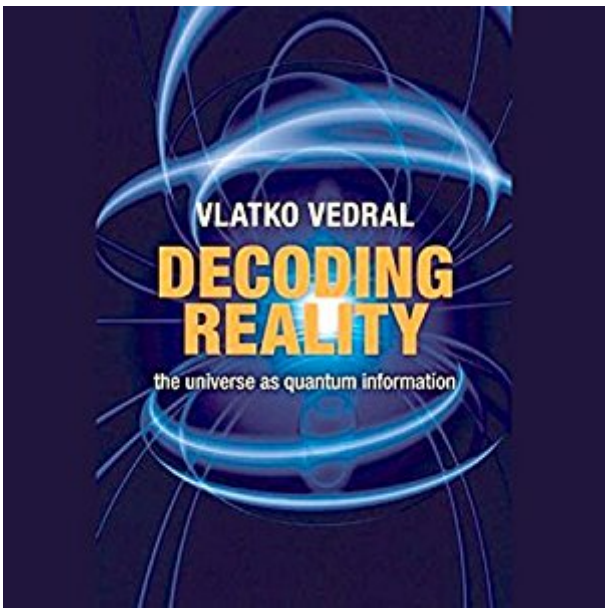
Decoding Reality: The Universe As Quantum Information



Synopsis

In Decoding Reality, Vlatko Vedral offers a mind-stretching look at the deepest questions about the universe--where everything comes from, why things are as they are, what everything is. The most fundamental definition of reality is not matter or energy, he writes, but information--and it is the processing of information that lies at the root of all physical, biological, economic, and social phenomena. This view allows Vedral to address a host of seemingly unrelated questions: Why does DNA bind like it does? What is the ideal diet for longevity? How do you make your first million dollars? We can unify all through the understanding that everything consists of bits of information, he writes, though that raises the question of where these bits come from. To find the answer, he takes us on a guided tour through the bizarre realm of quantum physics. At this sub-sub-subatomic level, we find such things as the interaction of separated quantum particles--what Einstein called "spooky action at a distance." In fact, Vedral notes, recent evidence suggests that quantum weirdness, once thought to be limited to the tiniest scale, may actually reach into the macro world and make teleportation a real possibility. It is in quantum physics, he writes, that we really can find the answer to the ultimate question of life, the universe, and everything. Vlatko Vedral is one of the key researchers in quantum science. In this book, he offers a mind-bending account of this leading-edge field. --This text refers to an out of print or unavailable edition of this title.

Book Information

Audible Audio Edition
Listening Length: 9 hoursÂ andÂ 12 minutes
Program Type: Audiobook
Version: Unabridged
Publisher: Audible Studios
Audible.com Release Date: April 6, 2010
Whispersync for Voice: Ready
Language: English
ASIN: B003FOOGGC
Best Sellers Rank: #96 inÂ Books > Audible Audiobooks > Science > Physics #842 inÂ Books > Science & Math > Physics > Quantum Theory

Customer Reviews

I got this as a present to mom, and she’s REALLY into quantum entanglement theory/ and theoretical physics. She was pretty happy reading this book.

Klatko Vedral is a bright, agile physicist who has exerted himself to write a nonmathematical account of quantum information theory aimed at general readers. His efforts have met with a barrage of ill-tempered "reviews" that serve to remind us of why so many scientists are reluctant to compose popular books about their work. Granted, he is not a professional writer, and the book is sometimes a bit discursive. But it is also sound, stimulating, and unflinching in its exploration of some of the deepest philosophical and scientific questions currently confronting humankind. Personally, I am grateful to him for writing it.

It’s okay. Really clunky reading. And hard to focus on for long periods. May be hard to understand for a reader with little science background as the language used isn’t as accessible.

We can all agree that we attempt to describe or represent reality using information but I thought Vedral was going to argue that reality is made up of information (as opposed to electrons, or quarks, or quantum fields). I don’t see that he succeeded in doing that. There are also some disturbing errors. like saying "the time for a person closer to earth runs faster than for someone further from earth" pg 179. Or calling Konrad Zuse a Polish mathematician, pg 193. He was a German, born in Berlin. Also, philosophers think there is more to information than what Shannon defines.

