

adaptations from French or German sources, but sometimes they are "original" compilations. They are always illustrated; they come, and, what is more truly wonderful, they go, in the trade acceptance of this word. The demand for them would seem to be great—so great that few are able to resist the temptation of adding to their number, not knowing beforehand what pains of remorse are caused to the authors of such writings, in after days.

Times there were when, in the infancy of knowledge, such books as Patterson's "Zoology for Schools" and Milne Edwards's "Elementary Course of Natural History" served a useful purpose and had their day; but the rapid piling up of additions to that knowledge soon left it impossible for any single person to keep up with it, and even to write a good popular treatise on one small group of animals required the combined labour of a Kirby and a Spence. However, when the demand went on as before, the hint conveyed by such a fact was quite wasted, and the publishers took steps to meet it. Natural history for the people is now in as great favour as ever, and it must be brought out in a manner not only to attract the crowd, but it must be within their pecuniary resources. From some experience we have learned that works of the popular natural history class are not written with the view of being criticized; indeed, it would appear to be scarcely fair to subject them to any such ordeal, at least from a scientific point of view. A compiler who had a good working knowledge of, say, the mammals and birds, would be a more or less exceptional creature; if he knew something of the whole group of the Vertebrates, he would be far out of the common; but even such a one would flounder when he came to treat of the remaining great groups; we laugh at Oliver Goldsmith's "Animated Nature," but a learned entomologist might be as ignorant of the Vertebrates and the Mollusca as Goldsmith was of the difference between a cow and a horse. Therefore instead of criticism, we venture to think that commiseration were the more needed, and perhaps to this the advice might be added to beware not to repeat the folly.

In the "Natural History of the Animal Kingdom," for the use of young people, as adapted from the German of Prof. von Schubert, by Mr. W. F. Kirby, there are no such absolute blunders as are to be met with in Goldsmith's work; its shortcomings are more in the direction of omissions and lack of explanation of technical terms. If the adapter had handed say the first part, "On Mammals," to some young and fairly intelligent youth, and then examined him about what he read, he would probably have been astonished at the result; he tried the experiment, the critic perversely turned to the last page, about the "duckbill and spiny anteater," the position of the marsupial bones (nowhere described as having any connection with the pouch) puzzled him, and his ideas fell far from realizing the fact, but when he came to the description of the cavity of the mouth of the duckbill as "a closed weir," his speculations became hopelessly absurd, and we inquired no further. Mr. Kirby, we feel, is not accountable for the illustrations, which may amuse many, possibly instruct some.

The next time the Society makes an attempt in this direction we hope it will succeed better.

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OUR BOOK SHELF.

Commercial Botany of the Nineteenth Century. By John R. Jackson, A.L.S. (London: Cassell and Co., 1890.)

THE general public are so little aware of the sources and history of the many familiar vegetable products which they use daily, that a short description of them in a readable form will naturally be welcome. To provide this is the object of the little book under review: it contains within its 160 pages an epitome of the results achieved by Kew and the colonial gardens in vegetable economics during the present century. The more important attempts to introduce plants of commercial value into new areas, their success or failure, and the consequent effect upon the imports of raw materials, and the prices of manufactured articles are discussed. The facts, in themselves interesting enough, will appeal with additional weight to the reader since they come from head-quarters, the author being the Curator of the Museums in the Royal Gardens at Kew.

Mr. Jackson has wisely avoided the dictionary form, which makes books of this nature so dry and disconnected. He has devoted separate chapters to distinct classes of products, *e.g.* india-rubber, drugs, oils, dyes, fibres, &c., each chapter thus gives a succinct account of the steps taken to advance the interests of a separate industry. Perhaps the most interesting are the pages which describe the rise and progress of the trades in india-rubber (pp. 10-26) and quinine (pp. 60-71); these illustrate admirably the methods pursued by the Directorate of Kew, and it is highly desirable that such statements should be put before the general reading public. It is desirable, not merely for their information in matters which more or less directly concern every one of them, but in order that they may duly appreciate the importance of the work carried on by Kew, in the introduction of economic plants into new areas, and the effect which such experiments have already had upon supply and prices. Mr. Jackson is to be congratulated on having produced a book at once short, interesting, and useful: the facts which he puts forward so closely affect the whole community that they lose little or nothing in weight by the plainness of the style in which the book is written.

F. O. B.

Fresenius's Quantitative Analysis. Translated by Chas. E. Groves, F.R.S. Vol. II., Part 3. (London: J. and A. Churchill.)

THIS third part is especially welcome after the long time that has elapsed since the second was to hand, as we hope it indicates that the rest of the volume is likely to follow without delay. The present part continues the subject of acidimetry, and goes on to alkalimetry, compounds of the alkalies, and alkaline earths (including bleaching powder), aluminium compounds, silicates, and chromium and zinc ores.

The Design of Structures. By S. Auglin, C.E. (London: Charles Griffin and Co., 1891.)

THIS work can be confidently recommended to engineers. The author has wisely chosen to use as little of the higher mathematics as possible in his treatment of the different branches of the subject, and has thus made his work of real use to the practical engineer. It must not be imagined that the author has not thoroughly dealt with his subject. The work is a very good example of the way in which the subject can be adequately treated without the use of abstruse formulæ and complicated calculations. In a volume of 500 pages, we find most of the usual points dealt with, and illustrated by a large number of practical examples such as occur in the every-day experience of the engineer.

The volume is divided into thirty-one chapters, and