The Way of the Cell: Molecules, Organisms, and the Order of Life

Franklin M. Harold
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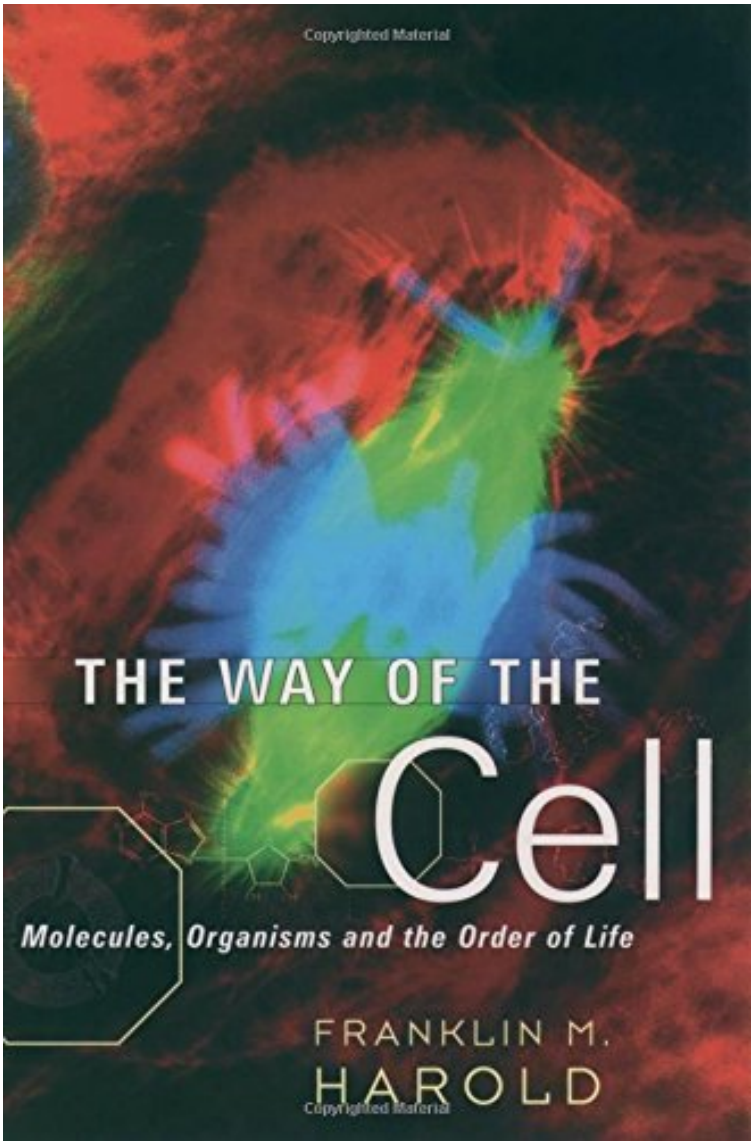

#904569 in Books Franklin M Harold 2003-06-05Original language:EnglishPDF # 1 6.00 x 1.00 x 9.10l, 1.10 #File Name: 0195163389320 pagesISBN13: 9780195163384Condition: NewNotes: BRAND NEW FROM PUBLISHER! 100% Satisfaction Guarantee. Tracking provided on most orders. Buy with Confidence! Millions of books sold! | File size: 20.Mb

Franklin M. Harold : The Way of the Cell: Molecules, Organisms, and the Order of Life before purchasing it in order to gage whether or not it would be worth my time, and all praised The Way of the Cell: Molecules, Organisms, and the Order of Life:

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publicBy Aufton WunderbarBUY THIS BOOK!. I've read a number of popular books in this area, the Harold's is the best. It is excellent at explaining the details, (without too much detail) so you have a concrete idea of the mechanism, but his overviews of the broader issues really shine. I found reading it and being truly amazed by the organization, energy flow, and process of life below the level we encounter day to day. It's a book I look forward to re-reading. I wish he would update it to 2014 to cover more fully epigenetic, synthetic biology, and the like.1 of 1 people found the following review helpful. SuperbBy KapduvaThis is a superb book. Not only is it a highly informative tour of the subject area, packed with information for the uninitiated, the ideas, judgment and intellectual integrity of the author shine through, as does his committment to his discipline and his love for the mysteries of nature. Whether or not one accepts the particular views advanced, the author's efforts reflected in this book provide a useful reminder of what is best in science.0 of 0 people found the following review helpful. Five StarsBy J. Chaffingreat book

