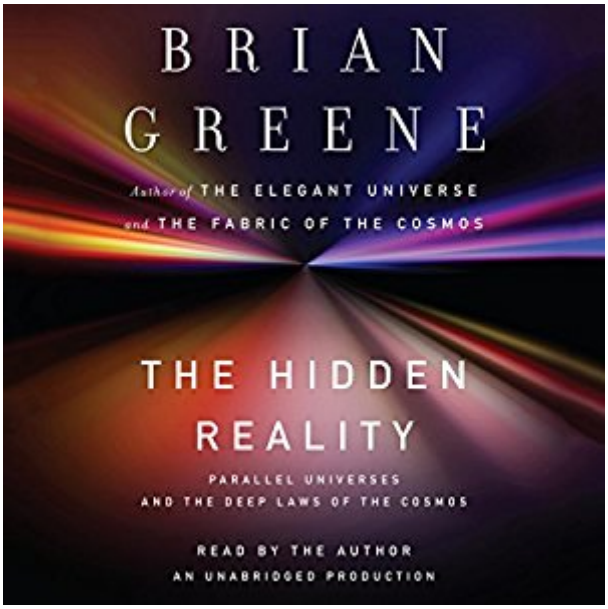
The Hidden Reality: Parallel Universes And The Deep Laws Of The Cosmos



Synopsis

There was a time when "universe" meant all there is. Everything. Yet, in recent years discoveries in physics and cosmology have led a number of scientists to conclude that our universe may be one among many. With crystal-clear prose and inspired use of analogy, Brian Greene shows how a range of different "multiverse" proposals emerges from theories developed to explain the most refined observations of both subatomic particles and the dark depths of space: a multiverse in which you have an infinite number of doppelgÃƒÂ¤ngers, each reading this sentence in a distant universe; a multiverse comprising a vast ocean of bubble universes, of which ours is but one; a multiverse that endlessly cycles through time, or one that might be hovering millimeters away yet remains invisible; another in which every possibility allowed by quantum physics is brought to life. Or, perhaps strangest of all, a multiverse made purely of mathematics. Greene, one of our foremost physicists and science writers, takes us on a captivating exploration of these parallel worlds and reveals how much of reality's true nature may be deeply hidden within them.

Book Information

Audible Audio Edition
Listening Length: 13 hoursÂ andÂ 49 minutes
Program Type: Audiobook
Version: Unabridged
Publisher: Random House Audio
Audible.com Release Date: January 25, 2011
Language: English
ASIN: B004KRUR2U
Best Sellers Rank: #18 inÂ Books > Science & Math > Physics > Quantum Theory #27 inÂ Books > Audible Audiobooks > Science > Physics #58 inÂ Books > Science & Math > Astronomy & Space Science > Cosmology

Customer Reviews

Brian Greene's previous books are exemplars of what science writing should be: clear, wide-ranging in discussion and respectful of the intelligence of his audience. The Elegant Universe and The Fabric of the Cosmos are two of my three favorite popular science books. The third, Kip Thorne's Black Holes and Time Warps, is another superb example of science writing at its best. Now Brian Greene has added another masterpiece to the list. Everything that distinguishes Greene's writing style is in evidence in The Hidden Reality. His elegant prose is enjoyable to read. His brilliant ability

to explain difficult abstract ideas in everyday language using easily understood examples still amazes me. And his use of vivid word pictures that always seem perfectly matched to the topic he's discussing propels his narrative forward so that the reader is never bored.Yes The Hidden Reality is more accessible than his previous books. This book seems easier to read and is readily understandable. In his earlier books, I often read a paragraph several times in order to fully comprehend what Greene was attempting to communicate. That is something science and math majors are used to doing when reading textbooks but difficult for those not as scientifically adept. Greene's first two books dealt with Quantum Mechanics, String Theory and Einstein's Special and General Theories of Relativity: vast math-intensive topics that he was able to distill masterfully. The Hidden Reality inhabits a more abstract world, a conceptually challenging world. I quickly found Greene's more casual approach extremely helpful, even comforting, when I felt slightly adrift.

Beginning in the 16th Century, physics started to change from a purely scholastic mode of inquiry, in which questions were answered by argument from first principles and ancient authority, into a scientific one, in which observation and mathematical law predominated. With the introduction of Newton's work and his (and Leibniz') invention of the calculus, physics became a modern science, in which mathematics played a key role not only in testing theories, but in predicting phenomena as well. Even so, it was still possible for the non-scientist to understand much of the work of physicists, as it still dealt (for the most part) with laws and phenomena that could be observed, experienced, or at least imagined with the average person.With the advent of relativity and quantum mechanics in the early 20th century, this all changed. Special Relativity dealt with velocities far beyond that which any human could ever experience. General Relativity dealt with interactions on a cosmic scale. And quantum mechanics dealt with scales far smaller than that which could be experienced or observed-even by physicists. What these new disciplines shared was that they they could only be truly understood by someone conversant with the mathematics involved. Although mass-induced curvature of space (for example) is commonly explained by analogy to a weight on a rubber sheet; that's at best, a weak metaphor. A ball bearing rolling on a rubber sheet is still being pulled down by gravity; it is not tracing a path in curved space that minimizes action.

Let me say from the get go, I am a huge Brian Greene fan, having read both his previous books and having found them deeply edifying. Few writers working today possess his ability to take complex material and explain it in ways that the interested layman can digest. When I learned of his new book, I was excited to dive-in.Unfortunately, for reasons that are not entirely clear to me, "The

Hidden Reality" is far more opaque than his previous books. Time and again I found myself rereading a particular section, unable to decipher what he was seeking to explain. This may result from my own short-comings, I suspect that they might just as well arise from those limitations that Greene, from the very beginning, admits bedevils the notion of the "multiverse." Even more so than in String Theory, this topic currently stands at a point of being little more than speculation. Yes, the math creates the possibility that these other realms exist, but no one has to date suggested a method of falsification for this theory, nor does it offer much in the way of testable predictions.Sometimes when he tries to counter critics, Green proves to be his own worst enemy. Consider a chapter where he argues against those who point out the difficulty of testing the hypothesis of a "muliverse." In reply, Greene points to Einstein's theories and the inability to demonstrate their veracity through experimentation in the early 20th century when they first appeared. However, this ignores the fact that Einstein's theories offered obvious precise predictions that, even if not testable at the time, one could imagine appearing in the near future. Had these predictions not withstood tests, out would have gone the theory.

Python with Word2Vec: Word2Vec and Word Embeddings in Python and Theano (Deep Learning and Natural Language Processing Book 1) Love and Math: The Heart of Hidden Reality Deep Learning: Natural Language Processing in Python with GLoVe: From Word2Vec to GLoVe in Python and Theano (Deep Learning and Natural Language Processing)