

Is Free Will an Illusion?

Free will—*true* free will, known formally as “Libertarian” free will—is best described with the following hypothetical interrogative: Given identical circumstances in the past, could you have done otherwise? The ‘common man’ on the street says yes. The vast majority of scientifically informed academicians say no. The purpose of this paper is to evaluate the evidence for and against the existence of Libertarian free will and offer a conclusion. The conclusion is that Libertarian free will is true and I offer a few “proofs” to support that conclusion. I hope these proofs will help you to counter any stubborn insistence by those with a Materialist bent in conversation. I would argue that Free Will is the Achilles heel of Materialism and if you show that Free Will is true, you have demonstrated that Materialism is false.

Libertarian free will (hereinafter referred to as “Free Will” [capitalized]) entails not just the ability control one’s actions but also to direct one’s thoughts. Physical constraints on our actions, always mentioned in discussions of free will, can be ignored. Of course we are not free to jump to the moon, of course we are not able to move if held in bondage, and of course certain passionate emotional responses and habits are difficult to overcome, etc. Softer constraints such as conforming to social norms and influenced by our history and genetic predispositions, although, perhaps curbing our actions somewhat, are not overriding considerations for Free Will.

Why is Free Will important?

Consider the following statement:

"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)]

This may be the most important statement in the Urantia Book because it goes to the heart of why we were created. Choosing to do the will of God is not only a gift but “*a supreme responsibility:*”

"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)]

It should be no surprise that we are often referred to as “*will creatures.*”

Free Will is the personality attribute that brings man to God and that can bring about an enlightened world--a planet in "*Light and Life.*" Without Free Will, there is no purpose to human existence and in fact no purpose to the universes of time and space.

The ability to think freely and control our thoughts seems to be the most important facility of our subjective conscious experience. Philosopher and psychologist [William James](#) states it this way in his seminal book, [The Principles of Psychology](#):

“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.”

The late [Charles Krauthammer](#) commented that you can [distinguish a realist from an idealist](#) by asking if they believe in the *arrow of history*. This idea of progress, not just the acquisition of knowledge and the development of material artifacts to simplify our lives, but also progress toward a set of high moral principles, grew out of the Enlightenment. It is sometimes expressed as the “perfectibility of man” a term derived from Jean Jacques Rousseau.

Metaphysical Materialism also commonly referred to as “Physicalism” and closely related to “Naturalism,” permits neither objective moral values nor Free Will. Therefore, there can be no fixed target for an arrow of history to be aimed at and no force to set it airborne toward a chosen target. Moral progress towards truth, beauty and goodness, it would seem, can only be affected by the collective Free Will of a civilization. In fact the concepts of good and evil become meaningless without Free Will. Even if a secular society were to agree on what is right and what is wrong, there would be no point to the distinction were it the case that we were entirely determined by computational processes in the physical brain.

That we have Free Will has been an underlying assumption of all human cultures. Justice is predicated on the assumption of Free Will. The ability to reason presupposes Free Will; if we cannot direct our thoughts how can it be said that we have the ability to reason?

The importance on accountability and justice of Free Will is critically important to understand. How damaging to society would it be were New Atheist neuroscientist [Sam Harris’s](#) comment below to become widely accepted?

“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.”

Recent experiments reported in Florida State Philosopher [Alfred Mele’s](#) book entitled, [Free Will, Why Science has not Disprove Free Will](#) show that once one learns that Free Will is an illusion they are more likely to cheat.

A more profound indictment of metaphysical Materialism itself, which denies Free Will, can be made by looking at the events of the 20th Century. The genocide for the Armenians by the secular Young Turks, the atrocities in China by Imperial Japan, the Gulags and great terror and the Ukrainian Holodomor by Soviet Russia, the Nazi Holocaust, Mao’s Great Leap Forward and Cultural Revolution, the unknown atrocities in Communist North Korea and Viet Nam. All principle figures were secularists who embraced metaphysical Materialism.

"During the first third of the twentieth century Urantians killed more human beings than were killed during the whole of the Christian dispensation up to that time. And this is only the beginning of the dire harvest of materialism and secularism; still more terrible destruction is yet to come."

[195:8.13 (2082.5)]

WHAT IS THE CURRENT VIEW AMONG SCIENTISTS AND PHILOSOPHERS OF MIND?

If the hope of humanity rests at least in part on the presumption of Free Will, and if the 'common man' on the street believes we have Free Will and given that we all behave as though we have it, why then do the vast majority of neuroscientists, about 98% according to Professor of Cognitive Sciences [Donald Hoffman](#), of the University of California Irvine [insist that Free Will is an illusion?](#)

I can offer a couple of reasons. There are some scientific experiments that seem to support the notion that we are programmed to act unconsciously. These experiments show that actions precede conscious awareness. I will discuss these in the next section. For the moment I can say that a principle reason Free Will is almost universally denied in academic circles is because Western intellectuals have wholeheartedly embraced metaphysical Materialism which adopts determinism—necessary causes—as its primary category of cause and therefore denies the creative causes of agency—Free Will. And the trend toward Materialism seems to be increasing since the Enlightenment. Christian Apologist philosopher [William Lane Craig](#) describes this in a [lecture](#):

"The reason for the dominance of determinism is physicalism or materialism. They do not believe that there is a mind or a soul distinct from the body. If you are not a dualist with respect to mind and body then you are going to be stuck with determinism."

Furthermore, another common stumbling block for many scientists who admit that there are reasons to doubt that science can explain all aspects of reality is that they just don't know what to do with the idea of an immaterial, pre-existent Creator because it is not subject to scientific investigation. This is clear in [this exchange](#) between physicist [Sir Roger Penrose](#) and Christian Philosopher William Lane Craig. Craig commenting on Penrose's admission that the mental world—mind—constitutes a distinct category of reality, follows with this:

Craig: *"Now we're beginning to add a little more content to this notion as the Creator. This mind would have to be uncaused timeless, spaceless, immaterial enormously powerful in order to cause the ethical realm. It would have to be good, perfectly good. And to cause the mathematical realm it would have to be omniscient and so we're winding up I think with a very rich theological ultimate."*

Penrose: *"[Reality] has those three platonic aspects [mind, mathematics and the physical] and one can extend the idea of the truth if you like which is perhaps the mathematical part of me and of the platonic notions and to the other three as well...but I guess that my problem is that it [the idea of a Creator] is just, I said this before, it's just too vague to know what to do with it...you can't investigate it...it's hard to know what to do with it."*

Materialism is often contrasted with Idealism. In this contrast Idealism proposes a pre-existent conscious and minded entity—a Deity—that gives rise to material reality. So whereas, in Idealism, pre-existent mind gives rise to matter; in Materialism, mind is derived from matter.

The claim of metaphysical Materialism is that all that exists are material particles and forces applied to them. Further, Materialism claims, that the universe is deterministic—a magnificent state machine—initiated at the big bang and based on fixed physical laws. The configuration of particles at each instant in time is determined by the position of particles and the forces applied to them at the preceding instant in time, and that preceding instant was determined by the prior instant and so on all the back to the initial conditions of the big bang. Therefore, each successive instant in time is determined by the arrangement and forces of the current instant and so on moving forward to the future.

If everything is determined by the prior chain of causation and if the universe is causally closed then there is no room for Free Will, or so it would seem. Berkeley philosopher [John Searle](#), well known for his 'Chinese Room' rebuttal to the 'strong' artificial intelligence 'Turning Test,' [puts it this way](#):

“The problem is: Is it the case, for every decision that I make, that the causes, the antecedent causes of that decision, were sufficient to determine that very decision? If they are, we have no free will and it's an illusion.”

Aside from the brute acceptance of Materialism by academics, the operational assumption of research scientists is “methodological naturalism” which holds that science can only introduce physical causes into their methods. This methodological preference has gradually transformed into “ontological naturalism,” the belief that only physical (natural) things and causes actually exist.

In philosophy there is a problem in epistemology, the study of knowing, called the “Infinite Regress” problem. Were your beliefs to be subjected to a Socratic session asking *Why* continuously, eventually you would have to establish a “First Principle”, i.e. a foundational assumption to halt the regress. And this foundational assumption what your philosophy is built upon. If the assumption is wrong, then everything built upon it is probably at least somewhat wrong. And if it is wrong it should seem wrong when subjected to reason. The denial of Free Will is one such thing that seems wrong.

