Life at the Speed of Light: From the Double Helix to the Dawn of Digital Life

J. Craig Venter
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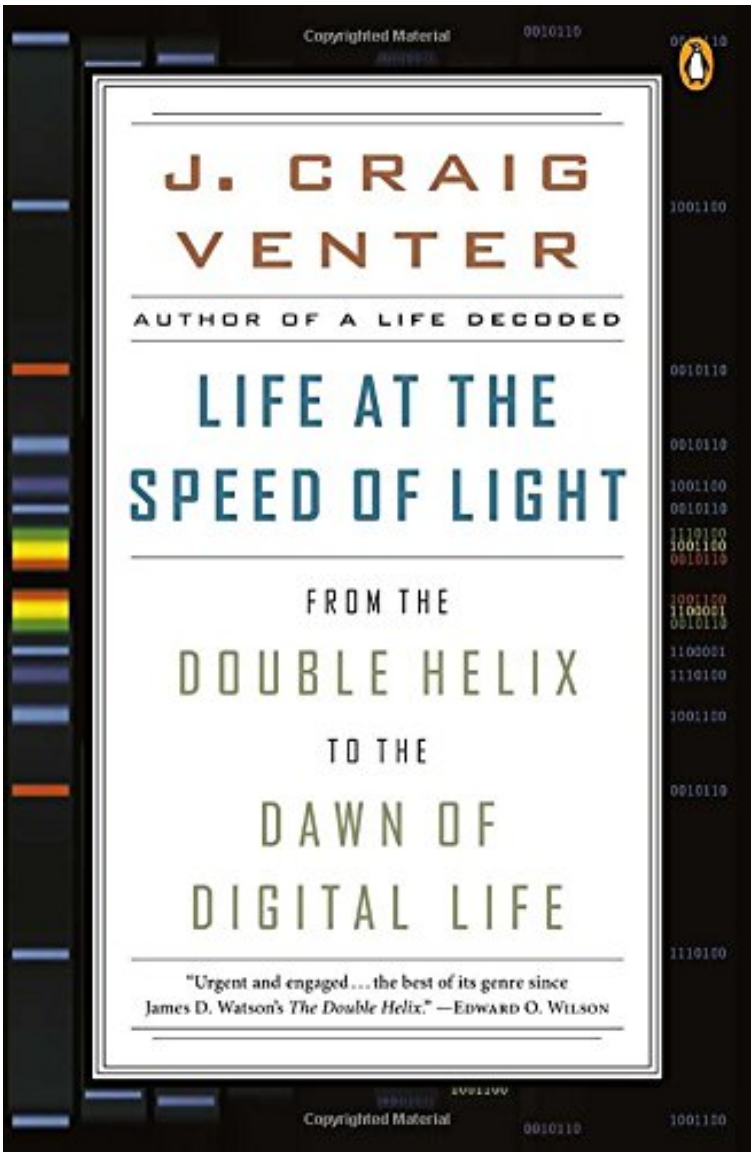

#92592 in Books J Craig Venter 2014-09-30 2014-09-30Original language:EnglishPDF # 1 8.40 x .60 x 5.40l, 1.00 #File Name: 0143125907240 pagesLife at the Speed of Light From the Double Helix to the Dawn of Digital Life | File size: 69.Mb

J. Craig Venter : Life at the Speed of Light: From the Double Helix to the Dawn of Digital Life before purchasing it in order to gage whether or not it would be worth my time, and all praised Life at the Speed of Light: From the Double Helix to the Dawn of Digital Life:

0 of 0 people found the following review helpful. A reference book worthy of being studiedBy MehetabelleThis is a serious, scholarly book. I had borrowed a copy from the library, but after reading the first chapter, all about the history of biochemistry, how the idea of how life can derive from non-biological chemicals, and the work that built up to today, I had to own the book so that I can read it carefully and several times, re-read portions and try to connect ideas, out of sequence.In this book, Dr. Venter connected the work of so many people, from many different approaches, for nearly a century, that made it possible for us to do the kind of research that we are doing today. Whereas I don't think this book is completely objective or completely true -- there is certainly 'confirmation bias,' where certain works were chosen to support Dr. Venter's point of view, but it captures the main researchers and explains their work in accessible terms, so that I can look up other sources to decide for myself whether or not I agree with Dr. Venter's explanation. For me, this is a reference book for beginners.6 of 6 people found the following review helpful. next lifeBy Renato Basergawell narrated by the expert in the field. It is a fascinating story, and actually Venter underplays it as he does not delve into the multiple applications that can be derived from "new" cells. I am sure he is aware of what can be done with new cells, but somehow he does not spell it out, leaving it mostly to the reader's imagination. But Venter has been the first in other things, and it does not surprise me that he wanted to the first in replacing a "useless" nucleus with one made to order. Good luck to him; he deserves it.1 of 1 people found the following review helpful. 'The Origins of Species, looking forward'By jan willem den oudstenHow can you write a review about a book like this? You would have to claim you understand it fully, be able to reflect on it which would mean you have a comparable body of knowledge, etc. Not very likely, or let's just say I don't have that.Still I think the book is nothing short of necessary, yes, necessary. If anyone has the authority to talk about this subject, with knowledge that integrates the fields of many Nobel-prize winners, and the, often, firsthand insights into what happened in the past decades and what is happening right now its Craig Venter.If you were to rank him in terms of giants of the past it would be a cross-over between Charles Darwin and Robert Oppenheimer: vast knowledge, ability to integrate and make work many fields needed to come together and the far reaching vision that creates a mindshift needed to create whole new species for the benefit of the planet and its inhabitants.Must read.

