

**My Impressions of
The Physics of
Christianity
by Frank J. Tipler
(Doubleday, New York, 2007)**

This book was written by a Professor of Mathematical Physics and he knows his physics. He loves the Standard Model and explains it well. (Pp. 35-44) He loves Feynmann and Weinberg for discovering and solving the gravity problem back in the 1960s. (Pp. 34-35) But neither Feynmann nor Weisenberg, nor most physicists then or now, realized they had already solved the problem now being addressed through the supersymmetry theory, which he labels as “a secular version of the Gnostic heresy.” (Pp. 124-127) Interesting.

I cheered inwardly as he demolished the silliness about “spooky action” at a distance that came from experiments testing the Einstein-Podolsky-Rosen thought-experiment. He says, as I have said, that of

course two paired particles with opposite spins will retain their opposite spins no matter what the distance. Tipler disagrees with the fans of faster-than-light- knowledge-transfer spookiness in other words. (Pp. 24-26) They claim that the Heisenberg uncertainty principle and quantum mechanics suggest that neither particle has any spin until an observer observes it and brings it from its wave state into a particle state that has a spin. And as you, the observer, materialize it by observing it, it instantly knows what the spin of its twin is from which it has been moving away at the speed of light, so knowledge between the two particles was exchanged at twice the speed of light! But you don't create a particle by collapsing the wave-function by observing it, it is always both particle and wave, at the same time, and if it is created to be a symmetrically opposite twin of another particle, it isn't going to change with distance.

So far so good, but Tipler goes way beyond this idea and suggests they would even maintain their opposite spin characteristics if they were observed in other universes in the multiverse. Multiverse? Yes, he is a great fan of Everett's *many-worlds interpretation of quantum mechanics* and explains it in a very

understandable way. (Pp. 13-15) But I believe his and thus Everett's idea that quantum mechanics applies to all things regardless of size is highly questionable. This is a crucial point underlying almost the entire case for the physical basis of (Catholic especially) Christianity. Tipler says on page 15, for about the third time because it is such a crucial point:

. . . we are not postulating the existence of the multiverse. Instead we are postulating that quantum mechanics—and classical mechanics in Hamilton-Jacobi form—applies to all systems without exception. Then it follows, of mathematical necessity, that the multiverse exists.

Tipler starts the chapter introducing the multiverse with quotes from seven Nobel Prize recipients in physics who acknowledge the correctness of the many-worlds idea based on quantum, but some of them are obviously very uncomfortable with the idea. Other physicists believe that the physics that applies to matter is scale-dependent. Not Tipler (p. 14):

. . . even Nobel Prize-winning physicists have trouble accepting the many-universes implication of quantum mechanics, or, more precisely, the

linear superposition property of quantum mechanics. But make no mistake: if quantum mechanics is true, the many universes necessarily exist. The mathematics of quantum mechanics gives no alternative.

Last year in my reading of 5 popular physics books (see Item 26 in my 2006 Yearbook) I ran across the multiverse and many worlds ideas once again and although Tipler's Christian/Catholic context was absent, it was remarkable how similar the basic ideas were between some of these authors and Tipler concerning causality, God guiding evolution, the inevitability of future human/intelligence emerging into the universe, and even eternal life as part of this God notion (not a personal God in any of these cases).

The reason I bring up last year's readings and reviews is that in two of the books (the ones by Primack and Abrams—my favorite—and the one by Randall) there are discussions that seem, to me, to contradict Tipler's claim that quantum mechanics is the physics for all material things regardless of size or scale. Both these books discuss "emergent properties," which refers to properties that may exist at one scale of the same substance that has different properties at

another scale. The need for a large, intricate brain structure to support self-aware intelligence is an example, perhaps. Nothing about the atoms of your brain allows you to calculate that these atoms could and would contain this emergent property.

I found the emergent properties idea useful since it explains why you need both physics and chemistry, for example: we can't predict the reactivity of a complex chemical from its atomic properties. Atoms in association with, or bonded to, other atoms make it into a chemical compound with properties different from the sum of the properties of its constituents.

Tipler knows his case for one physics for all matter at all scales is crucial to his overall thesis of physics supporting his religious beliefs and views. Maybe that is why he did not address emergent properties? Or maybe he simply believes it is a wrong-headed idea.

Tipler suggests that physics is deterministic at all scales, and our having to resort to probabilistic approaches to understand properties and behaviors is an illustration of ignorance, not an indication of natural random-chance changes or behaviors. He feels very strongly about this, but acknowledges that

there are limits to what humans can know, and the multiverse is one of the reasons since we can only see our universe and not the many universes it is an integral part of (all the other universes are invisible to us, except for an occasional stray particle or energy quantum that tunnels between universes).

