to synonyms. Twenty-six are, however, left, all undoubtedly distinct forms. Of these, seven are whalebone whales, viz. *Balæna biscayensis*, *B. mysticetus*, *Megaptera boöps*, *Balænoptera rostrata*, *B. borealis*, *B. musculus*, and *B. sibbaldii*; five are Ziphioids, viz. *Physeter macrocephalus*, *Hyperoodon rostratus*, *Ziphius cavirostris*, *Micropterus sowerbyi*, and *Dioplodon europæus*; and the remaining fourteen are Delphinoids, viz. *Phocæna communis*, *Orca gladiator*, *Pseudorca crassidens*, *Globicephalus melas*, *Grampus griseus*, *Lagenorhynchus albirostris*, *L. acutus*, *Eudelphinus delphis*, *Tursiops tursio*, *Prodelphinus lethyois*, *P. dubius*, *Steno rostratus*, *Delphinopterus leucas*, and *Monodon monoceros*. The only exceptions we can take to this nomenclature are the adoption of the generic term *Micropterus* in preference to *Mesoplodon*, as the former was preoccupied by a genus of Coleoptera, and the use of the needless term *Eudelphinus* for the common dolphin. If this should be generally accepted, the good old Linnean genus *Delphinus* would disappear altogether from the list. That it should be greatly restricted by the lopping off of aberrant branches was inevitable, but surely the name might have been left for such a characteristic species.

W. H. F.

*Hand-book of Practical Botany for the Botanical Laboratory and Private Student.* By E. Strasburger. Edited, from the German, by W. Hillhouse, M.A., F.L.S. Second Edition, Revised and Enlarged. With 116 original and 33 additional Illustrations. (London: Swan Sonnenschein and Co., 1889.)

The first edition of Prof. Hillhouse's translation of Strasburger's "Practical Botany" was reviewed in NATURE (vol. xxxv. p. 556). The new edition has been considerably enlarged, and is now intermediate in extent between the smaller and the larger German editions. The new matter, mainly derived from the larger "Botanisches Practicum," second edition, adds greatly to the value of the book. The most important additions are the accounts of the reproduction of *Fucus* and of *Chara*, and of the fertilization and embryology of *Picea*. The much fuller description of the reproduction of *Mucor* must also be noticed, as well as the considerable alterations, affecting both text and figures, in the chapters on vascular bundles. Further, the structure of the grain of wheat is now described—a very useful addition.