What is life? Fifty years after physicist Erwin Schrodinger posed this question in his celebrated and inspiring book, the answer remains elusive. In The Way of the Cell, one of the world's most respected microbiologists draws on his wide knowledge of contemporary science to provide fresh insight into this intriguing and all-important question. What is the relationship of living things to the inanimate realm of chemistry and physics? How do lifeless but special chemicals come together to form those intricate dynamic ensembles that we recognize as life? To shed light on these questions, Franklin Harold focuses here on microorganisms--in particular, the supremely well-researched bacterium E. coli--because the cell is the simplest level of organization that manifests all the features of the phenomenon of life. Harold shows that as simple as they appear when compared to ourselves, every cell displays a dynamic pattern in space and time, orders of magnitude richer than its elements. It integrates the writhings and couplings of billions of molecules into a coherent whole, draws matter and energy into itself, constructs and reproduces its own order, and persists in this manner for numberless generations while continuously adapting to a changing world. A cell constitutes a unitary whole, a unit of life, and in this volume one of the leading authorities on the cell gives us a vivid picture of what goes on within this minute precinct. The result is a richly detailed, meticulously crafted account of what modern science can tell us about life as well as one scientist's personal attempt to wring understanding from the tide of knowledge.

.com "What is life?" asked physicist Edwin Schrdinger in an influential essay by that title published half a century ago. In this book, Franklin Harold ventures no definitive answers about what he calls "the supreme marvel of the universe." Instead, with wit and learning, he surveys the advances in scientific understanding about the nature of life since Schrdinger's time. Harold focuses closely on microorganisms, which, he observes, do not often figure in popular books of biology, perhaps because most general readers associate them only with disease and not with their many beneficial contributions to the world's workings. In fact, he suggests, the answer to Schrdinger's question is likely to be found at the microscopic level. Current evolutionary models derived from the study of ribosomal RNA from hundreds of species of plants and animals now point to the development of life from some cenancestor in a setting billions of years old, one in which "microorganisms rather than dinosaurs fill the horizon." The identity of that ancestor is not yet known, he writes; it may have resembled a bacterium, or it may have been a loosely organized assemblage of protocells "engaged in the promiscuous exchange of genetic information." No matter what it looked like, Harold notes in this instructive survey of modern biological theory, life probably originated in an apparently inhospitable environment, as studies of deep-ocean thermal vents and the lithosphere now point to, rather than in the oceanic "chemical stew" of old. It's a fascinating story, and Harold tells it ably. --Gregory McNameeFrom BooklistNothing concentrates the mind like tackling the largest of questions (What is life?) within the smallest of settings (the cell). In achieving this concentration, Harold invites general readers to join him on the very frontier of biological research, there to ponder the multilayered dynamics of the animate world. Though technical enough to discourage the casual browser, this explication of the inner workings of a humble bacterium initiates readers in just enough science to permit a serious engagement with fundamental theoretical questions: Where, for instance, does a strictly genetic approach to life lead us astray? Or, why must we invoke autopoiesis--and not just natural selection--in explaining biological order? Nonspecialists will find themselves richly rewarded for a little patience in following the careful and lucid answers to these and other fundamental questions. For Harold has cleared a path deep into the perplexities now confronting biological theorists. And with rare candor, he acknowledges when those perplexities push us to the limit of science, leaving us to wonder and guess. A work of marvelous penetration and scope. Bryce ChristensenCopyright American Library Association. All rights reserved "The work is like a breath of fresh air in a scientific world otherwise obsessed with excessive reductionism."--BioEssays"Witty and erudite, this scientific book hails as a literary achievement. Comprehensive and up to date, Franklin Harold traces the roots--historical, thermodynamic, and biochemical--of today's biological revolution."--Lynn Margulis, co-author (with Dorion Sagan) of both What is Life? and What is Sex?"This book helps us understand why the search for answers to the riddle 'What is life?' is a noble quest."--Howard C. Berg, author of Random Walks in Biology