Reality is not what is seems, or what our intuitions tell us every day.The key theoretical foundation of Vedral’s book is Information Theory, but Vedral extends this to a much broader scope - indeed, the broadest possible as he explains that all reality is information, and that nothing exists outside the interactions between observers and the observed (in keeping with a key postulate of Quantum Physics).Vedral’s book spans many different subjects - Biology, Thermodynamics, Economics, Sociology, Quantum Physics, Computer Science and Philosophy - each in beautifully and clearly written chapters, where his theory that "information is reality’ (or "information is physical" as he states early in the book’s Prologue) emerges in all these different slices of human knowledge.At times Vedral must cut a few corners to make his story-line fit within a book that is less than 220 pages, but this does not detract from a very original and intriguing attempt to answer some of the biggest and deepest questions ever posed: What is reality? How did it all start? How (and if) will it end? And - probably very challenging for some - do we ’need’ God to explain the Universe?You will probably not look at your chair the same way you did before reading this book...

The author attempts to apply scientific entropy, the tendency toward disorder in natural systems, to the made-made systems of economics and sociology. In so doing, he got into quantum physics and lost this reader.

I don't know anything about quantum information, so I will take the book jacket's word that Dr. Vedral is qualified and an eminent scientist.However, that expertise is not apparent in this book. It does not explain any individual topic well enough for anyone (even a very smart person) to understand it. I know this because I am quite familiar with one or two of the (many) topics discussed and in those instances it seemed that Dr. Vedral either oversimplifying or simply doesn't know what he is talking about.For instance, on p140 of my version, he writes that an ATM multiplies your 4 digit PIN with a 500 digit number, and it is this 504 digit number which gets transferred. This is secure, he states, because factoring this number would take longer than the age of the universe. But couldn't you simply divide the 504 digit number by all the 4 digit numbers? The PIN would then have to be one of the 4 digit numbers that evenly divided it. Is there some subtle point here that's not mentioned? Or was there a simple editing mistake? Or is this whole ATM bit just BS? The reader not familiar with the subject cannot tell. To take two other examples, Vedral breezes over Popperian falsificationism and Kolmogorov complexity theory without hinting at the extreme philosophical or practical difficulties that beset these two ideas.To summarize, no one could learn anything significant from this book. I'm sure Vedral is extremely distinguished, but this book reads like it was written by a dilettante who went down a list of 50 fascinating topics and spent 30 minutes learning about each of them.

This simple book tells essentially all that is important to know about the fundamental nature of reality.It is one of the most important books I have read.

Edition (Studies in Information) Looking for Information: A Survey of Research on Information Seeking, Needs, and Behavior (Studies in Information) Fundamentals Of Information Systems Security (Information Systems Security & Assurance) - Standalone book (Jones & Bartlett Learning Information Systems Security & Assurance) Dawn of the New Everything: Encounters with Reality and Virtual Reality Reality Is Not What It Seems: The Journey to Quantum Gravity The Quantum Labyrinth: How Richard Feynman and John Wheeler Revolutionized Time and Reality Entangled Minds: Extrasensory Experiences in a Quantum Reality Quantum Physics: A First Encounter: Interference, Entanglement, and Reality Quantum Ontology: A Guide to the Metaphysics of Quantum Mechanics Quantum Nanoelectronics: An introduction to electronic nanotechnology and quantum computing Introduction to Topological Quantum Matter & Quantum Computation Quantum Mechanics: Re-engineering Your Life With Quantum Mechanics & Affirmations Delirious, A Quantum Novel (Quantum Series Book 6) Quantum Thermodynamics: Emergence of Thermodynamic Behavior Within Composite Quantum Systems (Lecture Notes in Physics) Covariant Loop Quantum Gravity: An Elementary Introduction to Quantum Gravity and Spinfoam Theory (Cambridge Monographs on Mathematical Physics)