In the philosophy of science, that first principle has become “Materialism” or “Naturalism” or “Physicalism.” Whatever you want to call it what it means is that the Universe is comprised one thing (matter and the forces) described in the Standard Model. The existence of one thing is a monistic rather than a dualistic philosophy.

Here is a sampling of the currently accepted view:

Francis Crick co-discoverer of the DNA code and author of the book [The Astonishing Hypothesis](#), states:

“You, your joys and your sorrows, your memories and your ambitions, your sense of identity and free will, are in fact no more than the behaviour of a vast assembly of nerve cells and their associated molecules.”

Harvard professor [Steven Pinker](#) says there is [no way to make sense of a spirit or soul](#):

"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."

The denial of Free Will is nothing new. Friedrich Nietzsche in the book [Beyond Good and Evil](#) referred to Free Will as a "folly" resulting from the extravagant pride of man, a crass "stupidity." His criticism of Christianity rested largely on his denial of Free Will.

[Arthur Schopenhauer](#) called Free Will an "illusion" in his paper, [Freedom of the Will](#) presented to the Norwegian Society of Sciences:

"You can do what you will, but in any given moment of your life you can will only one definite thing and absolutely nothing other than that one thing."

Free Will is *the* central problem of philosophy and the biggest mystery according to renowned Berkeley quantum physicist [Henry Stapp](#) as stated in an article entitled, [Philosophy of Mind and the Problem of Free Will in the Light of Quantum Mechanics](#):

"The central problem in philosophy of mind is the mind-body problem: The problem of reconciling our science-based understandings of the causal structure of the physically described world, including our bodies and brains, with the apparent capacity of our conscious thoughts and efforts to cause our bodies to move in consciously intended ways."

Philosopher of mind [Galen Strawson](#) views the question of free will as [the most dramatic irresolvable clash in philosophy](#):

"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."

John Searle has [called Free Will a "scandal"](#) and goes on to say:

"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."

It seems there is an impasse: On the one hand is the strong sense we all have that we can do as we wish and on the other hand is the consensus view of science that the physical universe is deterministic and causally closed. And since we are part of that universe, so too are we subject to determinism.

Notre Dame Philosopher [Peter van Inwagen](#) expresses [exasperation](#) with the problem of free will:

"I have tried to work on this problem [free will]... to find the place that allows both free will and moral and responsibility in a world that is certainly either deterministic or indeterministic, for more than 40 years now, and I confess myself just baffled; it is just too difficult for me."

Many, if not most philosophers of mind, have ceded authority on this topic of Free Will to the neuroscientists and accepted that the mind is the brain and that it is computational. Computational processes, they believe, account for all thought as well as consciousness itself. These computational processes of the physical brain result in the emergence of what we experience as our subjective conscious experience.

Consciousness is [viewed as an “epiphenomenon”](#) by most philosophers of mind according to University of Arizona anesthesiologist, [Stuart Hameroff](#). It is a byproduct that arises but has no agency—it is read only in computer parlance. We are *“helpless spectators”* as T.H. Huxley has said.

[According to Searle](#), many philosophers of mind believe that the issue of free will has been resolved through a range of theories referred to as *“compatibilism:”*

“I should tell you most philosophers think this problem [free will] has been solved by something they call ‘compatibilism’ which says well, really, if you understand what these words mean you'll see that free will and determinism are really compatible.”

Compatibilism is an attempt to make free will *compatible* with determinism. It is therefore a way of resolving the impasse between our personal perceptions about free will and the scientific consensus. However, even if you are able to make sense of compatibilist's explanations and even if you are able to ignore the clear contradictions in their descriptions, with little more than a cursory investigation, one is left with the clear impression that compatibilism is nothing more than a way of redefining free will as decision making. [John Searle and many others agree:](#)

“[Compatibilists content that] To say that you have freedom is just to say you're determined by certain sorts of 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.”

It seems that compatibilists attempt to resolve the Free Will problem by equivocation using the term *“decision.”* The method is like a parlor game where compatibilists, most of whom subscribe to some form of the computation theory of mind, conflate *decision* making in the computational sense with the *decisions* we make in everyday thought which entail creative choices. The two are not the same; they are nearly opposites of one another. The former use of the term *decision* is algorithmic; the latter use of *decision* is creative.

To demonstrate the incoherency in compatibilism, let me turn to Philosopher [Daniel Dennett](#). Dennett is a well-respected thinker in the area of consciousness, free will and compatibilism and counts himself as one of the [“Four Horsemen” of the New Atheist Movement](#). Dennett is a vocal advocate of what has become known as an *“Ultra-Darwinism”*—holding to a strict interpretation of the Modern Synthesis (Neo-Darwinism). He believes that the mind represents the programming of the human brain through Neo-Darwinian processes. Here are some of [Dennett's comments on free will](#) and determinism:

“What evolution has done is designed organisms that do a little bit of avoiding. And there's been an arms race and the avoiders have become cleverer and cleverer on how you avoid something. You avoid something by anticipating it and then taking corrective measures right. The simplest case...an

incoming brick. You see it and duck to avoid it. You say well you see I avoided that incoming brick. Well was it ever really going to hit you? No, because the light bounced off the brick into your eyes, you saw it in time so that you ducked. So suppose you were determined to duck? Well then the brick was never going to hit you was it? It just seemed as if it was going to hit you...What we have to understand is that free will is our capacity to see probable futures; futures that seem like they're going to happen in time to take steps so that something else happens instead.” [My emphasis]

I do not find Dennett’s explanation at all insightful or correct. His claim is that this ability to “see probable futures” and “avoid” them all (ducking when a brick flies toward them) comes courtesy of Neo-Darwinian programming and further he claims that it constitutes free will “*where it counts.*”

Dennett’s primary error is in drawing a false analogy between the *programming* of a computer by a human and the *programming* that could result from Neo-Darwinian evolution. There is an important difference. Evolution by Neo-Darwinian processes occurs for a specific moment in time under very specific physical conditions in the brain relating to survival. A fundamental attribute of evolution is that it is non-directional, it has no target, it can therefore, have no foresight. But *human programming* always utilizes foresight. Computers are programmed to apply general principles to a wide variety of specific cases using the concept of variables. Programming by the naturalistic processes of evolution can only be specific to the conditions at the moment.

The neurological spike train from the eye to the optic nerve that results, from seeing a falling rock or an incoming brick that somehow leads to a cascade of unconscious events in the brain causing the person to duck, is specific to that single instant. There can be no naturalist mental mechanism that could parse out those specific events in the brain to analyze them and apply them to generally similar circumstances in the future; that would be foresight. To believe that evolution can do such a thing is nonsense. Dennett’s suggestion presupposes an agency with foresight.

Quantum Mechanics and Indeterminism

If Materialism is true and given that Materialism necessitates determinism which is incompatible with Free Will, is that the end of it? A deterministic world offers a single category of causation: *necessary* causes—determinism. Are there other causes? What about the contingent causation given by the [indeterminacies of quantum mechanics](#) (also [here](#)). You might be wondering why modern philosophers of mind and neuroscientists believe in a deterministic universe and further that our minds are subject to that determinism. After all, determinism is an attribute of the old Newtonian Classical Physics. And Classical Physics has been superseded by the probabilistic indeterminacies intrinsic to quantum mechanics, right? Couldn’t these quantum mechanical indeterminacies be pressed into service to rescue Free Will? I think this question is the most important question in the nexus interconnecting modern philosophy, science and religion. However, physicists have assured neuroscientists for decades that the actions of the neurotransmitters across a neuron’s synaptic cleft—the actions that are presumed to be the cause of consciousness and thought—are [too large to be influenced by the indeterminacies of quantum mechanics](#). [Stuart Hameroff in this lecture](#) claims that that assurance is

now known to be false and counters the claim that “everyone knows that the brain is too warm and wet and noisy for delicate quantum effects” with the following remarks:

“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 (Science 301:1074-78, 2003). And then 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.”

Nevertheless, despite the debate about whether or not quantum effects can operate in the brain, it seems that if we have Libertarian Free Will, quantum mechanics must somehow play a role. Philosopher John Searle agrees:

“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.”

Substance Dualism

Libertarian Free Will is by nature dualistic. There are two forms of dualism: Property Dualism and Substance Dualism. Property dualism is purely physical—Materialistic; mental properties such as consciousness arise from the physical activities of the brain; they just have *properties* that are different from the physical substrate that gives rise to them. Substance dualism invokes an immaterial consciousness or soul that interacts with the physical brain.

