

is profusely and well illustrated, and forms a valuable compendium for car users. The designer will also find it useful from the same point of view, but as the treatment is non-mathematical throughout, its service to him will be somewhat limited. Whilst the volume is for the most part free from errors, there are some statements regarding resiliency on p. 376 which require revision. The book is up-to-date in general, and includes a chapter on the X-ray examination of materials and another on welding repairs.

*My Electrical Workshop.* By F. T. Addyman. Pp. viii+249. (London: The Wireless Press, Ltd., N.D.) Price 7s. net.

DESPITE the many complete mechanical contrivances now obtainable which enable boys to construct models by simply using a screw-driver, there is still a large number who prefer to make things for themselves. Those who have inclinations towards electricity will find the volume under notice useful in helping them to produce apparatus which will work and can be made from simple materials, provided they possess some measure of handiness with tools. There is a large number of illustrations which assist in making the text clear, and here and there the real article is described as well as a method of making a model having the same principle.

*A Manual of Pharmacology.* By Prof. W. E. Dixon. Fifth Edition, completely revised. Pp. xii+468. (London: Edward Arnold and Co., 1921.) 18s. net.

SINCE the publication in 1905 of the first edition of Prof. Dixon's "Manual of Pharmacology," the volume has maintained its reputation as one of the foremost works on the subject, a reputation which it gained by the very practical arrangement of the subject matter and the readily intelligible manner in which it was presented. The fifth edition retains those characteristic features. Very little change has been made in the classification of the drugs discussed; they remain as before in pharmacological groups.

The chief alterations that have been made consist in the insertion of new paragraphs where necessary and in the correction of the text so as to give effect to the results of work that has been carried out by the author and others during the last few years. Several drugs, such as agaricin, allantoin, etc., to which attention has recently been directed, are accordingly considered. Chemotherapy, the conception that the protoplasm of the living cell is provided with receptive side chains to which drugs can attach themselves and so bring the poisonous properties of a toxophore grouping to bear, is, in the author's opinion, based neither on chemistry nor on pharmacology. By the slow oxidation of salvarsan in the blood into a substance containing trivalent arsenic a steady supply of efficient parasiticide is thrown into the blood, the action of the salvarsan being thus only indirectly on the parasite. On the other hand, in the treatment of filariasis, bilharzia and kala-azar by the intravenous injection of soluble antimony salts, these apparently penetrate the embryos or adult parasites and so produce their toxic action. Of the value of twilight sleep in

depriving labour of its terrors, Prof. Dixon is by no means convinced; in his view it has still to be determined.

The section on antiseptics and disinfectants has been practically rewritten. The action of hypochlorites on proteids and the antiseptic action of chloramines and their sodium compounds as well as of flavine are concisely but very clearly described. The employment of sunlight, ultra-violet rays, X-rays, and radium emanations as remedial agents is also briefly discussed. There is no doubt that to the student and to the practitioner of medicine, as well as to all who are interested in pharmacology, Prof. Dixon's "Manual" will remain indispensable.

*Atomic Theories.* By F. H. Loring. Pp. ix+218. (London: Methuen and Co., Ltd., 1921.) 12s. 6d. net.

RECENT investigations on the structure of the atom and allied studies have proceeded so rapidly that it is difficult for the average reader to keep pace with the advances. The subject is, however, of absorbing interest, and has such an important bearing on all branches of physics and chemistry, that every student feels the need of making himself acquainted with the main features of the new theories. In the case of chemical students, a non-mathematical treatment is, so far as is possible, desired. Mr. Loring's book, which is attractively printed on good paper, will be found of great interest and value in this connection. Particular mention may be made of the accounts of Rutherford's theory in Chapter VIII. and of Bohr's theory in Chapter X. In some cases, notably Chapter IX., on the Quantum Theory, the treatment is too condensed to be clear. The style in many respects is often at fault; the author shows a tendency to wander in sentences, which leaves one with a confused idea of what he is trying to say. The statements on pp. 6 and 15 that fractional atomic weights ( $O=16$ ) are due to isotopes cannot be maintained in the face of examples such as iodine and nitrogen.

*East Carelia and Kola Lapmark. Described by Finnish Scientists and Philologists.* By T. Homén. Pp. xiv+264. (London: Longmans, Green & Co., 1921.) 21s. net.

THE separatist movement in Eastern Carelia dates from the Soviet régime in Russia. It has now led, on the one hand, to a Soviet attempt to suppress it by force, and on the other to an appeal by the Carlians to the League of Nations. The present volume, which was originally published in Finnish and later in Swedish, is in a sense a contribution to that movement in so far as it aims, in a series of papers written by experts, to give an account of the country, its products, history, and inhabitants. For this purpose Kola Lapmark, where the Carelians are not in a majority, is included. It was written before the Treaty of Dorpat, 1920, by which a strip of Russian territory ending in Pechenga Gulf was ceded by Russia to Finland, thus disposing effectively of Finnish claims to Kola Lapmark. The propagandist aim of the book, however, does not obtrude and is mentioned only rarely. The volume is a valuable contribution to the geography of Arctic Europe, and is well illustrated by several maps.

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