

String Theory for Dummies

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The author gives as well an explanation of string theory in words as is possible to give. If one is a string theory dummy starting the book they are just as much a string theory dummy ending the book. No math is presented. It can only be assumed that the math is so abstract and complicated that even the most basic beginnings of string theory math is way beyond a mathdrooler or anyone who does not hike the mountain tops of the math world. The physics world no longer exists in the physical universe but on paper. Physics has been hijacked.

String theory is composed in a ten dimensional physical space. From what the author tells us, it can be composed in physical spaces of other dimensions. Using Occam's razor, ten space dimensions giving the least complex derivations, space must be ten dimensional. One perceives three space dimension and the other seven are "rolled up" and are not perceived. It has been wondered why space is three physical dimensions. Through string theory it is now known that it is not three dimensional but ten physical dimensions, so it no longer needs to be wondered why three. It can now be wondered why space is ten physical dimensions, the degree of wondering being the same.

It can be easily argued that three space dimensions are the fewest dimensions in which a complex universe can exist. Flatland would be too dull. Worlds would be circles. No one would be able to know anyone except their neighbors on each side except by jumping over them and finding new neighbors on each side. Three dimensions allow us to move around each other and interact. Within three space dimensions is the most elegant Newtonian astrophysics. As one moves away from a source of gravity the force of gravity decreases at a rate proportional to the surface area of a sphere centered at the source. That is, the force of gravity is proportional to an inverse square law. Orbits are stable and turn out to be pleasing ellipses.

The force of gravity is directed to the center with no side forces, so orbits are in a plane. Applying the same Newtonian physics in a four dimensional space, orbits would again be in a two dimensional plane. However, the force would decrease as the volume of a three dimensional sphere, e.g. as an inverse cube. Orbits would not hold together. This would be the case for all higher dimensions, which would have a greater decrease in the force of gravity with distance as the dimensions increased. That is not to say that there could not be a stable existence at higher dimensions. It is to say that whatever Newtonian physics applied, it would be more complex and likely excruciatingly complex. The question asked is why the known universe is the most optimum form from the viewpoint of physics and the so fine tuned for conscious creatures to exist. Those who

think about such things and reject evoking a Creator that is outside of physical existence have an answer.

Within the realm of the great unknown as to the why the universe is what it is, is something called the anthropic principle. The anthropic principle is somewhat difficult for a mathdrooler to get their head around. There is a weak anthropic principle and a strong anthropic principle and likely various shades in between. The base for the need of an anthropic principle is clear. It is to prove through metaphysics that the existence of a universe fine tuned for life does require a Creator, who some would call God. The foundation of the anthropic principle, although not directly stated as such, is that there are a large number of universes all with different physical laws. This universe is perceived to exist because it possesses the necessary physical laws for life to exist and perceive it. There may be other universes with different physical laws that support other types of life which may be asking the same questions about their universe that is asked in this universe. It is all quite simple.

It is not stated but left to be assumed that the one known universe is one of a large number of universes. That will not work. A finite number of universes, no matter how large a number, still lead to the undesirable conclusion of a Creator. For the anthropic principle to work there must be an infinite number of universes. Only then can one perceive a universe that is fine tuned for life to be guaranteed to exist. A Creator does not need to exist. The mind boggling concept of an infinite Creator can be avoided. Metaphysics proves the existence of an infinite number of universes with differing physics with at least one of which being perceived by life within it. This eliminates an infinite Creator and replaces it with infinite universes, which metaphysicists can easily believe.

String theory also has an anthropic principle. According to the author of the book, string theory has many variants. There are so many that one variant has to come close to mimicking reality. For mathdroolers and those not up to being mathdroolers, string theory is depressing. String theory is so complex and abstract that a book on the subject such as Jones' book cannot even give a hint of the mathematics behind it. All that is given in any book or article on string theory for the masses are wiggle lines that somehow join together to make something. The basic idea of an electron can be understood by most. How does an electron come out of string theory? A mathematical explanation would be more helpful than a whole book of words. Only those who walk the peaks of the math world believe they know reality and believe that reality is only privy to them. Does a ten dimensional universe really exist anywhere other than in a two dimensional world of paper and graphite?