

students the methods of teaching so well introduced and so thoroughly carried out in the laboratory at South Kensington, the birth-place of the modern English school of morphological botany. It now remains for one of our competent younger botanists to prepare a course of practical instruction in the physiology of plants, introducing the experiments employed in our best laboratories; and there are signs that such a volume will meet with a hearty welcome from students of botany in this country. The importance of the subject needs no comment.

#### OUR BOOK SHELF.

*A Chapter in the History of Meteorites.* By the late Walter Flight, D.Sc., F.R.S. (London: Dulau and Co., 1887.)

THIS work, though left incomplete by the early death of its author, will be found of great service by all who are interested in meteoric studies. The first 144 pages were printed off twelve years ago, and were thus safely beyond revision. The rest of the work has been revised, and the whole has been prepared for press, by editors who, perhaps wisely, have chosen to be anonymous: their part of the task we may dismiss with the remark that it appears to have been executed with at least ordinary care. The task of the author has been to give a brief summary of the memoirs which have been published relative to meteorites since the year 1868, and thus to furnish an appendix to the work of Buchner. To collectors of meteorites such a convenient summary of memoirs, themselves scattered over a wide range of periodicals, chiefly foreign, is invaluable. There are seven plates and six woodcuts: the frontispiece is an excellent engraving of Chladni, who did so much to compel men of science to recognize the reality of meteoric falls. There is also a hand-painted picture of the wonderful meteorite of Busti, in which two minerals new to terrestrial mineralogy were discovered by Maskelyne. In an introduction there is a short sketch of the life and work of the author. Only 240 copies have been printed; the proceeds of their sale are to be added to the Flight Memorial Fund, which at present amounts to £317.

*A Hand-book for Steam Users.* By M. Powis Bale, M.I.M.E., A.M.I.C.E. (London: Longmans, 1887.)

MR. BALE'S little hand book supplies a want long felt by steam users. Its contents are entirely of a practical nature, and the technical terms used are very properly those of the ordinary mechanic. The book embraces the whole of the many duties of the engine-driver and fireman, and explains to them what to do, and what not to do, under varying circumstances. The arrangement of the information is simple and effective, the writer evidently knowing how to get at the understanding of those for whom the book is written.

The information and rules given are eminently practical, and will prove very useful to those steam users who do not pretend to be engineers. In the preface we are told that the author has for many years urged the necessity of a compulsory system of boiler inspection, and of granting certificates of competency to those having boilers under their charge. In this we entirely agree, and we trust the time is not far distant when Parliament will establish a system of examination similar to that of marine engineers, under the control of the Board of Trade for all who have charge of stationary boilers and engines, as well as locomotives. Michael Reynolds, the author of several books on the practical working of steam-engines, has long advocated

the introduction of certificates of competency for locomotive drivers and firemen. Their duties are as arduous and responsible as those of the marine engineer, and yet this fine class of men is entirely recruited from the lower grades employed in the locomotive running sheds and works, and their promotion generally depends on years of service on the footplate.

Students of steam and mechanical engineering will here find information which, although not generally taught in the lecture-rooms, will indicate some of the many points an ordinary engine-driver has to be thoroughly acquainted with.  
N. J. L.

*The Encyclopædic Dictionary.* Vol. VI. (Part II.) (London: Cassell and Co., 1887.)

THE special characteristic of this work is that the compilers have tried to make it combine some of the advantages of an encyclopædia with all the advantages of a dictionary. The result, upon the whole, is very satisfactory. The information given in the encyclopædic part of the work is not, of course, sufficient for students; but it will meet the wants of readers who may wish to obtain a concise and trustworthy account of any subject in which they happen to be interested. Special attention is devoted to the various branches of science, and scientific terms are very carefully defined and explained. So far as we have been able to test the volume of which this is the second part, we have found it in all respects equal to the preceding volumes.

*A Treatise on the Principle of Sufficient Reason: a Psychological Theory of Reasoning, showing the Relativity of Thought to the Thinker, of Recognition to Cognition, the Identity of Presentation and Representation, of Perception and Apperception.* By Mrs. P. F. Fitzgerald. (London: Thomas Laurie, 1887.)

THIS is neither a treatise nor has it anything particularly to do with the principle of the sufficient reason, or with the philosophical views mentioned in the second title. It is rather a kaleidoscope of phrases, original and otherwise, that have apparently from time to time touched the author's fancy, and are now vaguely but gratefully remembered to have once possessed a meaning for her. Quotations from Ouida, Plato, Lord Dundreary, and other philosophical authorities, are tossed together impartially, without apparent purpose except to fill 400 pages; and though some reference is made occasionally to opinions said to be held by the author, such reference is nearly always too vague to show what the opinions really are. Only the hard-hearted can find even amusement in the book.

#### LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.]

#### "Infusorial Earth."

THE following letter, addressed to the Secretary of the Royal Society, has been forwarded to us for publication:—

Foreign Office, October 27, 1887.

SIR,—I am directed by the Marquess of Salisbury to state to you, for the information of the President and Fellows of the