As I have already mentioned, last year's readings in popular physics books (item 26 in the 2006 yearbook of links on this site) also led me to read about the multiverse or many-worlds theory. The books (especially the two by Kaku and Randall acknowledged that these other universes may be real). Randall is working on supersymmetry and branes to come up with an alternate approach: branes can house worlds in a way to make them invisible from one another. Tipler acknowledges dark matter and energy exist, Randall (one of the books reviewed last year) is looking for a theory that explains them and believes the brane idea may be on the right track. Interesting stuff.

Tipler is quite bent out of shape by the reception that the multiverse idea has gotten among prize-winning physicists, as already mentioned, and suggests this is heresy, as already mentioned, but in one place he

suggests that the reason these people are fighting what is obviously true because they are atheists. (Pp. 2 and 126)

Contrary to what many physicists have claimed in the popular press, we have had a Theory of Everything for about thirty years. Most physicists dislike this Theory of Everything because it requires the universe to begin in a singularity. That is, they dislike it because the theory is consistent only if God exists, and most contemporary scientists are atheists. They don't want God to exist, and if keeping God out of science requires rejecting physical laws, well, so be it.

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Of course the superstring theorists deny that mathematical beauty is their main reason for working on supersymmetry. They claim an experimental justification, namely the absence of a consistent quantum gravity theory. This claim is nonsense. Richard Feynman discovered a consistent (*renormalizable* is the technical term) theory of quantum gravity forty years ago, and

this theory is essentially unique. However, the superstring theorists find the Feynman theory “spiritually” unacceptable because it necessarily has a cosmological singularity. Thus we come to the real reason why modern physicists find standard quantum gravity unacceptable: *it implies the existence of God!* If the existence of the Cosmological Singularity–God–is accepted, then it becomes mathematically possible to transform the renormalizable theory of quantum gravity into a theory that is not only term-by-term finite but, in addition, has a finite power series in the coupling constants. In effect, infinities that would otherwise occur in the laboratory are transferred to the Cosmological Singularity. In other words, God stabilizes the multiverse, thereby preventing it from collapsing into nonexistence. But for secularists, God must be eliminated at all costs. If necessary, they are willing to abandon experimental science itself.

Tipler next launches into an attack on Darwinism, calling it “the most pernicious form of Gnostic dualism in modern science. He and the Catholic authorities he cites are all in favor of evolution but totally against random chance being its driver. On

page 128 he sides with Einstein against indeterminism in nature. Good company. It is directed evolution (pp. 127-128), evolution with a goal:

... Determinism in quantum mechanics is called *unitarity*, and unitarity means that we can think of determinism as acting from the ultimate future backward in time. The evolution of matter is fundamentally teleological. What matter does in the present is constrained by the fact that it must evolve into the Omega Point, the Final Singularity, which is the First Hypostasis of the Cosmological Singularity.

In particular, unitarity requires that intelligent life must necessarily evolve independently on planets around stars several billion light-years apart in order that these intelligent life-forms can cancel the acceleration of the universe, which would otherwise destroy unitarity. The Cosmological Singularity in effect has always been directing the variations that have appeared in the genome of the biosphere, and has been directing which individuals actually mate. The term for this in Christian theology is *God's Providence*. Christians can never abandon trust in God's Providence. Physicists can never abandon trust in

unitarity.

The idea of causality backward in time receives a very elaborate explanation in terms of the three parts of God, the three singularities being separated in time for us yet being timelessly one. (Pp. 227-233) Tipler realizes this is as mindboggling as the Trinity, I believe, and he explains how backward causation works in largely religious terms on page 235. He explains that the Three Hypostases of the Singularity, the beginning (Holy Ghost), end (God the Father), and time between the two (Son) are timeless and thus not restricted by our time perception

According to the Universal Resurrection theory, everyone, in particular the long-dead saints, will be brought into existence as computer emulations in the far future, near the Final Singularity, also called God the Father. Communication that is entirely limited to within spacetime is restricted to contemporaries or to those who exist in the future of the senders of the message. This is the communication with which we are familiar. But the Three Hypostases of the Singularity are not restricted to causation acting only from past to future. Future-to-past

causation is usual with the Cosmological Singularity. A prayer made today can be transferred by the Singularity to a resurrected saint—the Virgin Mary, say—after the Universal Resurrection. The saint can then reflect on the prayer and, by means of the Son Singularity acting through the multiverse, reply. The reply, via future-to-past causation, is heard before it is made. It is heard billions of years before it is made.

