

PREFACE TO THE FOURTH EDITION

—OF—

HIGH SCHOOL PHYSICS.

THE American Association for the Advancement of Science, at its meeting in 1879, appointed a committee to consider the subject of "Science-Teaching in the Public Schools." The following are extracts from the report of this committee:—

"Through books and teachers the pupil is filled up with information with regard to Science. Its facts and principles are explained as far as possible, and then left in the memory with his other school acquisitions. He learns the Sciences much as he learns Geography and History. Only in a few exceptional schools is he put to any direct mental work upon the subject-matter of Science, or taught to think for himself. . . . The value of educational systems consists simply in what they do to incite the pupil to help himself. Mechanical school work can give instruction, but it can not develop faculty, because this depends upon self-exertion. Science, if rightly pursued, is the most valuable school of self-instruction. From the beginning, men of Science have been self-dependent and self-reliant, because self-taught; and it is a question whether they have been most hindered or helped by the schools."

That such a state of things should exist is not to be wondered at. Any teacher knows how hard it is to dispossess the minds of students of the old inherited ideas of learning from books. They take naturally enough to memorizing a page of text, but seem to have no other ideas of education. They are born blind (to the world of natural objects), and unfortunately have been taught to read before learning to see.

The system of education pursued for generations has been a study of words rather than a study of things. Pupils have been trained to read and remember what others have written, instead of being trained to ascertain and establish what is true.

Is it not natural, then, that we should find them not independent seekers after knowledge, but merely receptacles of information? Nevertheless, hard as the task may be through the faults of our ancestors, is it not the duty of the teachers of to-day to train their pupils in that close and accurate observation which develops patience