## The Universe in a Nutshell

## **Stephen Hawkins**

The book presents what is theoretically known of the universe in a way that can be mostly understood by the common man who has an interest in such things. The detailed math is left out that would only be understood by a few. The results are well explained. There is a question that has been raised before and has been given no answer. When one speaks of the first second after the Big Bang, who is holding the watch? What is meant by the first second or by the universe being one meter in size? Who is holding the meter stick? If one is looking from outside, is not that one second going to take a long time and that meter stick to be very short?

The last part of the book degrades to metaphysics. While Richard Feynman showed a sum over histories approach to QED, it is difficult to believe that he concluded from that the existence of multiple universes. The anthropic principle is no more than metaphysics having no mathematical foundation. One hears the phrase "the frontier of science". Beyond that frontier is the realm of philosophy. When the frontier moves forward, philosophy retreats. The anthropic principle is philosophy. Why is it found in so many physics books for the masses if it is not science? Could it be that the limit of understanding in why things are the way they are has been reached and man is no longer clever enough to move that frontier forward? Is man left in the uncomfortable state that the only answer left is a Creator. Is that the torment of those who hike the high peaks of the math world?

Math Drooler 27 Nov 2013