

suggestions for the equipment of the laboratory, and the use of the microscope, with, at the end of the volume, reference lists of dealers and materials, complete the volume, and increase its usefulness for secondary teachers and students, to whom it is on the whole by no means ill adapted. FRANCIS E. LLOYD.

*The Cyclopedia of American Horticulture.*

By L. H. BAILEY and WILHELM MILLER. Comprising suggestions for cultivation of horticultural plants, descriptions of the species of fruits, vegetables, flowers and ornamental plants sold in the United States and Canada, together with geographical and biographical sketches. Vol. IV., R-Z. New York, The Macmillan Company. 1902. Pp. xxx+1487-2016; pl. 31-50; ff. 2060-2800.

Professor Bailey is to be congratulated on the completion of a work that will long stand as one of the monuments of horticultural progress, useful alike to the gardener, the student of cultivated plants and the seeker after general information relating to such plants.

The task he set himself was a hard one, for unless arbitrarily limited the field is a large one, the details intergrading and of unequal importance, and almost every step is beset with nomenclatorial and other pitfalls, between which a safe course is all but impossible because so many of the difficulties admit of only subjective solution which, when opinions differ, cannot please every one. With the good judgment but positive action for which he is noted, he has handled elaborate questions conservatively and as consistently as could be expected, considering that the several articles have been written by many persons whose opinions could hardly be reduced to a uniform level on any matter of policy.

The more notable parts of the concluding volume are the editor's preface, including a history of the planning and execution of the work and an outline for proposed supplements, and the articles on railroad-gardening, *Rhododendron*, *Ribes*, *Rosa* and rose, *Rubus*, *Salvia*, *Saxifraga*, *Scilla*, *Sedum*, seedage, *Selaginella*, *Sempervivum*, shrubbery, *Sorbus*,

*Spiræa*, spraying, storage, strawberry, *Syringa*, tomato, transplanting, trees, *Tulipa*, *Ulmus*, *Vaccinium*, vegetable gardening, *Verbena*, *Viburnum*, village improvement, vines, *Viola* and violet, *Vitis*, walnut, wild garden, winter protection, and *Zea*. W. T.

*The Science of Penology: The Defence of Society against Crime.* By HENRY M. BOIES. New York and London; G. P. Putnam's Sons. 1901. Pp. 459.

The author of this book approaches his subject from the practical rather than from the scientific side, as is indicated at the outset by the fact that he is a member of the Board of Public Charities and of the Committee of Lunacy of the State of Pennsylvania. He makes no pretentious claims to originality; he wishes simply to 'collate and systematize' what others have done with a view to awaken a wider interest in the rational treatment of criminals and to assist those who make and execute the laws against crime. The really interesting and significant point about the book is that in a work which thus 'aims at practice' and is written by a practical man, the standpoint of those who during the last quarter of a century have sought—amid the ridicule of practical men—to put criminology on a scientific basis, is definitely accepted, and accepted almost as a matter of course. It is sufficient to mention the headings of the three sections into which the book is divided: Diagnostics, Therapeutics and Hygienics. In other words, from a book to which is attached the old-fashioned label of 'penology,' the subject of punishment is simply omitted altogether. At one point, it is true, the author would appear to admit the idea of punishment in so far as it may be of therapeutic value, but on the whole he has nothing whatever to say to it. "Criminal codes as they exist are," he states, "in the light of twentieth century intelligence, a conglomeration of penalties of various degrees of atrocity, irrationality, absurdity and inutility. They are the relics of blind social struggles against social evils, useful chiefly as antiquities, to be collected with thumb-screws, iron boots, racks, and torture wheels in mu-

seums. To provide an efficient substitute for these codes, to enunciate the principles upon which a successful defence of society against crime must be conducted and the abolition of criminality accomplished, is the special province and object of penology. \* \* \* The supreme object of penology is to prevent crime, not to punish for it. It is similar to the science of medicine and surgery in that its province is not only to cure specific cases of disease, but also to prevent the genesis, recurrence and spread of disease." In this very radical statement, and in his assertion that 'criminality is a preventable and curable disease,' Mr. Boies goes further than most scientific criminologists are prepared to go.' His absorption in his own subject also leads the author at times to regard the elimination of criminality as the main end for which the state exists, and to advocate unhesitatingly strenuous measures of somewhat dubious character, such as forbidding the marriage of various classes of criminals and even castrating them.

It must be said that the general tone of the book is distinctly dogmatic, and the author seldom appears willing to admit that any question can have two sides to it. He makes few references to authorities, and it may be gathered that his estimates as to the comparative values of authorities are somewhat uncritical. At the same time Mr. Boies has written a distinctly useful book. He may be described as a disciple of Ferri, adopting the same broad sociological standpoint as the eminent Italian author and making an attempt to adapt Ferri's principles to American conditions. It may be added that the book has been admirably produced by the publisher, and shows a praiseworthy absence of inaccuracies and misprints.

HAVELOCK ELLIS.

#### SCIENTIFIC JOURNALS AND ARTICLES.

THE *Botanical Gazette* for April contains a continuation of Professor Frederick C. Newcombe's paper upon 'The Rheotropism of Roots.' It will be completed in the May number, when the principal results will be noted. Mr. John Donnell Smith publishes his 23d

paper under the general title 'Undescribed Plants from Guatemala and other Central American Republics,' including descriptions of about twenty new species, and also of a new genus (*Donnellia*) of the Commelinaceæ, by C. B. Clarke. Accompanying the paper are two double page plates by C. E. Faxon. Miss Alice Eastwood concludes her 'Descriptive List of Plants collected by Dr. F. E. Blaisdell, at Nome City, Alaska,' describing new species of *Mertensia*, *Pedicularis*, *Pinguicula*, and *Aster*. Mr. E. B. Copeland discusses Haberlandt's 'New Organ of *Conocephalus*,' which he has called a substitute hydathode. Mr. Copeland shows that there is nothing very surprising or remarkable in the behavior of these structures, and that they are essentially similar to such as the same condition produces in many plants, the conditions being excess of moisture.

*The American Naturalist* for April begins with an article by Henry F. Osborn on 'Homoplasy as a Law of Latent or Potential Homology,' homoplasy being the independent similar development of homologous organs or regions giving rise to similar new parts. Applying this is to the teeth Professor Osborn finds that similar cusps have been developed in unrelated mammals in different parts of the world, and that there is some underlying principle which determines in a measure the course of evolution. Ales Hrdlicka presents some 'New Instances of Complete Division of the Malar Bone, with Notes on Incomplete Division,' and Herbert P. Johnson describes 'Collateral Budding in Annelids of the Genus *Trypanosyllis*.' This method is considered as an advance over linear budding and the genus as representing the most highly specialized mode of asexual reproduction among annelids. J. B. Johnston and Sarah W. Johnson discuss 'The Course of the Blood Flow in *Lumbricus*' in some detail, stating that their experiments give no support to the idea that there is a more or less complete segmental circulation in the genus. The notes and brief reviews are numerous.

*The American Museum Journal* for April contains an account, with illustrations, of an exhibit of birds' bills, feet, tails, wings and feathers, designed to illustrate terms used in