

THE NEW PHILOSOPHY OF SUPERDETERMINISM ON THE NATURE OF MIRACLES

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The philosophy of superdeterminism is based on a single scientific fact about the universe, namely that cause and effect in physics are not real. In 2020, accomplished Swedish theoretical physicist, Dr. Johan Hansson published a physics proof using Albert Einstein's Theory of Special Relativity that our universe is superdeterministic meaning a predetermined static block universe without cause and effect in physics. Because of this new scientific understanding of our universe, the nature of miracles must be predetermined events that occur within our static block universe. The predetermined static nature of our universe lends itself to the predetermined occurrence of miracles without the necessity of any intervention in time or interference with the laws of physics. Moreover, the new philosophy of superdeterminism supports the existence of a Creator God capable of predetermining the occurrence of miracles in human events.

The new philosophy of superdeterminism is based on a single scientific fact about the universe, namely that we live in a predetermined static block¹ universe without cause and effect

¹ Imagine a cosmic four-dimensional block, where the three familiar dimensions of space (length, width, and height) are combined with a fourth dimension of time. Every single moment in history would occupy a specific location within this block. From this perspective, there is no special "now" moment that separates the past from the future. They all exist equally.

in physics.² However, the absence of cause and effect in physics³ has enormous implications on the philosophy of religion. One such implication is on the nature of miracles. Of course, in order to have a miracle, we need a divine actor who wants to perform the miracle in the first place. Superdeterminism supports the existence of such a divine actor capable of performing miracles.

Because cause and effect in physics are not real, then nothing in the universe has the actual power to cause the existence of our universe, nor any miracles for that matter.⁴ The laws of physics cannot create our universe either, because past or present physical reality cannot create future physical reality in the absence of cause and effect in physics. However, our

² Hansson, Johan. "Bell's theorem and its tests: Proof that nature is superdeterministic – Not random." *Physics Essays* Vol. 33, No. 2 (2020). Dr. Johan Hansson, a professor at Luleå University of Technology in Sweden, has been awarded the "Honorable Mention Award" by the Gravity Research Foundation, a prestigious foundation aimed at advancing the understanding of gravity in fundamental physics. This recognition places him among a group of previous winners that includes Nobel laureates and world-renowned physicists. www.ltu.se/en/latest-news/news/news/2023-05-23-awarded-prestigious-prize-in-gravitational-research#:~:text=Johan%20Hansson%2C%20a%20professor%20at,of%20gravity%20in%20fundamental%20physics.

³ Dr. Hansson wrote that "[e]verything is predetermined, including the experimenters (non) free will, the 'random' orientation of the spin-analyzers at either end, and anything else you can think of. Each measurement does not create but merely uncovers what already is embedded in space-time. All events leading up to, and including, the 'act of measurement' itself are already there. . . . Bell's theorem and its many experimental tests thus are proof that nature at its fundamental level is superdeterministic – not random. A 'cause' cannot alter the 'effect.' The events in global space-time are predetermined and fixed, much like pebbles cast into a concrete block. . . . What an experimenter seemingly 'chooses' to do at either end A or B is the only thing she can do, and cannot 'cause' either the event at her own position or the event at the other end. All events in the global space-time 'block' we call the universe (past, present and future), observed or not, are superdetermined and unalterable." Hansson, Johan. "Bell's theorem and its tests: Proof that nature is superdeterministic – Not random." *Physics Essays* Vol. 33, No. 2, at 217 (2020).

⁴ Although Jesus lived on Earth and performed miracles on Earth, Jesus was the incarnation of God the Son meaning God made flesh. The miracles Jesus performed on Earth were miracles predetermined to occur on Earth from God's creation of our predetermined static block universe.

universe comes from nothingness under the zero energy universe theory⁵ as evidenced by the flatness of spacetime.⁶ Nothingness does not have the power to create our universe in the absence of cause and effect in physics. So, we need a divine actor to create our universe from nothingness outside of time and outside the laws of physics.

There are several reasons to believe that our universe was created from nothingness.⁷ The first reason is that under the zero energy universe theory, our universe consists of positive energy (mass and radiation) and negative energy (gravity) which perfectly cancel one another out. Cancelling out all the positive and negative energies in the universe leaves you with nothingness implying that the universe came from nothingness.⁸ Another reason is that the Big Bang theory says that going backwards in time, our universe gets smaller and smaller until it reaches a sub-atomic sized near singularity. Obviously, this constant shrinking of the size of our universe backwards in time implies a beginning of the universe from nothingness. Finally, the

⁵ Berman, Samuel Marcelo. "On the Zero-Energy Universe." *International Journal of Theoretical Physics* 48, 3278-3286 (Aug. 25, 2009).

