

It remains now to point out certain really bad defects in the work. In the first place the title is misleading. From it a prospective reader would anticipate a comprehensive treatise—comprehensive, that is, in the sense of reaching to the seas of the earth generally. As a matter of fact the only indication the book contains that the author knows of the existence of oceans beyond that contiguous to northwestern Europe is just enough reference to others to impress the reader with the idea that whatever such there chance to be, may be ignored, except so far as they illustrate the central truths, truths, that is, that center in the North Sea. Think, for instance, of a discussion of "The Productivity of the Sea" that does not mention the cod-fisheries of Newfoundland, the salmon-fisheries of Alaska, and the fisheries generally of Japan and China!

How shall a professedly general treatment of the problem of the depletion of the sea be characterized that makes no reference to the Alaskan salmon hatcheries or to the perennial effort to save from destruction the fur-seal herds of the Behring Sea?

Had the author taken as his title "Conditions of Life in the *North Sea*" or something of the sort, he would have saved himself from the grave criticism that must now be passed upon him. Any moderately informed reader will surely ask: Does the author not know what has been and is being done in other parts of the world on many of the problems considered, or knowing does he deliberately ignore? Desiring to be fair which alternative shall we reject as being the less creditable?

Is an author's deficiency professional or ethical, which permits him to discuss in a general book the "Stratifications of the Plankton" and make no reference to the work of Alexander Agassiz?

Professor W. A. Herdman and his colleagues of the Marine Biological Association of Liverpool have contributed importantly to the knowledge of the sea and its life, particularly of the western British seas. Does Mr. Johnstone find nothing here deserving

mention beyond the fact of footnote value (p. 191), that Herdman has made "some interesting suggestions as to the use of copepoda as human food?"

Wherefore the book's deficiency in the use of accumulated knowledge? The candid, measurably informed reader is forced to this question over and over again.

Some of the chapters were turned over to the printer while their English was yet sorely in need of pruning and finishing.

On account of the limited amount of food yolk development is a rapid process and the little fish usually hatches out from the egg in a week or two, but is a very feeble and helpless creature (p. 83). (37 words.)

On account of the limited food-yolk development is rapid and the little fish usually hatches in a week or two, but is very feeble and helpless. (27 words.)

Ten useless words in thirty-seven are too many. They make twenty-seven per cent. of superfluity. On the score of mere physical loading this is unfair to the printer, the purchaser and the reader, to say nothing of the writer. Furthermore, there are the literary proprieties. Surely they deserve some consideration even at the hands of the scientific man. True no great number of sentences are as hypertrophied as is this, but it is by no means unique and those that approach it are not rare.

Despite these unsavory remarks brought upon itself, the book's merits far outweigh its defects. All English speaking people interested in the larger aspects of marine biology should feel grateful to Mr. Johnstone for having written it even though they can hardly help wishing he might have made it better in some respects.

WM. E. RITTER

Manual of Practical Assaying. By the late H. VAN F. FURMAN, E.M. Revised and enlarged by WILLIAM D. PARDOE, A.M., Assistant in Mineralogy, Princeton University. Cloth, 8vo. Pp. xi + 497. Price \$3.00.

It was most gratifying to find that this book, which has been considered as a standard, and had been used extensively as a text-

book in nearly all our universities, was not to be permanently laid on the shelf. The friends of Professor Furman heard of his demise with the deepest regret, and it was with the greatest of pleasure that the writer learned that a lasting monument to his name was to be erected through the publishing of a sixth edition on "Assaying," revised and enlarged by Mr. W. D. Pardoe.

This book has been, and will continue to be, the standard on assaying for technical chemists, and for students in the universities which have a mining, metallurgical or any course on the quantitative determination of metals and their associated elements.

The aim of the author was to present to technical chemists and students of chemistry a *practical* book. That he succeeded is demonstrated fully by the demand for a sixth edition. In this book only the most approved methods of analysis have been chosen, and particular attention has been paid to rapid methods which are so indispensable to technical chemists employed on commercial enterprises. At the same time slower and more accurate methods are nearly always given, so that the analyst can use either, according to the dictates of the time at his disposal.

By the revision of the chapters on zinc, water and coal analyses, and the addition of methods for telluride ores, tungsten, molybdenum and vanadium, together with other minor changes, this book has been most thoroughly brought up to the present practise common in most of our large commercial laboratories.

The whole book is singularly free from lengthy theoretical discussions of the reactions taking place, but enough of the reasons "why" are given to enable the trained chemist to understand fully the methods he is pursuing. At the same time the chemist's assistant who may lack a college training can easily pick up "Assaying" and do good work if he follows carefully the very explicit directions.

If the writer may be allowed a word of friendly criticism, since the text is very clear and leaves little to be improved upon, it would seem in some cases as though this text

could have been supplemented to a very great advantage to the student if more diagrams and illustrations of apparatus had been interpolated. For example, a picture or diagram of the quite complicated apparatus, such as is used for the determination of total carbon in the analysis of iron and steel, would go a long way toward helping the beginner in quantitative analysis to fully understand its setting up.

But taken altogether, the book is most admirably adapted for the teaching of assaying in a practical way, and is a most desirable addition to the chemist's library, be he beginner or an expert.

HENRY C. BOYNTON

TRENTON, N. J.

A Study of Splashes. By A. M. WORTHINGTON. With 197 illustrations from instantaneous photographs. London and New York, Longmans Green & Co.

"This publication," as the author says in his preface, "is an attempt to present in a form acceptable to the general reader the outcome of an inquiry, conducted by the aid of instantaneous photography, which was begun about fourteen years ago. . . ."

Every observant person must have at some time or other been impressed with the curious appearance of the splashes produced by rain drops falling into still water: the small pits or craters with little fountains in their centers, which sometimes rise above the surface to the height of an inch or more, can hardly fail to have attracted the attention of every one. In this book we find a collection of some of the most interesting photographs ever obtained by the aid of instantaneous photography. It is a volume of interest to old and young alike, and should be in the hands of every boy interested in natural phenomena. Some of the phenomena recorded by the instantaneous flash of the electric spark can be seen by ordinary eye observation. If a drop of milk is allowed to fall from a height of fifteen inches into a cup of tea or coffee, to which milk has not been added, observation shows us that the white drop appears to penetrate a short distance