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Book Notice

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The modern era of biology opened about the time of Darwin's *Origin of the Species*, and this book deals with subsequent biological advances. The author's aims are "to provide a readable picture of those matters which relate to living organisms by sketching a historical background and the main trends of biological development" and "to show the specialist student where he can find much more information" than can be included in this one volume of the *Hundred Years Series*.

An outline of the historical framework of biology is followed by a discussion of mechanical devices and techniques, including microscopy, slide preparation, tissue culture and cinematography, which facilitate biological study. The rise of such fields of investigation as vitamins, hormones and cytochrome is traced as is that of evolution and genetics.

In "protoplasm and cell" emphasis is placed on description of protoplasm, cell divisions and the role of nucleic acid in cellular activity. Reproduction, development and growth of animals are each discussed in separate chapters. In the preface the author states that botanists are likely to be disappointed because of the lack of consideration of plants, and in these three chapters the omission is particularly obvious.

Genetics principles and some common types of inheritance in plants and animals are carefully described and applied to agriculture and to human inheritance. In dealing with taxonomy, Dr. Dawes stresses application of taxonomy to cytology, ecology, genetics and evolution.

The properties and activities of chlorophyll, haemoglobin and cytochrome are surveyed in chapter ten along with some functional problems concerning feeding mechanisms, digestive processes and glomerular action.

Animal receptors are mentioned and their action is outlined in accounts of pseudopodial, ciliar, flagellar and muscular contractions. The similarity between action of cilia and cardiac muscle stressed.

In discussing nervous systems and coordination, chromatic response is particularly considered, with animal behavior interpreted on the basis of various types of orientation, chain-like patterns, holistic responses and learning by experience.

Some special fields are given more detailed discussion by having separate chapters devoted to each—evolution, parasitology, marine biology, antibiotics and agricultural biology. The three latter deal almost exclusively with research in and concerning Great Britain. Some readers may find this irksome, but its value from a cultural point of view and biological significance is readily seen. In the last chapter of the book certain British research institutes and their work are described. Finally some 33 pages are devoted to a most excellent listing of pertinent literature.

This is a fine reference book in which Dr. Dawes presents in an interesting manner much valuable material for both the general and the specialist student.

E. Eloise Whitwer.