SCIENCE

FRIDAY, JANUARY 11, 1901.

CONTENTS:

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

A NOTABLE OFFICIAL REPORT.

IN our last issue we pointed out the urgency of an authoritative reply from the Naval Observatory to the criticisms on its management which have been uttered by parties entitled to the highest respect. We return to the subject to mention another point on which it is equally urgent that certain unfavorable impressions likely to be given by the annual report of the Observatory should be corrected. Precision and accuracy of statement are always expected in an official document, and there is no department of the government in whose reports this quality is more confidently looked for than in that of the Navy. If a report is circulated by this department containing statements likely to be misconstrued, an earnest desire that public confidence in the Navy shall not be impaired will lead us to call attention to the statements and ask that they be supported, or so changed as not to give rise to misconstruction. Especially is this the case with a paper from which astronomers the world over will draw conclusions as to the degree of precision aimed at in describing the operations of one of our scientific departments. We shall quote the passages we have in

A Text-Book of Histology, including Microscopic Technic. Authorized Translation of the Second German Revised Edition of Dr. Boehm and von Davidoff's Histology. Edited with Extensive Additions to Text and Illustrations by C. Carl Huber, M.D., of the University of Michigan. Published in Philadelphia by W. B. Saunders & Co. 1900. Price, $3.50, *net.*

In selecting Drs. Boehm and von Davidoff's 'Text-Book of Histology' for an English edition, the American editor has made a happy choice. The excellent features of the original German editions are too well known to need any extensive comment here.

In general plan, clearness and brevity of treatment, combined as a rule with sufficient detail, the text is admirable. The illustrations are for the most part quite good. Especially praiseworthy are the suggestions as to technical methods following each topic, and the references to literature in the back of the book. The student finds here an exceptionally valuable addition to the statements of the text, in the effects of reagents and other treatment of the structures described, and is led to understand how and by whom the science has been developed. This feature gives a very broad conception of the subject, explains the basis of the facts and conclusions presented, and at the same time makes it easy to confirm and extend them in the laboratory and through the literature.

We find unevenness of emphasis, certain subjects being described in much greater detail than are others, as is usually the case in text-books; but the constant reference to original sources should counteract this, and the book as a whole has certainly been a decided success.

Dr. Huber must be congratulated on his English version of so good a text-book. Taking Dr. Cushing's excellent translation as a basis, the editor has rearranged the text to advantage here and there, and has rewritten and extended a number of topics, greatly improving them. Many new and valuable figures have been introduced. This is especially true of the sections on the structure of ganglia and nerve end-organs, the figures having been taken from Dr. Huber's own papers on the peripheral nerves. The nerve supply of all organs is much more fully treated than in the original. The discussion of the development of bone is much improved, and the sections on the structure of the spleen and ductless glands receive considerable additions.

The changes or additions of the editor seem well considered, wherever made, and it is only to be regretted that he has not attempted to bring all sections symmetrically up to date.

Finally the publishers must be complimented on a handsome book with excellent press work, and with illustrations as good as those of the German edition, which is high praise.

It is a pleasure to cordially recommend this book as one of the very best text-books available on the subject.

H. Mc. E. Knower.

Anatomical Laboratory,
Johns Hopkins University.

BOOKS RECEIVED.

The Elements of Astronomy. Robert Ball. New York and London, The Macmillan Company. 1900. Pp. viii + 183. 80 cts.

Die Pflanzen-Alkaloide. Jul. Wilh. Brühl, Edvard Hjelt und Ossian Aschan. Braunschweig, Friedrich Vieweg und Sohn. 1900. Pp. xxii + 586. M. 14.

Beitrag zur Systematik und Genealogie der Reptilien. Max Fürbringer. Jena, Gustav Fischer. 1900. Pp. 91.

Ergebnisse der neueren Sporozoenforschung. M. Lühe. Jena, Gustav Fischer. 1900. Pp. iv + 100.

SCIENTIFIC JOURNALS AND ARTICLES.

