

engineering (Elektrotechnik). In a work dealing with such a subject, we should have thought the publishers would not have departed from the very sensible plan, adopted in practically all good German scientific books, of printing in the ordinary Roman type instead of in the German script. We can safely assert that the adoption of the German character will very considerably reduce the number of foreign readers.

The book is divided into two parts, the first containing chapters on the mechanical, magnetic, electrostatic and electromagnetic units, and a comparison of these two latter systems.

The second part, taking up three-quarters of the book, is entitled "Additions and Explanations" (Zusätze und Erläuterungen), and consists of a somewhat curious collection of all kinds of information and numerical examples, and we are afraid that the reader who uses the book as an introduction to the study of electrical engineering will not profit very much thereby. We think, in fact, that the two objects of the book are incompatible, as it is hardly reasonable to expect a person just beginning to study electrotechnics to grasp such conceptions as the relations of the electromagnetic and electrostatic systems of electrical units, and so forth, or to go from chapter ii. of the second part, on the calculation of dynamos and considerations of the thickness of the insulation on double cotton-covered wires, &c., to chapter iii., introducing, without a word of warning, highly involved considerations of potential theory with differential equations half a page long.

The book will be mainly useful to teachers in technical colleges and schools, who are often called upon for the satisfaction of inquiring students to work out a formula from first principles, a subject with which the practical man has neither the time nor the inclination to bother. Such a teacher would find it useful to have this book by him, and the many references and footnotes given would be additionally helpful in such cases.

In fact, the book appears to us like a collection of notes of theoretical considerations and blackboard examples acquired by a lecturer to assist him in his lectures, and as such will no doubt have its sphere of usefulness.

If we may permit ourselves one more remark, in paragraph 92, on "hydroelectric chains," examples are worked out at length on the calculation of electromotive force according to the old "Thomson" law (equivalence of heat of reaction and electrical current work), and the only warning given that this assumption is both fundamentally wrong and in many cases leads to totally false results is given in a footnote. In a work on "absolute" units, this should hardly occur. The book is indexed very well, which is an additional advantage from the above-mentioned point of view. C. C. G.

*Index-tabellen zum anthropometrischen Gebrauche.* By Carl M. Fürst. (Jena: Gustav Fischer, 1902.) Price 5 marks.

IN the preparation of their great work "Anthropologia Suecica, Beiträge zur Anthropologie der Schweden," Drs. Gustaf Retzius and Carl M. Fürst had to deal with a vast mass of figures. It is the custom of physical anthropologists, not merely to publish their measurements, but also to give the ratio of a given measurement to another, and this is termed an "index"; for example, the ratio of the breadth of the head to its length is called the cephalic index, and is obtained by multiplying the breadth by one hundred and dividing the product by the length. The calculating of a large number of indices is undeniably a very tedious process, and various devices have been employed to save the student this clerical labour. Certain mechanical and other devices have been invented, but these have never proved satisfactory and are not employed by serious workers. The most accurate and practical rapid method of determining an index is by means of

tables which have been carefully computed. It is evident that such tables once constructed and published would materially lighten the labour of those who do this kind of work.

The first tables of this nature were published by Prof. Welcker in the *Archiv für Anthropologie* in 1868. They were calculated only for the cranial index, and even so were not of sufficient range. In 1879, Prof. Flower published some very useful and on the whole accurate tables in his well-known Osteological Catalogue of the Royal College of Surgeons, London, Part i., Man. These were calculated for the various cranial indices which he employed in that valuable publication; though these tables have proved a great boon to workers, they are not sufficiently extensive to meet modern requirements. Of greater scope are the Broca's tables which were published by Bogdanow in the *Mittheil. d. kaiserl. Gesells. d. Naturwiss. anth., eth. Abtheil.* (Moscow, 1879.) These also had some clerical errors, and the size of the page rendered it somewhat unwieldy. This publication was very difficult to obtain, and as a matter of fact the tables were not generally used by anthropologists.

Now all this is changed, as Dr. Fürst has published his extensive tables in a convenient form and at a low price, and has placed at the disposal of his colleagues, in twenty-nine tables, the result of the enormous labour of Fräulein Ellen Anderson-Gülich, who has made the requisite calculations.

Anthropologists will find in these tables practically all the indices they are likely to require, but there are certain indices which have not been carried sufficiently far to include some of the more extreme measurements that can be made on the living subject of non-European peoples; this will affect but few investigators, and that only rarely. Our hearty thanks are due to Dr. Fürst.

*Jahrbuch der Chemie*, 1901. Herausgegeben von Richard Meyer. (Brunswick: F. Vieweg und Sohn.) Price 15 marks.

THE *Jahrbuch* for 1901 is the eleventh of the series and has for its object a review of the chemical work done during the year. Very few alterations are to be noted in comparison with the previous publications so far as arrangement and scope of the work are concerned. Several changes have, however, taken place on the editorial staff. In consequence of the death of Prof. Märcker, the chapters on agricultural chemistry, technology of the carbohydrates and brewing industries have been relegated respectively to Profs. Morgen, Herzfeld and Delbrück. Dr. W. Küster, of Tübingen, is now the editor of the section on physiological chemistry, and Prof. Doeltz, of Clausthal, of that on metallurgy.

The various authors appear to have given, on the whole, a satisfactory account of the research work carried out in their respective provinces, and the reader will obtain a good idea of what has been accomplished during the past year in both pure and applied chemistry. It seems doubtful, however, whether a compilation of this kind, in which nearly all the collaborators are of German nationality, gives the best possible account of the work of men of science in other countries. The greater part of the researches in pure chemistry carried out by English chemists is published in the *Transactions* of the Chemical Society. The editors of the various sections of the *Jahrbuch* apparently consider themselves in many cases capable of giving a clear and succinct account of these investigations by reference to the short notes in the *Proceedings* of the Society. It is unnecessary to point out the impossibility of such a mode of procedure being attended with any measure of success, and the practice must be strongly condemned.

It is to be hoped that, in future publications of the year book, greater care will be exercised in rendering an account of the work of English chemists. Its claims to