Substance dualism implies interactionism; interaction between these two *substantially* different types of things—mind and brain. But interactionism conflicts with the Materialist conviction that the physical universe is causally closed. And for this reason, and because Materialism is so entrenched in the academy, [according to neuroscientist Donald Hoffman](#), no self-respecting neuroscientist today believes in Libertarian Free Will:

“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.”

The Urantia Book view of the mind, personality, adjuster and the soul, interacting with the physical brain would fall into the category of substance dualism as it entails a transcendent immaterial mind Personality and Will interacting with the physical brain.

“Human consciousness rests gently upon the electrochemical mechanisms below and delicately touches the spirit morontia energy system above.” [111:1.5 (1216.6)]

Before leaving this section to discuss the evidence for and against Free Will, it is important to point out that as long as the indeterminacies of quantum mechanics are accepted as they are in the most prevalent view—the Copenhagen interpretation—it cannot be said that science has ruled out Libertarian Free Will because the universe is not deterministic. The indeterminacies of quantum mechanics are demonstrated by the fact that identical particles, in identical conditions, behave differently according to Berkeley physicist [Richard Muller](#) in his book, [Now, The Physics of Time](#):

“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.”

WHAT IS THE EVIDENCE AGAINST FREE WILL?

If Materialism is true, then determinism is true where it counts for the mind-brain problem. And if determinism is true, then Libertarian Free Will is false. Therefore much of the evidence against Free Will is evidence showing that the mind is reducible to the physical brain. If scientists can show that the physical brain accounts for all of our conscious experience then they have also shown that Free Will is an illusion. Neuroscientists believe they have demonstrated this using a variety of techniques involving the monitoring of brain activity with fMRIs and EEGs, stimulating the brain and perturbing the brain. There are other common observations as well that at first thought appear to support the notion that the mind is reducible to the physical brain.

Mind / Brain Correlations - Phineas Gage

In talking about the effects of brain on thought, you can always expect the name of Phineas Gage to be entered into the discussion. As [Wikipedia describes it](#):

“Phineas P. Gage (1823–1860) was an American railroad construction foreman remembered for his improbable survival of an accident in which a large iron rod was driven completely through his head, destroying much of his brain's left frontal lobe, and for that injury's reported effects on his personality and behavior over the remaining 12 years of his life—effects sufficiently profound (for a time at least) that friends saw him as ‘no longer Gage.’” The article goes on to say that “Gage's physical and mental condition shortly before his death implies that his most serious mental changes were temporary.”

In my view, the most interesting thing about Gage's case, as it relates to Materialism's claim that the mind is the brain, is not that his behavior was affected, but that its effects were relatively minor and short lived. Phineas was still a conscious living human that could carry on about his work albeit with less civility and decorum as usual. A Materialist should find it remarkable that Phineas would have any mental capabilities at all given the severity of the injury. After all, if the brain is all there is, and if it is a fine-tuned machine programmed over millions of years of evolution, we should expect that any severe aberration would destroy the delicate operation of what would have to be a large number of very specific electro-chemical interactions.

Mind / Brain Correlations - Neuroscience Experiments

There are three categories of correlations that come about from neuroscientist's research: *Recording*, *Stimulation*, and *Lesion* according to [Gary Schwartz](#) professor of psychology, medicine, neurology, psychiatry and surgery at the University of Arizona. Neuroscientists *Record* brain activity using electronic equipment such as EEG and fMRIs to show that brain activity is associated with specific sensory objects. They *stimulate* various areas of the brain using electrodes or magnetic coils to induce various visual sensations. Neuroscientists can even remove various regions of the brain to show there is a loss of specific capabilities—*lesion*. There is no question that this research shows that effects on the brain affect our mental experience and that our mental experiences are correlated with specific

regions in the brain. However, no substance dualist would claim that the brain does nothing and it should always be remembered that correlation is not causation.

Schwartz points out that these three techniques—recording, stimulation, lesion—would apply to electrical engineers who could demonstrate these same types of correlations with television sets. Electrodes can be placed on specific components in TV circuits and monitor the visual images on the screen. They can stimulate selective components of a TV using electrodes placed inside the TV set or magnetic coils placed outside a TV to stimulate specific circuits to replicable patterns seen on the TV screen. Finally, Schwartz points out, that electrical engineers can remove various components from the TV to affect the visual images on the screen. There are a number of other analogies, radio, piano...that can be brought to bear showing that correlation is not causation.

My view is that all this research attempting to establish correlations between our mental phenomenon and brain activity does not provide much additional insight over what we can gain in our everyday experience. Our thinking is clearly affected by physical conditions of the brain: Whether we had a good night sleep, blood sugar levels, caffeine, alcohol, medications all affect our thinking capabilities, sometimes profoundly. Using these correlations to support the edifice of Materialism is a spectacular case of jumping to a conclusion.

Wilder Penfield

Some of the earliest experiments on open brains were conducted by neurosurgeon Wilder Penfield, who was the pioneer in epilepsy surgery in the mid-20th century. Penfield operated on over a thousand epilepsy patients while they were awake (under local anesthesia), and he stimulated their brains with electrodes in order to identify epileptic regions for surgical resection. Some claim that Penfield's work shows that Free Will is an illusion. However, a careful reading of Penfield's work shows a more ambiguous result. Penfield carefully recorded his patient's responses to stimulation. In his book Mystery of the Mind, (1975) Penfield noted:

"When I have caused a conscious patient to move his hand by applying an electrode to the motor cortex of one hemisphere, I often asked him about it. Invariably his response was: 'I didn't do that. You did.' When I caused him to vocalize, he said: 'I didn't make that sound; you pulled it out of me.'"

Stoney Brook neurosurgeon [Michael Egnor](#) commenting on Penfield's experiments remarks that Penfield never encountered a patient who, with stimulation of the brain, thought that he (the patient) had willed it. The patient could always distinguish between acts he willed himself and acts imposed on him by the surgeon's electrode. [Egnor goes on to say](#):

"My own experience (much more limited than that of Penfield, as I am not primarily an epilepsy neurosurgeon) has been the same. Patients can always distinguish evoked responses from voluntary willed responses."

Sam Harris Thought Experiment

More directly related to the Free Will question are the thoughts of Sam Harris who is one of the “[Four Horsemen](#)” of the [New Atheist movement](#). In his book, [Free Will](#), Harris claims that because “*we don’t know why we think what we do*” that this is a defeater of the idea of Free Will. In [this lecture](#) Harris brings forth a couple of points related to a thought experiment about selecting any city in the world:

- You don’t know why you did or thought what you did. Your conscious awareness just becomes aware of these thoughts.
- Cities that did not occur to you that you knew of could not have been chosen; you neuro-biology precluded them.

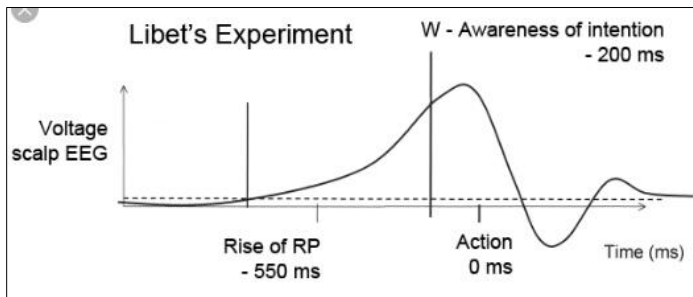
Do Harris’s points negate Free Will? No. This relates to a comment that neuroscientist Benjamin Libet makes (discussed below) about thoughts “bubbling up.” I will have more to say about this in the final section of this paper. For now I can say that Harris’s expectation is unrealistic. Our conscious selves are time based. Thoughts are serialized through the brain as they are instantiated in language. Therefore, we can only be presented with a single thought at a time. Yes it is true, that if you are trying to think of a city, and if Cairo (Harris’s example) does not occur to you, you will not have the will to select Cairo. Your mind presents to you—your conscious awareness—various items of interest, but it can only present you with one item at a time. Notice, however, that your mind presents you with what you seem to be looking for; your mind (the minds of those in Harris’s audience) did not present them (or you) with nations or zip codes in the exercise—only cities; more about this in the final section.

Benjamin Libet “Motor” Experiments

Experiments conducted by [Benjamin Libet](#) and others like it appear to show that our actions are determined by physical phenomena in the brain. Libet was a researcher at University of California at San Francisco. Libet’s experiments formed the second main premise of neuroscientist Sam Harris’s book, [Free Will](#) which sought to debunk the notion of true Free Will. These Libet type experiments are often put forth as evidence against Free Will by philosophers of mind.

