

there are in the jaws and of what kind they are, in recent forms and in a good many fossil forms, he will most likely find here a careful statement of the facts, which is after all the professed purpose of the book. Certain it is, however, that such odontographical information is merely the beginning and not the end of odontology, conceived as a division of comparative anatomy.

WILLIAM K. GREGORY

*Modern Industrial Chemistry.* From the German of H. BLÜCHER. Translation by J. P. MILLINGTON, M.A. (Cantab.), B.Sc. (Wales), formerly Scholar of Christ's College, Cambridge. The Gresham Publishing Co., 34 and 35 Southampton St., Strand, London. 1911.

According to the publisher's note, this volume is put forward as a standard work, now for the first time issued in an English translation, designed to cover the whole range of subjects with which the chemist and manufacturer are usually concerned. It is not intended as a text-book, but to occupy a position between the text-book and the lexicon. It is arranged in strictly alphabetical order and should therefore be regarded as a dictionary of chemistry.

It is conveniently issued in a single volume of 780 pages. With the exception of the convenience of having a compendium of this sort issued in a single volume, it is difficult to see in what respect this work presents any advantages over the standard dictionaries of chemistry such as those of Thorpe and Watts. It certainly can not be called up-to-date. Many of the leading industrial processes and products are not well handled, especially from the standpoint of American industry. The treatment of the chapter on industrial alcohol, for instance, is not in accordance with the best modern information, and the same may be said of the article on sugar manufacture. Under the descriptions of asphalts, petroleums, tars, etc., many of the statements seem arbitrary and misleading from the standpoint of American technology. The translator has evidently found considerable difficulty in find-

ing synonyms for German technical names and phrases. The properties of both asphalts and tars, as related to their residual products, now so much used for paving purposes, are inadequately treated, and unimportant patented preparations seem to be given too much prominence. Water gas tars, for which considerable uses have been found, are not mentioned in the volume.

Under pigments and oils, we find a very fair but brief description of the various dry colors, mineral and artificial, as well as pigments used in the manufacture of paints. The treatment of the manufacture of white lead is, however, very old, and does not include any mention of the new processes now in use both in America and abroad, such, for instance, as the Rowley or the Picher processes. All of the more common oils and thinners for paints are briefly described, and considerable matter concerning the manufacture of varnishes is included. The newer paint oils which have come into prominence of late years are not mentioned.

Metallurgical processes are described only briefly, and for the most part the descriptions do not adhere to the usual or best practise common in American metallurgy.

Perhaps the most useful feature in the volume is comprised in the digest of foreign and local patents, which touch upon a number of the principal subjects cited and which afford considerable data for reference purposes. The book is well printed and presents an attractive appearance. It will undoubtedly be a valuable addition to a reference library for the chemist or manufacturer, but should not be accepted as authoritative or up-to-date in all the numerous subjects which are covered.

ALLERTON S. CUSHMAN

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#### SCIENTIFIC JOURNALS AND ARTICLES

THE April number (volume 13, number 2) of the *Transactions of the American Mathematical Society* contains the following papers:

G. A. Bliss: "A generalization of Weierstrass's preparation theorem for a power series in several variables."