

and too elaborate solutions in the body of the work, thus attempting to combine a Text-book and Key in one and the same book. We notice several errors and omissions which no doubt will be rectified and supplied in subsequent editions. Everyone who will take the trouble of carefully reading the book prepared by Dr. Morrison cannot fail to be impressed with the large amount of real honest work which the author has put into his very meritorious text-book. The firm from which the work issues (The Canada Publishing Company) is deserving of much praise for the efforts put forth to foster native talent, in every department of literary work.

BIOLOGICAL ATLAS: A GUIDE TO THE PRACTICAL STUDY OF PLANTS AND ANIMALS. By D. McAlpine, F.C.S., and A. N. McAlpine, B.Sc. Lond. W. & A. K. Johnston, Edinburgh and London, 1880.

BIOLOGY can be studied properly only in the physiological laboratory. Of this fact the compilers of the present work are perfectly well aware. They present it, not as a substitute for, but as a guide to, the dissection and proper examination of actual specimens of plants and animals. In their preface they say: "It is now generally recognized that a certain acquaintance with actual specimens is necessary for the proper understanding of plants and animals. By the practical study of representative forms, exemplifying the leading modifications of plant and animal life, the student obtains a basis of distinctly observed fact with which to compare other forms, and round which to cluster the information derived from books. The University of London has given practical shape to this idea by selecting a series of common types which each candidate must be prepared to examine microscopically, to dissect and to describe. In this Atlas, which is intended to serve as a guide to, not as a substitute for, practical work, drawings are given of the various points of importance exemplified by each of these types, to enable the student to make out the points for himself

on the actual specimens. Experience both as students and teachers has taught us, that in this constant appeal to the object itself, the student is greatly assisted by clear and accurate drawings. In the triple alliance, as it may be called, of description, drawing and object, is found the easiest, safest, and surest means of successful study."

The design of the work, as thus clearly set forth, it appears to us the various plates, with the accompanying descriptive text, are admirably calculated to fulfil. The plates are twenty-four in number, eight being devoted to plants, nine to invertebrate animals, and the remaining seven to vertebrate animals. They contain upwards of four hundred coloured figures and diagrams; and in them are illustrated certain selected types of the various sub-kingdoms of the vegetable and animal worlds. Thus, in the vegetable kingdom, the sub-kingdom *Thallophyta* is represented by the yeast plant, the bacteria, the mucor plant or common brown mould, the penicillium or common green mould, the protococcus vulgaris, or green scum on the bark of trees, the chara, and the pteris aquilina or common bracken fern; and the sub-kingdom *Phanerogamæ*, or flowering plants, by a series of drawings from the horse-chestnut, onion, honeysuckle, pea, tulip, bean, etc. In the animal kingdom the sub-kingdom *Protozoa* is illustrated by the amœba or proteus animalcule, the colourless corpuscles of the human blood, and the vorticella or bell animalcule; the sub-kingdom *Cœlenterata*, by the hydra or fresh-water polype; the sub-kingdom *Annelida*, by the lumbricus or common earth-worm; the sub-kingdom *Arthropoda*, by the lobster and crayfish; the sub-kingdom *Mollusca*, by the fresh-water mussel and the snail; and the sub-kingdom *Vertebrata*, by the frog. In the last plate, human histology, or the ultimate structure of the tissues of the human body, is illustrated. There are a few notable omissions, which it would perhaps be well to supply in future editions. For instance, among the *Thallophyta*, the mosses and lichens are unrepresented; and in the zoological series, the sub-kingdom *Echinodermata* is