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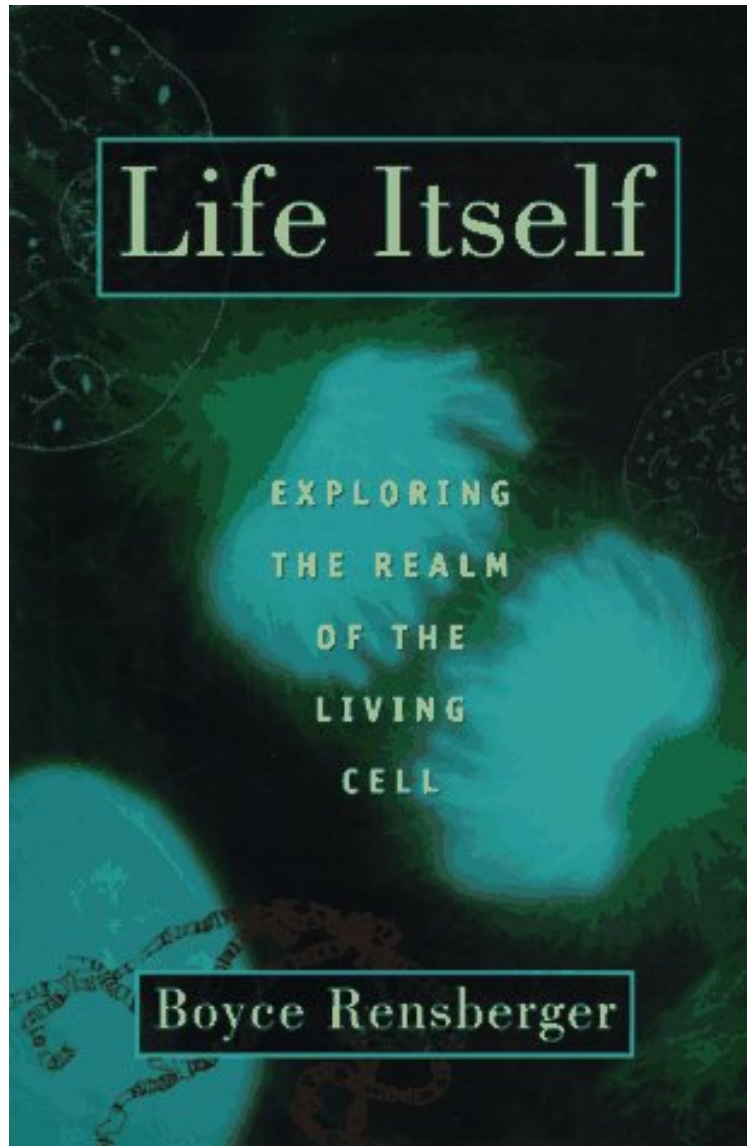
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(Ebook free) Life Itself: Exploring the Realm of the Living Cell

Life Itself: Exploring the Realm of the Living Cell

Boyce Rensberger : Life Itself: Exploring the Realm of the Living Cell before purchasing it in order to gauge whether or not it would be worth my time, and all praised Life Itself: Exploring the Realm of the Living Cell:

2 of 2 people found the following review helpful. Biology For AnyoneBy MarcoI typically only read science books written by respected scientists, so it took some research of both the author and reviews before being convinced that I wanted to read this book. The author did an excellent job using analogies that anyone can understand in his many descriptions of cell biology processes. I don't regret purchasing the book at all and highly recommend it to anyone wanting to brush up on their understanding of biology.0 of 0 people found the following review helpful. Perhaps the

most astonishing science book I've ever read. ...By rickathensPerhaps the most astonishing science book I've ever read. To understand the vast complexity of the cell, the author asks you to imagine the cell as the size of an average living roomthe nucleus would then be the size of a VW Beetleand goes from there. Jaw-dropping.2 of 3 people found the following review helpful. The beautiful and complex life of a cell in simple words. Excellent.By Luis MansillaMy first thought after reading the first chapters of this book was that I should have read it before Nick Lane's "Mitochondria and Oxygen" books, despite the fact this book was published in 1998. Indeed, the book explain the most interesting aspects of cell life: replication, types of cells, energy production, embryogenesis, the immune system and some of the theories to understand why we age and die - telomere perhaps?. BUT, the way to explain these facts is the big difference, the author really made an excellent book for the layman, not only for the captivating narrative, but also for the figures. When you see cell division, and you see that half the chromosomes separates to two sides, you wonder about the HOW. The book talk about motor molecules, kinesin, but when you see all this orchestration, like a perfect symphony - most of the time though - you wonder again about the HOW, in a place where error could abound and where molecules are the major players. Perhaps the mind is unable to understand these facts YET, is like some kind of secret knowledge is the base of this world, something made by evolution but perhaps something made by a more intelligent being - and I am not referring to God. What else hide this world and the DNA ... well, one day we will figure it out. I just content myself with this book and as a suggestion, take a time to see an animation named "The Inner life of a cell".

