

The universe and the reality of its creator

The Singular Universe and the Reality of Time: A Proposal in Natural Philosophy

Roberto Mangabeira Unger, Lee Smolin

Cambridge University Press, UK, 2014

Time Reborn: From the Crisis in Physics to the Future of the Universe

Lee Smolin

Mariner Books, Bel Air, CA, 2014

John G. Hartnett

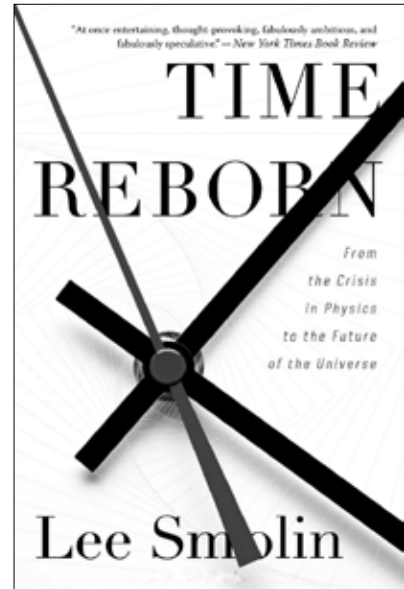
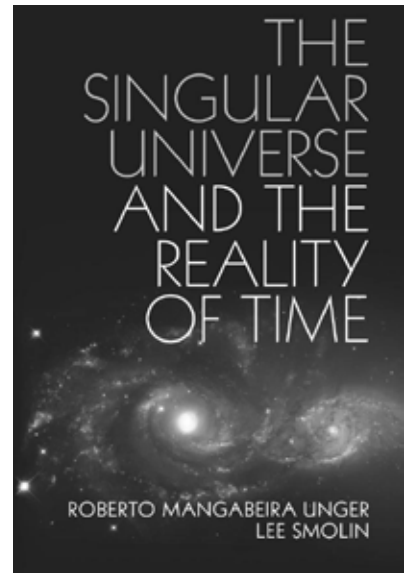
Lee Smolin is a theoretical physicist and Roberto Mangabeira Unger is a philosopher. The message in these two books is essentially the same and the same as that which Smolin has promoted for some time. The books promote a godless and radical departure from the classical way of thinking about the universe, espousing a significant departure from the standard scientific philosophy of the last four centuries.

In *Time Reborn*, Smolin cannot conceive of a universe created by an extant creator who imbued it with immutable laws. His mindset seems to be one that is shocked by the idea that this universe was prepared in a just-right state such that we can exist in it. And this occurs even when he is thinking in evolutionary terms. So to him the idea that the universe occurred just once with initial conditions and laws that allow life to exist is too shocking to contemplate. His answer is evolution. This universe evolved from

a prior universe and its laws evolved along with it.

The main thesis can be summarised as *the universe is singular, time is real and laws change*. By this the authors mean that the universe is all there is, there is no creator, and because we live in a universe that is now in a cooled-down differentiated state (i.e. with galaxies and stars), it must have changed from its initial state (implicitly assuming a hot big bang origin), hence they conclude time is real. This is contrasted with the Newtonian paradigm concept, which has driven science for the past 400 years, where the scientist looks for the timeless description of the whole universe. The believing scientist like Newton would say that he was looking for timeless laws and initial conditions (the creation history), products of the Creator’s mind. In those laws there is cause and effect; causation resulting from actual laws, that are themselves unchanging.

Smolin and Unger suggest otherwise; that causation forms a real feature of nature and that it is not just a mental construct but due to real connections in nature. They argue that causation takes place in time and hence implies the reality of time; time would not be real if causal connections simply enacted timeless laws of nature; and these causal connections change in real time. This means the laws of physics evolve. Nothing is immutable, except time itself. Thus they promote *an eternal universe*; a universe that successively evolves through the continuous process of creation and annihilation of the successive universes, wherein the laws of nature evolve. The argument for this evolutionary aspect is novelty. A universe where time is real and laws



evolve allows for novelty—new laws that can change from one universe to the next.