Libet was trying to establish correlations between brain activity and conscious experience. The most important of these experiments involved measuring electrical activity in the brain when volunteers were asked to flex their wrist. He used electrodes attached to the brain to detect brain activity and a sensor to detect muscle movements in the wrist. Libet had a fast moving clock that the subject was to view and make an assessment as to where the clock was when they had a conscious intention to flex their wrist. All three sensors were synchronized with one another so that correlations in time could be made. What Libet found was that there was brain activity associated with the act of flexing one’s wrist about a 200 milliseconds *before* one’s conscious awareness of the intent to flex their wrist. He called this preceding brain activity the “*readiness potential*.” The measurement of the wrist, indicating that the wrist was flexed, occur about 500 milliseconds after the readiness potential was observed. This was unexpected. What one might expect from a substance dualist perspective at first thought is that the

awareness or intention to move would *precede* the brain activity and then the wrist would move. But that is not what happens.



The experimental results have been duplicated many times using the more accurate functional MRI machines. In some cases, the brain activity is said to precede the conscious intent to move by a few seconds. From these experiments, Harris and others, advancing a Materialist, atheist agenda, have concluded that there is no Free Will. Neuroscientist Sam Harris in his book, [Free Will](#) states the following:

“These findings [Libet experiments] are difficult to reconcile with the sense that we are the conscious authors of our actions. One fact now seems indisputable: Some moments before you are aware of what you will do next—a time in which you subjectively appear to have complete freedom to behave however you please—your brain has already determined what you will do.”

Interestingly Libet himself did not believe that his experiments disproved Free Will. In fact Libet defended the idea of Free Will and thought that his experiments confirmed Free Will—actually something he called “Free Won’t.” With a bit of self-reflection, one can understand why. The following are some of the essential statements of Libet’s summation of his experiments:

“Potentially available to the conscious function is the possibility of stopping or vetoing the final progress of the volitional process, so that no actual muscle action ensues. Conscious-will could thus affect the outcome of the volitional process even though the latter was initiated by unconscious cerebral processes. Conscious-will might block or veto the process, so that no act occurs.”

“The existence of a veto possibility is not in doubt. The subjects in our experiments at times reported that a conscious wish or urge to act appeared but that they suppressed or vetoed that. In the absence of the muscle’s electrical signal when being activated, there was no trigger to initiate the computer’s recording of any RP (Readiness Potential, i.e. the electric signal detected in the brain of the intention to act) that may have preceded the veto; thus, there were no recorded readiness potentials with a vetoed intention to act. We were, however, able to show that subjects could veto an act planned for performance at a pre-arranged time. They were able to exert the 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, then, 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 an action or which ones to veto and abort, with no act appearing.

"My conclusion about free will, one genuinely free in the non-determined sense, is that its existence is at least as good, if not a better, scientific option than is its denial by determinist theory."

I think Libet's conclusion stated above is essentially correct. We freely choose whether or not to act on the impulses that "bubble" up in our unconscious mind—we have veto power; some have referred to this as "*Free Won't*." But there is more involved as we will discuss the final section of this paper.

Another important point to be made is to distinguish between a consciously willed action and an action that, though not consciously willed, may nevertheless be a volitional act of will. It is not always the case that a willed action is conscious. Philosopher of mind [Peter Hacker](#) makes this clear when [commenting on the Libet experiments in an interview](#):

Interviewer *[English is not his primary language]: "Let's go into the very famous experiments. It's been repeated many times. Even before someone decides [to] push the red button or the green button, the hand already moves. So you haven't decided yet...and the hand already moves. So many neuroscientists say your body already shows the decision before your mind is even involved."*

Hacker: *"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 and it's only because of that misunderstanding that they can think that they have adequate data to show that the brain decides and later on lets you know that a decision has been made."*

I believe Peter Hacker is absolutely correct. You can conduct an experiment to demonstrate this to yourself. Try switching which hand you use to control your computer mouse. You will notice that the actions directing your mouse with your primary hand enables you to multi-task; the mouse control is unconscious. Whereas when you change to your other hand you have to consciously think and focus your attention on each movement—at least for a time. Voluntary, willed actions become rehearsed, over time to become seemingly involuntary. Typing while writing a paper is another example. Clinical Psychologist [Jordan Peterson](#) from the University of Toronto, [describes this phenomenon quite well](#):

"I take my arm and I go like this (bringing one fist down near to the top of the other). You see there's a movement like that and then my hands stopped just before my other hand. Now it takes a certain amount of time for the neural messages to go from my brain to my arm and back and the time it takes my hand to go like this and stop is actually shorter than the time it takes a message to get to my brain and back. So what that means is that when I plan this movement, which is called a ballistic movement...there's no calling it back. I've actually organized the neurological and muscular sequences that enable that action before it's implemented. I set all that up and then it's released and the whole thing cascades and so once the action has been released...I don't really have any free will because I can't stop it. Now so you think about that, it looks like there's a temporal

gradient with regards to free will in that as you look out into the future, perhaps the farther out you look into the future...the more free your choices are. But the closer they get to implementation, the more they become deterministic, governed by standard causal processes. There's some transition point where they change for being what we would describe as choice."

This ability to multitask is critical to many aspects of our lives. Musicians can do multiple things at once. An example here is [Don Henley of the Eagles singing Hotel California as he plays the drums](#). He has one foot to control the "high hat," another to control the base drum and two hands to control the drum sticks, all while singing. I doubt anyone would claim that his actions aren't *willed*...directed, despite much of them being unconscious.

And a further point could be made here. It seems to me that the Libet experiments may have a design flaw in light of the comments by Jordan Peterson. If a subject is asked to look at a fast moving hand on a clock while also preparing what is claimed to be a will action of flexing their wrist, might it be the case that the participant is focusing his/her attention on the moving hand to make sure he records the proper point where he assesses he/she has made the choice to flex his wrist? And therefore the movement of the wrist "a ballistic movement" is made unconsciously.

Philosopher Alfred Mele identifies several objections to Libet's and its use in denying Free Will in his book entitled, [Free Will, Why Science has not Disprove Free Will](#). Here is one of the key objections:

"Libet's experiments used a signal to tell a computer to make a record of the preceding couple of seconds of electrical activity. The signal Libet used was the muscle burst [in the wrist]. So we don't know whether sometimes—even though the person didn't go on to flex—there was brain activity [readiness potential] like what was going on in the participants half a second before they flexed."

Mele's point is good. If the person does not flex their wrist there would be no trigger to record the data. In these cases there could have been a readiness potential measured in the brain which may show that the readiness potential was not always correlated with an intention to flex the wrist.

Philosopher William Lane Craig addresses the Libet experiments and [offers a substance dualist view of the architecture of the brain](#) where by the Soul makes a free choice which is propagated through the neural circuitry of the brain to inform our consciousness. In Craig's view the decision making Soul—analogue to the Personality and Will in the Urantia Book—would make the decision but conscious awareness is something else, some other function. And it takes some time for the decision to propagate through the brain to the conscious awareness. I think Craig is essentially correct but I think there is something missing that I will return to in the final section of this paper.

Benjamin Libet "Sensory" Experiments, Free Will and Quantum Backward Time Effects

There is another category of experiments that Benjamin Libet conducted. University of Arizona anesthesiologist Stuart Hameroff refers to these as Libet's ["Sensory" experiments](#). These experiments have the peculiar characteristic of showing that brain activity (*evoked potential*) of an external stimulus occurs after the response to the source of the stimulus. Conscious awareness "*occurs too late,*" after

the action has been initiated. This indicates that we respond unconsciously and that consciousness is an epiphenomenon and therefore that free will is an illusion as Hameroff reports:

“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 reflexively non-consciously and have an after-the-fact illusion.”

Hameroff's comments are based on several research studies showing that in normal conversation, verbal responses begin to occur prior to the neural activity that is associated with the received audible input as explained in [this article](#):

“In speech, evoked potentials (EPs) indicating conscious word recognition, occur about 400 ms after auditory input, however semantic meaning is appreciated [and response initiated] after only 200ms. ... Even when contextual effects are considered, semantic processing and initiation of response occur before conscious recognition (Van Petten et al., 1999).”

