

other matters, entries relating to the Royal Society and science, the former chapter dealing with the period from 1844 to 1861, when Mr. White became Assistant Secretary; the latter with that from 1861 to 1884, the year before he ceased to hold office. The forty years which these two chapters cover were years in which science made remarkable strides, and years also during which important events took place within the Society. Mr. Walter White was literary rather than scientific in his leanings; still the records of the impressions made by the successive exposition of new scientific ideas upon one who listened to them in turn, near at hand, during so long a series of meetings of the Society could not fail to be interesting. We are told in the preface that the present volume is not the whole diary, but only selections from it. It is to be regretted that what has been published contains so little dealing with the weighty matters of science brought before the Society during the forty years, or with the effects produced by new ideas on those who were the first to listen to them. It is still more to be regretted that the selection has been so largely confined to matters which cannot justly be called by any other name than tittle-tattle and scandal. From his position Mr. Walter White was to a large extent a confidential servant of the Society. The Fellows were in the habit of talking to him freely, and often expressed themselves concerning scientific things and scientific persons in a familiar and unguarded manner. There could be no harm in Mr. Walter White writing down for his own delectation sayings which pleased him on account of their picturesque force, such as Mr. A.'s account of Dr. B.'s opinion about Prof. C.'s works and ways; but it is to be exceedingly regretted that Mr. William White should have thought it desirable to give publicity to gossiping statements, redeemed neither by wit nor by accuracy, the appearance of which can do little more than give pain to the living, or to the friends of the dead whom they concern. We hasten to add, lest the above remarks should excite curiosity, that the gossip in question will yield very little amusement where it does not give offence. We may add that the volume does not do justice to Mr. Walter White himself any more than it does to the leading men of science and the Royal Society; their conversation with him did not consist chiefly in finding fault with each other, nor was his chief delight in listening to them, and taking notes of their angry or idle words.

#### OUR BOOK SHELF.

*Agricultural Chemistry.* By R. H. Adie, M.A., B.Sc., and T. B. Wood, M.A. 2 vols. Pp. ix + 280, and vii + 229. (London: Kegan Paul and Co., Ltd., 1897.)

In the preface this is described as an elementary textbook of chemistry, designed for students beginning the study of agricultural science, and adopting as its method the teaching of the subject by experiment. The book demands some attention, as it is written by the teachers of agriculture in the University of Cambridge.

We are often told that the only right way of teaching chemistry is by leading the student to be himself the discoverer of chemical facts and laws by a series of experiments, observations, and inferences. This method is certainly excellent as an introduction to the science,

but it becomes too cumbersome as the scholar proceeds, and the teacher soon finds himself making important statements of which no demonstration is forthcoming. Nor are all parts of the science best learnt by the exhibition of experiments. It is, indeed, easier to learn grammar as grammar, than to discover grammar for ourselves by the analysis of a language.

The first of these small volumes is intended as an introduction to general chemistry; the second deals with the subjects of soil and manures, with a briefer reference to the constituents of plants, and the analysis of foods.

It is difficult to tell in what manner the book is intended to be used. The details of the experiments are often so imperfectly [described, that it would be impossible for a student to perform them without further directions. The preface states that the book is especially intended as an aid to teachers; but if the teacher is to follow the course marked out, he must clearly have a great deal of other information to fall back upon. One cannot, however, resist the conclusion that a great many of the experiments mentioned are not meant to be performed, but merely to be talked about.

We need hardly say that a good deal of correct teaching is given, but the errors and deficiencies are not a few. R. W.

*Notions générales sur l'Écorce terrestre.* Par M. le Prof. A. De Lapparent. 8vo. Pp. 156. (Paris: Masson et Cie., 1897.)

GEOLOGY can be made attractive enough by a good writer who divests the subject of those details which concern only the specialist. To learn the aims of the science and its main results are all that the general reader and the elementary student require; and it is well when, as in the present little work, a distinguished master is not only willing but able to produce such a sketch agreeably written as well as instructive. The subject is introduced in the course of six lessons, and the author, in the first place, deals with the early history of the globe, with seas and continents, and the external features of the earth in general. He passes on to consider various questions of physical geography, and the erosion of the land by rain, rivers, and sea. His remarks on the cutting away of river-courses so as in time to produce a *profil d'équilibre* are illustrated with reference to the Seine, which has excavated its channel almost to the lowest possible level throughout its main course. The method of accumulation of various sediments, and volcanic phenomena are next discussed. Uplifts and depressions and the sequence of rocks form the subjects of another lesson. Some account of the Paris Basin is given, and in conclusion there is a brief description of the principal geological formations. The work is illustrated by thirty-three figures of fossils, sections, and photographic reproductions. Among the fossils only the principal forms of life are indicated, such as a Sea-urchin from the Chalk, a Devonian Spirifer, Jurassic Ammonites, and a Fossil Bird. The student's mind is therefore not burdened with many names, but a perusal of the work will give him a clear general grasp of the principles and elements of geology. H. B. W.

*The Dawn of Civilization: Egypt and Chaldaea.* (Third edition.) By G. Maspero. Pp. xiv + 800. (London: S.P.C.K., 1897.)

THE third edition of "The Dawn of Civilization," the English translation of Prof. Maspero's "Les Origines," has just been issued. The three coloured photographic plates which were inserted in the second edition are here retained, while but few changes have been made in the text of the second edition of the work. The most considerable addition appears to be in the chapter dealing with the first Theban empire. Here the author