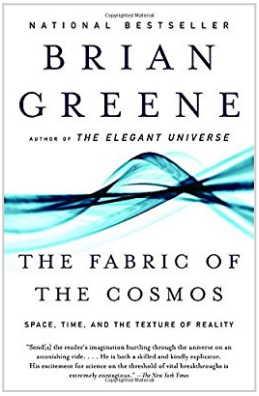

The Fabric of the Cosmos: Space, Time, and the Texture of Reality

By Brian Greene

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From Brian Greene, one of the world's leading physicists and author the Pulitzer Prize finalist *The Elegant Universe*, comes a grand tour of the universe that makes us look at reality in a completely different way.

Space and time form the very fabric of the cosmos. Yet they remain among the most mysterious of concepts. Is space an entity? Why does time have a direction? Could the universe exist without space and time? Can we travel to the past? Greene has set himself a daunting task: to explain non-intuitive, mathematical concepts like String Theory, the Heisenberg Uncertainty Principle, and Inflationary Cosmology with analogies drawn from common experience. From Newton's unchanging realm in which space and time are absolute, to Einstein's fluid conception of spacetime, to quantum mechanics' entangled arena where vastly distant objects can instantaneously coordinate their behavior, Greene takes us all, regardless of our scientific backgrounds, on an irresistible and revelatory journey to the new layers of reality that modern physics has discovered lying just beneath the surface of our everyday world.

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The Fabric of the Cosmos: Space, Time, and the Texture of Reality By Brian Greene Bibliography

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Editorial Review

Amazon.com Review
As a boy, Brian Greene read Albert Camus' *The Myth of Sisyphus* and was transformed. Camus, in Greene's paraphrase, insisted that the hero triumphs "by relinquishing everything beyond immediate experience." After wrestling with this idea, however, Greene rejected Camus and realized that his true idols were physicists; scientists who struggled "to assess life and to experience the universe at all possible levels, not just those that happened to be accessible to our frail human senses." His driving question in *The Fabric of the Cosmos*, then, is fundamental: "What *is* reality?" Over sixteen chapters, he traces the evolving human understanding of the substrate of the universe, from classical physics to ten-dimensional M-Theory.

Assuming an audience of non-specialists, Greene has set himself a daunting task: to explain non-intuitive, mathematical concepts like String Theory, the Heisenberg Uncertainty Principle, and Inflationary Cosmology with analogies drawn from common experience. For the most part, he succeeds. His language reflects a deep passion for science and a gift for translating concepts into poetic images. When explaining, for example, the inability to see the higher dimensions inherent in string theory, Greene writes: "We don't see them because of the *way* we see…like an ant walking along a lily pad…we could be floating within a grand, expansive, higher-dimensional space."

For Greene, Rhodes Scholar and professor of physics and mathematics at Columbia University, speculative science is not always as thorough and successful. His discussion of teleportation, for example, introduces and then quickly tables a valuable philosophical probing of identity. The paradoxes of time travel, however, are treated with greater depth, and his vision of life in a three-brane universe is compelling and--to use his description for quantum reality--"weird."

In the final pages Greene turns from science fiction back to the fringes of science fact, and he returns with rigor to frame discoveries likely to be made in the coming decades. "We are, most definitely, still wandering in the jungle," he concludes. Thanks to Greene, though, some of the underbrush has been cleared. *--Patrick O'Kelley*

From Publishers Weekly
String theory is a recent development in physics that, by positing that all which exists is composed of infinitesimally small vibrating loops of energy, seeks to unify Einstein's theories and those of quantum mechanics into a so-called "theory of everything." In 1999, Greene, one of the world's leading physicists, published The Elegant Universe (Norton), a popular presentation of string theory that became a major bestseller and, last fall, a highly rated PBS/Nova series. The strength of the book resided in Greene's unparalleled (among contemporary science writers) ability to translate higher mathematics (the language of physics) and its findings into everyday language and images, through adept use of metaphor and analogy, and crisp, witty prose. The same virtues adhere to this new book, which offers a lively view of human understanding of space and time, an understanding of which string theory is an as-yet unproven advance. To do this, Greene takes a roughly chronological approach, beginning with Newton, moving through Einstein and quantum physics, and on to string theory and its hypotheses (that there are 11 dimensions, ten of space and one of time; that there may be an abundance of parallel universes; that time travel may be possible, and so on) and imminent experiments that may test some of its tenets. None of this is easy reading, mostly because the concepts are tough to grasp and Greene never seems to compromise on accuracy. Eighty-five line drawings ease the task, however, as does Greene's felicitous narration; most importantly, though, Greene not only makes concepts clear but explains why they matter. He opens the book with a discussion of Camus's The Myth of Sisyphus, setting a humanistic tone that he sustains throughout. This is popular science writing

of the highest order, with copious endnotes that, unlike the text, include some math.

From Bookmarks Magazine
If the idea that time may travel in more than one direction hurts your brain, there's hope for you yet. Greene, author of *The Elegant Universe* and professor at Columbia University, designed this dazzling overview of physical reality for general readers (and kindly gives ample notice when he's about to delve into physics-speak). Using humorous examples from everyday life, from Larry King and Homer Simpson to earthworms, Greene animates thorny questions of space, time, and reality. Although he stresses speculative physics, he often dismisses some of its implications. And the illustrations don't add much. But Greene's enthusiasm and "excitement for science on the threshold of vital breakthroughs," notes *The New York Times*, "is supremely contagious."

Users Review

From reader reviews:

Marie Nitta:

This The Fabric of the Cosmos: Space, Time, and the Texture of Reality book is not ordinary book, you have it then the world is in your hands. The benefit you get by reading this book will be information inside this guide incredible fresh, you will get facts which is getting deeper a person read a lot of information you will get. This specific The Fabric of the Cosmos: Space, Time, and the Texture of Reality without we understand teach the one who studying it become critical in considering and analyzing. Don't be worry The Fabric of the Cosmos: Space, Time, and the Texture of Reality can bring once you are and not make your bag space or bookshelves' become full because you can have it inside your lovely laptop even telephone. This The Fabric of the Cosmos: Space, Time, and the Texture of Reality having very good arrangement in word and also layout, so you will not truly feel uninterested in reading.

Iona Calhoun:

The particular book The Fabric of the Cosmos: Space, Time, and the Texture of Reality has a lot details on it. So when you check out this book you can get a lot of help. The book was published by the very famous author. The writer makes some research before write this book. That book very easy to read you can find the point easily after perusing this book.

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