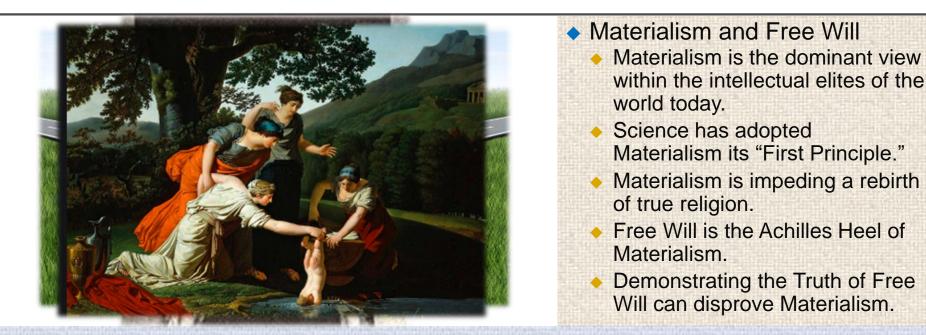
Is Free Will an Illusion?

Scientific Symposium November – 2019

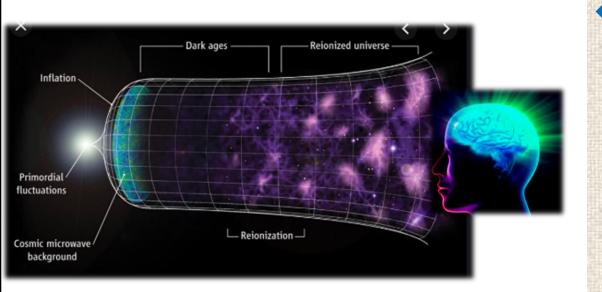


Is Free Will an Illusion?



"The pursuance of future ends and the choice of means for their attainment are the mark and criterion of the presence of mentality in a phenomenon." William James

What is "Libertarian" Free Will?

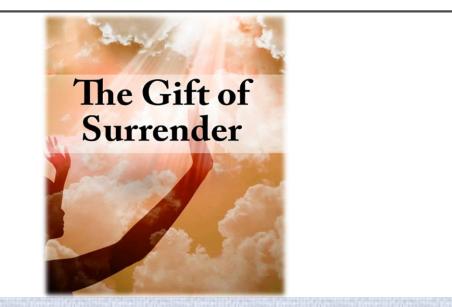


Libertarian Free Will requires:
 "Substance" Dualism.

- Interactionalism (between immaterial mind and material brain).
- That the universe is not causally closed.
- That determinism is false.
- That materialism is false.
- Probably involves quantum mechanical indeterminacy.

Definition: Given identical circumstances in the past, could you have done otherwise?

Why is Free Will Important? - Free Will is a Gift to God



A Free Will choice to do the will of God is a gift to God.
A Free Will choice to do the will of God is a responsibility to God.
Free Will goes to the heart of why "Will Creatures" were created.

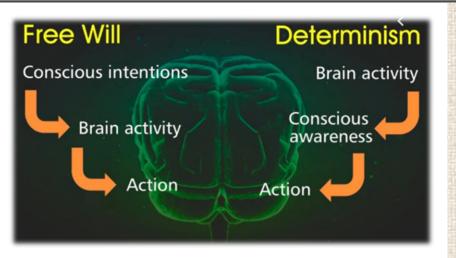
"The affectionate dedication of the human will to the doing of the Father's will is man's choicest gift to God. In fact, such a consecration of creature will constitutes **man's only possible gift** of true value to the Paradise Father." [1.1.2 (22.5)]

"It is this very power of choice, the universe insignia of freewill creaturehood, that constitutes man's greatest opportunity and his **supreme cosmic responsibility**." [112:5.5 (1233.1)]

Is Free Will an Illusion? What do Neuroscientists and Philosophers of Mind Think about Free Will?