It should be made clear that the “computer emulations” mentioned are the spiritual bodies of the resurrection mentioned in scripture, and are unimaginably more advanced than our current computer programs. These programs are our souls: “These re-created selves will be us.” (P. 234 and chapter 3) Humans even today are computer programs residing in matter. The soul is immortal. The soul is immaterial. . . . “we can regard the human soul as a form of computer program, a program running on a wet computer we call the human brain.” (Pp. 70-71)

It should be evident by now that this book is as much about religion as it is about physics. I like his bold

declaration at the very start that “The Cosmological Singularity is God.” (Pp. 2-3) But he loses me when then he goes on to suggest that physics demands three singularities which are, in fact, one, and that Christianity of the Trinitarian persuasion is, therefore, the only religion compatible with physics! (P. 3)

He is on a roll in those opening statements and promises to prove that physics also explains how Jesus can be an incarnation of the Singularity bridging the beginning and ending singularities, and how this would be consistent with Jesus’ virgin birth, etc. He develops each of these ideas in several chapters that form the central part of the book and they make for fascinating, though not altogether credible, reading. Mary and especially Jesus were untainted by original sin, he shows this from analyses of scripture and DNA from the shroud of Turin and the Oviedo cloth, and it was the release of neutrons as Jesus dematerialized himself that caused the picture on the shroud. It is learning how to dematerialize matter into neutrons that our posterity and their contemporaries throughout the multiverse will learn to do, as Jesus did. On a grand, multiversal scale, this removes mass and slows, stops, then reverses acceleration and the

multiverse will collapse back into the Final Singularity. (Pp. 55-70)

Some miscellaneous themes in this book:

I liked how he defended Jews from historical Christian anti-Semitic notions and how he showed that Catholics are leading this charge for a change of views regarding Jews.(pp. 245-250)

I did not like his laying anti-Semitism at the feet of dualistic heretics, Gnostics. He discusses the suppression of dualistic and other heresies, including my favorite, the Cathar heresy, with apparent approval. (Pp. 109-134) Yuck.

He defends the Catholic Church as the foundation for scientific investigation and progress and states that other religions have contributed next to nothing to science because they did not believe that nature's laws were fixed and immutable so never bothered to try and discover them. He is especially certain that believing Muslims have never contributed to science, although one received the Nobel Prize for physics. But that one's modernized sect was declared heretical and persecuted. I found that whole discussion quite

incredible, actually, especially given his own acknowledgment of the long-term Catholic adoption of Aristotle's universe as immutable truth caused there to be no science for many centuries. (P. 122)

He even defends the Catholic Church against the idea that they disciplined Galileo for upsetting the Aristotelean universe. (Pp. 122-124) He says historians have clearly showed that the Church was going to let him off, but Galileo was a true believer and felt that if his ideas were going to damage peoples' faith, he did not want to live with that p his conscience so he confessed and they had no choice but to pass sentence then. A little hard to believe, but I am not about to invest time in this issue. He was critical of Thomas Aquinas in this discussion as trying to hang on to Aristotle's universe against all evidence, but elsewhere cites Aquinas with approval even when he quotes Aristotle! (P. 70)

There is much more in this book. I haven't even begun to tell how Tipler uses physics to explain the plausibility of Christianity's founding miracles and the reality of faith/inspiration. I also haven't touched on his elaborations on the physics of the end time and the need for intelligent life to disperse into space using

up matter to create energy to travel and sustain life. I haven't the energy to go through his logic. And he does have a very logical framework within he works.

One place he defies logic, in my opinion, is in his rather elaborate physics-based explanation for the existence of evil when the whole world is being directed by God, a God he defines as he Cosmological Singularity but also as having the goodness attributes assigned to Christianity's God. If we would only understand the multiverse, which has copies of all of these issues since it has us repeated in infinite variety, we would see that there is perfection in the universe and the evils in our world are but fleeting phantoms against that greater reality. So we have rooted out the dualistic heresies to be replaced by the notion that our life experience is being lived innumerable times simultaneously and there are many worlds in which the evil path we just took was not taken, thus diluting the evil in the multiverse?

To me that explained absolutely nothing. So if there is evil here we can be sure there is another world with us in it that has no evil. And in an infinite number of worlds there is thus very little evil since this is apparently about as bad as it gets?

But there is still evil here in God's creation. I feel it is no more enlightening than a statement once made by Brigham Young, the second prophet of Mormonism. That statement was something to the effect of there being many worlds with populations of people like us. All saved by Christ as we are here. Would Tipler be proud? No, they are all in this one universe. The reason Christ came to this world and not some other is because of all the worlds in this universe, this is the most wicked, and the only world where he would be sacrificed by evil men.

So who elected me to this world and why? The good news is that when we travel into the universe, we can be assured of a pleasant reception wherever we go. No mean and nasty aliens. But don't bother to read history in those other worlds, it will be missing the blood, gore, mayhem and treachery over control of power, wealth, and religion—which is often directly related to power and wealth—that make history so terrible and interesting here.