Interestingly, as [Hameroff points out](#), there is no detected brain activity associated with the unconscious response. Perhaps then, Materialists have jumped to the conclusion that Free Will is an epiphenomenon based on this research. But let's assume for the moment that this inversion of what one would expect is true. Hameroff and physicist Sir Roger Penrose have proposed a novel and detailed theory of consciousness that offers an interesting quantum mechanical phenomenon to “rescue” libertarian Free Will in light of these Libet sensory experiments.

The Penrose–Hameroff [theory of “orchestrated objective reduction \(ORCH OR\)”](#) [and [here](#)] *“identifies discrete conscious moments with quantum computations in microtubules inside brain neurons.”* Microtubules are proteins that form lattice structures in living cells. They can take on various patterns which can, according to Hameroff, become a source of quantum computing. Microtubules within and across neurons can become quantum mechanically entangled and exist in a quantum superposition state until they collapse “reduce.” The collapse of the quantum wave function (of the superposition state of these microtubules) is not caused by a conscious observer as some speculative proposals about quantum mechanics have suggested. But rather, consciousness arises as a *result* of the collapse of the quantum wave function of microtubules in quantum superposition. The quantum wave function collapse is precipitated by a threshold proposed by the Penrose theory as the superposition of the microtubules become unstable. This is the OR (*Objective Reduction*).

Penrose and Hameroff point out that whereas proposals which hold that the conscious observer causes the collapse of the quantum wave function are outside of science, the ORCH OR proposal is within science in that the collapse of the wave function comes from and Orchestrated by configurations in space time geometry and causes consciousness.

Discussion of ORCH OR is well beyond the scope of this paper but it represents an interesting approach to the latency problem of Free Will related to Libet's sensory experiments. Hamerhoff, commenting on these Libet “Sensory” experiments that seem to show that the conscious awareness

comes too late (for consciousness to be able to control), [explains how the phenomenon exhibited by the quantum delayed choice eraser experiment can rescue free will](#) (and the article [here](#)):

Hameroff: *“In quantum effects, a conscious observer can make a choice how to measure a particle afterwards and determine its behavior. This idea of backward time effect is probably intrinsic in entanglement according to Roger [Penrose] and occurs in the brain and can rescue conscious free will because if you have this backward time effect it means that the activity of my brain can actually send the results of a conscious decision backward in time so I can answer you in real time in conscious control.”*

Kuhn: *“To claim that freewill can only be rescued by backward causation is a neon sign that says we have no blankety-blank idea of how this thing works.”*

Hameroff: *“I disagree. I think we know how it works.”*

Hameroff is referring to recent research that clearly verifies this backward time effect or “*history creation*” as University of California at Santa Cruz physicists (the late) Bruce Rosenblum and Fred Kuttner discuss in their fascinating book, [The Quantum Enigma: Physics Encounters Consciousness](#). This research is based on extension of the [famous double slit experiment](#), the [quantum delayed choice eraser experiments](#).

I am not qualified to evaluate or even comment much on the Penrose-Hameroff proposal other than to point out that, insofar as consciousness goes, moving the problem down to the quantum level in the microtubules does not show that these quantum collapse episodes could be stitched together to produce coherent subjective conscious experiences. It does not seem plausible to me to say that these wave function collapses could be *orchestrated* to produce coherent and unified thoughts and therefore, the proposal seems to be susceptible to the [Combination-Binding](#) problem. Moreover, it is one thing to suggest that the shape of a flower could be represented in space time geometry in microtubules but another thing to say that some abstract thought, such as the concept of liberty, could be represented spatially. In Aristotelian terms, the shape of a flower would be a “*particular*” whereas the concept of liberty would be a “*universal*.”

As we saw from William Lane Craig’s comments above, if we envision the correct architecture for a dualist solution, perhaps it is not necessary to appeal to quantum backward time effect. Much of the confusion related to free will and neural processing could be the result of incorrect views of the architecture of the self. I will return to this point in the final section of the paper.

One final note on the Libet experiments...It strikes me as odd to be discussing how these experiments disprove free will without noting that in order for the experiments to be carried out at all, a participant (and the researchers) have to *decide* whether or not to go along with the instructions; not to mention *deciding* whether or not to even show up at the clinic to begin with.

WHAT IS THE EVIDENCE FOR FREE WILL?

The most powerful evidence for Free Will is that it seems so obvious that we have it. Theologian [Greg Boyd](#) puts it this way in [describing how subjective experience cannot be ignored](#) in favor of determinism:

"I would argue that the core intuition of me as a person is that I have say-so. I have the power to choose otherwise. I can right now raise my hand or not. Fundamental to my very experience of me being me is that within the boundaries of my genetic and social and neurological conditioning, 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."

And it is hard to see how, as [John Searle puts it](#), you could give up on the idea that we have Free Will:

"We have two inconsistent views: The experience of free will gives us the conviction of free will and the general knowledge about how the world works gives us a conviction of determinism...and they are absolutely incompatible. Yes they are not only incompatible but it's hard to see how we could give up on either of them."

Viability of Materialist Claims

Important evidence for Free Will is any evidence that supports the immateriality of the mind. And there is a lot of that. Carl Sagan once remarked, *"That extraordinary claims require extraordinary evidence."* His intention was to suggest that claims about deity must pass a severe evidentiary test. Let's look at the implicit claims of Materialism as it relates to human consciousness, thought and sentience in light of Sagan's comment.

It is an extraordinary claim to say that material configurations, arrangements and motions of particles can give rise to thoughts, concepts, and memories let alone our subjective conscious experience, sense of awareness and sense of self. No scientist has ever uttered a meaningful sentence that gets at the heart of that collection of claims. They are bare assertions based on the presumption of Materialism. [Neurosurgeon Eben Alexander challenges neuroscientist Steven Novella](#) in this exchange during a debate:

"There is no neuroscientists on earth that can give the first sentence to explain a mechanism by which the physical brain gives rise to consciousness...give the first sentence of how you would trace from the physical brain that it gives rise to consciousness."

Cognitive scientist [Donald Hoffman puts it this way](#):

[Virtually all neuroscientists are] physicalists and what they think is that our brains cause our conscious experiences and our behavior. But they have no idea how....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."

What attributes of matter in motion could possibly give rise to consciousness and thought? Is it the speed of the particles moving, their collection and relative motion, the distance they travel, their trajectories? How are they bound together and unified? How is an abstract concept stored in the brain—an electro-chemical gradient of ions? How is such a stored configuration of particles instantiated serially in language through the motion of particles to produce a thought? No one has a clue. These are all extraordinary claims with no evidence whatsoever. The brain does something. Perhaps consciousness and thought are simply only mediated by the brain.

Berkeley quantum physicist Henry Stapp puts it this way in a paper entitled, [Philosophy of Mind and the Problem of Free Will in the Light of Quantum Mechanics](#):

"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."

Near Death Experiences

Near death experiences offer strong evidence that the mind is not the brain. There are many cases that could be discussed. For this paper I will only cover one case, [the case of Pam Reynolds](#), which is the most studied and storied near death case. Pam Reynold's was under deep anesthesia and her physical condition was closely monitored as she was undergoing a very risky operation to remove an aneurism deep in her brain. In order to repair the aneurism, the doctors had to chill her body to 60 degrees and remove all the blood from her brain for about an hour. This procedure is called "standstill." For about an hour there would be no molecular activity at all in her brain.

There are two striking points I want to make about this case that relate to Materialism's claim that the mind is the brain. One relates to the near death experience itself and the other to her resumption following standstill.

Pam did live through the operation and recounted what is perhaps the most spectacular near death experience ever recorded. I won't go into the details of the near death experience. However, one of the important points is that she had two out-of-body experiences, one at the beginning of her near death experience and a second as it ended. Importantly Pam claims that her near death experience was *continuous* from the time of her first out of body experience, while anesthetized but not yet in standstill, watching the doctors cut open her brain, to the second out of body experience just prior to her resuscitation. This would mean that the near death experience occurred while there was no brain

activity whatsoever—the doctors having drained all the blood from her head. However, the continuous nature of the near death experience cannot be verified. Pam’s near death experience was in 1991, Pam Reynolds has since passed away. There is no Materialist explanation that could account for conscious experience with no blood in the brain—no molecular activity.

The second point relates to the resumption of Pam’s selfhood following the standstill condition; posed as a question: What would one expect to happen, under a Materialist accounting of mental phenomena, if the precise and specific causal sequences of events and arrangements of material components in the brain, which purportedly give rise to thoughts and memories and consciousness itself, were to be disrupted in a catastrophic way? There could have been nothing like program that orchestrates an orderly shutdown of Pam Reynold’s brain given the nature of the general anesthesia, the chilling of her body and the “standstill” process with all the blood drained from her brain.