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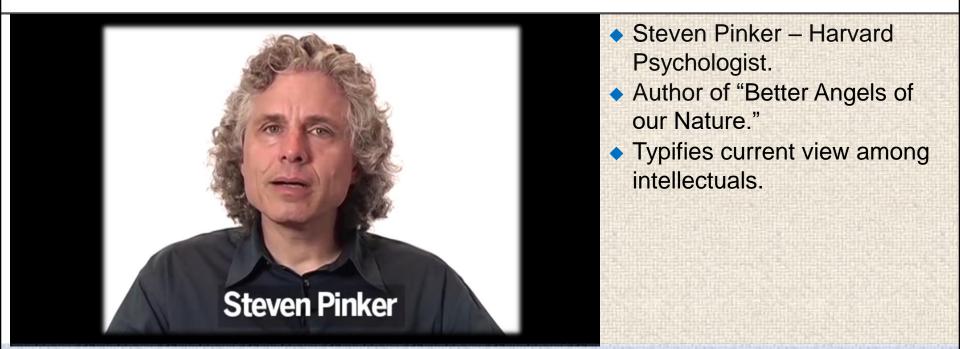




Majority of academics are Materialists and accept the determinism of "classical" Newtonian physics with fixed laws.
Determinism holds that for each instant in time the behavior of all material particles in the universe are determined by the previous instant in time. And that previous instant and so on back to the initial conditions of the big bang.

 Going forward, the behavior of all universe material particles is determined for each instant in time from past antecedent causes.
 Quote below typifies current view.

"There is a causal relationship between the big bang and us. In other words free will is not allowed and all of our actions are just a mere consequence of that first event. Such a view is know as determinism." Alfredo Metere Senior artificial intelligence research scientist at Cosmos



"I don't believe there's such a thing as free will in the sense of a ghost in the machine a spirit or soul that somehow...pushes buttons and pulls levers of behavior. **There's no sense that we can make of that**. I think our behavior is the product of physical processes in the brain." Steven Pinker



 Donald Hoffman cognitive scientist from University of California Irvine.
 Says that very few neuroscientists or philosophers of mind believe Libertarian Fee Will is true.
 Libertarian Free Will requires dualism.

"The theories of free will are: determinists, compatibilists and **libertarians**. [Libertarianism holds] that free will somehow rises above the plane of cause and effect of the physical world [and it is a point of view that] **no self-respecting neuroscientist or philosopher** takes. It's not among academics a credible view partly because it's dualist." Donald Hoffman



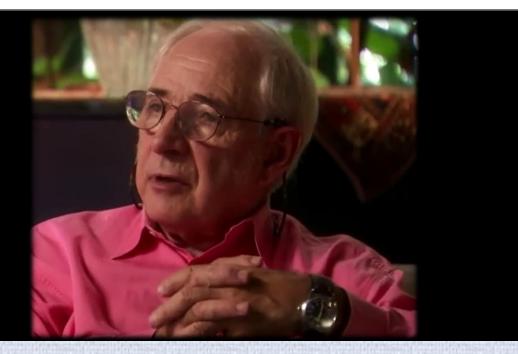
 Stuart Hameroff – Anesthesiologist University of Arizona. Contributed to Sir Roger Penrose's Orchestrated **Objective Reduction theory of** consciousness and free will. Conscious moments are caused by a collapse of the quantum wave function in microtubules of neurons. Free Will requires quantum effects with a backward reference in time.

"The main stream approach is that consciousness is epiphenomenal...after the fact, having no bearing, just along for the ride...the foam on the wave, the stream from an engine...and we do not have free will. Stuart Hameroff



 Galen Strawson – Philosopher of Mind University of Texas Austin. Notable advocate of "Panpsychism," the belief that all material entities have some form of consciousness (comes from the fact that quantum "decisions" are made for micro particles in the quantum wave function collapse).

"I would say that there is a fundamental sense in which free will is impossible and it doesn't make any difference whether the world is determined or not. At the same time, I think we can't help believing we've got it. It's perhaps **the most dramatic irresolvable clash in the whole of philosophy**." Galen Strawson



 John Searle – Philosopher from University of California Berkeley.

> Famous for his "Chinese Room" rebuttal of the Strong Artificial Intelligence (AI) position based on the "*Turing Test*."

Believes that the Free Will problem is a "**scandal**." Very little progress has been made.

"I can't see that we have made any advance [in understanding free will] in the past, let's say hundred years or even a couple of hundred years, over what went on in the previous history of philosophy." John Searle



John Searle on compatibilism.
States that most philosophers of mind are "compatibilists."
Believes that compatibilism is a "cop out."

