

THE NEW PHILOSOPHY OF SUPERDETERMINISM ON CONSCIOUSNESS

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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. Consequently, all your future behaviors and thoughts must also be predetermined and already exist in a future portion of the static dimension of time in our block universe. Because consciousness must be an aspect of physical reality, then the physical reality of the brain must be capable of producing your subjective experience of the world. Our conscious subjective experience of ourselves and the world around us is a construct of our own brain's neural network containing ideas and concepts representing the physical reality of the world and ourselves. Moreover, our conscious minds must exist at all points in our existence within our block universe whether our past, present or future selves, because our block universe always exists because nothing within physics can cause our universe not to exist in the absence of cause and effect in physics. One should be concerned with every moment of your conscious life to guard against conscious experiences you would not want endlessly repeated in our block universe.

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 in physics.² In 2020, accomplished Swedish theoretical physicist, Dr. Johan Hansson proved by applying Albert Einstein's Theory of Special Relativity to what has already been scientifically

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.

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.

verified about spin measurement correlations observed in entangled particle pairs³ that cause and effect⁴ in physics⁵ are not real.

Dr. Hansson demonstrated that the opposite spin measurements observed in entangled particle pairs cannot occur unless cause and effect in physics are not real. Experiments have shown that when the spin of the first entangled particle is measured, then the spin of the second entangled particle will always be the exact opposite spin regardless of how far apart you place the particles when measured.⁶ However, the spin of the first entangled particle measured for spin-1/2 particles, like electrons, will always be a purely random 50-50 result between Up or

³ Dr. Hansson's version of superdeterminism proves 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 any competing version of superdeterminism that relies on cause and effect in physics to posit hidden causal variables.

⁴ 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).

⁵ Physics is the fundamental science that studies matter, energy, motion, and force. Physics explores everything from the incredibly small (subatomic particles) to the unimaginably vast (the cosmos).

⁶ Aspect, A. et al. "Experimental Realization of Einstein-Podolsky-Rosen-Bohm Gedankenexperiment: A New Violation of Bell's Inequalities" *Physical Review Letters* Vol. 49, No. 2 (1982).

Down spin. This raises an inconsistency with Einstein's Special Relativity when observed from different inertial frames of reference.⁷

Observers in different frames of reference can observe a different entangled particle measured first due to the relativity of simultaneity.⁸ As a result, two different observers each observing a different entangled particle measured first can observe conflicting spin measurement results for the pair. If Observer 1 sees particle A measured first with an Up spin, then particle B must show a Down spin for Observer 1. But, if Observer 2 sees particle B measured first with an Up spin, then particle A must show a Down spin for Observer 2. Observers 1 and 2 would see inconsistent spin measurement results for the pair of entangled particles. This potential conflict in spin measurement results occurs because of the random 50-50 chance of observing either an Up or Down spin on the first particle observed to be measured.

The only way to explain how the spin measurement results can be consistent for all observers regardless of inertial frames of reference is to say that the spin measurement results

⁷ An inertial frame of reference is a frame of reference in which an object at rest remains at rest and an object in motion moves in a straight line at a constant speed unless acted upon by an external force. Essentially, it is a reference point that is not accelerating. Think of it like a smoothly moving train: if you're inside and not near the windows, you can't tell if the train is moving at a constant speed or stationary. This is because the train is an inertial frame of reference.

⁸ The relativity of simultaneity in Einstein's Theory of Special Relativity means that two events that occur at the same time for one observer may not occur at the same time for another observer who is moving relative to the first. This idea challenges our intuitive understanding of time. In our everyday lives, we tend to think of time as absolute, flowing uniformly for everyone, regardless of their motion. However, special relativity tells us this is not the case. This happens because the speed of light is constant being the same for all observers regardless of their motion. To visualize this, imagine two lightning strikes hitting opposite ends of a moving train simultaneously from the perspective of someone standing on the platform. To someone on the train, the lightning strikes might appear to happen at different times due to their motion relative to the platform. This concept might seem counterintuitive, but it is a cornerstone of modern physics and has been experimentally verified.