In the November-December number of the *Physical Review*, Mr. Frank Allen describes an interesting series of experiments to determine the effect upon the persistence of vision of exposing the eye to light of various wave-lengths. It is found that prolonged exposure to red light increases the persistence of vision for light from the red end of the spectrum, while the sensitiveness of the eye for other colors is unaffected. It has previously been shown by Ferry that a 'red-blind' eye shows abnormally great persistence of vision at the red end of the spectrum. In respect to the duration of impressions, therefore, as well as in other respects, an eye that has been fatigued by red light re-

sembles temporarily the eye of a red-blind individual. In like manner temporary green blindness and violet blindness may be produced by fatiguing the eye with light of the corresponding color. Very remarkable results are obtained when the eye is fatigued, not by exposure to one of the fundamental colors of the Young-Helmholtz theory, but by an intermediate color, such as yellow or blue. In case yellow light is used it is found that the persistence of vision is increased for both red and green: *but that the persistence of vision for yellow light remains unchanged.* The article contains much that is of great significance in connection with theories of color vision. In the same number of the *Review*, Dr. W. P. Boynton, of California, discusses the Gibb's 'Thermodynamic Model in the case of a substance obeying Van der Waal's Equation'; while Dr. J. C. Shedd, of Colorado College, gives an analytical discussion of the various forms of curves that are presented by the fringes seen in the Michelson interferometer.

SOCIETIES AND ACADEMIES.

NEW YORK ACADEMY OF SCIENCES.

SECTION OF BIOLOGY.

THE regular monthly meeting for December was held on the evening of the 10th, Professor C. L. Bristol presiding.

Professor Lloyd offered his resignation as Secretary of the Section, on account of his intended absence in Europe. On the motion of Professor Wilson, seconded by Dr. Calkins, a vote of thanks was tendered to the Secretary for his interest in furthering the work of the Section.

The following program then was offered:

G. N. Calkins: 'Some interesting Protozoa from Van Cortlandt Park.'

H. E. Crampton: 'Elimination in Lepidoptera.'

E. B. Wilson: 'The Chemical Fertilization of the Sea-Urchin Egg.'

Dr. Calkins stated that there were four genera of Protozoa which are usually regarded as intermediate forms between the classes of Protozoa were considered. These were: *Nuclearia*, intermediate between the Rhizopoda and the Heliozoa; *Mastigamoeba*, intermediate between Mastigophora and the Rhizopoda; *Multicilia*, intermediate between the Mastigophora and Ciliata, and *Actinobolus*, intermediate between the Ciliata and the Suctoria. The method of feeding in the latter form was also described for the first time. All these forms, together with 54 other genera and a great many species (100 to 150) were found in the waters of Van Cortlandt Park during the past fall.

The paper by Dr. Crampton was designed to be the first of a series dealing with the problems of variation and selection in Lepidoptera, and especially in the Saturnid moths. The particular questions here considered are as to the relative variability of eliminated and surviving pupæ and moths of *Philosamia cynthia*, and as to the relative variability of males and females. From a lot of 1,090 cocoons from a restricted locality, 310 living and 632 dead pupæ were obtained, the remainder being shriveled or abnormal larvæ and pupæ. The living pupæ were compared with an equal number of dead pupæ in reference to certain body-characters (length, length of bust, width, depth, frontal stature and sagittal stature of bust), and to certain characters of a typical organ, the left antenna (length, breadth and stature). It appears that the surviving males are slightly less variable than the eliminated males, and that the surviving females are far less variable. From the living pupæ 180 perfect moths were obtained. The males were from pupæ which were far less variable than pupæ producing abnormal moths; but the females were from relatively more variable pupæ, though the latter were much less variable than eliminated female pupæ of the preceding group. The paper will be published in full.

Professor Wilson presented the results of a study of the phenomena of development in the unfertilized eggs of *Toxopneustes* when treated with solutions of magnesium chloride by Loeb's method. The results confirm Loeb's conclusion that the embryos arising from these eggs are produced without fertilization by spermatozoa, conclusive proof being given in the fact that during cleavage the number of chromosomes is half the usual number, namely 18 instead of 36. The mitotic phenomena differ in many de-