"Most philosophers think this problem has been solved by something called 'compatibilism'...if you understand what these words mean...free will and determinism are really compatible. To say that you have freedom is just to say you're determined causes such as your desires instead of somebody putting a gun at your head. I just think that's a **cop out**; **compatibilism just evades the problem**." John Searle



 Daniel Dennett – Philosopher Tuffs University.

- Author of "Consciousness Explained" and "Darwin's Dangerous Idea."
- Is a compatibilist; determinism is true but we have "free will."
- Claims evolution programmed humans to avoid things. Avoiding is not the same as determined.
 But evolution is specific. It can't program general features. That would require foresight.

We have to **make free will compatible with determinism**. We are not going to say that our actions are not determined, but we are going to show that they are not "inevitable." Inevitable means unavoidable. What evolution has done is design organism that do a little bit of avoiding. You avoid something by anticipating it and taking corrective measures...free will is our capacity to see probable futures in time to takes steps to insure that something else happens [ducking to avoid a brick]. Daniel Dennett



 Sam Harris – Stanford neuroscientist. One of the "Four Horsemen of the New Atheist" movement." Author of "Free Will." Believes:

 Claims that moral Responsibility is not possible without Libertarian Free Will and Libertarian Free Will is an illusion.
 Western civilization and all societies are founded under the unspoken belief that we have Free Will.

"How can we be free as conscious agents if everything that we consciously intend is caused by events in our brain **that we do not intend** and of which we are entirely unaware? **We can't**."

"Either our wills are **determined** by prior causes and we're not responsible for them or they are the product of **chance** and we're not responsible for them." Sam Harris



"It is tempting, indeed irresistible, to think that **the explanation of the conscious experience of free will must be a manifestation of quantum indeterminism** at the level of conscious, rational decision making....[However,] if quantum indeterminism amounts to randomness, then quantum indeterminism, seems useless in explaining the problem of free will because free actions are not random." John Searle

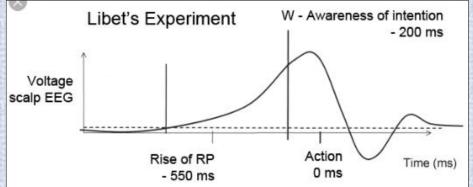
"The philosophers' key assumption that the past completely determines the future is not supported in modern physics. Their arguments that free will does not exist were based on a false premise. We cannot conclude that free will exists, but we can conclude that nothing in science rules it out." Richard Muller, Physicist University of California Berkeley

Is Free Will an Illusion? Why do Neuroscientists & Philosophers of Mind Believe Free Will is an Illusion?

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- Benjamin Libet "Motor" Experiments:
 - Placed detectors on skull to monitor brain activity.
 - Instructed subject to watch clock and report when they decide to flex their wrist.
 - Monitored on the wrist to detect muscle movement.





Results:

- "Readiness Potential" (RP) occurs prior to conscious awareness.
 - Conscious awareness (W) appears ~200ms following Readiness Potential.
- The wrist flexes ~300ms after conscious intent (awareness).



Stuart Hameroff:

States that "sensory" experiments show that "Evoked Potentials" from outside stimulus (talking) occur well before conscious awareness and after a response is initiated. Notes that there is no brain activity associated with the response that must have proceeded Evoked Potential.

"If you and I are talking back and forth and I answer right away, if **you analyze the activity of my brain for what you said it happens after I've responded**. So the answer in mainstream neuroscience is that I answer non-consciously and have an after-the-fact illusion of control." Stuart Hameroff



 Sam Harris Thought Experiment:

- "Think about and select any city in the world."
- Believes that this exercise shows that we do not have free will because thoughts arise without direct conscious control.
- Notice that you mind gave you cities not states, zip codes or area code.

"Even if a conscious intention was truly simultaneous with its neurological underpinnings, there would still be no room for free will...because **you still wouldn't know why it is you do what you do**. You as the conscious witness of your inner life are **not making these decisions**. **You can only witness these decisions**. Actually our experience in life is compatible with the truth of determinism." Sam Harris

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 Peter Hacker – Philosopher of mind.

