

half the sugar of the world to be supplied from the beet.

Space will not permit a more extended review of this interesting volume, but enough has perhaps been said to indicate its character and scope.

J. B. C.

SCIENCE AND ART OF MEDICINE.

A System of Medicine. By many Writers. Edited by Prof. T. Clifford Allbutt, F.R.S., and Dr. H. D. Rolleston. Vol. i. Pp. xvi+1209. (London: Macmillan and Co., Ltd., 1905.) Price 25s. net.

A PARAGRAPH in the preface to this new edition of Prof. Clifford Allbutt's great "System of Medicine" sufficiently explains the necessity for a revision. The editors (for Dr. H. D. Rolleston is now associated with Prof. Allbutt in this capacity) point out that "the life of a text-book of medicine is comparatively short, and that it is desirable that a new edition should appear before the first has ceased to represent accurately the present positions of medical knowledge." With this object it is intended to revise and bring out every year a new volume corresponding to one of the first edition.

The volume under review is the first to be issued under this scheme, and interesting and instructive articles by Prof. Allbutt and Dr. Payne on the history of medicine serve as a fitting introduction to the more technical portion. The first half of the latter comprises a number of articles, which are really concise monographs, on subjects ancillary to the practice of medicine, the names of the contributing authors being a sufficient guarantee of their general excellence. In this way the practitioner is furnished with brief but sufficient guides to such subjects as nursing (Miss Amy Hughes), dietetics (Sir Dyce Duckworth and Dr. Hutchison), climatic treatment of disease (Sir Hermann Weber and Dr. Foster), hydrotherapy (Sir Hermann Weber and Dr. Parkes Weber), physical exercises (Mr. Corner), massage (Dr. Mitchell), electrical treatment (Dr. Lewis Jones), X-rays (Dr. Williams), &c. The important subject of the hygiene of youth is dealt with by Dr. Clement Dukes, and a natural complement to this, old age, is discussed by Sir Hermann Weber and Dr. Parkes Weber. Medical statistics are in the able hands of Dr. Tatham, and a readable account of the national records of mortality is thus presented. It is a question whether some details of statistical methods and of the mathematical pitfalls of statistic making might not with advantage have been included.

Five articles have been devoted to the science of medicine; these comprise the general pathology of nutrition, by Dr. Mott; the general pathology of new growths, by Dr. Andrews, which includes all the recent work on cancer genesis; the clinical examination of the blood, by Dr. Drysdale, giving a good account of this important subject; inflammation, by Prof. Adami, probably the best account of this subject in the English language; and fever, by the late

Sir J. Burdon-Sanderson, with additional chapters by Dr. Hale White and Dr. Pembrey.

The last 300 pages include some of the acute infections. Septicæmia, pyæmia, and erysipelas are dealt with by Mr. Watson Cheyne; infective endocarditis, by Prof. Dreschfeld; cerebro-spinal fever, by Dr. Ormerod (in which, by the way, no mention is made of the small outbreaks of this disease which have occurred in the British Isles since 1900); influenza, by Dr. Goodhart; and relapsing fever, by Dr. Rabagliati and Dr. Bulloch, the latter giving a very complete and up-to-date account of the bacteriology of the disease and of spirochætes in general.

Enteric fever and the so-called paratyphoid infections are treated in a very complete manner, Prof. Lorrain Smith dealing with the bacteriology and Prof. Dreschfeld with the clinical subjects; no point seems to have been overlooked.

Diphtheria is similarly dealt with in a very complete fashion; epidemiology, by the late Sir R. Thorne, revised by Dr. Hamer; bacteriology, by the late Prof. Kanthack, and revised by Dr. Andrewes; clinical features, by Dr. Gee; and serum treatment, by Dr. Herringham; in the latter section, while eight pages are devoted to statistics showing the efficacy of the treatment, a mere paragraph describes the dosage, &c., and no reference is made to the use of an anti-microbic serum in cases in which the bacilli persist during convalescence.

Tetanus is described by the late Sir George Humphry, the article being revised by Prof. Woodhead. An excellent account of the pathology of the disease is here presented, but the passage of the toxin along the nerve trunks is not emphasised so much as it might be, and no reference is made to the injection of anti-toxin into the course of the great nerves in cases of traumatic tetanus.

Altogether this volume commands admiration, and if its high standard be maintained, as it doubtless will be, in the succeeding volumes, this "System of Medicine" will form a lasting monument of the high place which British medicine holds at the present time.

PRACTICAL ZOOLOGY.

A Course in Vertebrate Zoology. By Dr. H. S. Pratt. Pp. x+299. (London and Boston: Ginn and Co., n.d.) Price 7s.

