
An Outline of Developmental Physiology. *Chr. P. Raven.* (Translated by L. de Ruiter). Pergamon Press, Ltd., London. Mc-Graw-Hill Book Co. N. Y. Agents. 1954. viii+216 pp. \$5.50.

This treatise by a distinguished Professor of Zoology in the University of Utrecht and originally published in the Dutch language is now available in this country as an English translation. Professor Raven presents in a concise, lucid style the fundamental observations and critical experiments which support modern concepts of developmental physiology. This author at every point cuts through the details and without digression deals with essentials. Evaluations, interpretations and summarizations are quite adequate and well done.

Starting with the inception of development, various chapters deal with the fertilization of the egg, polarity, symmetry, gradient-fields, chemodifferentiation, the role of nuclear factors, the topogenesis of the embryo, induction, organization, the physiology of later stages of development and of regeneration. A glossary of technical terms is followed by a list of references, made especially helpful by including the most recent contributions of outstanding workers in this field.

Although the author states that this book was written primarily for "readers who, though interested in its subject and having some general knowledge of science, were not acquainted with more than the first elements of biology," this small volume could be used with great profit as a supplementary reference by students in courses in both descriptive and experimental embryology. The reader will gain a broadened perspective and increased understanding in this rapidly advancing field regarding the dynamics of development to a degree scarcely attainable elsewhere in current literature, within so few pages between the covers of a single volume.

JOHN W. PRICE

Elements of Ecology. *George L. Clarke.* John Wiley and Sons, Inc. New York. First edition. 1954. xiv+534 pp. \$7.50.

This new text gives stress to general principles of ecology with a balanced treatment of both plants and animals and of aquatic and terrestrial habitats. Examples are frequently drawn from practical problems of conservation of natural resources. Hence, it serves both as an introduction to ecology for college students and as a guide for professional biologists concerned with problems of an ecological nature. Marine organisms are treated equally with those of the fresh waters and land. Concern is given for influence of organisms on environment as well as vice versa. The relationship of all living things to each other and adjustments to their environment is the key note throughout. Mere descriptions of habitats and communities are not given, the emphasis being on dynamics rather than descriptions. Chapter 1 introduces the viewpoint and economic importance of ecology. This is followed by chapters on media, substrata, and water. Then chapters on temperature, light, oxygen and carbon dioxide, and nutrients. Chapter 9 takes up relations within the species including population development and growth. This is followed by chapters on relation between species and on community structure and composition. The last two chapters are devoted to community dynamics—succession and fluctuation and dynamics of the ecosystem, with emphasis on the unity of community and environment and on productivity. There are about 200 carefully chosen illustrations, about 450 selected references, and an index. The unified approach and the synthetic development of the subject should make this book a very successful one in reaching its stated goal of understanding the dynamics of biotic communities. Also, a teacher could reverse the sequence of chapters in a general way and teach the subject from an analytical point of view with the same results.

RALPH W. DEXTER