

to the circulatory vessels and the heart. A valuable feature of the work is that in each section of the subject the views of the several contributors to our knowledge are epitomised and discussed. The anatomical descriptions which follow are clear, sufficiently full, and greatly helped by the woodcuts. It is an obvious advantage to have one set of organs traced in this way through the several classes, from the simplest forms to the more complex among the Coelenterata, Echinodermata, Vermes, Rotifera, Arthropoda, Mollusca, and Vertebrata. The work is as well written as planned. It makes an important addition to the student's library, and supplies a place that is not occupied by any English work.

Professor Fick of Wurzburg has printed in "The Popular Science Series," edited by Virchow and Von Holtzendorff, a lecture delivered at Wiesbaden on "The Nature of Muscular Work."¹⁴ He deals with the involuntary action of the muscles, and shows that the work is not electrical or of a thermodynamic character, but is a chemical process.

Mr. Darwin's book on "The Forms of Flowers"¹⁵ is described by the author as a reprint of a series of papers communicated to the Linnean Society, connected and corrected, together with new matter, and an abstract of the researches of others. Following the grouping of flowers adopted by Linnæus into hermaphrodite, monœcious, diœcious, and polygamous species, each of these types is expounded at length. The hermaphrodite class contains, among other less important groups, the heterostyled dimorphic, and trimorphic species, and cleistogamic plants, to which the volume is chiefly devoted. It is "shown that heterostyled plants are adapted for reciprocal fertilisation; so that two or three forms, though all are hermaphrodites, are related to one another almost like the males and females of ordinary unisexual animals." The cleistogamic plants are adapted for self-fertilisation, and have two kinds of flowers, one of which is fully expanded and perfect, the other minute and closed, with their elements more or less aborted or rudimentary, yet perfectly fertile. As in some other of Mr. Darwin's books, the details and technical information are printed in smaller type. The book is well arranged, excellent in its clearness, well illustrated, and will take rank as one of the most perfect of the monographs with which its author has enriched biological science.

"The Fern World"¹⁶ is an attractive book, treating of ferns in many ways. The volume comprises five parts. In the first part, a short account is given of the structure and classification of ferns, which is too brief to be of much use to the young student. The second part treats of fern culture, and is full of information about soil, planting, formation of rockeries, &c. The third part is called "Fern-hunting,"

¹⁴ "Das Wesen der Muskelarbeit." Von A. Fick. Berlin: Carl Habel. 1877.

¹⁵ "The Different Forms of Flowers on Plants of the Same Species." By Charles Darwin, M.A., F.R.S. With Illustrations. London: John Murray. 1877.

¹⁶ "The Fern World." By Francis George Heath. London: Sampson Low & Co. 1877.