THIS work, a companion volume to one on invertebrates published four years ago, is a laboratory manual, and gives directions for the dissection of the dog-fish, the perch, *Necturus*, the frog, a turtle, a pigeon, and a cat. It is on the whole a trustworthy guide, and may usefully serve as a handbook for a short course on vertebrate anatomy. The animals chosen are, with two exceptions, already described in text-books available in every laboratory, and we are at a loss to discover what particular office the present volume serves to fill, as in fulness, accuracy, or mode of treatment it does not surpass its predecessors. We presume that it represents the

author's course of teaching, and owes its existence rather to the desire to emphasise that experience than to the supposed existence of a gap in anatomical literature which it may be held to fill.

As the writer desires attention to be directed to misstatements or improvements, we may limit our remarks to matters of detail, since of such accurately known types as those he has chosen the bulk of the descriptions can hardly be other than correct. In serial order, then, we note the following points on which revision is required.

The mucous canals of the dog-fish are termed sense-organs (p. 2), instead of the tubes containing the sense-organs; water is said to enter the spiracle as well as the mouth; the anus is described as the outlet of the cloaca (p. 3); and an ear-opening is affirmed and denied in the same paragraph (p. 15). But it is in connection with the nervous system that we encounter the least satisfactory description. No mention is made of the pre-olfactory nerve which has been demonstrated in elasmobranchs, nor of the buccalis branch of the lateral line system; whilst the old and incorrect statement that the lateralis nerve is a branch of the vagus is again repeated. The spinal nerves and limb-plexuses, to which so much attention has lately been directed, are omitted.

In the description of the perch the account of the nervous system is equally unsatisfactory, and there is the same absence of any attempt to delimit the nerves of the lateralis group or to point out their function and distribution. In this respect the work is very much behind the times. A serious slip occurs on p. 45, where, in connection with the ear of the perch, it is stated:—

"At the anterior end of the sacculus is a small pocket containing a minute otolith called the lagena; this is the structure which in mammals becomes the cochlea."

As it stands the sentence is nonsense, since, of course, the pocket, and not the otolith, is the lagena. A similar slovenliness of composition is responsible for such sentences as (p. 67) "Note the position of the limbs in reference to the trunk, which in *Necturus* is of a primitive character," in which it is hard to say whether the position or the trunk is referred to; or this, "If the human arm be extended straight out from the body with the thumb up . . . the back of the hand will be dorsal . . ." We should have thought in the position referred to the hand would be vertical.

The description of the frog and of the turtle call for no special remark, but in his prefatory account of the pigeon the author states:—

"Another effect which has been correlated with the loss of teeth in the bird is the development of a greater intelligence. Inasmuch as the weight of the head is strictly limited by the conditions of the animal's existence, a larger brain could develop than would have been possible if the teeth which characterised primitive birds had not disappeared."

A larger brain and greater intelligence are certainly not convertible terms, and it is as misleading to

speak of "primitive" birds in this connection as it is to assume that birds' brains have enlarged since Cretaceous times. Such a statement, however, is pardonable in comparison with the explanation of the air sacs on p. 169:—"Their function is somewhat obscure but they probably help supply (*sic*) the lungs during rapid flight." The need for revising the physiological statements made in this book may be shown by this further quotation:—"it is largely because of the development of feathers that birds have become warm blooded"! (p. 166).

The use of the book would have been aided by putting practical directions into special type, and by giving fuller instructions for the injection of blood-vessels. But, notwithstanding these drawbacks, the work remains as a useful guide to those teachers who wish to arrange a course in comparative anatomy.

F. W. G.

TARIFF REFORM AND THE EMPIRE.

Compatriots' Club Lectures. First Series. Edited by the Committee of the Compatriots' Club. Pp. vi+327. (London: Macmillan and Co., Ltd., 1905.) Price 8s. 6d. net.

THIS volume consists of a series of papers and lectures given at meetings of the Compatriots' Club, a non-partisan body, "constituted" (as the prefatory note states) "in March, 1904, with the object of advancing the ideal of a united British Empire, and of advocating these principles of constructive policy on all constitutional, economic, defensive, and educational questions which help towards the fulfilment of that ideal."

Although the club is non-partisan, the same cannot be said of the papers in this volume. They are mostly controversial in tone, and too frequently adopt the vocabulary of the political platform. The object throughout is to advocate Mr. Chamberlain's Tariff Reform proposals. The two most prominent writers on economic subjects among the contributors are engaged in almost purely personal conflicts with their opponents on the fiscal question. Prof. Ashley, in "Political Economy and the Tariff Problem," gives an interesting, and indeed masterly, sketch of the progress of economic science from Adam Smith and Friedrich List to the present time, with the main object, however, of providing a counterblast to the manifesto on the fiscal question by fourteen English economic experts, which appeared some two years ago. Dr. Cunningham, in "Tariff Reform and Political Morality," attacks the same manifesto on the curious ground that it was an attempt to "provide the public with excuses for apathy"—"to undertake to do their thinking for them." He makes a similar complaint, with perhaps more point, about another manifesto, signed by some eminent ecclesiastics, which appeared in the *Guardian*, and, incidentally, comes into conflict with Mr. Harold Cox and the editor of the *Echo*.

Mr. J. L. Garvin's paper, read at the inaugural