⁶ Under Albert Einstein's Theory of General Relativity, the curvature of spacetime depends on the density of matter and energy in the universe. The flatness of the observed universe requires a very specific critical density of matter and energy. If the density was even slightly different in the early universe, it would have resulted in a much different shaped universe today either much more curved or much less curved. The flatness of spacetime indicates a balance between positive energy (mass and radiation) and negative energy (gravity) which exactly cancel out to zero implying our universe came from nothingness.

⁷ The Catholic Church teaches that "[i]n the act of creation, God calls every being from nothingness into existence." CCC 2566.

⁸ Some propose that pre-existing conditions, such as the zero-point energy field or the quantum nothingness of the no-boundary proposal, give rise to the zero energy universe, but these supposed pre-existing conditions deal with physics at the Planck epoch, a theoretical sliver of a fraction of a second after the Big Bang. Because our understanding of time breaks down at the Planck epoch, then there is no reason to believe that spacetime and our universe even existed during the Planck epoch. Consequently, there is no reason to believe our universe even existed in order to have these supposed pre-existing conditions. The Planck epoch supposedly existed before our universe existed, so obviously there is no scientific proof that the Planck epoch actually existed.

fact that cause and effect in physics are not real means that our universe could only have been created from nothingness given the lack of anything else from which to create our universe. The fact that our universe was created can be implied by the existence of our universe among 10 to the power of 10^{123} possible permutations⁹ of our universe not known to exist. The fact that the universe contains parts also implies that the universe was caused by its parts and, therefore the universe being caused must have been caused to exist.

Because our universe was caused to exist from nothingness, but nothingness cannot have the actual power to cause our universe to exist in the absence of cause and effect in physics, then a creator must be real who creates our universe from nothingness. Because such a creator must know of and understand the advanced technologies it creates in our universe in order to predetermine the existence of such advanced technologies, then this creator must be supremely intelligent.¹⁰ Such a supremely intelligent Creator can certainly conceive of the idea of miracles and predetermine the existence of such miracles into our static block universe.

Many people believe that a miracle must involve an intervention by God in the temporal events of human beings. However, this understanding leads some to disbelieve in miracles, because one would have to agree that God interferes with the usual laws of physics in order to perform miracles. There is no scientific evidence that the laws of physics ever change and all the scientific evidence points to constant and unchanging laws of physics. The notion that God intervenes in time in the events of human beings in order to perform miracles might also

⁹ Penrose, Roger, 1989, *The Emperor's New Mind: Concerning Computers, Minds, and the Laws of Physics*. Oxford: Oxford Press, pp. 339-345.

¹⁰ Because the creator must know of and understand the most advanced technologies and their makers in our universe, then the creator must be more intelligent than anything in our universe, which means that the Creator must be supremely intelligent.

necessitate an alteration of past events. For example, if one prays for a future event that would require a change in past events, then God could only perform such a miracle by changing past events.¹¹ God's action in time to perform a miracle also subjects God to time,¹² and a temporal God comes with a host of problems. If God is subject to time, then time itself must be greater than God implying that God is not the supreme power. If God is subject to time, then one can raise questions about what God was doing in the infinite amount of time prior to the creation of our universe.¹³ The idea that God performs miracles in time and intervenes in the laws of physics in order to interfere with temporal human events is highly problematic and fortunately untrue under the new philosophy of superdeterminism.

Under Dr. Hansson's version of superdeterminism,¹⁴ we live in a predetermined static block universe without cause and effect in physics. Every event that happens in the universe is predetermined and already existing within our static block universe. Moreover, the future cannot be changed, because neither past or present events can alter future events in the absence of cause and effect in physics. Consequently, miracles performed by God must already be events

¹¹ God changing past events could cause paradoxes. For example, if one prayed to God that his or her abusive father never met his or her mother and God changed the past so that the parents never met, then the person making the prayer would impossibly presently exist without parents. Obviously, God cannot perform miracles that would result in logical contradictions or paradoxes within our predetermined universe being impossibilities.

¹² An act of God must exist within the universe in order for the miracle to occur within our universe necessitating that God act inside human time subjecting God to human time.

¹³ A timeless God does not experience the flow of time and therefore cannot wait in time. An eternal God without beginning or end subject to time must have existed during an infinite amount of time.