If Materialism is true then all thoughts, memories and consciousness are stored as configurations of matter, e.g. electro-chemical gradients and instantiated in through by firing neurons. There must have been countless molecular reactions interrupted, electro-chemical gradients disrupted, neurotransmitters partially constructed, aborted synapse firings, synaptic connections partially constructed as Pam transitioned through deep general anesthesia, to a cooling down of her body and to “standstill” without any blood in her brain. How could it be proposed that the same person could re-emerge from pure chaos? But [clearly that is what happened](#).

Brain Aberrations

Pam Reynold’s case involves massive disruption of the brain. A different type of physical aberration involves cases where large portions of the brain are removed or just missing. The first case I want to cover involves a normal middle aged man who was [missing most of his brain](#). Here is a quote from the article:

“How the man was able to function normally remains a mystery, but then again, so do many aspects of the brain’s operation. The best explanation scientists gave is that the brain is plastic and highly adaptable.

“While the enormous “holes” in these brains seem dramatic, the bulk of the grey matter of the cerebral cortex, around the outside of the brain, appears to be intact and in the correct place – this is visible as the dark grey ‘shell’ beneath the skull. What appears to be missing is the white matter, the nerve tracts that connect the various parts of the cerebral cortex with each other, and with the other areas of the brain.”

Another case of severe aberrations of the brain involves a young girl who had seizures on a daily basis. She had a degenerative disease on one side of her brain called Rasmussen’s syndrome. Neurosurgeons saw no other alternative but to take the extraordinary procedure to remove half of her brain. Here is a [link to a video](#) about this little girl who seems quite normal post-op. If the mind is reducible to the brain, it seems inconceivable to me that removing half of a person’s brain, would results in such minimal effects.

Neuroplasticity

Another area of research that appears to undermine the Materialist view that consciousness is epiphenomenal and support the notion of Free Will, is [neuroplasticity](#). Psychiatrist [Jeffrey Schwartz](#) of the UCLA School of Medicine in his books [The Mind and the Brain](#) and [You are Not Your Brain](#) describes these innovative practices for treating addiction and Obsessive Compulsive Disorders (OCD). Neuroplasticity involves conscious, focused mental exercises such as mindfulness and affirmation that [affect the underlying structures of the brain](#).

Habits form in the brain through repetition. Bad habits, like Obsessive Compulsive Disorders (OCD) or smoking, get wired into the brain where they become automatic and unconscious. The longer these habits are allowed to persist, the more they become entrenched and the more unconscious and automatic they become. Through Neuroplasticity practices involving focused attention such as mindfulness and affirmation, these habits and the underlying neural structures that support them, can be broken. Neuroplasticity functions through what is called synaptic pruning, where individual connections in the brain are continuously being created and removed. This is the meaning of the colloquialism *“neurons that fire together, wire together - neurons that fire apart, wire apart.”*

The practices involved in neuroplasticity appear to entail top down causation from mind to brain which strongly suggests Free Will and is prohibited by Materialistic accounts of the brain. Any Materialistic alternative would require ascribing foresight and planning to the physical brain because it would mean that the physical activity of the brain that gave rise to the mental intention to break a habit in the mind, would, out of necessity, deterministically cause the physical activity of the brain to give rise to the intended mental result later in time. There is no reason to believe that the causative chain of events in the underlying physical brain would just happen to be correlated with a desired result in the mind without invoking agency.

WHAT IS THE BEST INFERENCE FROM THE EVIDENCE?

It should be clear at this point that the scientific evidence for and against Free Will that has been brought to bear is not decisive either way. And no scientific theories or tests preclude Free Will. Most of us believe we have Free Will and all of us act as though we have it. How can we move forward from this “*scandal*” in philosophy? In this final section I offer a few “proofs” of Libertarian Free Will. However, since the near universal acceptance of Materialism among academic scientists and philosophers is impeding the acceptance of Free Will, I need to address one important matter before getting into these proofs.

The prevailing view prior to Darwinism had been that the design argument for the existence of God was an unyielding barrier against Materialism. This goes back to the Book of Romans wherein it is said:

“God’s invisible qualities, his eternal power and divine nature have been clearly seen, being understood from what has been made.”

Much of the reason for the ascendancy of Materialism and the resulting necessary denial of Free Will that has been building throughout the last century or so is the perception that Neo-Darwinism has defeated the design argument for the existence of God. This is [particularly the view of the most prominent atheists in the world](#)—Richard Dawkins for example who said:

“The strongest argument for believing in God was always the argument from design...when Darwin came along we came to understand there is no design in nature, only the illusion or appearance of design.”

Dawkins and all other Materialists view Neo-Darwinism as unassailable. However, it is not at all clear that the design argument has failed given the fine tuning of the universe forces and particle masses, the origin of life and recent research in molecular biology increasing runs counter to the assumptions of Neo-Darwinism. The fact that Materialist scientists and philosophers have [embraced the Many Universes](#) theory to negate the theological implications of the fine tuning on the one hand and the [intractability of the origin of life](#) on the other, is a good indication that Materialists are nearing a state of desperation.

Neo-Darwinism has always been at odds with the fossil record which shows [abrupt appearances](#) followed by stasis (no change). Stephen J. Gould referred to these characteristics of the fossil record, “*The trade secret of paleontology.*” And the supposed directionless processes of Neo-Darwinism are difficult to reconcile with the [ubiquity of convergent and parallel evolution](#), noted by renowned British paleontologist [Simon Conway Morris](#), which suggests a direction and pattern to the course of evolution. Furthermore, research in molecular biology over the past few decades is challenging the key tenants of Neo-Darwinism. Oxford physiologist Dennis Noble has said that, “[All the key assumptions of Neo-Darwinism have been disproven.](#)”

No wonder this new research has precipitated attempts to find a “*Third Way*” or an “*Extended Synthesis.*” In November of 2016, important members of the growing chorus of doubters of the strict

[mechanism of Neo-Darwinism met at the British Royal Society](#) met to discuss recent evidence related to the Modern Synthesis and how it can be extended—salvaged—within a naturalistic framework.

The fall of Neo-Darwinism would, I think, be the death knell of Materialism and with that, the ushering in of a new view of the Mind-Body problem and Free Will.

“Proving” Free Will

I do not believe that a spiritual renaissance can occur as long as Materialism is the accepted metaphysical doctrine among the intellectual elites in the developed world. And that is the case. I mentioned above that the fall of Neo-Darwinism could very well precipitate the decline and fall of Materialism. However, there may be another way of approaching the problem: Can the truth of Free Will negate Materialism? I believe it can and I believe to the extent that dualism still survives it is in large part because the free will problem is still unresolved in the minds of many philosophers of mind. I mentioned at the outset that I believe Free Will is the Achilles heel of Materialism and that if you could demonstrate that Free Will is true, you have demonstrated that Materialism is false. But can we prove, or least demonstrate, that Free Will is true...that it is not an illusion, beyond a reasonable doubt? I think we can; herewith:

It is always gratifying when your insights are confirmed by a notable scientific figure. The thesis of my paper presented at the previous Symposium entitled, [Is There Design in Nature?](#), was that the complexity and creativity of our mental phenomena—thought streams, dreams, mystical experiences, etc.—pose an insurmountable probabilistic hurdle for any Materialist accounting of the physical brain. Physicist Richard Muller of the University of California at Berkeley, uses the idea of probabilities to test free will in his excellent book, [Now, The Physics of Time](#), in the section entitled, Directing Entropy, states the following:

“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.” [Emphasis mine]

The Second Law of Thermodynamics and entropy are fundamental to the universe. Albert Einstein remarked that the Second Law of Thermodynamics (view tutorials [here](#) and [here](#)):

“Is the only physical theory of universe content which I am convinced will never be overthrown.”

Astrophysicist Sir Arthur Eddington commented:

“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.”

Let’s see if we can use Muller’s idea of entropy and probabilities to demonstrate that Free Will is true; to show that *“humans regularly do highly improbable things.”* How would we go about that? We need

to look for a signature of *agency* in the capabilities exhibited by humans we observe. If the universe, including humans, were entirely deterministic, in other words, if only *necessary* causes were at work, what would we expect? Does adding the indeterminacies of quantum mechanics—*contingent* causes—help? Or is there some other category of cause—*final causes, agency*—required that would indicate we have Free Will? To answer these questions we can take a few different approaches. We can look specifically at the proposed mechanism in the brain. We can look introspectively at our own inner lives. We can look at the acquisition of human knowledge. And finally we can look at the grand sweep of the universe.

