Book Reviews

Plant Growth Substances. Folke Skoog, Ed. Madison: Univ. Wisconsin Press, 1951. 476 pp. $6.00.

During the centennial celebration of the founding of the University of Wisconsin in 1949 two important plant science conferences were held. The present volume contains 39 papers presented in general meetings and round-table discussions of one of these. This symposium was attended and participated in by a good portion of the world's foremost students of growth substances.

The scope of the book is much broader than that of any other in its field and shows how rapid has been the increase of knowledge and its application during the quarter century since the general acceptance of the concept of plant hormones as correlating agents. As is well shown, interest in plant-growth substances has developed from a simple laboratory curiosity to numerous very practical applications upon which a multimillion-dollar agricultural chemicals industry is now based. In addition, while sifting the thousands of papers that have appeared, the authors show that a good hard core of information of theoretical value useful in interpreting growth reactions is now available.

Because of the many ramifications of the field and the large number of papers included here, certain organizational difficulties had to be solved. Dr. Skoog has met this editorial problem very well. The book is divided into 7 major sections: a general discussion of plant growth substances, "Growth Substances in Plant Metabolism," "Tissue Response to Growth Substances," "Practical Applications of Growth Regulators," "Growth Substances in Vegetative Development," "Growth Substances in Reproductive Development," "Growth Substances in Pathological Growth," and "Vitamins and Amino Acids as Growth Factors." Although this is a logical and satisfactory arrangement, some readers may find fault with the placement of certain papers and even whole sections. Some may wish, for example, that the excellent survey of the development of ideas in the field of growth substances given by Went had been used as the opening instead of the sixth chapter. Others may think, because of structural make-up, that greater continuity could have been achieved if the section on "Growth Substances in Vegetative Development" had followed the one on "Growth Substances in Reproductive Development."

On the whole the chapters represent a distillate of clear thinking. Inevitably, however, there is unevenness in scholarship, some of the papers being more painstakingly done than others. Much of the book retains the flavor of spoken presentation, which tends to give vitality, spontaneity, and freedom from stilted and involved language. In a few instances contributors revised their talks very little for publication, and some failed to document their papers at all. In several cases citations are incorrect, and occasionally papers are cited that do not appear in the individual bibliographies. Those who wish to use this as a reference book will be disappointed at the omission of an index. This is sure to result in less use than the book deserves.

Among the stimulating features of the symposium is the clear expression of differences in viewpoint that might be missed in a book written by a single author. In a field still in a state of flux, this method of treatment is very desirable. Owing to Dr. Skoog's careful editing, repetition is at a minimum, and what does occur neither detracts from nor weakens the text.

In several chapters new and previously unpublished material is presented. For example, R. H. Roberts' chapter, "The Induction of Flowering with a Plant Extract," is wholly new. Those interested in the physiology of flowering will look forward to confirmatory reports on the purification of the six "florigens" said to have been crystallized.

Valuable as some of the new information is, many will find the numerous suggestions of lines along which future investigations can profitably proceed of even greater importance. Certainly, numerous graduate students, as well as others, will find abundant inspiration here. All those interested in having a well-rounded and balanced presentation of information on growth substances, together with some speculation about things to come, will find it worth while to own and use this book.

AUBREY W. NAYLOR

Osborn Botanical Laboratory
Yale University

L'Evolution Biologique: Les Faits, Les Incertitudes. Lucien Cuénot, with collaboration of Andrée Tétry. Paris: Masson et Cie, 1951. 592 pp. 2,500 fr.

This last work of the late Professor Cuénot is a document of his amazing mastery of biological facts, his love for out-of-the-way information, and his great erudition in history and philosophy. The major part—actually 529 pages—contains an orderly and well-organized catalogue of facts pertaining to the study of evolution, both in animals and in plants. This section will be especially useful to the writer on, or the teacher of, evolution who looks for examples to illustrate definite points. He will find not only much material pertaining to practically every aspect of evolution but also many gems of forgotten information. The author predominantly reviews the facts of ecology and physiology that pertain to adaptation, selection, fertility, and survival. He emphasizes, of course, phenomena especially studied by him—such as the complicated tool-like organs (e.g., pedicellaria), the asymmetrical structures of crustacea, and the facts that have been used in discussions of the so-called heredity of acquired characters.

It is not quite clear why this very remarkable catalogue of adaptations, cases of selection, facts concerning the consequences of change of environment, etc.,