¹⁴ Dr. Hansson's version of superdeterminism proves that we live in a predetermined static block universe without cause and effect in physics. The other version of superdeterminism posits hidden causal variables responsible for the correlations observed in quantum entangled particles, and thus relies on cause and effect in physics. Indeed, Dr. Hansson's version of superdeterminism disproves the other version of superdeterminism by disproving the existence of cause and effect in physics.

predetermined to occur in our static block universe. In other words, God already set up all miracles to occur when God created our universe. Because God already knew everything that will ever happen in our universe before He created our universe, then God already planned for all miracles to occur as part of His predetermined plan. God does not need to intervene in human events or interfere with the laws of physics, because predetermined miracles were set up with the creation of the universe and the laws of physics are already fine-tuned to allow such miracles to occur as God planned.¹⁵ Indeed, God does not need to alter past events in order to perform a miracle that depends on past events, because God can plan past events to occur to allow for the miraculous future event.¹⁶

The laws of physics are not an actual causal force of nature that unfolds the universe in time. The laws of physics cannot have the actual power to bring any physical reality into being in the absence of cause and effect in physics. The laws of physics are merely a mathematical description of the behavior of physical reality. Because our static block universe consists of

¹⁵ Fundamental constants and the laws of physics in our universe appear to be fine-tuned for the existence of life. The relative strengths of the four fundamental forces (gravity, electromagnetism, strong nuclear force, and weak nuclear force) seem precisely balanced. For instance, if gravity were slightly stronger, stars would burn too quickly and life would not have time to develop. Conversely, if it were weaker, stars would not form at all. The masses of protons and neutrons are perfectly suited to allow for the formation of stable atoms, particularly the abundant isotopes of hydrogen and carbon, which are essential building blocks for life. Even slight variations could have drastically reduced the abundance of these elements. The cosmological constant is the mysterious force counteracting gravity on a large scale. If it were much denser, the universe would have rapidly expanded, preventing galaxies and stars from forming. Conversely, if it were much weaker, gravity would have caused the universe to collapse too early. Carbon has a unique ability to form complex molecules with itself and other elements, a crucial property for life as we know it. The specific number of protons and neutrons in a carbon atom allows for this versatility.

¹⁶ For example, suppose a high school student prays to God that she does not miss the school bus despite getting up late in the morning. By the time the student makes the prayer, the bus has already left and is well on its way to picking her up. However, God could predetermine that the bus meet up with some traffic in order to slow it down before the student ever makes her prayer allowing God to answer her prayer without any need to change past events.

predetermined events throughout all of time, then the laws of physics must accommodate all those events through fine-tuning.¹⁷ Miracles would be astonishingly unlikely events that are nonetheless possible in our predetermined static block universe. So long as an event is possible under our laws of physics, then God can predetermine the timing of the event which gives the event the appearance of being a miracle. Under quantum mechanics, any event that is possible under our laws of physics has a chance of occurring over some duration of time.¹⁸ The more unlikely the event, the greater the duration of time one must wait in order for it to occur. However, every possible event under the laws of physics always has some chance of occurring earlier than later, and so God does have the ability to predetermine even the unlikeliest of events under our laws of physics to occur when He predetermines those events to occur without the usual long waiting period.

So, the philosophy of superdeterminism says that God can predetermine the occurrence of miracles in human affairs without any need to intervene in the laws of physics or enter time itself in order to perform a temporal miracle. All miracles are predetermined miracles. Because free will on Earth is impossible in the absence of cause and effect in physics,¹⁹ then God already

¹⁷ Predetermined past events must accommodate predetermined future events and predetermined future events must accommodate predetermined past events, which results in a fine-tuned accommodation among all events in the universe whether predetermined past, present or future events.

¹⁸ Under quantum mechanics, events that follow the laws of physics and have non-zero wave function values have a chance of occurring. The longer the observation time for some events, the more likely the event becomes assuming the probability is greater than zero. Of course, God's arrangement of predetermined events can also appear miraculous without the necessity of invoking astronomically unlikely events in quantum mechanics. For example, God could predetermine you to pick the winning lottery ticket numbers or engage you with a salesperson long enough to just miss taking the next bus which crashes into a ravine.

¹⁹ Although free will on Earth is an illusion of our static block universe without cause and effect in physics, one can infer that God predetermined our universe to exhibit what God already knew through His omniscience our freely willed decisions to be under a theory called "cinematism." One can infer that God used "cinematism" when creating predetermined human history, because

knows what every human being will think and how every human being will behave in the predetermined course of human history. With such knowledge of the predetermined history of humanity, God can easily predetermine the occurrence of miracles in His predetermined plan for the universe and human beings. Moreover, without free will on Earth and in the absence of cause and effect in physics, human beings are without the actual power to disrupt any of God's predetermined miracles. In sum, the new philosophy of superdeterminism fully supports the existence of predetermined miracles by God, but without the highly problematic necessity of God's intervention in human affairs or acting in time interfering with the laws of physics.

God has the omniscience that allows Him to know all our freely willed decisions in all possible situations and in all possible universes without the need to actually create any of those possible situations or possible universes. God could be charged with the wrongful condemnation of people to Hell, if they were not responsible for their predetermined evil behavior through "cinematism".