must be predetermined for all observers.⁹ If Observer 1 is predetermined to see particle A measured with an Up spin, and Observer 2 is predetermined to see particle B measured with a Down spin, then the spin measurement results between the two Observers can always match even though the spin measurements still appear to the Observers to be completely random results. This is an example of predetermined randomness and not caused randomness. If the random spin measurements were actually caused when the first entangled particle observed was measured, then there would be an inconsistency in spin measurement results which would violate the principle that there is no preferential frame of reference in Special Relativity or quantum mechanics. Consequently, Dr. Hansson proved that actual cause and effect in physics cannot be real using Einstein's Theory of Special Relativity, because eliminating cause and effect in physics is the only way to explain how the spin measurement results can be consistent when viewed from any inertial frame of reference.

Dr. Hansson proved that we live in a predetermined static block universe without cause and effect in physics. Future events must be predetermined, because past and present events cannot actually cause future events in the absence of cause and effect in physics. Therefore, the past, present and future events must all equally exist in our static block universe. Consequently, all your future behaviors and thoughts must also be predetermined and already exist in a future portion of the static dimension of time in our block universe. For example, if you consciously decide to move your arm, the movement of your arm being a physical object in our universe must be a predetermined event. But, your conscious thought to move your arm must also be a predetermined event in order for your arm movement to be a predetermined event. If your arm

⁹ Dr. Hansson concludes that “[t]here is no other possibility than that the outcomes at A and B both are predetermined.” Hansson, Johan. “Bell’s theorem and its tests: Proof that nature is superdeterministic – Not random.” *Physics Essays* Vol. 33, No. 2, at 217 (2020).

movement must occur because it is a predetermined event and your conscious thought to move your arm leads to your arm movement, then your conscious thought to move your arm must also occur and be predetermined.

Because your conscious thoughts must also be predetermined, then your conscious thoughts must also be part of our predetermined universe. Consequently, consciousness is an aspect of our predetermined static block universe and hence must be a physical phenomenon. As a physical phenomenon, the obvious physical location of consciousness is the physical brain. Moreover, the human brain being the most complex physical organ known to exist implies a similarly complex physical phenomenon giving rise to human consciousness. The difference between a working brain and a non-working brain is the significant presence of electrical impulses and chemical signals between neurons. These signals and impulses are a complex interplay of ions and electrical gradients moving at high speed.

The hard problem of consciousness asks how does the electrical and chemical activity of your brain create the rich, colorful and subjective world you experience? Because consciousness must be an aspect of physical reality, then the physical reality of the brain must be capable of producing your subjective experience of the world. While matter and energy do not contain properties, such as the color blue or your conscious experience of self, your brain does contain particles and energy, which move around at a high speed in your brain quickly processing information.¹⁰ So, the movements of particles and energy in the brain must cause consciousness.

¹⁰ The brain is the primary organ responsible for processing information. The brain takes in sensory data from the world around us (sight, sound, touch, taste, smell), processes it, and produces responses or thoughts. This processing involves complex interactions between billions of neurons.

The movement of particles and energy can create brain waves and patterns. These waves and patterns are capable of containing information in the form of constructs and ideas. Complex patterns of neural firing might represent specific pieces of information or concepts. Our consciousness is really comprised of concepts and ideas contained within our neural brain network.¹¹ So, the color blue is actually a construct or idea contained within our neural brain network. When we look at the blue sky, we do not observe the actual physical reality of the sky, but rather our brain's idea or construct of the sky in our visual field. Our conscious subjective experience of ourselves and the world around us is a construct of our own brain's neural network containing ideas and concepts representing the physical reality of the world and ourselves.

The brain works on moving electrical impulses and chemical signals between neurons. However, nothing actually moves in our static block universe, which consists of three static dimensions of space (length, width and height) and one static dimension of time. In order for our working brains to produce consciousness, then the movement of the brain's electrical impulses and chemical signals between neurons must result from changes in the static appearances of our brain in the dimension of time. Consequently, consciousness must be an illusion caused by changes in the static appearances of our brains in our block universe in the dimension of time.¹²

¹¹ The human brain is an incredibly complex network composed of billions of neurons. These neurons communicate with each other through electrical and chemical signals, forming intricate pathways. This vast network is responsible for everything from basic functions like breathing to higher-order cognitive processes like problem-solving and creativity.