> States that voluntary actions do not have to be preceded by conscious acts of will.

"Well that presupposes that every voluntary movement of mind is preceded by an act of will or an active decision. And that's just false. I am after all **talking perfectly voluntarily to you at the moment but my speech is not preceded by individual acts of will**. So there's a misunderstanding about what exactly voluntary action is..." Peter Hacker



 Jordan Peterson – Psychologist University of Toronto.

- Libet experiments to do not deny free will.
- Says that routine actions are rehearsed and prewired in the brain for unconscious action. Subjects in Libet experiments are disinhibiting an automated response (e.g. flexing their wrist) while they focus their attention on the clock.

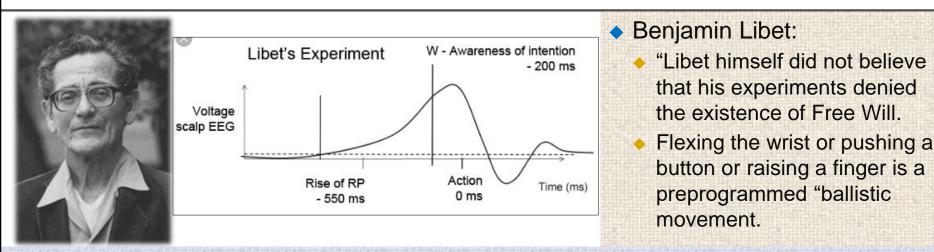
"When I plan...a ballistic movement...there's no calling it back. I've organized the neurological and muscular sequences that enable that action before it's implemented...The issue of when you **lift your finger**...requires pre-programming to disinhibit...you **have an automated circuit to this sort of thing." Jordan Peterson**



 William Lane Craig – Philosopher and Christian Apologist.

- Conjectures that the soul or mind makes decisions prior to conscious awareness.
- Conscious awareness occurs through neural activity in the brain.

Because of the finite speed at which the neural signals travel along our nerves, it is no surprise that there would be **a time delay between the decision of the soul**, or the mind, **and the conscious awareness** of that state." William Lane Craig



"The subjects in our experiments reported that a conscious wish or urge to act appeared but they suppressed or vetoed that. We were able to show that **subjects could veto** ...within the interval of 100 to 200 milliseconds before the pre-set time to act. A large readiness potential preceded the veto, signifying that the subject was indeed preparing to act, even though the action was aborted by the subject...The role of conscious free will would be...not to initiate a voluntary act, but rather to control whether the act takes place. We may view the unconscious initiatives for voluntary actions as 'bubbling up' in the brain. The conscious-will then selects which of these initiatives may go forward to action or which ones to veto with no act appearing. Benjamin Libet

Is Free Will an Illusion? What is the Evidence in Favor of the Existence of Libertarian Free Will?

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Theologian Greg Boyd.

 Believes that since we seem to have free will, that this is an important piece of data that has to be taken into consideration when adopting a theory of mind.

 We all live our lives as though we have Free Will.

"The core intuition of me as a person is that I have the power to choose otherwise. Fundamental to my very experience of me being me is that I have some free choice...The way **we experience the world is certainly important data to take into consideration** when coming up with any kind of in a world view. The purpose of a theory, and that's what determinism is, is to explain the data that we experience." Greg Boyd



 Donald Hoffman on the "hard problem" of consciousness.

> States that there is no theory in science that explains how neural activity causes conscious experiences.

There's no theory that a scientist has ever come up with that explains how the neural activity could cause a single conscious experience like the taste of chocolate. Every time a theory tries to start with neural activity and give you the taste of chocolate, at the moment the chocolate appears, it's really like a rabbit popping out of the hat." Donald Hoffman



 Henry Stapp renowned quantum physicist on the Immateriality of the Mind:

> States that there is no known physical mechanism in the brain for consciousness and intentionality.

"There is **nothing in the classical conception of physically described matter** that could cause (even) a complex classically conceived high-level systems property **to embellish itself**, or endow itself, **with an experience of knowing or feeling**."

