

Because of the breadth of field treated and the general good quality of the treatment, the book is one of the best on the subject.

W. R. WHITNEY.

PHYSICS. TEXT-BOOK FOR SECONDARY SCHOOLS. BY FREDERICK SLATE, Professor of Physics, University of California. New York: The Macmillan Co. 1902. xxi + 1414 pp. Price, \$2.00.

The seventeen-page preface convinces the reader that the author is preparing a book from a mind trained for teaching natural science. He has clear views as to the pedagogic functions of such a work, and is consistent even to his unwillingness to confuse the mind by pictures of things which can be actually seen in the laboratory. The preface will be instructive to the many teachers who are to read it.

About 100 pages are devoted to the properties of matter; approximately an equal quantity to heat; and the subjects of sound, light, and electricity are also quite fully treated. Besides the index, there is a list of references for collateral reading, an outline of 180 experiments, and a compilation of over 100 interesting questions. The experiments are also especially carefully selected and worded,—there are no cook-book directions. The book is a readable Physics, and is not replete with definitions for the anxious student to commit to memory. He is forced by the arrangement to think for himself. In fact, there is hardly a direct definition in the book. The author's plan is to give the necessary information upon a subject through the discussion of phenomena or of experimental facts, and he usually concludes with a statement that "such a phenomenon is known as diffusion," for example, or "this is called the latent heat". The matter chosen for discussion is well fitted for use with classes of students who are being encouraged to think independently, and is made interesting by the method of presentation. On the other hand, the depth to which each topic has been sounded will prevent even the most advanced of its students from feeling superiority to the treatment. It has evidently been prepared by one who has given the entire subject most careful attention and it should prove to be a very useful book.

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ESSAYS IN HISTORICAL CHEMISTRY. BY T. E. THORPE. The Macmillan Co.: London and New York. xii + 582 pp. Price, \$4.00.

In this book are gathered sixteen addresses which have been