

in practice. It is noteworthy that the mathematical analysis is by straightforward classical methods very fully detailed, no recourse being made to operational methods or other specialized techniques. This is a valuable feature, for the presentation is, in consequence, well suited to the student with no greater mathematical background than that of the regular undergraduate course in science or engineering.

While emphasis is placed rather on the characteristics and performance of systems of generalized type, attention is also given to the nature and behaviour of the various elements in the mechanism. Error-detecting devices are considered in a chapter devoted to 'follow-up links', and a further separate section deals with typical electrical networks employed in connexion with error-rate stabilization. Only brief attention is given, mainly in the final chapter, to the amplifier controller.

Along with the detailed solutions of the differential equations for step velocity input, which constitute the main body of the theory, is given a brief development of the solutions for sinusoidal input. This is extended in a chapter dealing with the transfer function analysis of servo-mechanisms. The correspondence with feed-back amplifier theory is demonstrated, and the application of the stability criterion to servo systems is briefly considered.

A particularly valuable feature of the book is the number of worked numerical examples incorporated in the text.

A very effective effort has been made by means of detailed descriptions and the use of mechanical analogies towards providing a clear physical picture of the main phenomena of servo systems. Rather less successful has been the attempt made in Chapter 3 to provide, in the same volume, a condensed account of the basic mechanics and electricity required for the study of servo systems. The space occupied by this restatement of the elements of mechanical and electrical theory might have been more usefully employed in dealing a little more fully with the amplifier-controller element of the servo-mechanism and introducing the fundamental concepts of the effects of 'noise' in amplifying systems.

This book provides, however, a most satisfactory introduction to the principles of servo-mechanisms.

the role of hormones in metabolic processes, and the fourth on aspects of clinical endocrinology. Each section comprises from two to four general papers, followed by a record of the subsequent discussions.

It is difficult to single out, from what is a collection of well-chosen and well-presented papers, any particular contribution for detailed mention. Beach's paper on "The Hormones and Mating Behaviour in Vertebrates" is undoubtedly the best review that has yet appeared on the subject. The conclusions he draws from the available information are: (1) that some hormones affect sexual behaviour by virtue of their control of general metabolic processes, (2) that some types of sexual behaviour are independent of hormonal control, (3) that other patterns of sexual behaviour are specifically affected by hormonal stimulation, and (4) that where hormones affect sexual behaviour patterns, they do so by increasing or decreasing the sensitivity to external stimulation of cortical nervous circuits.

Another paper which is of particular importance, in so far as it presents a novel survey of newer knowledge, is Kochakian's review of the role of hydrolytic enzymes in some of the metabolic activities of steroid hormones. This paper shows that the metabolic effects of the steroids affecting protein anabolism work partly through the kidney, while those affecting protein catabolism function primarily through the liver.

A third most valuable review is Albright's on the effect of hormones on osteogenesis in man. This is a brilliant summary of the available knowledge on bone growth and of the effects of various types of endocrine stimulation on the process.

It is almost invidious to mention these three particular reviews. All the contributions to the volume are of the greatest importance, and it is to be hoped that future Laurentian conferences will be as well reported. Those who cannot attend the meetings will be even better pleased if the interval between conferences and the appearance of their Proceedings can be reduced. In the present instance, the date of publication is 1947, while the meeting took place in 1945.

S. ZUCKERMAN

THE LAURENTIAN HORMONE CONFERENCE

Recent Progress in Hormone Research

Proceedings of the Laurentian Hormone Conference. Vol. 1. Edited by Gregory Pincus. Pp. v+399. (New York: Academic Press, Inc.; London: H. K. Lewis and Co., Ltd., 1947.) 7.50 dollars.

THE Laurentian Hormone Conference had its origin at the 1943 meeting of the American Association for the Advancement of Science. The proceedings of the endocrinological section were so successful that the Montreal Physiological Society invited its participants to regather in Canada in 1944. A profitable reunion was held in the Laurentians, and the Laurentian Hormone Conference is now established as an annual event.

The present volume is a report of the 1945 meeting, and consists of four main sections, the first on neuro-humoral relationships, the second on the chemistry and physiology of adrenal hormones, the third on

PRACTICAL BRITISH FORESTRY

Practical British Forestry

By C. P. Ackers. Second edition. Pp. xviii + 394. (London: Oxford University Press, 1947.) 20s. net.

THE first edition of this book was reviewed in *Nature* of October 8, 1938; for the new edition, the chapters on nursery work and the future have been rewritten.

In the chapter on the future, the author discusses the changes brought about by the Second World War. He considers that the fully trained forester will be essential in the future, though in short supply, and that private forest owners will not be able to compete with Government for trained men. These statements are not quite in accordance with the existing position. There must be well over a couple of hundred men training at the present moment at the four universities, Oxford, Edinburgh, Aberdeen and Bangor, for the forestry degree. There are well over a hundred at Edinburgh alone. Out of this number it should be quite possible to provide good men for private forestry. The onus of taking