

great developments to be recorded. We think that the inclusion of such subjects as photography (fifty-five pages) has helped to swell the volume to unnecessarily large proportions. The technics of a special branch such as this seems scarcely at home in its surroundings. We welcome in particular the articles of Drude on the nature of light, on the theory of light for transparent media at rest, for absorbing media, and, finally, for media in motion.

The book is replete with references to original papers, and may be taken as being as complete a handbook for the professional reader as has yet appeared.

#### GARDEN-BOTANY.

*Hortus Veitchii, a History of the Rise and Progress of the Nurseries of Messrs. James Veitch and Sons, together with an Account of the Botanical Collectors and Hybridists employed by them and a List of the more Remarkable of their Introductions.* By James H. Veitch. Pp. 542; illustrated with fifty photogravure plates. (Chelsea: James Veitch and Sons, Ltd., 1906, for private circulation.)

THIS is one of the most sumptuous volumes which have ever emanated from a business house, but if it were simply a business publication it would claim no special notice in these columns. It is, in fact, a most important contribution to the history of horticulture during three-quarters of a century or more, and a valuable work of reference for the systematic botanist and the hybridist. It illustrates in a remarkable degree the service which the enterprise of a great commercial firm is capable of rendering, and in this case has rendered, to botanical science. As the author appropriately says:—"To the representatives seeking unknown plants at one period or another in almost every clime, fortune has not invariably been kind, but the work of such men as Thomas Lobb, William Lobb, the late John Gould Veitch, Charles Maries, and E. H. Wilson has been a gain in every way; whilst the efforts in hybridising and selecting of John Dominy, John Seden, V.M.H., and John Heal, V.M.H., have given a wider interest to all cultivators."

With the history of the firm and its various members as given in the introduction to the present volume we are not here concerned, but we may indicate that it would furnish valuable data for Mr. Galton's science of eugenics. The biographical sketches of the twenty-two travellers employed by the firm are so interesting that we could have wished them longer. Whilst very many of the plants introduced into cultivation by the energy and zeal of these men have proved of first-rate importance from a gardener's point of view, as shown, amongst other things, by the fact that no fewer than 422 plates representing Veitchian introductions have been published in the *Botanical Magazine* under the editorship of the two Hookers and their successor, Sir William Thiselton-Dyer, thousands of herbarium specimens have been generously presented to the national botanical establishments and to individual botanists engaged in the study of particular groups.

NO. 1926, VOL. 74]

When we come to the section relating to the hybridists who have achieved success in Messrs. Veitch's nursery we are again disposed to regret that fuller details were not given, but in view of the magnitude of the book and the immensity of the task we are by no means surprised that the author has felt it necessary to give indications only. Certain it is that the students of hybridisation, variation, and heredity will find inexhaustible materials for study in the results obtained by Messrs. Veitch. It is a noteworthy fact that at the present time, when orchids are so popular, greater interest is felt in the hybrid "creations," in the production of which John Dominy was the pioneer, than in new introductions. When we read of a thousand pounds and more being paid for one of these specimens we can but regret that orchid lovers do not contribute more to encourage scientific research into the history and nature of the plants in which they take such keen interest. The list of species of orchids introduced by Messrs. Veitch occupies no fewer than forty-seven pages. A large proportion of these were described by Lindley, by Reichenbach, and subsequently by Rolfe, and short descriptions and historical notes are afforded in these pages. Orchid hybrids are treated in like manner, the particulars relating to them filling fifty-seven pages, exclusive of an appendix giving historical details, and occupying six pages of small type. The information here given will be of special value to those engaged in the study of hybridisation.

Space will not allow us to do more than mention the sections relating to stove and greenhouse plants, to which eighty-three pages are devoted, to the various species and hybrids of *Nepenthes*, the ferns, the coniferous trees, the deciduous and evergreen trees and shrubs, the herbaceous plants, the bulbous plants, the *Amaryllis*, the *Begonias*, the greenhouse *Rhododendrons*, the *Streptocarpus*, and, lastly, the fruits and vegetables, all exclusively the result of the enterprise or of the skill of Messrs. Veitch and of their assistants. With such a vast amount of material it is evident that severe compression has had to be effected, but even so the record is a marvellous one. Happily an excellent index is provided.

Throughout it is obvious that great pains have been taken in the preparation of the volume, the solid worth of which is enhanced by the excellent manner in which it has been produced.

#### OUR BOOK SHELF.

*Avogadro and Dalton. The Standing in Chemistry of their Hypotheses.* By Dr. Andrew N. Meldrum. Pp. 113. (Edinburgh: W. F. Clay, 1904.) Price 3s. net.

THIS book may be read with interest by all chemists, and with special profit by students who have got into confusion with the difficult piece of chemical history of which it treats.

Dr. Meldrum sets himself to define the true relationship and standing of the hypotheses of Dalton and Avogadro. Prof. Japp, in his preface, states that he has nowhere else seen the true ratiocinative order of precedence of the molecular and atomic hypotheses