

times are mixed with it or substituted for it, as well as from other substitutions that have been occasionally noticed. The last two are characteristic of the natural order Gentianeæ, and are also useful in identifying the drug.

That the book is not without errors and omissions we are not prepared to say. What book, especially in its first edition, can ever be so regarded? Thus, for instance, under the head of capsicum fruits, Mr. Greenish, though mentioning that the plant is cultivated in Eastern Africa, does not mention Zanzibar in particular as one of the commercial kinds known in the British markets, nor does he even allude to Japan as a source of these pungent fruits, though of late large quantities have been imported thence to this country. But with a book so carefully worked out and so thoroughly well got up, it is ungracious to find faults, many of which have no doubt already been observed by its author and noted for correction in a new edition, which will probably not be long before it is called for, as the book is one that must be in the hands of the continuously increasing number of pharmaceutical students.

We had almost forgotten to say that the numerous illustrations add much to the value of the book. They have been carefully selected, and the source from which they are taken is acknowledged beneath each figure.

OUR BOOK SHELF.

Descriptive General Chemistry. By S. E. Tilman. Second Edition. Pp. x+429. (London: Chapman and Hall, Ltd. New York: John Wiley and Sons, 1899.)

THE author of this volume is professor of chemistry, mineralogy and geology in the United States Military Academy, and the book embodies an attempt to present chemical science in a form and compass adapted to special circumstances. Whilst in the opinion of the author "the chemical knowledge most requisite to the average professional soldier differs but little from that essential to other educated men . . . the experience and judgment of the Academic Board and of their military superiors" has limited the course to about two months. From this statement, as well as from the concentration of three sciences in one professor, it would appear that the dogged resistance to the encroachment of science on the art of war which distinguishes the Anglo-Saxon in this country, is well maintained in America. It is evident, also, that the task of the author is no light one. He has discharged it by presenting a tolerably full and very lucid account of the chief principles of chemistry, followed by a considerable amount of descriptive matter, illustrated, and we may say illuminated, where possible, by reference to things of military interest. The outcome is a very readable volume, containing information which, if it could be conveyed under reasonable conditions, would be of great value to the future soldier. But it need hardly be said that a mass of scientific information, however skilfully selected and well written or well spoken, will give in no important measure a scientific habit of mind, or an animate knowledge of science. On the whole, however, Prof. Tilman has probably done the best possible under the circumstances.

Among matters of special interest in the book are the accounts of American metallurgical processes. The descriptions of important chemical industries are also clear and concise. The weakest point to be noticed in the book is the treatment of fuel calorimetry. There is

no description of a calorimeter or a pyrometer, and the old misleading formulæ for the calculation of "calorific power" and "calorific intensity" are introduced. The exhaustive experiments of the late Scheurer-Kestner, which showed the uselessness of such formulæ, do not seem to have become as well known as they should be.

A. S.

Zoologia. By Prof. Achille Griffini. Pp. xvi + 384. (Milan: Ulrico Hoepli, 1900.)

THIS book is divided into an introductory part (26 pp.), dealing with the history and scope of zoology, and the broader principles of morphology and physiology of animal forms, followed by a main part (337 pp.), in which the great groups of animals are successively dealt with in a roughly descending order, the whole ending with an "epilogue" (16 pp.), embodying an ambitious classificatory table, and certain philosophic deductions which, in deference to the scruples of his countrymen, the author is willing to let pass unread! It is in places very thin and antiquated, and its illustrations are on the whole the most interesting feature, since they alone proclaim it a text-book mainly begotten of the text-books, with little fresh thought or aim at originality. There are five hundred and five figures in all, many representing animals in a state of nature, at times with theatrical sensationalism, others delineating the facts of anatomy and minute structure, still others schematic. Taken collectively, they are an *omnium gatherum* of an inferior order. Page after page bears the time-worn figures which we find in nearly every text-book under the sun, here reproduced without acknowledgment and in some cases in a disguised form; and when originality is attempted the result is in places ludicrous; as, for example, in the physiological scheme on p. 81, and the figure of the Molluscan nervous system on p. 329. A set of figures is repeatedly introduced in supposed representation of the eggs and larvæ of the frog (*Rana*)—the egg-mass is that of *Pelodytes*, the larvæ are a combination of the old, old figures of Rösel von Rosenhof (which, for that matter, still do duty in current works in our own tongue), of Ecker and others with which we have long been familiar. On p. 224 there is a figure of a presumed *Ascidia*, which, as Huxley would have said, "illustrates, but does not adorn" the text, since it is that of a *Ciona*, curiously enough copied (but with reversal) from Huxley's "Manual of the Invertebrata," in which it is erroneously named *Phallusia mentula*. The figure of a horse (p. 121) simply insults that graceful beast. The author in a lengthy preface deplores, with just cause, the existing methods of teaching natural science in the Italian schools, for which his book is especially designed in accordance with the requirements of the State; and in support of his plea for improvement he cites forcible passages from addresses on the subject by Profs. Emery, Camerano (his teacher) and others. Proceeding to the question of nomenclature, he excuses himself the adoption of its modern rules on the grounds of his having been on a former occasion reproached for writing *Molge* instead of *Triton*. For this, something may perhaps be said from his point of view, but there is no excuse for the elevation of the racial names of mankind to specific rank (*Ex. Homo arcticus, H. cafer, et sic de caeteris*). Both figures and Latin names of some of the humbler creatures—transcribed from books which are old and out of date—are antiquated, and we deem further comment unnecessary, except to remark that the treatment of many great groups is so meagre that it is well-nigh useless.

G. B. H.

The British Journal Photographic Almanac for 1900. Edited by Thomas Bedding. Pp. 1516. (London: Henry Greenwood and Co., 1899.)

REGULARLY every year we receive this most useful annual, and as regularly we have to record its growth.