Although most of the theories formally set forth in the book have now been before geologists for several years (always from these same authors), it can not be said that these theories have as yet met with general acceptance either in this country or among the geologists of other countries. They must, therefore, be regarded as still on trial in a sense. None the less, these volumes are an epoch-marking work, and the theories set forth in them must be reckoned with hereafter in every book on geology and by every teacher and every student. In spite of its two thousand pages one feels that the matter is much condensed, and the authors impress the reader with their judicial attitude of mind, with their mastery of the subjects treated, and reserve force in their statements and discussions. Working geologists the world over owe the authors something too for their having spared us another new terminology or a new system of spelling. They seem to stand godfathers only to the new petrographic nomenclature given in abstract on pages 433–8 of Vol. I.

The illustrations, especially the half-tones, are abundant, excellent, and new to our text-books, though the line drawings are hardly up to the standard of the rest of the book. The work of the book manufacturer leads us to hope that the day is not far distant when publishers will find some way of making an illustrated octavo volume of six hundred pages without its weighing close to four pounds.

The principal adverse criticisms that can be made relate to the minor details of editing —not to the subject-matter or to the method of treatment. In the presence of so much that is large, and helpful, and inspiring such criticisms seem like mere quibbling. Not a subject is touched upon in the entire work that does not have the breath of a new life breathed into it.

J. C. BRANNER.

The Eye, its Refraction and Diseases: Diseases of and Operations upon the Eyeball and its Adnexa. By EDWARD E. GIBBONS, M.D., Assistant Surgeon to the Presbyterian Eye, Ear and Throat Hospital; Demonstrator and Chief of Clinic of Eye and Ear Diseases in the University of Maryland, Baltimore. Vol. II., pp. viii + 632. New York, The Macmillan Co. 1905.

Medical text-books may be classified according to their size or according to their character. The criterion of bulk is not necessarily a high one, but if a book is made of two large volumes it must be taken seriously and permitted to enter the lists with certain approved productions of well-known teachers.

There are a few text-books that stand out preeminently with a distinct individuality, in which the author shows that he has the matter or the method to justify the book's existence. Other books owe their lives to the patronage of growing groups of students, who feel in the printed lines the personality of the teacher to whom they have listened. This class does not always appeal to the larger public, and unless the teacher is of wide and rare experience it is apt to be uneven and to consist in part of a somewhat undigested collection of statements from unproved sources. This is unfortunately the impression made by the work under consideration. The first volume, which has been reviewed in these columns, was a book of more value because the author wrote with authority. Physiological optics and its application to the refraction of the eye was evidently a familiar field, and the book was welcome because there are very few writers in our language who can treat this difficult subject clearly and interestingly. This volume deals with the diseases of the eye and shows industry and a wide acquaintance with current literature. No author can be familiar with all the methods of treating disease in these prolific times, and an open mind is justified, but it may be misleading to the student, to group methods not sufficiently tried with those of proved value, without giving marked prominence to the latter.

A few positive criticisms must be made, however thankless the task. The important subject of localization of foreign bodies in the eye is insufficiently treated. There is no allusion to the frequent association between ocular disorder and disease of the nose and neighboring sinuses, and this is the more surprising

since to the less important association of eye and ear an entire chapter is given. The consideration of migraine and hysteria leaves much to be desired. The colored pictures of the fundus are rather sketchy. The index is not as complete as it should be to permit rapid reference, nor is the paragraphing well marked. The work of the publisher is excellent as regards paper and type. The unusual breadth of page gives a sense of solidity to the text which is hardly restful.

In spite of these faults and certain minor errors in the spelling of proper names, the book is a creditable one and with its very excellent companion volume will no doubt prove a useful addition to medical literature.

Colman W. Cutler.

New York City.

SCIENTIFIC JOURNALS AND ARTICLES.

The Journal of Comparative Neurology and Psychology for September is devoted almost entirely to psychological papers. Mr. Charles Scott Berry first gives the results of an investigation of 'The Imitative Tendency of White Rats,' made at the Harvard Psychological Laboratory. One animal was taught various tricks alone and then observations were made to determine how far others would learn the tricks from him by imitation. He concludes that voluntary imitation (Morgan's usage) of a certain type does exist in white rats; and though this is not of as high degree as that discovered by Kinnaman in his experiments with monkeys, it is not different in kind. The next two papers are fragments selected from a large mass of MSS. by the late C. L. Herrick left unfinished at the time of his death. In 'Applications of Dynamic Theory to Physiological Problems,' Dr. Herrick applied in a concrete way to the problems of heredity and vitalism the conception of 'dynamic monism' which he had begun to develop in the philosophical journals. This is followed by a brief note on 'Imitation and Volition,' suggested by one of Professor Mark Baldwin's discussions. In the editorial column, under the title, 'Objective Nomenclature, Comparative Psychology and Animal Behavior,' Dr. Yerkes critically reviews the work of the objective school, and the methodological problems involved are discussed from a somewhat different standpoint by Dr. Bawden. Book reviews complete the number.

The Journal of Nervous and Mental Disease for October opens with an article by Drs. Mills and Weisenburg presenting the following propositions: (1) that the cortical representation of cutaneous and muscular sensibility is independent of motor representation, that it surrounds the motor zone; and that it is subdivided into a mosaic of centers, each center or group of centers being anatomically and functionally correlated to a motor center or centers; (2) that every muscle or group of muscles producing a movement or movements which are represented by separate centers in the cortex is topographically related to a segment of the skin which has also a definite cortical center, this center being correlated anatomically and functionally with the motor center; (3) that stereognostic representation like that of cutaneous and muscular sensibility and of movements has also its independent cortical area and is subdivided after the manner of the motor and sensory areas. This is followed by a continuation of a paper by Dr. Amberg, begun in the September issue, giving the histories of a number of cases of ear affections and mental disturbances.

DISCUSSION AND CORRESPONDENCE.

ON THE DOPPLER EFFECT.

In a recent number of Science (Vol. XXIV., p. 250) there appeared an article by Dr. Paul R. Heyl suggesting a plan for increasing the Doppler effect by observing a rapidly moving image instead of a moving source, the motion being magnified by placing the source just outside of the focus of a converging mirror. If, however, we consider that the wave-length of the separate rays (or, if preferred, of the elementary pencils) is independent of their point of intersection—in other words, of the position of the image—it appears that the only modification of wave-length observed in an instrument at rest relatively to the mirror will be due to the m-