

the rock of the *Steinerne Meer*—as only the work of rain. Is it possible that they were chiefly excavated in the Glacial epoch, when many elevated rocky plateaux would be buried under permanent, or nearly permanent, snow-beds, the drainage from which would give a supply of water, which was engulged before it had the opportunity of excavating a glen? Some things seem not unfavourable to this suggestion. T. G. BONNEY.

#### OUR BOOK SHELF.

*Bulletin of the Botanical Department, Jamaica.* April 1887 to September 1894. Edited by the Director, W. Fawcett, B.Sc. (Published by the Department of Public Gardens and Plantations)

SINCE the increase of botanical stations in the British West Indies, there has been greater activity in the older establishments, and the Directors have followed the example of Kew, in issuing a monthly budget of information useful to planters and others, whether they plant for profit or pleasure. We have lately received a complete file of the organ of the Jamaica Garden, bearing the above title. This was started in 1887, and it has increased from a single page of foolscap size to a sheet of ordinary octavo; and the price is only twopence. The contents are of a varied and miscellaneous nature; but information on the cultivation and diseases of economic plants, and on the value and preparation of their products, largely predominates. It includes not only the results of local experience; the editor has also drawn upon the numerous sources open to him, thanks to the more intimate connection between similar establishments throughout the empire, due, to a large extent, to the efforts of the Director of Kew.

Among other things, there are lists of the economic plants, of plants yielding edible fruits, and of trees useful either for timber or shade, cultivated in the Jamaica botanic garden. Botanical and common names are given, as well as the native countries of the respective plants, together with the prices (of seeds or plants) at which they are offered to the inhabitants of the island. The prices, it may be mentioned, are ridiculously low; merely nominal, in fact. Free grants are also made; but in order to avoid waste of valuable plants, the conditions are somewhat stringent, though not more so than an intelligent and earnest cultivator would cheerfully submit to. Another interesting feature is Mr. Jenman's descriptive enumeration of the Ferns of Jamaica. This was commenced in 1890, and is still unfinished. It is to be hoped that this will some day be issued separately, as the Fern-vegetation of Jamaica is perhaps the richest in the world, comprising between 400 and 500 species.

*Die Maschinellen Hilfsmittel der Chemischen Technik.* Von A. Parnicke, Civil-ingenieur, vorm. Ober-ingenieur der Chemischen Fabrik Griesheim. (Frankfurt: H. Bechhold, 1894.)

WE are accustomed to hear little but praise of the German University system of education. There is, however, a reverse to the shield. While admitting the value of the training received by the University student in pure chemistry, the author of this work points out that only in a few of the higher technical schools is any systematic instruction given concerning the employment of machinery in manufacturing chemistry. The consequence is that many young chemists find, at the commencement of their practical career, that they have either to laboriously collect, from many scattered and not easily accessible sources, the information they require, or perforce remain mere copyists of the methods of others, for lack of the knowledge which might enable them to intelligently use the mechanical appliances best suited to attain their ends.

The work under review represents an endeavour to lessen the difficulties in this direction. In some 290 pages, a synopsis is presented of the principal mechanical arrangements with which the chemist may be concerned. A vast amount of information is set out in well-arranged sequence, and, though many of the descriptions are necessarily somewhat sketchy on account of the large number of appliances to be described, a study of the pages before us cannot fail to be of great use to the limited class for whom they were written. The book is well illustrated, having no fewer than 337 figures; these would have possessed a much greater value had dimensions been more generally given. From the point of view of the highly-trained chemist, it is perhaps to be regretted that valuable space is occupied by descriptions of certain machines of well-known types, such as common weighing machines. No doubt the volume is rendered more complete by the inclusion of such matter, yet it would seem of far greater importance that a chapter should have been added dealing with the many useful types of pressure and temperature regulators and their applications. It could hardly be expected that all parts of the book should be equally up to date; the account given of pyrometers is notably incomplete, no mention being made, for instance, of the now well-known instrument designed by Le Chatelier. English students may find in this compilation a useful index serving as a guide to direct their attention to the most important mechanical devices used in chemical operations; but we think that they will benefit more by undertaking the additional labour of unearthing details from the many admirable treatises and dictionaries already in existence in their own language. W. T.

*Air, Water, and Disinfectants.* (Manuals of Health Series.) By C. M. Aikman, M.A., D.Sc. Pp. 126. (London: S. P. C. K., 1895.)

THIS little book contrives to tell us a great many most interesting and instructive facts, without for one moment running the risk of boring us. It is written in an attractive style, and whilst popular, the author never forgets what is due to the subjects he is discussing.

Microbes, not perhaps, without reason, furnish material for a substantial portion of the text, and free use is made of "Our Secret Friends and Foes," which, however, Dr. Aikman amply acknowledges.

The little section on "Dust particles in the air" contains an interesting *résumé* of Dr. Aitken's investigations, and as they have been, we believe, chiefly published in Edinburgh scientific journals, will doubtless suggest much that is novel to the general reader. Many such will be astonished to learn "that a cigarette smoker sends 4,000,000,000 particles of dust, more or less, into the air with every puff he makes," and that one cubic inch of the air of a room at night, when the gas is burning, may contain as many dust particles as there are inhabitants of Great Britain!

We cordially recommend this little book to all those who wish to obtain an accurate, though popular, idea of the nature of air, water, and disinfectants.

*An Elementary Text-book of Anatomy.* By Prof. H. E. Clark. (London: Blackie and Son, 1895.)

A TEXT-BOOK of anatomy, suitable as an introduction to junior students of medicine, and simple enough to be understood by all who wish to read about the structure of their bodies. The book is limited to the anatomy of the human subject, and is divided into seven sections, dealing respectively with the tissues, bones, joints, muscles, vessels (the heart, blood-vessels, and lymphatic vessels), nervous system, and internal organs. It contains numerous instructive illustrations, as well as a useful glossary, and is altogether a serviceable elementary manual of anatomy.