"Such a causal capacity is **not in the inventory of properties** assigned to physically described systems by classical physics. The physically described aspects of systems, as conceived of in classical physics have been stripped of any necessary causal connection to knowings or feelings. The physical aspects are both causally and conceptually complete." Henry Stapp, renowned quantum physicist



 Jeffrey Schwartz UCLA Psychiatrist - Developer of "Neuroplasticity" techniques. Says that by focusing attention you can change your brain to eliminate intrusive thoughts. Implies top down causationmind to brain-the opposite of an epiphenomenalism. A Materialist would have to invoke foresight and a fortuitous correlation between the action of the brain and the resulting thoughts in the mind.

You can **do things with your attention to change your brain**....the Striatum is the habit center in the brain...anything you do repeatedly, gets wired into that area of the brain. And that area of the brain can run the outer surface of the brain called the cortex very quickly and automatically so that you can do things automatically without having to think about it at all...its really unconscious." Jeffrey Schwartz

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John Searle:

- Substance dualism requires interactionalism from a source of agency outside the universe causal sphere.
- Claims no substance dualist has every described a theory of interactionalism between the mind and brain.
- However...importantly, the category of cause of a dualist—divine agency—would preclude scientific investigation and negate Searle's objection.

"The greatest refutation of dualism is **no one has ever given a coherent statement** of the relationship **between the mental and the physical** if they're two distinct ontological realms. How could something outside this system affect something within this system...No dualist has ever been able to give an account of how the brain can affect the mind or how the mind can affect the brain." John Searle



 Daniel Dennett – Substance dualism violates the First Law of Thermodynamics.
 Henry Stapp – No!...because of Quantum Indeterminacy.
 Physicists have long thought that

the brain was too wet and warm for quantum effects.

"No physical energy or mass is associated with [the signals from an immaterial mind to the brain]. How then do they make a difference to what happens in the brain cells they must affect if the mind is to have an influence over the body?...This confrontation between quite standard physics and dualism is widely regarded as the inescapable and fatal flaw of dualism." Daniel Dennett

"There is a loophole in Dennett's argument: **No mass or energy is required** to determine which of the set of possible states a [quantum superposition] wave function will collapse upon observation." Henry Stapp "A couple experiments proved them wrong. If you do quantum spin [experiments] through the benzene rings, which are the basis for all organic chemistry, you get quantum spin transfer which is increased by temperature (Ouyang & Awschalom). It was [also] discovered that photosynthesis in plants collects photons and transports the energy through multiple possible pathways simultaneously superposition [quantum mechanical superposition] of all of all pathways by these PI resonance rings." Stuart Hameroff

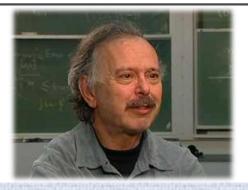


 Theoretical Physicist, Theologian, Anglican Priest and former president of Queen's College, John Polkinghorne.

> Says there is an intrinsic unpredictability in the universe that leaves open other causal principles to act.

 Quantum Mechanics would be the likely mechanism for divine action or mind brain interaction.

"There is an **intrinsic unpredictability**. It isn't a question if we calculated a bit better or we measured more exactly...the world is not merely mechanical...If you take that realist point of view you are inclined I think to interpret unpredictability...as an actual **openness** in the future. Not meaning that the future is a random lottery but that there will be **scope for other causal principles to act**." John Polkinghorne



Richard Muller, Berkeley Physicist.

 Theorizes that quantum entanglement (Einstein's "spooky action at a distance") could be a way of dualistic interactionalism; a way for an immaterial soul to interact with the physical brain without detection.

"Imagine that in addition to the physical world there is a spiritual world. This is the world in which the souls exist it is the realm in which empathy can operate and affect decisions. Imagine that the spiritual world can affect the [quantum] wave functions in the real world. The physical world can likewise inform and influence the spiritual one. In ordinary entanglement [a feature of quantum mechanics], between two particles in the physical world, detection of one of the entangled particles affects the wave function of the other. Yet that entanglement is impossible to detect or measure if you are given physical access to only the one particle. With both particles, you can see the correlation, but with only one, the behavior seems completely random.

