

the outline of the Darwinian theory is an exceptionally good one. Certain it is that nothing in our literature at the present time will give such a terse, clear presentation of the Darwinian hypothesis with the arguments in its favor, and of the additions which have been made to this hypothesis subsequent to the writings of Darwin himself.

These two books are, then, designed for popular reading. They are perhaps as good an illustration of the especial character of Prof. Marshall's power in teaching as could be found. They are valuable additions to that class of books in which the English language is beginning to abound, viz., popular scientific writings that actually *teach science*.

H. W. CONN.

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Elements of Astronomy.—By GEORGE W. PARKER, of Trinity College, Dublin. Longmans, Green & Co., London and New York. 8vo., 236 pages. \$1.75.

The book is designed as a connecting link between the elementary school-astronomies and the higher treatises used as text-books in the universities. It treats the subject almost exclusively from the geometrical point of view, breaking up the matter into propositions, corollaries and problems, arranged in an order which is probably logical enough in its mathematical sequence, but strikes one as rather peculiar. The book will be found useful by teachers who have 'examination papers' to draw up, since it presents a large number of them, as well as numerous 'exercises' and problems well suited to test a student's understanding of the subject-matter.

What the book professes to do is in the main very well done. The statements and definitions are intelligible and correct, and the reasoning is generally clear and logical. The writer's description of the instruments and methods of practical astronomy make

it evident, however, that he has had very little actual experience in that sort of work. It reads rather strangely, for instance, to be told that the way to find the value of a micrometer-screw revolution is to 'note how many turns correspond to the sun's diameter.'

Regarded as an elementary presentation of 'Astronomy' taken as a whole, the book must be pronounced extremely one-sided and defective. Astrophysics is most inadequately dealt with; the whole subject of spectroscopy is dismissed with six pages and a single old diagram of the dispersion of light by a prism; and all physical matters relating to sun, planets, comets, stars and nebulae are treated on the same general scale.

C. A. Y.

Qualitative Chemical Analysis of Inorganic Substances.—As practiced in Georgetown College, D. C. American Book Co., New York. 1894.

Rev. H. T. B. Tarr, S. J., formerly professor of chemistry in Georgetown College, prepared a series of tables for analytical purposes, which have been wholly recast and incorporated into the work now before us. The present editor, Rev. T. W. Fox, S. J., speaks of the book as being 'useful in a course such as is given at Georgetown and in similar institutions throughout the country.'

The 'grouping of the bases' is that generally adopted by writers on qualitative analysis the world over. We believe, however, that it would have been wiser and better for the student had the author divided his third group, consisting of the metals precipitated by ammonium sulphide from neutral or alkaline solutions, into two groups. But this is merely a matter of opinion.

We observe that the properties of the metals are first studied, after which the author draws up a table for the analysis of

a mixture of metals, constituting a particular group, accompanied by explanatory notes. This order is preserved throughout the book, which consists of sixty-one pages. We trust that the author and the reader will pardon us when we declare that we think such tabular schemes, so early in the course of analysis, are apt to make the student a mere machine—precisely what the author, in his introductory remarks, announces that he wishes to avoid, for he writes, “A mere mechanical acquaintance with a working scheme for separating * * * * is at best but a questionable accomplishment,” etc. And, for some unaccountable reason—perhaps from natural, human depravity or perversity—the great majority of students, beginning analysis, do wed themselves to such a table or scheme and cling to it, despite the rough handling they may receive from an earnest and intelligent quiz-master. But we are rambling. On returning to our subject we discover in it no new methods of separation, no new characteristic test or tests for the various elements; the landmarks in these directions remain unchanged. This is pardonable, seeing that “no pretense is made to originality, either in matter or in method.”

Part II. considers the ‘acid analysis’ and commences with excellent advice for the student, who must now, more than ever, apply what knowledge he may have acquired in regard to the metals and their various combinations with acids.

Brief chapters on ‘preliminary examinations,’ the solution of solid substances, a table of solubilities, and an appendix, dealing with the preparation of the ordinary reagents, conclude the book.

The little volume is well written and nicely printed. Its chief merit seems to be that it presents its author’s particular method of instructing students in this most important branch of chemistry, upon which many others have likewise prepared similar

brochures. The same kindly welcome given them must be accorded this latest arrival. Each does some good, and together they will doubtless do great good.

EDGAR F. SMITH.

A Course of Elementary Practical Bacteriology, Including Bacteriological Analyses and Chemistry. BY A. A. KANTHACK AND I. H. DRYSDALE. XXII. 181 pp. Sm. 8°. Macmillan & Co., London and New York. 1895. Price \$1.10.

This is a laboratory hand-book which will be interesting to all practical workers in bacteriology, since it gives the details of methods used in the Laboratory of St. Bartholomew’s Hospital in London. Some of these methods are not so useful as those now employed in American Laboratories; as, for example, that given for the collection and sterilisation of blood serum, while some are probably more rapid and convenient. As the authors remark, every laboratory has its own ways and means, its ‘short cuts’ and ‘tips,’ which are not always published, and it is necessary to work for a little while in the laboratory to become acquainted with them. The descriptions given are simple and straightforward, and well calculated to meet the wants of students. The plan and order of the several lessons will be found interesting by teachers of the subject. The lessons in Bacteriological Chemistry contain good matter not usually found in a manual of this kind.

NOTES AND NEWS.

TYPHOID INFECTION OF OYSTERS.

THE *Medical News* of March 23, contains a paper by C. I. Foote, giving the results of experiments with oysters, and with the water in which they grow, to determine the possibilities of their becoming infected with the bacillus of typhoid. He found that this bacillus will live in brackish water, taken from just above oyster beds, for at