¹² In a letter of condolence written to the sister of a deceased friend, Michele Besso, Albert Einstein wrote a month before his own death in 1955 that, “[n]ow he has departed from this strange world a little ahead of me. That signifies nothing. For those of us who believe in physics, the distinction between past, present and future is only a stubbornly persistent illusion.”

Because our consciousness is derived from changes in the appearances of our brains in the static present moment going forward in the static dimension of time, then our conscious minds are the product of our static block universe without cause and effect in physics. Our conscious minds are incapable of making any decisions that would be incongruent with or change the predetermined future, because the predetermined future cannot be changed in the absence of cause and effect in physics. In other words, free will on Earth does not exist, because you cannot freely choose to change an unchangeable predetermined future.¹³ Moreover, our conscious minds must exist at all points in our existence within our block universe whether our past, present or future selves, because our block universe always exists because nothing within physics can cause our universe not to exist in the absence of cause and effect in physics. Of course, God who non-temporally¹⁴ created our universe could annihilate our universe,¹⁵ but God

¹³ 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 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”.

¹⁴ Non-temporal or atemporal means something is independent of or unaffected by time. It is a concept often used in philosophy, theology, and physics to describe things that exist outside the constraints of time.

¹⁵ The argument that God non-temporally created our static block universe without cause and effect in physics is inferred from several facts about the universe. First, the universe is contingent on nothingness as evidenced by the flatness of spacetime under the zero energy universe theory, but nothingness cannot have the power to separate itself into our universe in the absence of cause and effect in physics. Second, the universe exhibits purely random behavior at the quantum level from which one can infer a cause of such purely random behavior. Third, the universe is only one out of 10 to the power of 10^{123} possible permutations which are not known to exist inferring the creation of our particular universe. Fourth, regression in time to the Big Bang allows an inference that our universe popped into existence from nothingness. Finally, our universe being made of parts must be caused by those parts implying that our universe must be caused.

being omniscient is incapable of making a mistake that might necessitate the annihilation of our universe.¹⁶

In our static block universe without cause and effect in physics, you always exist within our block universe at all moments of time in your life in the static dimension of time. Because your consciousness exists at all those moments, then you must be experiencing the conscious moments of your whole life repeatedly and endlessly in our static block universe.¹⁷ One should be concerned with every moment of your conscious life to guard against conscious experiences you would not want endlessly repeated in our block universe. You would undoubtedly agree that your present conscious experience is truly an experience of yourself. But, that present conscious experience is also a past and future conscious experience of yourself depending on your location within the static dimension of time. So, your experience of consciousness in the past, present and future of our static block universe are all true experiences of yourself. You possess not only a life, but a block life in our static block universe.

Some claim that consciousness is an experience caused by a trans-physical being or ghost. However, consciousness must be a predetermined aspect of the physical universe incapable of changing the predetermined future. Because a trans-physical being or ghost would likewise be incapable of changing a predetermined future in the absence of cause and effect in physics, then such a trans-physical being or ghost would be superfluous to our conscious brain

¹⁶ An omniscient God who knows everything cannot lack any knowledge necessary for making mistakes.

¹⁷ An endlessly repeating block life does not mean that you have memories of your entire life being repeated endlessly. Because a block life consists of all your experiences past, present and future contained within our block universe, then you cannot have a past memory of an entire block life episode because you would be dead by the time you reached the end of all the memories contained within your block life episode.

without any ability to cause anything different than what our physical brains do giving you no good reason to believe in the existence of trans-physical beings or ghosts. Indeed, our lives or soul in our block universe can be thought of as information packets appearing in spacetime through the dimension of time. God is certainly capable of resurrecting our information packets or soul in an afterlife as a bodily resurrected human being in Heaven or Hell. There is no need for a trans-physical being or ghost in order for us to be resurrected in the afterlife.¹⁸ So, one nice aspect of the philosophy of superdeterminism is that there is no need to fear ghosts, which are also unnecessary for bodily resurrection to occur in the afterlife.

¹⁸ Jesus after being resurrected from the dead denied being a ghost. Luke 24:39.