

A more nearly complete account of our experiments will be published elsewhere.

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## Book Reviews

*Plant Anatomy*. Katherine Esau. New York: Wiley; London: Chapman & Hall, 1953. 735 pp. Illus. + plates. \$9.00.

Those who have followed Dr. Esau's research papers and scholarly reviews during the past two decades and have enjoyed her magnificent Kodachrome photomicrographs at scientific meetings have eagerly awaited the appearance of *Plant Anatomy*. This volume should find its way into every up-to-date botanical library, as it will undoubtedly serve for many years as the standard reference on the structure of seed plants.

Although the arrangement of the subject matter follows a conventional sequence—cells, tissues, organs (stems, leaf, root, and reproductive structures)—with topical organization patterned after that of Dr. A. S. Foster in his *Practical Plant Anatomy*, the material has been meticulously reworked from a refreshingly dynamic viewpoint in line with the author's research interest in developmental anatomy. Special mention might be made of the sections on the chemistry and structure of the cell wall, on the meristems, and on the longitudinal course of differentiation in stems, and the final chapters on the flower, fruit, and seed. Here and elsewhere, the results of recent research have been critically reviewed.

Outstanding features of the book are (1) the concisely written introductory statements at the beginning of each chapter in which concepts are outlined and terms defined, (2) the extensive, carefully selected, up-to-the-minute bibliographies on each topic treated, and (3) the superb illustrations. It is somewhat unfortunate that the cost of book manufacture has necessitated grouping all the halftones in plates immediately following the text. This does not seriously impair the usefulness of the volume, however, but it does bring together in a concentrated dose of 90 pages the finest series of photomicrographs of plant structure yet assembled. The majority of these are the author's original photographs of her own preparations or of slides obtained from others. The text figures are also of the highest quality, most of them having been drawn by the author from original material or from published photomicrographs.

To botanists confronted with the problem of selecting a textbook for use in an introductory course in

the structure of higher plants, this book poses a difficult problem. On the one hand, the excellence of its coverage and approach points up the serious shortcomings of available texts in the field; on the other, the advanced and comprehensive nature of the book will probably make it difficult reading even for the graduate student. We badly need a moderately priced, illustrated text suitable for the undergraduate, that presents the structure of vascular plants from a dynamic point of view with emphasis on the developmental and physiological aspects of the subject. This reviewer hopes that Dr. Esau can be persuaded to turn her masterly hand to such an assignment.

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*Clinical Allergy*. French K. Hansel. St. Louis, Mo.: Mosby, 1953. 1005 pp. Illus. \$17.50.

This volume upon a complex and rapidly expanding subject has been prepared for the student and the general practitioner, as well as for the interested layman. It embraces the various phases of clinical allergy which involve the respiratory, cutaneous, intestinal, neural, and vascular systems. There are presented not only the ideas of the author but also, without bias, those of many other writers and investigators. Consequently, the lists of references which are placed at the close of the chapters are unusually complete and comprehensive.

The first four chapters are devoted to the terminology and basic considerations of allergic conditions; the next seven to discussions of the multitude of etiologic factors of consequence in allergic diseases. One chapter contains much detailed information on the hay fever-producing pollens as found in the different seasons and in the various parts of the United States. This information would have been more immediately accessible to the reader had it been included in tabular form as well, assembled according to seasonal occurrence and sectional distribution.

Adequate space is devoted to various specific and nonspecific diagnostic and treatment procedures as applied to the several clinical forms of allergy. Less than two pages, however, are devoted to the preparation of the allergenic extracts of such vital impor-

tance in diagnosis and treatment. The various drugs of value in allergic conditions are considered, including the newer agents, the antihistaminic drugs and the steroid hormones. Allergic conditions in children are separately treated in five chapters and allergic manifestations of the nose, throat, paranasal sinuses, and ear have been presented in an equal number of chapters.

In *Clinical Allergy* Hansel has presented the result of many hours of study and of effort. Although in a subject such as allergy there are many ideas, concepts, and procedures not yet uniformly acceptable to those practicing in this field, the author has accumulated much valuable information in this volume.

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***Zoogeography of the Sea.*** Sven Ekman; trans. from Swedish by Elizabeth Palmer. London: Sidgwick and Jackson, 1953. (Distributed by Macmillan, New York.) 417 pp. Illus. \$6.50.

Ekman has here extensively revised his *Tiergeographie des Meeres* (1935) and has published it as one of the series of *Textbooks of Animal Biology* under the editorship of H. Munro Fox.

Although the book appears to be intended primarily as a reference work for specialists in oceanography and zoogeography; the general zoologist can hardly fail to find examples and illustrations that will enrich his thoughts and his lectures. Four general types of fauna are dealt with successively and in considerable detail: (1) Shelf fauna (bottom animals living in depths of less than about 200 meters); (2) the deep-sea benthic fauna; (3) plankton and other pelagic life of the upper waters; (4) the bathypelagic fauna. Some 60 per cent of the book is devoted to the first of these groups, and rightly so, since their diversity and their mode of life make them particularly interesting and profitable for zoogeographic study.

Within this broad framework, the subject is subdivided according to geographical regions and temperature zones. Two chapters are devoted to geological and paleontological information, and a careful attempt is made throughout to discuss present-day populations with due regard for their historical background. In the details of regional comparison, Ekman has performed a monumental task in searching the literature and assembling the essential facts about the populations of the various regions. He has drawn upon a list of about 600 references, many of them voluminous expedition reports that even specialists seldom find time to read in their entirety. The infor-

mation he has gathered represents both synthesis and compilation. A wealth of tabular material is presented on species occurrence, ecological characterizations of each region, and other pertinent facts. Graphic and textual descriptions attempt throughout to emphasize small segments of the population that are particularly useful for the exposition of zoogeographic principles.

The amount of factual material that is presented does not make for light nor vastly entertaining reading. It is solid and descriptive throughout. Greater attention to modern zoogeographical theory and to ecological discussions would have made the book more readable although perhaps less enduring. It is characteristic of Ekman that he is able to dismiss the fascinating subject of the origin, history, and general ecology of coral reefs in a mere six pages. Whether this is a criticism or a commendation may be debated among those who have studied the literature.

The concept of temperature zonation is a dominant theme, but nowhere in the book does one find a well-rounded discussion of the physiological background of the subject. More attention to our rapidly growing information on temperature tolerances and to the effects of temperature on respiration, feeding, and reproduction would have illuminated his discussion.

In short, Ekman has chosen to leave out much that is provocative but sometimes misleading. He has not given us any bright new theories, but his excellent descriptive account of marine zoogeography, requiring years of thoughtful and painstaking work, is an invaluable addition to our literature.

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***The Permeability of Natural Membranes.*** Reissue.

Hugh Davison and J. F. Danielli. New York: Cambridge Univ. Press, 1952. 365 pp. Illus. \$6.00.

It is a distinct pleasure to find this volume, which has been out of print for almost ten years, again available. The authors remark in their new preface that it has not seemed worthwhile to bring out an entirely revised book at this time, and they have merely added bibliographic citations of current literature at the end of each chapter while no changes have been made in the text of the chapters. Such a change is of little help in interpreting to students the very considerable advances that have been made in permeability studies with, for example, the use of radioisotopes, and it is to be hoped that a completely revised work will appear shortly.

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