“Proving” Free Will – Probabilities

Now let's understand how probabilities enter into the calculus of mental phenomena in light of Richard Muller's comments above. To understand this it is important to review just what the claim of Materialism is with respect to human consciousness and thought; not just generally but specifically. According to Materialism, thoughts are nothing but, the specific arrangements and actions of a multitude of neuronal components in the brain. The components of interest are the neurons and their electro-chemical gradients, synapses neuro transmitters whose collective arrangements eventuate in neuronal firings (For quick tutorials on neuronal functioning, refer to the videos [here](#), [here](#), [here](#), and [here](#)). We talked about the fact that neuroscientists have no idea how consciousness and thought could arise from neuronal activity. Nevertheless, this is a firmly held belief, so let's assume for the moment that specific arrangements and actions of neuronal components in the brain can produce consciousness and thought and just focus on the probabilities of producing meaningful thoughts.

What we are interested in here are the probabilities that would come into play as we experience what we perceive to be thoughts directed toward an intended end during episodes of reason. Do these continuous arrangements of neuronal components, that according to Materialism underlie our mentality, come about by some program running in the brain? Or is there some agency involved that directs them—our Free Will? How could we determine either way? One way of going about this is by using probabilities revealed by entropy.

Just as there are only a very diminishingly small number of particle microstates in statistical mechanics that yield order compared to the number of microstates that result in a disordered—equilibrium macrostate, i.e. high entropy, so too must the arrangements and actions of neuronal components in the brain that would be expected to produce meaningful thoughts be a very diminishingly small set compared to the vast number of neuronal component arrangements and actions that would be expected to yield nothing. The same thing could be said about human text, i.e. give all the ways in which a thousand letters in human language text could be arranged vs the diminishingly small set of arrangements that would yield meaning.

To claim that the probabilities are *not* vanishingly small, in other words, to say that there is a realistic probability of always hitting on a neuronal configuration and sequences of neural events that would produce meaning would run afoul of Muller's point about entropy and probabilities. It is clear evidence that humans *“regularly do highly improbable things.”* Holding the alternative view that nearly *any*

neuronal arrangement and set of neuronal actions would produce meaning would be to make one of those extraordinary claims—a spectacular claim really—that we discussed above on the context of Carl Sagan’s remarks. A key point here is that, barring seizures, there are *never any gaps* in our thoughts and our thought stream nearly always produce *novel* insights which require a *connectedness* between each discrete thought that comprises an insight. We cannot reasonably attribute these to computational programs.

But what are the essential features of this claim that I referred to as “*spectacular*” that informs us it is highly improbable? A few things: Claiming that *meaningful* arrangements and actions of neurons in the brain *always* arise, which would have to be the case in human consciousness and thought, would require a process in the brain with *foresight* and the ability to *control a vast number of components* so as to arrange them in *very specific* and *very novel* ways, instant after instant, day after day, year after year. And further, such brain control processes themselves would have to be specific arrangements and actions of neuronal components which themselves would have to have a process with foresight to orchestrate their coming in to being and operation. And so on from there for an *infinite regress* of novel brain processes with foresight. The complexity of all that would exceed the complexity and creativity of anything we know of. There has to be something else—agency—Free Will.

“Proving” Free Will - Introspection

We talked above about the Libet experiments and how these experiments appear to show that our conscious awareness appears “too late” to be consequential for Free Will and that it must therefore be an epiphenomenon. At the time we looked at William Lane Craig’s insightful comments on that and I mentioned that I would return to the topic. So now we are returning. How can we reconcile the research of Benjamin Libet which shows we act before our conscious awareness? The key to resolving this conundrum is to understand that much of our mental activity is unconscious as I quoted Jeffrey Schwarz as saying. Renowned Berkeley quantum physicist Henry Stapp, makes an interesting comment in his book, [Mindful Universe: Quantum Mechanics and the Participating Observer](#). Here is Stapp’s comment:

“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.” [My Emphasis]

I think the quality of mind that Henry Stapp alludes to is something we all encounter every day. We don’t need the biased collective insights of those in the academy to tell us otherwise. My own insights tell me that my mind will produce a steady flow of insights related to my intentions; a flow of insights that is only limited by my ability to comprehend them. We leave work and have a problem that we are trying to resolve. This could be a problem at work or home, or an idea or concept we are trying to comprehend, or an important truth we wish to ponder. Whatever it may be; our minds bring forth a continuous flow of insights related to our intention to resolve that problem or idea ultimately forming

a new set of knowledge. This is how we accumulate knowledge and invent things and create works of art. But we are not consciously willing each specific insight as [Peter Hacker stated](#). This marvelous facility of mind does that for us when conscious deliberation is not required. The routine functions of thought are carried out unconsciously but still, they are in some sense volitional because they fulfill our higher level intentions, we *“experience what we are looking for.”* It really couldn't be any other way; this quality of mind is necessary for multi-tasking as [Jeffrey Schwartz explains](#).

“That area of the brain [striatum] can run the outer surface of the brain called the cortex very quickly and automatically so that you can do very efficient behaviors quickly without having to think about them at all. In fact it's really unconscious and automatic behavior. We all have a lot of them and it helps make life much easier. Life wouldn't be possible without it. Even the act of getting out of this chair would be very complicated if you had to think through every movement to do it.”

There is, it seems, an *executive* function of the mind. This executive function seems to condition and channel our thoughts. *“What we are looking for”* are those things that are part of our value system. And this is the important feature of human consciousness and mind that is lost on Sam Harris in his thought experiment and lost on the collection of Materialist intellectuals who comment on the Libet experiments which indicate that perception of conscious choice comes *“too late.”* This executive function of our conscious minds serves our higher level intentions and directs our thought streams in such a way to provide *novel* insights. Whether these insights are embraced or discarded by our consciousness is a lower level *affirmation* function of our conscious minds, e.g. *“free won't.”* Together these two functions comprise what we think of as Free Will. How else could we account for the ability to reason without this quality of mind that Stapp refers to?

“Proving” Free Will - Knowledge

Now let's step back and look at what we observe about humanity and see if we can discover another way of determining whether or not we humans *“regularly do highly improbable things.”* We just talked about the ability to reason through novel insights that our minds seem to provide us with in our thought streams.

Consider this: “Scientism” is the belief that science is the only way to obtain truth. Many modern Materialists hold this viewpoint. Scientism's claim, therefore, is that nature is transparent to human reason. The implication of this is that scientism holds that the complexity of the universe, in effect, can be modeled and subsumed in the human mind. We have the impressive sum total of all human knowledge to attest to that. But humans exhibit sophistication in other ways through creativity such as invention of useful artifacts and artistic renderings both of which are commendable additions to the inventory of creative powers of the mind. Creativity in its very essence seems to evoke a category of cause that is neither contingent nor computational. Is Free Will a requirement to produce creative ends? It would certainly seem so and Henry Stapp's comments would certainly support that claim. It is difficult to imagine that we can attribute the painting The Last Supper to a neural algorithm running unconsciously in Leonardo Da Vinci's brain that just happened to know how to move the artist's hands in just the right ways.

But more related to the issue of the capacity of knowledge is that it is quite noteworthy, that this *information quantity* exhibited by the capabilities of the human mind—knowledge, artifacts, art forms—vastly exceeds the information capacity of the human DNA which Materialist purport gives rise to it. How can that be? It would seem to violate the law of [conservation of information](#). Can we simply dismiss this vast gulf in information quantity, between the capabilities of mind and the DNA that gives rise to it, by calling it “*emergence?*” No. Only a strong prior commitment to Materialism along with a genuine disdain for those holding the alternative viewpoint could sustain such a belief. Applying the term *emergence* in that way is a substitute for ignorance...it is an appeal to magic and unworthy of science. The acquirement of human knowledge, the invention of tools and the creation of art forms are examples of what Richard Muller would regard as “*humans regularly do highly improbable things.*”

“Proving” Free Will – Final Causes

Now let’s step back even further and look at the grand sweep of the universe and see if we can discover whether or not humans “*regularly do highly improbable things.*” We just talked about our ability to reason and obtaining novel insights to acquired knowledge. Can we extend our inference of agency to show *final causes*? Let’s now consider these statements:

In the book, [The Unreasonable Effectiveness of Mathematics](#) by quantum physics [Eugene Wigner](#), the author remarks:

“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.”

