

higher importance to smelters than the alloys proper, and have been shown to obey the same laws when they are fused and allowed to cool.

The remainder of the book is devoted to the practical microscopy of metals and to an excellent and sufficiently full description of the iron-carbon alloys. The section is entitled "The Special Metallography of Iron and its Alloys," but no mention is made of any alloy of iron except those with carbon, so that for information as to all the special steels, which are now of so much interest, the reader must wait for another edition or another book.

Enough has been said to show that the standard work on metallography is yet to be written, but that students will find Dr. Goerens's book admirable as affording them a glimpse of the methods of investigating metals and alloys. T. K. R.

ELECTRO-THERAPEUTICS.

Röntgen Rays and Electro-therapeutics, with Chapters on Radium and Phototherapy. By Dr. M. K. Kassabian. Lippincott's New Medical Series. Pp. 545. (Philadelphia and London: J. B. Lippincott Co., n.d.) Price 15s. net.

WITHIN the last ten years the study of electro-therapeutics has rapidly grown, and, indeed, the progress has been so great that it is almost impossible for any author to record the constant advances published from day to day. Many valuable and important works have been published upon this subject, and when stating this, Dr. Kassabian says he wishes to present to his readers, clearly and concisely, the more important facts pertaining to electro-therapeutics and Röntgen rays.

The book begins with a general introduction, and considers the use of electricity in the medical curriculum. The following chapters are devoted to the nature and properties of magnetism and electricity, to different methods of producing electrical energy, and it should be said the apparatus required for the different forms have been very fully entered into. The next part of the work is devoted to pathological conditions in general diseases and special departments.

High frequency and, above all, as the title indicates, Röntgen rays occupy a very large part of the book, and the technique has been very carefully gone into. Though treating of this subject generally, the application of X-rays for diagnosis and treatment is fully described, and three chapters are devoted to the study of radium and phototherapy.

It will be seen from the very large number of subjects introduced that it must be a very difficult thing for any author to do justice to all in one volume. It can be said, however, that any student of electro-therapeutics carefully reading this book will find in it a valuable aid, and any practitioner desirous of obtaining an excellent general view of the subject will do well to obtain a copy. There can be no doubt whatever that the scope of the work has been carefully thought out, the descriptions and instructions are clear and concise, and Dr. Kassabian deserves to be congratulated heartily upon the general result. In

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addition to the printed matter, there are no fewer than 245 illustrations, many of them of great value, and all of considerable service to the student.

We have hinted in the above statement that the subject is so vast that it is difficult to do justice to every department, and the author seems to be conscious of this, because he admits that the space is all too brief for the study of phototherapy. The same might be said of the attention paid to the physiological effects of high-frequency currents. All the same, Dr. Kassabian has exercised a wise discretion, because in some parts of the book, such as the dosage of X-rays—a vexed question, and yet one of vital importance to the profession—he has given an excellent *résumé* of what has been done.

Now and again the author might confuse a beginner for want of a slight explanation; for example, at one time he points out (p. 448) that the X-rays may produce pigmentation of the skin, and, again, he quotes the case of a brunette losing pigmentation by the same agent.

The index, although excellent, might be improved. For example, "hypertrichosis" and "naevus" will not be found under the initial letter of each word, but under "X-rays" in these affections. Other examples might be quoted.

OUR BOOK SHELF.

On the Plantation, Cultivation and Curing of Para India-rubber (Hevea brasiliensis), with an Account of its Introduction from the West to the Eastern Tropics. By H. A. Wickham. Pp. iv+78. (London: Kegan Paul, Trench, Trübner and Co., Ltd., 1908.) Price 3s. 6d. net.

MR. H. A. WICKHAM re-tells the interesting story of the successful effort of the Government of India with the aid of the Royal Gardens, Kew, to introduce the Para rubber tree (*Hevea brasiliensis*) from Brazil to the eastern tropics. Though the tale, at least in outline, is fairly familiar, it is one that bears repeating, and as told by Mr. Wickham will, in spite of a certain ruggedness of style, be read with interest, since it has the advantage of being from the pen of one who can say with truth of the history he relates, *pars magna fui*.

The passages in which Mr. Wickham strives to impress on his readers his experience that the Para rubber tree is properly a denizen of the immense forest-clad plains which occupy the areas between the great rivers of the Amazon system will attract attention. These plains are considerably more elevated than the flat ground which skirts the banks of the actual rivers, and is periodically inundated when the rivers rise. The tree does, indeed, occur on these low-lying tracts, but in Mr. Wickham's experience it does not thrive so well on these flooded levels as on the somewhat higher plateaux that abut upon them. The question is of interest because of the practical bearing it may have on the treatment of *Hevea brasiliensis* as a cultivated tree.

The discussion of the methods that, in the opinion of Mr. Wickham, are most suitable for the cultivation of the tree and the treatment of its latex will also be read with interest by those engaged in both occupations. The literature of the subject is already extensive, and much of it is of high quality. But what Mr. Wickham has to say will receive the attention of those practically interested in *Hevea* as coming from