

even when such topics are treated, the discussion is begun *in medias res*, taking up the points of chief interest and referring to other works for the rest. There are few students indeed who can be counted upon to have this knowledge; and there is great danger that the student will think he has practically acquired this knowledge when he has paged through an elementary text-book of physiology, or will regard the acquisition of it as a slight and unimportant consideration. The youthful fondness for the most abstract and least soluble problems should be decidedly suppressed as regards the study of psychology; and, before such a student can at all profit by Professor James's volumes, he must have successfully outgrown this earlier stage. Then, again, the extreme eclecticism regarding the points considered would hardly be rightly interpreted by the student. The order of topics is also unpedagogical; but the author suggests in the preface a changed order, with omission of certain chapters, which would partly remedy this defect. Furthermore, the great size of the work renders it unsuitable to college purposes. There is no attempt at condensation or suppression. One feels that the writer is taking all the space that he wants, and fashioning his exposition of a topic according to his personal interest in it. One obtains very frequent glimpses of the personality of the author; and the text and footnotes, with their frequent witticisms and telling phrases, are about as unlike the ordinary text-book strain as could be imagined. It will be mainly to the teacher, and to those preparing to be teachers, that this work will appeal, and to them mainly as a reference-book for inspiring views of a few topics.

Psychology teaches that the proverbial odium attaching to comparisons is irrational, and that this is a legitimate and useful method of forming a judgment. Accordingly, it will be fitting to compare this new work with former attempts at a survey of modern psychological doctrines. It more immediately invites comparison with the works of Wundt and of Ladd. It lacks the completeness and patient collection of facts characteristic of both

these works: it forms a marked contrast to them in the clearness and interest of its expositions. The student is repelled by Wundt or Ladd, but will be attracted to James. It shares in common with Wundt's work, what is perhaps the greatest defect of Ladd's, in giving the reader an impression of originality, coupled with sincere enthusiasm on the part of the author. It is less fitted than either to be the basis of a course in psychology, and is much more than these an expression of personal views and interests. This may suffice to indicate the probable sphere of the work, and to suggest to the reader how far and in what way the work may answer his needs; and we can certainly echo the sentiment expressed by the author in his preface: "*But wer Vieles bringt wird Manchem etwas bringen*"; and, by judicious skipping according to their several needs, I am sure that many sorts of readers, even those who are just beginning the study of the subject, will find my book of use."

The Theory of Determinants in the Historical Order of its Development. Part I. By THOMAS MUIR. London and New York, Macmillan. 8°.

PROFESSOR MUIR'S treatise on the theory of determinants is well known, and it may interest our readers to know that a new and greatly enlarged edition of the work is in course of preparation. Part I., which is before us, is devoted especially to a history of determinants in general, from Leibnitz in 1693 to Cayley in 1841. Every one is familiar with the tendency to overrate the influence of a few great minds on the progress of any science. It is easier for the students of a science to look up the work of those with whose names they are most familiar; and from lack of confidence, they feel obliged to overlook the more obscure workers, even if they know of their existence.

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Publications received at Editor's Office,
Sept. 15-Oct. 4.

- AMERICAN Household Magazine, Vol. I. No. 1. m. Philadelphia, Amer. Household Mag. Co. 16 p. f. 50 cents per year.
- CANADA, Proceedings of the Royal Society of, for the Year 1889. Vol. VII. Montreal, Dawson Bros. 491 p. 4°.
- CÓRDOBA, Actas de la Academia Nacional de Ciencias de la República Argentina en. Tome VI. Buenos Aires, Academia Nacional. 1027 p., plates. f.
- DAUCHY & COMPANY'S Newspaper Catalogue, 1890. New York, Dauchy & Co. 623 p. 4°.
- HARDY, I. Elementary Composition Exercises. New York, Holt. 169 p. 12°.
- INGALLS, J. M. Handbook of Problems in Direct Fire. New York, Wiley. 389 p. 8°. \$4.
- JAMES, W. The Principles of Psychology. 2 vols. New York, Holt. 1394 p. 8°.
- MONIST, The, Vol. I. No. 1, October, 1890. g. Chicago, Open Court Publ. Co. 160 p. 8°. \$2 per year.
- SCHURMAN, J. G. Belief in God: its Origin, Nature, and Basis. New York, Scribner. 266 p. 12°. \$1.25.
- SMITH, G. J. A Synopsis of English and American Literature. Boston, Ginn. 125 p. 8°. \$1.20.
- SMITH, J. B. Contribution toward a Monograph of the Insects of the Lepidopterous Family Noctuidæ of Temperate North America.—Revision of the Species of the Genus *Agrotis*. (Bull. U. S. Nat. Mus., No. 38.) Washington, Government. 227 p. 8°.
- U. S. NAVY DEPARTMENT. A Year's Naval Progress. Annual of the Office of Naval Intelligence. June, 1890. Washington, Government. 423 p. 8°.
- WEBSTER'S Address at the Laying of the Corner-Stone of Bunker-Hill Monument, with a Sketch of Webster's Life. Boston, Ginn. 23 p. 12°.
- WIECHMANN, F. G. Sugar Analysis. New York, Wiley. 187 p. 8°. \$2.50.

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development of the theory, whether great or small. For many years the theory seemed to belong especially to German mathematicians; but the author believes that he has overlooked little of importance, and that he has been impartial in his treatment of the subject.

An Introduction to the Logic of Algebra. By ELLERY W. DAVIS. New York, Wiley. 8°. \$1.50.

As the author puts it, this book is precisely described by the title, and is mainly the outgrowth of a conviction that the logic of algebra is a very much neglected study. We believe it to be the conviction of many teachers of mathematics that one trouble with students in failing to understand the subject is that they look too far. Each step in mathematical reasoning is simple in itself, and the difficulty comes in in deciding what shall be the next step in any process of mathematical reasoning.

Professor Davis, who is, by the way, the professor of mathematics in the University of South Carolina, has certainly produced a unique book, and one that will be of great interest to teachers of algebra; but the question naturally occurs to one that possibly he may have made to appear complicated what heretofore has been more or less readily accepted by students. It is quite true that the processes of algebra are simple and easily taught, and that they are taught mainly for the sake of the processes rather than for the sake of the discipline,—that is, they are taught for the uses to which they may be put,—and it is to be feared that if too much attention is paid to the reasoning which underlies the processes, which has been generally slurred over or even absolutely ignored, the student may think there is more in it than there really is, and become correspondingly confused.

AMONG THE PUBLISHERS.

THOSE having young persons in their charge whom they would interest in science should write to Gustav Guttenberg, care of the Central High School, Pittsburgh, Penn. Mr. Guttenberg carries on by correspondence classes in the study of mineralogy, and has just issued the "third grade," as he calls it, of his "Course." This pamphlet is especially devoted to the determination of ores. The methods of determination by blowpipe analysis are treated of in the first part of the book; and the closing chapters are devoted to the determination of the minerals in Collection 3, so called, which contains thirty or forty specimens sent out in a neat wooden box about seven inches square by an inch and a half deep. Those older persons who are anxious to develop some hobby will also find something of interest in Mr. Guttenberg's courses.

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