

times unavoidable. In the present case it seems a pity that M. d'Ocagne's later notation has not been accepted as standard and used wherever possible. By later notation is meant the one adopted in that writer's "Calcul Graphique et Nomographie" (1908). It is wonderfully concise, without any sacrifice of clarity or completeness, and is quite simple to grasp. M. d'Ocagne evidently considers it an improvement on the more cumbersome notation of his earlier "Traité de Nomographie" (1899), as he has continued to use it in his latest brochure, "Principes usuels de Nomographie avec application à divers problèmes concernant l'Artillerie et l'Aviation" (1920).

Metallurgy for Dental Surgeons.

A Manual on Dental Metallurgy. By Ernest A. Smith. Fourth edition. Pp. xvi+285. (London: J. and A. Churchill, 1920.) Price 12s. 6d. net.

SMITH'S "Dental Metallurgy" is read by so many dental students that the goodness or badness of the text has a considerable influence on the stage of knowledge of the embryo surgeon-dentist. Thus for many years it was impossible, even with the help of photomicrographs showing the two metals in patches like the stripes on a zebra, to convince the dental student that a eutectic was a mixture, because the author of this book had declared that such a patchwork might be a chemical compound! This error has, fortunately, been corrected in the new edition, which shows many useful improvements resulting from the incorporation of the rudiments of modern scientific metallurgy.

In place of these improvements, the general tone of the book is still unsatisfactory, and carries with it the impression that the dental surgeon is content with a much lower standard of knowledge than are his medical colleagues. Thus, in view of the fact that for many years every candidate for the L.D.S. has had to pass an examination in elementary chemistry before taking the test in dental metallurgy, it is almost incredible that a standard text-book should attempt to teach metallurgy without making use of chemical equations. It is, nevertheless, true that the author has described the extraction of the metals from their ores (for which formulæ are usually given) without in any instance providing a chemical equation to express the action which takes place; it must therefore be taken as a singular compliment to the work on dental amalgams, carried out in the Laboratory of Physical Chemistry at Bristol a short time before the war, that it has provided

the author with the only example of a chemical equation which the reviewer has been able to discover in the whole of the volume. This treatment of the subject can, however, scarcely be regarded as a compliment to the dental profession; and, even if it represented a reasonable point of view when the first edition appeared in 1898, the time has surely come when dental text-books should be addressed to readers with some knowledge of elementary science, instead of being lowered to the standard of a trade-class of mechanics or plumbers.

T. M. L.

Our Bookshelf.

Peat Industry Reference Book. By F. T. Gissing. Pp. xxiv+292. (London: Charles Griffin and Co., Ltd., 1920.) Price 7s. 6d.

THE author, alone or in conjunction with Bjorling, has already published two books on peat. The present volume deals mainly with those developments in the peat industry which have arisen since the publication of the previous books. It is divided into eight sections, dealing with the formation of peat, its winning as cut peat, machine-formed peat and pressed peat, peat gas and its by-products, power gas, peat-moss litter, peat mull and other products, such as alcohol and paper obtainable from peat. The eighth, and last, section contains miscellaneous information, formulæ, and tables, which will be of much use to persons dealing with peat.

The various processes patented, or worked on an experimental scale, have been faithfully described from the point of view of the inventors or exploiters of these processes, and it is this circumstance which constitutes the chief defect of the book. Claims which are experimentally unjustifiable are occasionally admitted into the book without criticism, and for this reason some of the statements made are quite at variance with the actual facts, and are likely to mislead readers unacquainted with the properties of peat. Everyone knows, for instance, that a peat-pulping machine exerts practically no *cutting* action on peat, yet the claim that one peat-pulping machine *cuts the cells* of the peat fibres is passed without comment.

Again, under another process it is stated that wet raw peat contains 20 per cent. of dry peat, and gives 8 per cent. of charcoal. As a matter of fact, wet raw peat from an undrained bog contains only about 8 per cent. of dry peat, and gives only about 2.8 per cent. of charcoal, and even from a well-drained bog the amount of charcoal got from 100 tons of the raw peat rarely exceeds 3.5 tons. It is evident, too, from this book that some "inventors" are still unable to grasp the elementary fact that in order to obtain 100 tons of dry peat from raw peat by the aid of artificial heating somewhat more than 100 tons of dry peat must be burnt to develop the heat required.