form the second component by which endocrine activity is expressed.

The story of the endocrine glands has a close parallel with that of the vitamins. First, the recognition of the effects of deficiency, then the preparation of extracts that repaired the deficiency; then the isolation (and synthesis) of the active principle; and finally, in the case of vitamins but not yet in the case of the hormones, the identification of the cellular mechanism of which the active principle formed an essential part.

In the present volume the author has attempted the large task of writing a book that covers not only the fundamental knowledge of the endocrine glands as gathered by the experimentalist, but has also endeavored to point out the main clinical features of endocrine disorders in man. These, in themselves, would furnish material for a volume many times this size, but this book, in addition, deals in an interesting manner with the biological and teleological significance of these organs. As may be imagined, there is ample room for criticism on the grounds of omission and condensation of what may be regarded by some as essential material, but such criticism should be tempered by the avowed purpose of the book. It has been written for an audience as broad as its subject matter, "biologists, psychologists, premedical students, physicians and the intelligent general reader." Viewed in this light the author has produced a successful volume, one, indeed, that could have been written by few men and held such a universal appeal.

Dr. Hoskins may be termed one of the "pioneers" in the field of endocrinology in this country. He has seen the subject grow from the sincere efforts of a small group of men to place the study of the endocrine organs on a sound scientific basis to the honorable status it now holds as an important field in the biological sciences. He was one of the founders of the Association for the Study of Internal Secretions and the editor of *Endocrinology* for a long period of years. More recently, he has been the director of the Memorial Foundation for Neuro-Endocrine Research, another borderline field in which hardly the preface has yet been written.

In structure, the book takes up the endocrine glands in turn and after a brief historical outline discusses the work that led to the recognition of each as an organ of internal secretion. The isolation of the active principle, where this has been accomplished, is reviewed, however, with a minimum of the chemistry related to the details of the isolation or the identification of the active principle. The main physiological facts are usually given in good detail, and this is followed by a description of the principal clinical syndromes associated with hypo- or hyperfunction of the organ in man.

To many the last two chapters on "Some General Aspects of Endocrinology" and "Endocrinology of the Future" will prove of especial interest. Here the author gives us his philosophical approach to the problem and outlines the major fields in which he anticipates future work will be done. Such chapters are not usually found in more formal text-books on the subject, but in this volume they are in keeping with the purpose for which it was written and for the audience it is intended.

Those with expert knowledge will find many places in the book that are lacking in detail, and in practically no instance will there be found detailed information of the experiments cited. However, these must be sought in the original articles, of which several of the most important are cited either at the end of each chapter or in the suggestions for further reading at the end of the book.

The reviewer, however, feels he must call attention to one gross contradiction. On page 180 it is clearly stated that the anterior pituitary hormones are of a protein character and are therefore destroyed by the digestive juices. Nevertheless, on page 173 there is reproduced the height and weight curve of a dwarf whose growth was alleged to be accelerated by the administration by mouth of anterior lobe substance. True, no comment is made in the text on the validity of these observations, but this chart does mar what is generally a conservative view of the value of this type of replacement therapy.

In conclusion, the author has succeeded in preparing a book that is eminently suitable for those who wish to obtain a broad picture of the development, present status and future possibilities of endocrinology, and he is to be congratulated on compressing so much readable material into such a small yet well-rounded volume.

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THE THEORY OF NEWTONIAN ATTRACTION

An Introduction to the Theory of Newtonian Attraction. By A. S. RAMSEY. ix + 184 pp. Cambridge University Press. 1940.

THIS is a book of simple text, with many problems of practical interest to the student of applied mathematics. On the one hand it is a good preparation for Kellogg's "Foundations of Potential Theory," which is more precise and much more extensive on the theoretical side, and on the other, for the rich and systematic collection of problems in the Newtonian

Potential Function of B. O. Peirce, which many of us remember as young students. Ramsey's "Introduction" can be read profitably by persons who have mastered the second year of calculus in an American university.

The reviewer does not mean to say that the book is a mere routine selection of details of subject matter from more ambitious treatises. For example, the following topics will immediately excite interest: the condition that a family of surfaces be a possible family of equipotential surfaces; approximate formulae for the potential of a body at large distances from it in terms of the principal moments of inertia, and the potential of a nearly spherical body, with applications to the attraction of the moon on the earth; the equilibrium of a rotating liquid, with Jacobi's ellipsoid of three unequal axes. The reader can thus expect to gain an introduction to several of the classical problems connected with the subject, as well as some systematic knowledge of the subject itself, in this very brief exposition.

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SOCIETIES AND MEETINGS

THE AMERICAN ASSOCIATION OF BOTANICAL GARDENS AND ARBORETUMS

AT the annual meeting of the American Institute of Park Executives, in September, 1940, a new organization was formed, to be made up of those connected with arboretums and botanical gardens situated in North America. Though this organization is still very young, it has at present approximately seventy members, representing approximately fifty-four different arboretums and botanical gardens in North America. Its purpose is to promote the interests of botanical gardens and arboretums and to promote the interest of the general public in living plants.

The official organ is the magazine *Parks and Recreation* in which the association has a monthly section, at present consisting of descriptions of the various botanical gardens and arboretums in North America, their objectives and methods of conducting research projects. Also in this section appear various news notes and interesting items concerning rare or unusual plants. This is part of the work of the publication committee, the chairman of which is Henry T. Skinner, curator of the Morris Arboretum, Chestnut Hill, Philadelphia.

The chief undertaking of the association at this early stage is the assimilation of a complete list of plants of a few genera which are growing in this country at the present time. For instance, many a botanical garden has a collection of oaks, maples, junipers, rhododendrons or honeysuckles. Some of these have been collected from many foreign sources, and without the aid of complete inventories from each institution, it is impossible to comprehend exactly what plants are growing here in this country. Naturally, some collections are more complete than others, but it may well be that hidden in the smaller collections are some rare species and varieties, not known to exist in this country. With the increasing uncertainty of foreign horticultural contacts, it becomes more and more important to take stock of what plants are being grown here in the western hemisphere. It is to obtain an inventory on plants in North America that this method has been adopted. The problem will be attacked genus by genus and will take years of painstaking effort, but the idea is a sound one, and it is hoped that the various botanical gardens and arboretums will be sufficiently interested to cooperate in this undertaking and help make it a success. It is not anticipated that all genera will be included, but it is hoped that much will be learned about those genera studied in this way.

There are several other possibilities of cooperation among the members of this new organization. In the first place, it is hoped that some method may be worked out whereby a competent group of judges can be selected who will inspect various collections consisting of one genus or even one species, and report on "the best" for ornamental purposes. An example would be in the case of *Syringa vulgaris*. There are over 300 varieties of the old-fashioned lilac in America to-day, over 150 of them being offered by nurseries. Certainly all do not have outstanding ornamental characteristics. It would be the purpose of this judging committee to study such large groups of lilacs as exist in America, and make recommendations of what would constitute the 10 (or 15) "best" white varieties, the best pink varieties, and so forth, the idea being to help the general public and the commercial growers, in spending time only with those varieties which have demonstrated their superior qualities. This same group of judges, or another like it, could investigate the daffodil, iris and peony collections in the country. Truly an ambitious program! Yet some organization should at least contemplate the possibilities of such a plan, and it is hoped the new Association of Botanical Gardens and Arboretums can work out some recommendations which will prove practical in attempting to tackle the problem.

It is also the purpose of the organization to pub-