

which has a magazine of paper lasting him a week, and he is enabled to type four copies at once by means of ribbons instead of carbon paper. The blind man is trained by visualisation, and is taught to use a cross-sectioned visualising board, on which the tools and equipment he is using are placed at fixed points. Thereby great waste of time and effort is saved. The importance of finding work that cripples can do, and of teaching them to do the work, is insisted on. Not only have the war cripples to be considered, but also the very numerous workers crippled as the result of industrial accidents.

H. M. V.

Our Bookshelf.

Engrais. Amendements Produits anticryptogamiques et Insecticides. Par Dr. E. Demoussy. Pp. xi+297. Paris and Liège: Ch. Béranger, 1919. Price 15 francs.

DR. DEMOUSSY'S manual on the analysis of fertilisers is written for the trained chemist; it is founded on the methods laid down in 1897 by the Comité des stations agronomiques, but unofficial methods in use in the principal French laboratories are also described. After a short introduction on the laws regulating the sale of fertilisers, the author deals in the first two chapters with the collection of samples and their qualitative examination. The following four chapters treat of the determination of nitrogen, phosphoric acid, potash, and manganese, the arrangement being according to the substance to be determined, and not the material in which it is found. The methods are for the most part well known in this country, and call for only a few remarks. The longest section is that devoted to nitrogen. The official method for nitrates is that of Schloesing, and no mention is made of the zinc-copper couple, while for organic nitrogen the Kjeldahl and soda-lime processes are both recommended. The latter has fallen into almost complete disuse in this country, and probably few chemists here would agree with the opinion that it is the more economical in time when many samples are to be examined. Where a purely chemical analysis would be of little value, as in the case of dried blood, drawings of the materials as seen under the microscope are given. The value of these would have been greatly increased if the magnification had been stated. Under the head of potash no reference is made to flue-dust; in this case the official methods would have to be slightly modified to ensure complete removal of silicic acid.

The second and third parts of the book deal with materials such as lime and with fungicides and insecticides. Tables for the calculation of results are added, and the appendix contains the French laws and regulations dealing with the sale of fertilisers.

The book is well arranged and clearly written, and its value is added to by notes on the form in which the various materials are put upon the

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market and the adulterations to which they are liable. It should prove very useful in analytical laboratories in this country as well as in France.

DONALD J. MATTHEWS.

Flora of Jamaica: Containing Descriptions of the Flowering Plants known from the Island. By William Fawcett and Dr. Alfred Barton Rendle. Vol. iv., *Dicotyledons: Families Leguminosae to Callitrichaceae.* Pp. xv+369. (London: British Museum (Natural History), 1920.) Price 25s.

THE fourth volume of this admirable tropical flora has lately appeared, and contains the *Dicotyledons* from *Leguminosae* to *Callitrichaceae* (on the Englerian system). It maintains the high standard of its predecessors, and shows a great advance upon some well-known tropical floras in being illustrated by excellent text figures, and not by a series of separate plates, which are usually troublesome to consult. The index is also convenient in being only a single list of both scientific and popular names and synonyms. Turning to the contents of the book, which have been worked up with much care and after consultation of all the older authors and collections, an interesting feature that may be noticed is the extraordinary generic similarity of the flora to that of other islands, even at immense distances from Jamaica. In the *Leguminosae*, for example, the first family in the volume, 118 Jamaica species, or 80 per cent., belong to genera that also occur in Ceylon, 74 per cent. to genera occurring in Formosa, and even in the case of so far distant an island as New Caledonia 63 per cent. of the Jamaica species belong to common genera. It is clear that the islands on the whole contain the older genera, which have been able to reach them. Of the Jamaica genera of *Leguminosae* 70 per cent. are cosmopolitan, and only 14 per cent. are confined to the New World. Again, one notices that the proportion of endemic species is small in *Leguminosae*, and larger in *Euphorbiaceae* and some of the other families, just as in other floras. It would appear a promising piece of work to make a careful statistical study of numbers and proportions of endemics in many countries, for it evidently follows definite, if perhaps recondite, laws.

Butter and Cheese. By C. W. Walker Tisdale and Jean Jones. (Pitman's Common Commodities and Industries.) Pp. ix+142. (London: Sir Isaac Pitman and Sons, Ltd., n.d.) Price 2s. 6d. net.

THE writers of this book have succeeded in giving to the general reader a very good account of the essential facts in connection with the dairying industry. As was to be expected, it was necessary to treat the subject on what are generally termed popular lines, but certain of the chapters are written in a particularly clear manner and with full regard to the essential technical points. Not only the chief branches of the dairy industry—cheese-making and butter-making—are dealt with, but also the production of milk, the methods of analysis, and the judging of dairy produce are