When I try and understand my own soul...There is a spiritual world separate from the real world. Wave functions from the two worlds are entangled, but since the spiritual world is not amenable to physical measurement, the entanglement can't be detected. Spirit can affect physical behavior... I can choose to make war or seek peace through what we call free will." Richard Muller "Now, The Physics of Time"

Is Free Will an Illusion? Materialism and the Design Argument

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Materialism and the Design Argument



"God's invisible qualities, his eternal power and divine nature have been clearly seen, being understood from what has been made." Book of Romans

"The strongest argument for believing in God was always the **argument from design**. But when Darwin came along we came to understand **there is no design** in nature, only the illusion or appearance of design." Richard Dawkins, Oxford Biologist

Materialism and Neo-Darwinism

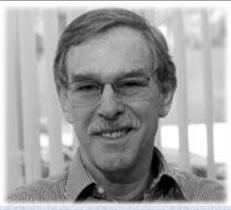


Neo-Darwinism is a (the) major pillar of Materialism.
Neo-Darwinism has always been at odds with the fossil record.
The ubiquity of parallel & convergent evolution suggest a direction to evolution—*final causes*, not *contingent causes* of Neo-Darwinism.

"Major transitions in biological evolution show the **same pattern of sudden emergence** of diverse forms at a new level of complexity. The cases in point include the origin of complex RNA molecules and protein folds; major groups of viruses; archaea and bacteria, and the principal lineages within each of these prokaryotic domains; eukaryotic super-groups; **and animal phyla**. In each of these pivotal nexuses in life's history, the principal "types" seem to appear rapidly and fully equipped with the signature features of the respective new level of biological organization. **No intermediate "grades" or intermediate forms between different types are detectable**." Eugene Koonin, Evolutionary Biologist

Materialism and Neo-Darwinism – Royal Society Evolution Gathering 2016





All the key assumptions of Neo-Darwinism have been disproven." Dennis Noble Biologist University College of London.

"Innovation, not selection is the critical issue in evolutionary change. Without variation and novelty, natural selection has nothing to act on." James Shapiro, Geneticist University of Chicago

THE ROYAL SOCIETY Schemes & Awards Topics & policy Journals New trends in evolutionary biology: biological, philosophical and social science perspectives Scientific meeting Starts Ends 17:00 07 Location The Royal Society, London, 6-9 Carlton House Terrace, London, SW1Y 5AG Overview Scientific discussion meeting organised in partnership with the British Academy by Professor Denis Noble CBE FMedSci FRS, Professor Nancy Cartwright FBA, Professor Sir Patrick Bateson FRS, Professor John Dupré and Professor Kevin Laland. ields have produced calls for revision of the standar heavy of evolution, although the issues involved amain hotly contested. This meeting presented thes nts and encouraged cross nalytical perspectives and explore the social and The schedule of talks, biographies and abstracts are available below Event organisers elect an organiser for more information ofessor Sir Patrick Cartwright FBA Bateson FRS. University University of Exeter, UK

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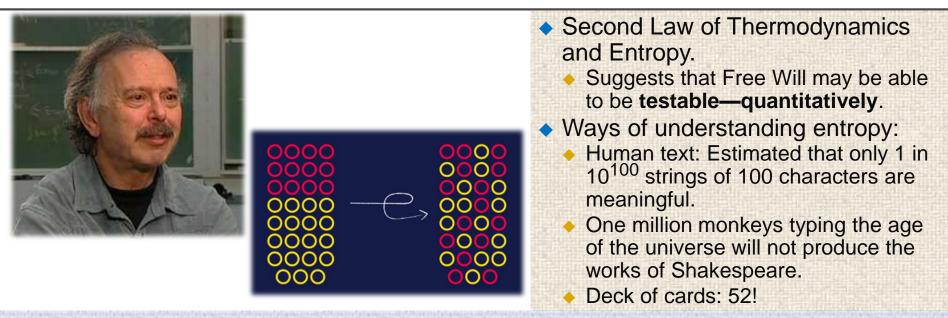
of Cambridge, UK

Is Free Will an Illusion? Can we "Prove" Libertarian Free Will?

