## The View from the Center of the Universe

## Joel Primack and Nancy Abrams

Pulling down an old book that somehow escaped needed discarding, a reread with a more tolerant mindset was in order. The increase in tolerance did not help the outcome. Criticism here can be added to that previously. This review will be made without having looked at the previous one. A test for constancy of review can then be made.

A hike in this book is a trek through swamp land with some higher ground. It is best to avoid the swamps and not linger on the higher ground. So as not to get the swap water above the shoe laces skip the first three chapters and chapters nine and above. There are swamping areas in Chapters 4 through 8 that can be somewhat avoided by skipping the first few paragraphs and the last of the chapters. However, the swamps do invade the higher ground and cannot be avoided.

On page 141 is a statement concerning the beginning of things: "This creation story is not only the truest story of our time, but the only one we know with any chance of being true." The word "chance" being in italics was in the original. The reason for it is not clear. Such a statement as this is from the swamp lands below the hills of the math world. There is no rigor in this statement, it makes no sense and conveys no real meaning. No scientific theory or hypothesis is called a story. Science tries to discover nature and model it with math. If the authors are looking for "truth", they should hike the mountains of Tibet and seek the wise men, not the hills of the math world. Much of the swamp talk in the book is supposed truth that is not bothered by reality. Science deals only in reality as best it can. The statement reads more as a slam at Christians then at scientific understanding. Following the statement is one concerning Adam and Eve highlighting the religious nature of their claimed truest story ever told. Many Christians have an idea of creation that does not fit the observable universe in many a pseudo-scientist's view. Attacking Christian's view does not advance understanding of the universe. Science is not an evangelistic endeavor to convert everyone to a certain way of thinking. It is the

searching and modeling of nature and stands and falls on observation. It can only stand in the view of those who understand it and are interested. It may shock the authors of this book to know that a vast majority of people do not understand the physics and math this story of theirs is based on and likely a vast majority is not interested. More people are interested in a Creator than the physics of creation. One does not force their hobby on others or criticize others for not engaging in a particular hobby. Math and physics is a hobby. It is too enjoyable and rewarding to be work.

More swamp language can be found on page 183. The discussion is "dark energy" and "cosmic inflation". One sentence reads: "Once physicists realized that this possibility is built into the standard quantum theory of elementary particles, the theory of cosmic inflation was born." What is to be inferred from the word "possibility" in this statement? Is this to mean that quantum mechanics does not disallow cosmic inflation? Quantum mechanics does not disallow one throwing snake eyes with a pair of dice. Can it be said that throwing snake eyes is a possibility built into quantum mechanics?

At some point in one's life they must come to terms with cosmic inflation. Math droolers are too low on the hills of the math world to understand it. But, one can look up to the mountain peaks and get a glimpse of what those who hike the heights see. However, a math drooler may not see what the big boys see. One must keep in mind that in the high mountain peaks there may be oxygen deprivation resulting in impaired vision.

A conclusion is put forth that our universe started as a quantum fluctuation from the super universe. Where the super universe came from is difficult to say since no one knows that it exists and there is no evidence for it. Fortunately, that does not slow one down in this day of enlightenment. Our universe started from nothing and is nothing. From the "truest story known", as related in "The View from the Center of the Universe", the total mass-energy of the universe is zero. All of what one thinks is seen is offset by negative gravitational energy. Negative gravitational energy is gravitational potential energy. Two bodies at an infinite distance apart have zero potential energy. As the two bodies come together under the force of gravity they gain kinetic energy, losing an equal amount of potential energy. The potential energy starts at zero and decreases. In regards to cosmic inflation, space expands while the dark energy density stays constant resulting in an increase in dark energy. Conservation of mass-energy cannot be tampered with in any formation found anywhere in the peaks of the math world. The increased energy must come from somewhere. That somewhere is in the decrease in potential gravitational energy. Math droolers on the lower hills cannot dispute or question any of this. But they can ask for a clearer view.

Two bodies an infinite distance apart has zero potential energy by definition. The further apart two bodies are the greater (less negative) their potential energy. As the universe expands bodies move away from each other at greater speed. It would seem that as the universe expands both gravitational potential energy and kinetic energy increase. That increase would be matched by a decrease in dark energy, if it exists, or a decrease in the force of gravity. Of course, these are not questions for those who hike the high mountains of the math world. But, at a minimum these questions should be addressed by those they write books for those who hike the lower hills. There are too many holes in what is presented.

For both potential and kinetic energy one needs a reference, a place for potential energy and a speed for kinetic energy. The earth would be a good place for zero distance and could be taken at zero speed, giving the needed references. What is then the potential and kinetic energy of the universe and what is the change in them?

I would not recommend this book for those who have an interest in the makeup of the universe. There is too much off-subject material. The Uroboros and Kabbalah are swamp water. The misunderstanding of historical cosmology adds nothing to current understanding. There is some dry ground in the book, but not enough to justify reading it. My copy will go to the book shelves of my local thrift store.