Venter instills awe for biology as it is, and as it might become in our hands. Publishers WeeklyOn May 20, 2010, headlines around the world announced one of the most extraordinary accomplishments in modern science: the creation of the worlds first synthetic lifeform. In Life at the Speed of Light, scientist J. Craig Venter, best known for sequencing the human genome, shares the dramatic account of how he led a team of researchers in this pioneering effort in synthetic genomicsand how that work will have a profound impact on our existence in the years to come. This is a fascinating and authoritative study that provides readers an opportunity to ponder afresh the age-old question What is life? at the dawn of a new era of biological engineering.

From Publishers WeeklyVenter (A Life Decoded), a field giant of genetics, makes a persuasive case that synthetic biology will help us understand, appreciate, and improve our own biology. The impatient genius who arrogantly raced the U.S. government to sequence the human genome, Venter scores many firsts in this emerging field, including the creationnearly from scratchof the first synthetic bacterium. It was not a pure first, as he used cytoplasm from an existing cell to boot up his synthetic genomewhich only deviated slightly from the genome of an existing bacterium. But it's a major coup; Venter's synthetic genome successfully instructed the cell to create living proteins. We can now change the software of life, which then changes its own hardware, as it were. Venter shares spellbinding stories from the frontiers of genomicsresearchers creating living toolboxes out of mechanisms co-opted from varied life forms. For the wary, he notes nature itself mixes and matches species-specific mechanisms: our own mitochondria were once bacteria engulfed by, and incorporated into, our cells. Gene engineering opens new portals of life-designing potential, he argues, and he champions ethics reviews of such work. Venter instills awe for biology as it is, and as it might become in our hands. Agent: John Brockman, Brockman Inc. (Nov.)From BooklistWhen scientists finally succeed in transmitting to another galaxy the digital instructions for building a living organism, they will rely on science that Venter has pioneered. To understand the groundbreaking work Venter has done, however, readers must revisit Hookes seventeenth-century discovery of the cell as the primary structure of life and must peer into an anticipated future of teleportation via quantum entanglement. But the narrative largely focuses on the twentieth-century research fulfilling physicist Schrdingers hopes of finding the key of life in a biochemical aperiodic crystal. In particular, readers see how the double helix that Watson and Crick first recognized in DNA 60 years ago has become an adaptable scaffold for genetic engineers wielding potent pools for creating new life-forms. Readers will marvel at the potential that genetic engineering holds for making food, purifying water, generating energy, and curing diseases. Though they may wish to consult other sources to explore the philosophical and ethical issues he raises, readers will thank Venter for an insiders perspective on epoch-making science. --Bryce Christensen "When scientists finally succeed in transmitting to another galaxy the digital instructions for building a living organism, they will rely on science that Venter has pioneered.... Readers will thank Venter for an insiders perspective on epoch-making science."~BooklistCraig Venter is a singular individual... at once inheritor of molecular biologys prior triumphs and the wellspring of its futureHe compellingly

depicts his diverse research as a concerted effort to shuttle biology between the material and the digital worldsa gripping tale and welcome antidote to dry materials and methods sections that make such sagas feel disembodied and inevitable.~Science"[A] remarkable book."~Scientific American"A fascinating glimpse at a scientific frontiernot always easily understandable but well worth the effort."~Kirkus s"A great read."~Ricki Lewis, PhD, PLOS.orgOne of the world's leading scientists delivers a history of molecular biology and its many ramifications depicted as it has been and will continue to be, a creator of the golden age of modern biology. His style is that of a dispatch from the front, urgent and engaged, as only a participant could write it, and the best of its genre since James D. Watson's The Double Helix.~Edward O. Wilson, University Research Professor Emeritus, Harvard UniversityHumanity is entering a period of radical transformation and one reason is due to Craig Venter's research in creating new life forms based on computer designed synthetic DNA. Life at the Speed of Light is his beautifully written, powerful and persuasive story on how DNA information and computers will blend in the coming singularity, that watershed in the evolution of humanity beyond which amazing new possibilities for life, society and everything we care about will emerge.~Ray Kurzweil, author of How to Create a Mind and The Singularity Is Near