

PREFACE

Biological life has an immense variety of forms that arose by the process of evolution, but all living organisms share a master plan of structural and functional organization. This book is about the building blocks—*cells* and *molecules*—that constitute the unity of the living world.

Progress in our field of science has been so rapid that during the lifetime of this book, first published in 1946, we have witnessed the most revolutionary discoveries, such as those involving the ultrastructure and macromolecular organization of cell components and the molecular basis of the genetic code and gene expression. This tremendous progress necessitated making extensive revisions every five years and changing the original title, *General Cytology*, to *Cell Biology* in 1965 and to *Cell and Molecular Biology* in the present edition. This text has been entirely rewritten and should be considered a new book rather than a new edition.

The present title reflects the fact that molecular biology, which deals with the fundamental roles of nucleic acids and proteins, cannot be separated from cell biology, which deals with the cell as the structural and functional unit of life. In this edition we have attempted to integrate the most recent advances in molecular biology with our knowledge of the structure and function of cells, while taking into account the work of classical cytologists—often forgotten these days—which laid the foundations of our understanding of the living cell.

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