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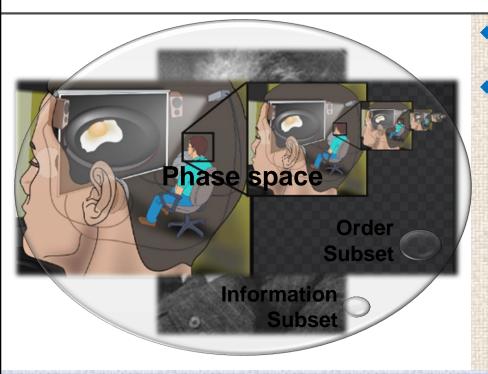
"Proving" Libertarian Free Will - Entropy



"Is the existence of free will a hypothesis that can be falsified?...at least we can consider whether a test could be done in principle...Here is my attempt:

"If humans always follow the laws of probability [related to entropy], then free will does not exist. **If humans regularly do highly improbable things**, things that are not predicted based on external influences, then such behavior constitutes free will." Richard Muller, "Now, The Physics of Time"

"Proving" Libertarian Free Will – Proof #1: Probabilities of Entropy in Thinking



What is "Thinking"? Thoughts are:
 Connected, Creative & Continuous.

Problems with material-reductionism's "mind is the brain:"

Qualia, the "hard problem" of consciousness.

- Intentionality the "aboutness" of thoughts.
- "Binding problem" thoughts would require the unification.
- Materialism account of thinking leads to an infinite regress of causes.
- Entropy Thoughts would have to involve the precise and novel arrangement of a vast number of neuronal components instant after instant.

"If your theory is found to be against the Second Law of Thermodynamics I give you no hope; there is nothing for it but to collapse in the deepest humiliation." Sir Arthur Eddington

"Proving" Libertarian Free Will - Proof #2: Introspection



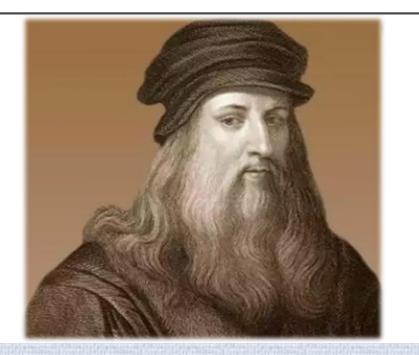
Henry Stapp:

Says that a person tends to receive insights and thoughts in their conscious awareness that they are looking for.
This negates Sam Harris's claim that because we do not know where thoughts come from, free will is an illusion.
Mind appears to have what could be called an executive function that channels our thoughts in line with our interests and values.

"In psychology the identity and form of the precept that actually enters into the stream of consciousness depends strongly on the intention of the probing mind: **a person tends to experience what he or she is looking for, provided the potentiality for that experience is present**.

The observer does not create what is not there, but does participate in the **extraction from the mass of existing potentialities individual items that have interest and meaning to the perceiving self**." Henry Stapp, "Mindful Universe: Quantum Mechanics and the Participating Observer"

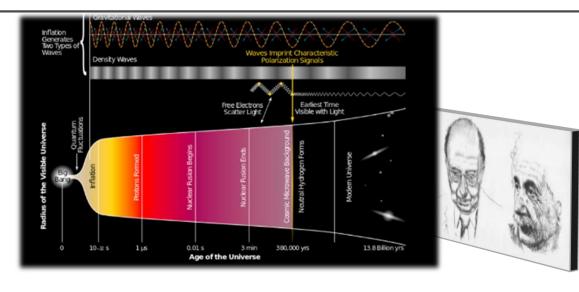
"Proving" Libertarian Free Will – Proof #3: Human Knowledge



- Do humans do highly improbable things? Yes!
- The sum total of all human knowledge, human inventions and human artistic creativity:
 - Human intellect is capable of subsuming the complexity of the known world by virtue of human understanding—human knowledge.
 The capacity of information acquired by the mind through knowledge vastly exceeds the information capacity of the DNA that Materialists purport gives rise to it.

"If humans always follow the laws of probability [related to entropy], then free will does not exist. **If humans regularly do highly improbable things**, things that are not predicted based on external influences, then such behavior constitutes free will." Richard Muller

"Proving" Libertarian Free Will – Proof #4: Final Causes

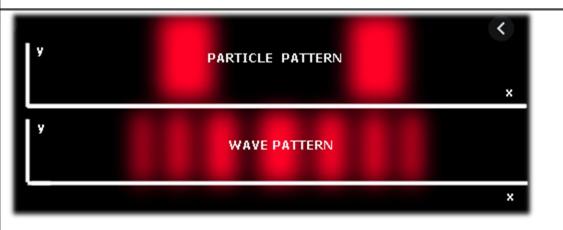


 Do humans do highly improbable things? Yes! How probable would one reasonably expect it to be, given all the ways in which the particles in the universe could have been arranged that the universe would just happen to eventuate into its own comprehension? What is the best inference: Final Causes (agency) or Necessary and Contingent Causes?