In a similar vein, in the book, [Physics and Reality](#), Albert Einstein remarks that:

“The most incomprehensible thing about the universe is that it is comprehensible.”

More recently, Physicist Sir Roger Penrose commented that:

“Mathematics seems to have its own kind of existence. It's very important in understanding physical world that our way of describing the physical world certainly at its most precise has to do with mathematics and there's no getting away from that. It's hard to talk about science really without a giving mathematics some kind of reality because that's how you describe your theories...”

In a deterministic universe, if the universe were to be rerun from the time of the same initial conditions, the result would be the same regardless of how complex things seemed to be. Even chaotic systems are ultimately deterministic other than quantum indeterminacies. Here is an interesting exchange on Closer to Truth with computer scientists and physicist [Stephen Wolfram](#):

Wolfram: *“We can know the complete rules of a system and perhaps we will know the complete rules of the universe. Yet it can still be the case that the behavior of system acts in effect as though it is free of those rules in the sense that there is an irreducible distance between the underlying rules and the behavior of the system.”*

Kuhn: “But if you play that system over and over again, it will do the same thing...And it is impossible for it to do otherwise...so that is not free will.”

Wolfram: “Yes...Well I think that is the way we work...there may not be anything actually free in the universe.”

Let’s assume for the moment that we live in a universe limited to necessary (deterministic) causes and the contingent causes associated with quantum mechanical indeterminacy. In light of what we know about entropy and probabilities, how probable would one reasonably expect it to be, given all the ways in which the particles in the universe could have been arranged and all the possible attributes they could have had, that the universe would *just happen to eventuate into its own comprehension*? Can this be dismissed as an inevitable cascade of events preordained by a deterministic universe from the initial conditions of the big bang? No. I contend that there is zero probability of this. It would be an appeal to magic to believe otherwise. There has to be agency—Free Will—to give us what we have. What we have in our ability to comprehend the universe with our minds is a supreme example of *final causes*, not contingent causes or deterministic causes. Final causes can only be the result of agency—Free Will.

The Arrow of Time and The Arrow of History

Entropy is referred to as “*The Arrow of Time*” because the transition from order to chaos—maximal entropy—is irreversible and inexorable as the steady march of time moves on. Eventually, say Materialist scientists, the universe will burn itself out and expire in a cold lifeless end. On a much shorter time scale, The “*Arrow of History*” connotes the idea of progress, the Enlightenment belief in the “perfectibility” of humankind—The *Stage of Light and Life*. So we have a perplexing mix of two phenomena related to change going in opposite directions. Ironically, entropy is at the intersection of these two currents in that its probabilities inform of us of the dismal end in the long term but can, at the same time, be used to give us hope of a better human condition—at least in the timeframes that matter to us—because they revealed to us evidence for Free Will and the immateriality of mind—bestowed by the preeminent mind of God who has a plan—a final cause to bring out the kingdom of heaven on earth in the hearts and minds of His will creatures.

Causal Closure of the Universe

There is one key loose end remaining to be tied up. In order for Free Will to be possible, it cannot be the case that the universe is causally closed. There has to be a way for an immaterial source of agency to affect—interact with—the material components of the brain.

Libertarian Free Will requires dualism—substance dualism as Donald Hoffman was quoted earlier as saying. The primary objection to substance dualism, which entails an immaterial mind, is that Materialist philosophers have assumed that the universe is causally closed. Some philosophers, Daniel Dennett for example, feel that this *interactionalism* would violate the laws of physics, specifically the First Law of Thermodynamics—conservation of energy:

“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.”

John Searle puts the [objection to substance dualism](#) this way:

“The greatest refutation of dualism is no one has ever been able to give a coherent statement of the relationship between the mental and the physical if they're identified as in two distinct ontological realms. If they're in two different realms how could my conscious decision to raise my arm cause my arm to go up. The physical world is molecules and neurons and has all sorts of things going on. They're all related to each other. It's a closed system. How could something outside this affect something within this system and how could something within the system affect something outside. 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 and yet we know that it happens all the time.”

Philosopher and Theologian [William Hasker](#), refers to this as the “*hoariest argument against dualism*” in his book, [The Emergent Self](#):

“[It is often said that] because of the great disparity between mental and physical substances, causal interaction between them is unintelligible and impossible. This argument may well hold the all-time record for overrated objections to a major philosophic position.”

This objection to interactionism has always struck me as odd. Given that an Idealist is proposing a transcendent Creator, it seems to be odd to impose a restriction on Him based on the laws that He created.

Now let's return to Daniel Dennett's claim that interactionism violates the laws of physics. According to quantum mechanics, this is not true. Here is quantum physicist Henry Stapp commenting on Dennett's assertion:

“There is a loophole in Dennett's argument: No mass or energy is necessarily required to determine which of the set of possible states a [quantum] wave function will collapse upon observation.”

Physicist [John Polkinghorne](#) comments about the [intrinsic randomness of nature](#) and how it can leave open to agency causation:

There is an intrinsic unpredictability. It isn't a question if we calculated a bit better or we measured a bit more exactly we could eliminate that...the world is certainly not merely mechanical it is something more subtle... if you take that realist point of view you are inclined I think to interpret unpredictability as not just unfortunate patches of ignorance but as signs of 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...”

Physicist, theologian and founder and [Director of the Center for Theology and the Natural Sciences](#), Robert Russell, discussing quantum mechanics and interactionism in the context of Darwinian evolution, [makes the point](#):

“Quantum mechanics is evidence of the complete lack of a sufficient physical cause in subatomic processes...Using this interpretation [Copenhagen interpretation of quantum mechanics]...we can then construct a theological argument or account of special divine action reflecting at least one meaning of our daily prayer thy will be done on earth here. In this ancient account God brings about scientifically unpredictable results while acting without intervening in nature and without breaking natural laws.” [Emphasis mine]

But how would interactionism work? Berkeley Physicist Richard Muller describes a theory of interactionism using quantum entanglement in his book, [Now, The Physics of Time](#):

“Could free will have a wave function? Yes, that’s certainly possible. Let me engage in a little philosophic / physical speculation to illustrate this. I will give an approach that is not a valid physics theory because it is not falsifiable, but is interesting to ponder nonetheless.

“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 an influence the spiritual one.

“In ordinary entanglement [a feature of quantum mechanics], between two particles in the physical world, detection of one the entangled particles affect 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, this picture makes some sense. 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 build or smash a teacup; I can choose to make war or seek peace—through what we call free will.

“This speculation is not falsifiable, but that doesn’t mean it isn’t true. As Godel taught us, there are always truths that can’t be tested.”

The Mystery of Free Will

The human will is the greatest of mysteries. If we cannot be held accountable for our upbringing and our genetic proclivities what remains is the Will of our Personality. But still why...why do some people choose this or that way of life? Personality and Will are divine endowments; however...

“Mortal mind can actually be twisted, distorted, and rendered evil and ugly by the sinful machinations of a perverse and self-seeking will. Likewise can this mind be made noble, beautiful,

true and good—actually great—in accordance with the spirit-illuminated will of a God-knowing human being.” [111:1.6 (1217.1)]

What is the source of a “*perverse and self-seeking will*” if everything we have is a divine endowment? Surely it cannot be the case that some of us are endowed with a *defective Will*. Why then, do some people choose to do the will of God “*to subject the creature will to the Father’s will*” and others forsake Him? I think this mystery is what philosopher of mind Galen Strawson may be getting at when he says in this interview on Closer to Truth that you somehow have to “*be the cause of yourself*”:

Strawson: “*I think in a very fundamental way, free will is impossible...I [can give] gave you everything, [even if] I gave you an immaterial soul.”*

Kuhn: “*If you give an immaterial soul to me...I don't even know what it is. But if it's immaterial maybe it works by different principles, and it has some volitional aspect to it.”*

Strawson: “*Sure but...in the end what you do flows from the way you are. Even in your deepest spiritual characteristics. You've somehow got to get to be responsible for being the way you are. But you can't; you can't get back behind yourself in such a way as to be responsible for the kind of person you are.”*

Kuhn: “*I think I can if you give me that back part of your circle that is not caused by some other element that is not caused by prior condition.”*

Strawson: “*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.”*

It has to be the case that our Personal Will, endowed by God, enables us to be “*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)]

“When it is said that man has identity, it is recognized that he is in possession of a mind circuit which has been placed in subordination to the acts and choosing of the will of the human personality.” [112:5.4 (1232.1)]

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