

"Creation Out-of-Nothing" and Contemporary Cosmology

5 April 2013

Socratic Club – Gonzaga University

William E. Carroll

Thomas Aquinas Fellow in Theology and Science, Blackfriars
University of Oxford

I. "This is a huge step toward unraveling Genesis Chapter 1, Verse 1 — what happened in the beginning. This is a Genesis machine. It'll help to recreate the most glorious event in the history of the universe." Professor Michio Kaku, a physicist at City College of New York, commenting (30 March 2010) on the experiments to be performed at CERN's Large Hadron Collider.

II. "In the early universe – when the universe was small enough to be governed by both general relativity and quantum theory – there were effectively four dimensions of space and none of time. That means that when we speak of the 'beginning' of the universe, we are skirting the subtle issue that as we look backward toward the very early universe, time as we know it does not exist! We must accept that our usual ideas of space and time do not apply to the very early universe. That is beyond our experience, but not beyond our imagination." Stephen Hawking and Leonard Mlodinow, *The Grand Design* (2010).

III. "[J]ust as Darwin . . . explained how the apparently miraculous design of living forms could appear without intervention by a supreme being, the multiverse concept can explain the fine-tuning of physical law without the need for a benevolent creator who made the universe for our benefit." Stephen Hawking and Leonard Mlodinow, *The Grand Design*.

IV. Philosophers and scientists who think that traditional Big Bang cosmology, with an unexplained "singularity," shows us that past time is finite, and thus points to the creation of the universe: Robert J. Spitzer, *New Proofs for the Existence of God: Contributions of Contemporary Physics and Philosophy*. See also various books by William Lane Craig, including, *The Kalam Cosmological Argument*.

V. "We humans are the species that makes things. So when we find something that appears to be beautifully and intricately structured, our almost instinctive response is to ask, 'Who made that?' The most important lesson to be learned if we are to prepare ourselves to approach the universe scientifically is that this is not the right question to ask. It is true that the universe is as beautiful as it is intrinsically structured. **But it cannot have been made by anything that exists outside of it, for by definition the universe is all there is, and there can be nothing outside it.** And, by definition, neither can there have been anything before the universe that caused it, for if anything existed it must have been part of the universe. **So the first principle of cosmology must be 'There is nothing outside the universe.'** . . . **The first principle means that we take the universe to be, by definition, a closed system. It means that the explanation for anything in the universe can involve only other things that also exist in the universe.**" Lee Smolin, *Three Roads to Quantum Gravity*.

VI. "The question of why there is something rather than nothing is really a scientific question, not a religious or philosophical question, because both nothing and something are scientific concepts, and our discoveries over the past 30 years have completely changed what we mean by nothing." Lawrence Krauss, author of *A Universe from Nothing. Why There is Something Rather than Nothing* (2012), on National Public Radio, "Science Fridays," in the United States, 13 January 2012.

VII. "Some philosophers and many theologians define and redefine 'nothing' as not being any of the versions of nothing that scientists currently describe. But therein, in my opinion, lies the intellectual bankruptcy of much of theology and some of modern philosophy, For surely 'nothing' is every bit as physical as 'something,' especially if it is to be defined as the 'absence of something.' It then behoves us to understand precisely the physical nature of both these quantities. And without science, any definition is just words." Lawrence Krauss, *A Universe from Nothing: Why There is Something Rather Than Nothing*

VIII. *Creation, as a metaphysical and theological notion, affirms that all that is, in whatever way or ways it is, depends upon God as cause. The natural sciences have as their subject the world of changing things: from subatomic particles to acorns to galaxies. Whenever there is a change there must be something that changes. Whether these changes are biological or cosmological, without beginning or end, or temporally finite, they remain processes. Creation, on the other hand, is the radical causing of the whole existence of whatever exists. Creation is not a change. To cause completely something to exist is not to produce a change in something, is not to work on or with some existing material.*

IX. *Cosmology and all the other natural sciences offer accounts of change; they do not address the metaphysical and theological questions of creation; they do not speak to why there is something rather than nothing. It is a mistake to use arguments in the natural sciences to deny creation. But it is also a mistake to appeal to cosmology as a confirmation of creation.*

X. *"Over and above the mode of becoming by which something comes to be through change or motion, there must be a mode of becoming or origin of things without any mutation or motion, through the influx of being." Thomas Aquinas, On Separated Substances, c.9.*

XI. *Creation is not primarily some distant event; rather, it is the on-going complete causing of the existence of all that is. At this very moment, were God not causing all that is to exist, there would be nothing at all. Creation concerns first of all the origin of the universe, not its temporal beginning.*

XII. *The "singularity" in traditional Big Bang cosmology may represent the beginning of the universe we observe, but we cannot conclude that it is the absolute beginning, the kind of beginning which would indicate creation.*

XIII. *Those contemporary cosmological theories which employ a multiverse hypothesis or an infinite series of big bangs do not challenge the fundamental feature of what it means to be created, that is, the complete dependence upon God as cause of existence. An eternal universe would be no less dependent upon God than a universe which has a beginning of time. To be "created out-of-nothing" does not have to mean to begin to be such that a created universe could not be an eternal universe.*

XIV. *It was the genius of Thomas Aquinas to distinguish between creation understood philosophically, with no reference to temporality, and creation understood theologically, which included the recognition that the universe does have an absolute temporal beginning.*

XV. *The error concerning beginnings, to which I have referred, is the error of thinking that to be created necessarily means to have a temporal beginning; thus some think that by denying a beginning (Hawking, for example) or by affirming various scenarios of an eternal universe (e.g., a multiverse) one is denying that the universe is created. A corresponding error is to think that cosmological theories which affirm an unexplained "singularity" at the "beginning" offer scientific support for the doctrine of creation.*

XV. *I have emphasized what it means to be created from a philosophical point of view, that is, based on reason alone. What Scripture tells a believer about what it means to be created includes all that philosophy discloses, and adds much more: not only that the created universe has a temporal beginning, but that creation is an act of divine love and that the opening phrase of Genesis, "in the beginning," also means in and through the Second Person of the Trinity.*

william.carroll@theology.ox.ac.uk