BOOK REVIEWS.

LESSONS IN HEAT AND LIGHT, by D. E. Jones, B. Sc. (London); pp 315, price three shillings and sixpence. London, MacMillan & Co., and New York. These lessons are intended to introduce beginners to the study of experimental physics. They are very suitable for this purpose, being written in an easy style, having reference to ordinary phenomena and illustrated by experiments. The plan of the work is so well illustrated in the preface, and applies to natural science teaching so well that we quote the author's words:

"I am well aware that many educational authorities hold that teachers of science (more especially in schools) should confine their instructions to the principles of the subject, without entering into details of manipulation or methods of experiment. To the teacher who aims chiefly at getting "results" this view readily commends itself; it saves trouble and expense, and enables him to devote more time to laws and generalizations. Unfortunately the results thus obtained are not of great value. A school boy may be taught to repeat glibly certain forms of words respecting the conservation of energy or the atomic theory; but until he has acquired considerable familiarity with behaviour and properties of bodies, the words convey no clear idea to his mind. My own experience in teaching has led me to the conclusion that students who come to college with an elementary knowledge acquired in this way are very unsatisfactory material to work with. They have been accustomed to get their knowledge at second-hand from their teacher or from their book; and they find an experimental course more troublesome, more tedious and apparently more uncertain. They are easily discouraged, and do not see how much can be learned from their own failures. The method fails to bring out one of the chief advantages of science as an educational subject—the training in the habit of observation, and of learning from things at first sight.

OUTLINES OF PSYCHOLOGY, LOGIC AND THE HISTORY OF EDUCATION, by J. B. Hall, Ph. D. Provincial Normal School, Truro, Nova Scotia. Published in Toronto, by William Briggs, 1892. Pages X + 200, 7 in. x 5 in.

There is no other subject of study so difficult as Psychology. So far the whole field is covered with a rank growth of personal and bigoted beliefs,—subtle and antagonistic. A fair comprehension of the profoundest of these systems of beliefs is possible only to the most gifted. Every age produces one or two great philosophers able to shake or overthrow the work of his predecessors and so build up a system of his own which seems firm until his successors demolish it in turn. Such a science, if science it can yet be called, would evidently form a somewhat unstable foundation for educational theory or practice. Yet as psychology and physiology investigate the properties of body and mind, such studies are likely to prove useful to the educator, and should be encouraged.

With this idea, Dr. Hall has written this little book of "notes" from his professional readings. These notes and quotations, covering so many subjects, are, as might be expected, too meagre and sketchy to be of much value,—yet they are selected with good judgment. Any book treating these subjects less exhaustively than Quick, Compayre, or Lendner, is practically valueless as a text book. A mere outline, being associated in the mind of its author with all that he has read and thought on the subject may seem to him rich and suggestive. But to the mind of the learner it appears most dry and barren. We were surprised to find throughout almost the entire book evidences of careless composition,—scarcely a page without ambiguous phrases, errors in grammar, or faulty proof reading. Psychology without accuracy is of course valueless.

The chapter on Logic, on account of its brevity, would be useful only as notes in the class-room. Inductive reasoning should have received some attention. The value of the chapter on the History of Education is not seriously affected by the characteristic defects of the book. The development of educational thought is traced from the earliest nations down to the present times—particular attention being given to the deductions made by Herbart's disciples from his philosophy.

The Doctor does not venture the attempt to show what connection exists between the psycho-mathematical formulæ of Herbart and these deductions yet he conveys to his readers a very clear idea of the great philosopher's pedagogical system—the clearest and fullest outline that we have seen of it. In his intuitive grasping of the system and his profound sympathies we see the elements of Doctor Hall's success as a teacher.

NATURE READERS, SEA-SIDE AND WAY-SIDE, No. 4, by Julia McNair Wright, cloth, pp 361, price 70 cents, Boston, D. C. Heath & Co. publishers, 1892. Of all the writers who are striving to make natural science popular, Julia McNair Wright stands among the first. By a series of talks on common and familiar topics in the animal, vegetable and mineral world she has made clear, in an original and highly entertaining way, much that is interesting and instructive to the ordinary mind. In this book, No. 4. of the series, she has not been less successful, although appealing to the more advanced readers, who have followed her in the previous parts, 2 and 3, of the series. The present volume is designed to open the way for severer studies in geology, astronomy and biology.

BOOKS AND PAMPHLETS RECEIVED.

ON THE GRAPHICAL TREATMENT OF THE INERTIA OF THE CONNECTING ROD, by Prof. J. G. MacGregor, D.Sc., Dalhousie College, Halifax, N. S. (From the transactions of the Nova Scotia Institute of Science.)

Current Periodicals.

The contents of the *New England Magazine* for September indicate that this young magazine is more skilfully edited than many of the older monthlies. The number is exceptionally well balanced; it contains matter for all tastes, and manages to combine solid reading with light, as few of its competitors do....It is scarcely possible to take up a single number of *Littell's Living Age* and not find in it some specially valuable paper. In No. 2514 (Sept. 3rd issue) it is a biographical sketch that attracts particular attention. Sir John Franklin is the subject, one of the most noted Arctic explorers, whose terrible fate was for many years shrowded in mystery, and for whose rescue or discovery so many gallant efforts were made. The sketch is by one who, as a very young man, lived for three years an inmate of the great explorer's family. But it is of his Arctic travels that this paper mainly treats, and for which he was best known. He took part in four different Arctic expeditions; the fisrt in 1818, and the last which resulted so disasterously in 1845,