Cell Physiology. Arthur C. Giese. Saunders, Philadelphia, Pa., 1957. xvii + 534 pp. Illus. $10.

Cell Physiology is a textbook for undergraduates which, as the title suggests, lays emphasis on function at the cellular level. Since it is intended for students who may have had only introductory physics, chemistry, botany, zoology, and organic chemistry, the physical-chemical aspects are treated less rigorously in the text than is customary in intermediate or advanced textbooks of general physiology. Several of the chapters include an appendix which contains derivations or a more extensive theoretical treatment of some of the important physical principles.

The subject matter is divided into eight sections, each consisting of several chapters: "Introduction," "The Cellular Environment," "The Nature of the Cell and Protoplasm," "Exchange of Materials Across the Cell Membrane," "Nutrition," "Irritability and Response," "Protoplasmic Growth and Cell Division," and "History of Cell Physiology." The first section brings into perspective fundamental aspects of function and of applied plant and animal physiology. It also relates cellular physiology to basic principles of physical chemistry. The last section is a concise account of the origins of cell physiology and of some of the factors which shaped its development.

The treatment of the topics conveys both information and understanding. To achieve a broad coverage of the field within the limits of a book of manageable proportions for undergraduates has required restraint in the choice of pertinent examples. This choice has been made critically and with a fine sense of proportion. The result is a book that not only incorporates the important recent developments in cell physiology but also provides a broad background fundamental to the study of all the special fields within physiology.

Many of the illustrations are new. All are informative and attractively presented. The book is written in a clear and straightforward style and presents the material in a well-ordered arrangement.

References to recent monographs and reviews are listed at the end of each chapter. Papers cited in the text appear in a separate list.

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