

The Constants of Nature

John D. Barrow

The subtitle of the book is “The Numbers that Encode the Deepest Secrets of the Universe”. I was looking with great expectation to an interesting read. I did not expect to find the deepest secrets on the universe. I did expect more than I found.

The author engaged in a long examination of combining known physical constants to obtain constants without units. For example say there are physical constants of speed, length, and time. Multiplying the speed constant by the time constant and dividing by the length constant results in a constant with no units. There may be some relation between the contrived constants and the author tried to point them out, but there are too few of them to come to any conclusions. The author mentions using unitless constants as a means of communicating with other intelligent life forms. I am not interested in discussing constants with some green slim or inviting a killer tomato into my house for such a discussion. A great deal of the book is spent on such numbers.

The author has a chapter on the anthropic principles. The anthropic principle is the taking of a religion, wrapping it in metaphysics and calling it science. I thought that the accepted anthropic principle is that there are an infinite number of universes each with its own set of constants and physics. We are in the one with the constants and physics necessary for life. There may be others, but most are void of life. There is no need of further proof. For those who hike the high hills of the math and physics landscape and gaze down at us from the peaks, the proof is obvious - what else could there be?

The author gives considerable attention to the fine structure constant, which is unitless. What is the fine structure constant? More attention could have been given to that question for those of us not well versed in physics or have not seen a physics text for 35 years.

In the title of the book the first “n” in “Constants” was substituted with the natural number pi and the “e” in “Nature” was substituted with the natural number “e”. These natural constants were barely mentioned with nothing significant said about them. That was very disappointing.

Much of the book contained pulp physics that can be found elsewhere that is more appropriate. The last part of the book was a meaningless exercise in "Other Worlds and Big Questions"

I do not recommend this book and will not keep it on my shelf.

Math Drooler 11 Jan 10

P.S. There is one question that springs forth from the book and similar books. That is, who is the greatest mind that ever lived? The answer is determined by observing who is most mentioned in science books for the common people. By that criterion the greatest mathematician, the greatest physicist, the greatest chemist, the greatest biologist, the greatest everything is Charles Darwin. Darwin is mentioned in three places in a book on the constants of nature. In my ignorance I would not have thought he would be mentioned at all. That was stupid of me. Darwin is mentioned in almost all the books I read that are related to science. The current book I am reading does not seem to mention him - a definite oversight on the author's part. Most who hike the higher hills of the science landscape and scale the peaks look to Darwin above them. Darwin does not sit on the highest peak. He is about all the peaks looking down. A Nobel Prize is noteworthy to those on the high peaks, but what they really strive for is the Darwinian Award.