the description of the experiments for the production of artificial protoplastic formations.

It is to be said that this book of Dr. Fischer's comes most timely to aid the beginner, or the worker in other lines of investigation to orient the vast body of detail which has been presented in such confusion during the last decade, and it may also do much to put research upon the included subjects on a more rational basis.

D. T. MACDOUGAL.

NEW YORK BOTANICAL GARDEN.

*A Class-book of (Elementary) Practical Physiology.* By DE BURGH BIRCH, Professor of Physiology in the Yorkshire College of the Victoria University. Philadelphia, P. Blakiston's Son & Co., 1899. Pp. xii + 273.

This book is one of that considerable class of laboratory guides which are prepared for individual laboratories. While fairly good of its kind, it cannot readily be adapted to general use. This is more particularly true of the experimental section, where the directions to the student frequently have reference to specific appliances which, in the form here described, are not to be found in physiological laboratories generally. The course outlined is that which is so commonly denominated Physiology in the British colleges, and consists of histological, chemical and experimental sections. The first section comprises 117 pages, the second 61, and the third 87. The method employed is that of supplying the student with detailed directions, leaving comparatively little opportunity for the play of his ingenuity. This method, while making instruction easy for the instructor, does not develop the student. It is carried to its extreme in dealing with the direct method of using the ophthalmoscope: "First, with the apertures closed, endeavor to look into the eye through the lens, moving your eye and a light in all directions to do so. You will not succeed." If success is impossible, why deliberately guide the student in that direction?

Not a large amount of ground is covered by the book. The subjects and experiments that are presented are the conventional ones, and the work is intelligently done. The book, however, hardly seems to be called for outside the author's own laboratory. FREDERIC S. LEE.

COLUMBIA UNIVERSITY.

*Elementary Physiology.* By BENJAMIN MOORE, M.A., Professor of Physiology in the Medical Department of Yale University. New York, Longmans, Green & Co., 1899. Pp. viii + 295.

The majority of the briefer text-books of physiology are not written by physiologists. They are the work of men who rely upon larger text-books for their knowledge, and whose motive too often is the money to be obtained from the text-book mongers. Too many of these authors are willing, for a consideration, to prostitute the science for commercial purposes, and to write it down to the level of those who appear to believe that an account of the working of the human body, and a description of the awfulness of a drunkard's life, are synonymous. It is a relief and pleasure to turn from such machine-made books to such a one as Professor Moore's, and to feel the loving interest that every page of the book reveals. One can forgive the occasional lapses from strict rhetorical usage, the not infrequent long sentences, and the rather indiscriminate and often misleading use of commas, when one realizes that the author knows his subject and writes entertainingly of it.

The book is devoted to the physiology of man and those animals that are allied to man, and in less than three hundred pages there is given a concise and very readable outline of the subject, an appendix of practical exercises and a set of test questions. The trend of the author as a physiologist is evidenced by the fact that nearly one-half of the book is devoted to nutrition, including the blood and its circulation, digestion, absorption, metabolism, respiration, excretion and animal heat. In an unprejudiced division of the subject of human physiology, this seems too large a proportion, although it must be granted that the account of these processes is an admirable one. Forty-three pages seem also too large a share to give to the skeleton and its articulations. In general, the amount of anatomy may be criticised as excessive; but throughout this the author keeps in mind the subject of function and thus illuminates his descriptions of structure. Furthermore, one-sixth of the whole space is a small proportion to devote to the nervous sys-