"The most incomprehensible thing about the universe is that it is comprehensible." Albert Einstein

"The miracle of the appropriateness of the language of mathematics for the formulation of the laws of physics is a wonderful gift which we neither understand nor deserve." Eugene Wigner

The "Quantum Enigma" – For Future Study



The famous Double Slit experiment shows that depending on which *decision* you make as to how to conduct the experiment you can show that a photon, electron or atom behaves as particle or a wave. The "Quantum Enigma" authors ask:

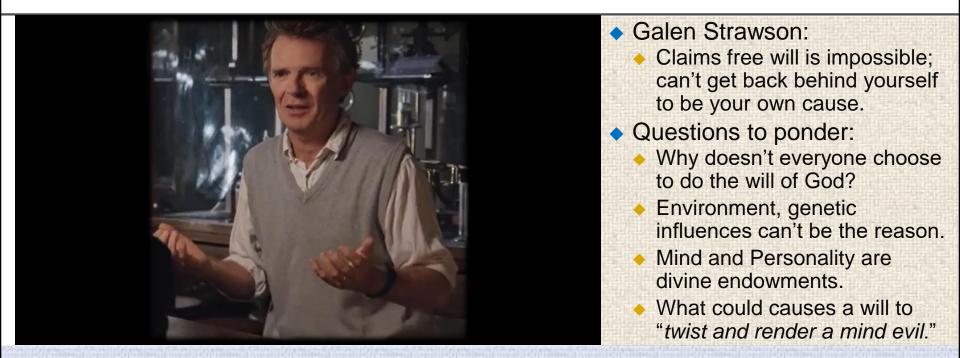
"Did your free choice determine the external physical situation? Or did the external physical situation predetermine your choice. Either way it does not make sense. This is the "Quantum Enigma." We experience an enigma because we believe we could have done other than what we actually did. A denial of this freedom of choice requires our behavior to be programmed to correlate with the world external to our bodies.

"The quantum enigma arises from our conscious perception of free will. This mystery connecting consciousness with the physical world displays physics' encounter with consciousness." Bruce Rosenblum and Fred Kuttner Is Free Will an Illusion? "The Cause of Yourself"

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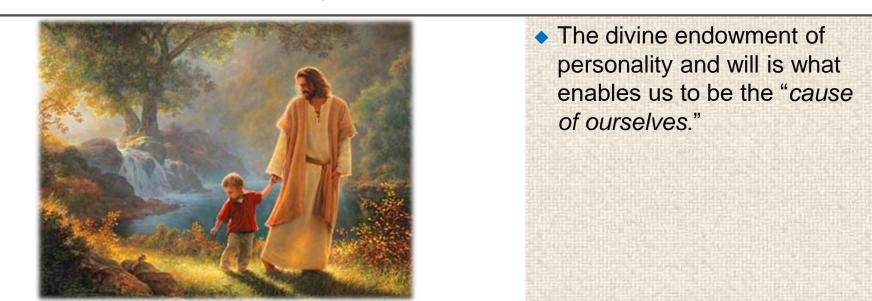


Libertarian Free Will...Personality and Will..."The Cause of Yourself"



"Whichever way it goes you've got to somehow have chosen it. But you can't choose it unless you already exist as a creature who has preferences. You just can't. There's a two-word Latin phrase, causa sui. You can't be the **cause of yourself**. But you'd somehow have to get to be the cause of yourself to take fundamental ultimate responsibility for yourself and therefore for your actions..." Galen Strawson

Libertarian Free Will...Personality and Will...The Cause of Ourselves



Man's personality is eternal but with regard to identity a conditioned eternal reality. Having appeared in response to the Father's will, personality will attain Deity destiny, but **man must choose** whether or not he will be present at the attainment of such destiny." [112:5.2 (1232.3)]