Fascinated by Uncertainty

By H. Felix Kloman

Resource Type: Risk eNews

Topic: General

Review of John Brockman, ed., *The Universe: Leading Scientists Explore the Origin, Mysteries, and Future of the Cosmos*, HarperCollins, New York 2014

Who are we? What do we know about our "universe?" What are our future possibilities? These are the questions posed to some eighteen physicists and cosmologists in the latest volume edited by John Brockman. This is a continuing "conversation" on the origins, mysteries and future of our cosmos, "an unadorned pleasure in curiosity," as described by Ian McEwan.

I must admit that my early education gave me little with which to try and understand these thinkers. I barely made it through solid geometry in high school and a cursory introduction to physics in college, enamored as I was then of the intricacies of history. But the passing years and more time for mental exploration have begun to mesmerize me in these mysteries.

Consider the words and phrases that populate these essays. How many do we really understand? Particle physics, quantum field theory, the Big Bang, an inflationary universe, multiple bangs and dimensions, branes, ripples, string theory, cyclic model, multi-universes, inflationary mega-verse, anthropic principle, quarks, anyons, synchrony, fractals (Ah! Mandelbrot again!), dark energy, dark matter, cyclic proposal, quantum "wrinkles," bosons, fermions, entropy, and that fascinating idea of "singularity." *The Universe* is well worth the reading time if only for a chance to consider these words and phrases in their context.

But two ideas from these searchers are really fascinating. Both concern uncertainty. The first is that "everything has to be described in terms of probabilities" (Alan Guth). The second is the candid acknowledgement that we do not and cannot "know!" Most of these essays conclude with a question. Shouldn't we in risk management accept both of these ideas? Perhaps some of us have done so already.

Paul Steinhardt: "Everything has to be described here, and a lot to be learned."

Lisa Randall: "Fundamental questions remain unsolved."

Sean Carroll: "The answer is, we just don't know… We don't know the answer."

Lee Smolin: "What's the nature of time?"

Carlo Rovelli: "Science is not about certainty… Scientific thinking is a constant reminder that we don't know the answers… But we don't know… Of course, we don't know."

Steven Strogatz: “We still don’t understand.”

Frank Wilczek: “Most of my bright ideas will turn out to be wrong.”

Carlo Rovelli offers a concluding insight that concerns all of us involved in risk management: it is a “joy” to face “continual uncertainty.” Relish and enjoy the search for possible solutions.

And there is good humor implicit in all these thoughts. That reminds me of a few phrases coming from our comic philosophers: Peanuts – “Good grief, Charlie Brown!;” Pogo – “We have met the enemy and he is us!” and, of course, Monty Python’s “And now for something completely different!”

So what can we conclude from these fascinating essays? Martin Rees suggests we think about the “ingredients of the universe … 4-percent atoms, about 25-percent dark matter, and 71-percent mysterious dark energy. Most of this remains hidden!” And Neil Turok suggests the “cyclic model” that “emerged from the idea that each Bang was followed by another, and that this could go on for an eternity. The whole universe might have existed forever, and there would have been a series of these Bangs, stretching back into the infinite past and into the infinite future.”

Something to think about!

Felix Kloman is a thought leader in the field of risk management and a former member of the board of the Nonprofit Risk Management Center. Several publications by Felix, including The Fantods of Risk: Essays on Risk Management, are available at www.amazon.com.