They contrast two cosmologies: one, which includes the Newtonian paradigm, is where laws are immutable and timeless, time is essentially relational, not absolute, as developed in Einstein’s Relativity Theory, and there is no novelty, nothing evolves. The second, is where laws are mutable and evolve, time is the only absolute and is real, and novelty arises as part of nature, resulting in new laws. They

argue that “*everything is emergent—everything comes and goes—except time*” itself.

In their choices for the universe they exclude the Creator. The possibility of a transcendent creator who chooses the initial conditions, hence determined the laws upon which the universe is governed, and even intervenes in his creation, is excluded.

In this regard, they write:

“The laws are timeless. They have no history [JGH: meaning, they are immutable, constant]. They underlie and justify causal explanations. *They are, however, themselves without explanation.* To ask why they are is to pose a question that lies in principle beyond the limits of natural science conforming to the Newtonian paradigm [emphasis added].”¹

This is the crux of the matter. They seek an explanation of this universe without a creator. He, by definition, is excluded from natural science.

So their answer is a universe, or eternal temporal succession of singular universes, wherein the laws evolve, due to a feature of nature itself. In their universes the laws are only partially unchanging; i.e. they slowly evolve, resulting in novelty.

They contrast this with the alternate godless explanation of multiple parallel universes. The promotion of the multiverse results from the need to rescue the Newtonian paradigm. This means that within any one universe in the multiverse the laws are immutable and timeless. Hence, by having an infinite number of universes, we might find ourselves in the one where the initial conditions and laws are such that life could have evolved.

“If, however, these other universes are, as they must be, causally unconnected with our own, and no light-borne information can travel from them to us, this conjecture will amount to no more than *a vain*

metaphysical fantasy, disguised as science [emphasis added].”²

Their alternative is a succession of universes born from the death of the previous. A universe born from a singularity with infinite density and temperature cannot be comprehended. But universes that do not undergo an infinite density state in a singularity of a big bang can be understood. This is where laws evolve and change but carry some aspect of their past existence into the next.³ This involves a strong appeal to nature, the pagan concept of Gaia.⁴

The price to pay, they say, for their view of the universe, is that everything is emergent except time itself. There was no beginning. Time had no beginning. The characteristics of the observed universe with its stable structures cannot be the only form of nature. And the view that what is physically real in this universe is what can be described mathematically must be forgone. The sovereignty of mathematics over physics

“... *is intimately related to the assumption of the immutability of the laws of nature and to the invariance of its symmetries, expressed as mathematical equations*”.⁵

The Newtonian paradigm uses mathematics to explain temporal events by timeless laws. They see no such commitment but state that the universe “*is what it is because it was what it was*”.⁶

Their ideas are based on Darwin. According to them, the life sciences have successfully developed an historical science interpretation of the biological evidences, in the rock record etc. Thus they suggest the same for cosmology as a historical science. In so doing they challenge the basis of all operational science, at least on the timescale of the universe. Implicit is the assumption that there is no creator and that the universe evolved to its current state by some characteristic intrinsic to the universe itself. So the singular universe, though from a temporal

sequence of singular universes, and the reality of time—eternal time, “really deep” time—are their answers.

These books attempt to do with the universe what Darwin attempted to do with living things. In this case, the laws of the universe are made mutable, and allowed to evolve from one universe to the next. This speculation is meant to explain the universe we observe, with life evolved in it, without the need for a transcendent creator. In order that we arrive at this state of our current universe all that had to happen was sufficient time. The only absolute in this worldview is the reality of time itself, a lot of time, eternal time. Thus in this worldview time is god.

References

1. Unger, R.B. and Smolin, L., *The Singular Universe and the Reality of Time*, Cambridge University Press, UK, 2015.
2. Unger and Smolin, ref. 1, p. 21.
3. Hartnett, J.G., On the origin of universes by means of natural selection—or, blinded by big bang blackness, 9 October 2014, creation.com/on-the-origin-of-universes.
4. Hartnett, J.G., Development of an ‘old’ universe in science, 30 July 2015, biblescienceforum.com.
5. Unger and Smolin, ref. 1, p. 44.
6. Unger and Smolin, ref. 1, p. 45.