Hidden in a nondescript red-brick building in Rockville, Maryland, is the most unusual warehouse in the world, a bank of living cells called the American Type Culture Collection. Here, at 321 degrees below zero--a temperature at which life abandons its vital dance and enters limbo, but without dying--are some 30,000 vials holding 60 billion living forms in suspended animation, including mouse kidney cells, turkey blood cells, armadillo spleen cells, and some 40 billion human cells. These cultured cells are essential to modern biological research--in fact, cells today are the most intimately studied life forms in all of science, for both practical and philosophical reasons. For one, all disease--from cancer and the common cold, to arthritis and AIDS--stems from cells gone awry. And cell research not only promises a cure for a wide variety of disease--it also holds the key to the mystery of life itself. In *Life Itself*, Boyce Rensberger, science writer for *The Washington Post*, takes readers to the frontlines of cell research with some of the brightest investigators in molecular, cellular, and developmental biology. Virtually all the hottest topics in biomedical research are covered here, such as how do cells and their minute components move? How do the body's cells heal wounds? What is cancer? Why do cells die? And what is the nature of life? Readers discover that--contrary to what we may have concluded from pictures in our high school textbooks--cells teem with activity and that, inside, they "are more crowded with components than the inside of a computer." We learn that scientists now know of at least ten molecular motors that move things about inside the cell--in most cells, this motion is short because the cell is tiny, but in the single-celled nerve fibers that run from the base of the spinal cord to the toes (measuring three or four feet in an adult human), molecular motors can take several days to make the trip. Rensberger describes the many fascinating kinds of cells found in the body, from "neural crest cells" (early in embryonic development, these cells crawl all over the embryo to the sites where they will pursue their fate--as nerve cells, or cartilage, or skin), to "dust cells" (nomadic cells in the lung that swallow and store indigestible particles, then migrate to the gullet where they themselves are swallowed and digested), to "natural killer cells" (millions of which roam the body looking for cancerous cells). We meet many of the scientists who have pioneered cell research, such as Rita Levi-Montalcini--an Italian who, shut out of her lab during World War II, continued to experiment in her bedroom at home, making the discovery ("nerve growth factor") for which she won the Nobel Prize--and American Leonard Hayflick, who proved that all human cells (except cancer cells) invariably die after about fifty divisions. Rensberger also provides an illuminating discussion of AIDS--revealing exactly why this virus is so difficult to defeat--and of cancer, explaining that before cancer can start, a whole series of rare events must occur, events so unlikely that it seems a wonder that anyone gets cancer at all. The solutions to the most pressing challenges facing scientists today--from the efforts to conquer disease to the quest to understand life itself--will be found in the innermost workings of the cell. In *Life Itself*, Boyce Rensberger paints a colorful and fascinating portrait of modern research in this vital area, an account which will enthrall anyone interested in state-of-the-art science or the incredible workings of the human body.

"*Life Itself* is a wonderfully readable digest of everything currently known about the mechanisms by which living cells perform their myriad tasks."--*The New York Times Book* "This book is a great education in the powers of ordinary language, poetically arranged to explain, to inspire, and to heighten curiosity in non-scientists and scientists alike."--*Washington Post*"Rensberger has the two essential qualities of a first-rate science journalist: he grasps what is important, and he presents it in a clear, entertaining manner. [*Life Itself*] is an exemplary introduction to a part of science, cell biology, that is of crucial importance to everyone but still understood by extremely few." Edward O. Wilson, *Museum of Comparative Zoology, Harvard University*"Good science journalism is rare. Excellent scientific journalism should be celebrated. This book is cause for celebration!" *Annals of RCPSC* (vol.30,no.7,Oct 1997)About

the AuthorAbout the Author: Boyce Rensberger is Science Writer for The Washington Post, and creator of The Post's acclaimed educational supplement, "Horizon: The Learning Section."