**Definitions of Free Will**

Eddy Nahmias, Associate Professor in the Department of Philosophy and the Neuroscience Institute at Georgia State University, published August 13, 2012, Big Questions Online, https://www.bigquestionsonline.com/2012/08/13/does-contemporary-neuroscience-support-challenge-reality-free-will/

“We’ve seen that **people understand “free will” to mean different things** and that people think our having free will would require different things.  I think **the best way to define “free will” is** (roughly):  “**the set of powers or capacities for making choices and controlling actions that an agent needs to be morally responsible for her choices and actions.**”  I think **this definition accords with the way most people, and most philosophers, understand free will, and** I think **it is also theoretically useful.  That is, it provides a useful target for philosophical analysis**—what are those capacities and what would limit or eliminate them?—**and** then **for scientific study.**  Once we pick out the relevant capacities, we can study:  how they are instantiated in humans (if they are), to what degree humans (as a species) possess them, to what degree (individual) humans possess them and exercise them in particular actions, and what might help us develop these capacities.  **Free will, as defined here, seems to require that free actions can be influenced by rational deliberation and conscious choice.**  On the conceptual side, how should we understand these capacities and the type of causal influence they need to have for our actions to count as free and responsible?  On the scientific side, how do our brains implement these capacities and what prevents them from playing a causal role in action?”

Jonathan Schooler, Professor of Psychological and Brain Sciences at the University of California Santa Barbara, published August 12, 2013, Big Questions Online, Emphasis Added https://www.bigquestionsonline.com/2014/05/06/what-are-implications-free-will-debate-individuals-society/

“For myself, **the functionality of a belief in free will, both as revealed by research and through personal experience, contributes to its appeal.  Free will from my perspective is like sailing a ship; we are buffeted by innumerable forces out of our control and will inevitably get somewhere regardless of what we do. However, if we take the helm we are more likely to end up where we want to go.**”

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 13.

“Putting these thoughts together, **compatibilists argue that to be free, as we ordinarily understand it, is (1) to have the *power* or *ability* to do what we want or desire to do, which in turn entails (2) an *absence of constraints* or impediments (such as physical restraints, coercion, and compulsion) preventing us from doing what we want.** Let us call a view that defines freedom in terms of 1 and 2 “classical compatibilism.” Most traditional compatibilists, such as Hobbes, Hume, and Mill, were classical compatibilists in this sense. **Hobbes stated the view succinctly, saying a man is free when he finds “no stop in doing what he has the will, desire, or inclination to do.”** And Hobbes noted that if this is what freedom means, then freedom is compatible with determinism. For, as he put it, there may be no constraints or impediments preventing persons from doing what they “will or desire to do,” even if it should turn out that what they will or desire was determined by their past.”

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 6.

“**To see where the conflict lies between determinism and free will, consider again what free will requires. We believe we have free will when we view ourselves as agents capable of influencing the world in various ways.** Open alternatives, or alternative possibilities, seem to lie before us. **We reason** and deliberate among them **and choose. We feel (1) it is “up to us” what we choose and how we act; and this means we could have chosen or acted otherwise.** As Aristotle noted: when acting is “up to us.” so is not acting. **This “up-to-us-ness” also suggests that (2) the ultimate sources of our actions lie in us and not outside us in factors beyond our control. If free will implies these conditions, one can see why determinism would be a threat to free will.** If one or another form of determinism were true, **it seems that it would not be (1) “up to us” what we chose from an array of alternative possibilities, since only one alternative would be possible. And it seems that the (2) sources or origins of our actions would not be “in us” but in something else** (such as the decrees of fate, the foreordaining acts of God, or antecedent causes and laws of nature) outside and beyond our control.”

Sam Harris, Co-founder and CEO of Project Reason, *Free Will*, Simon & Schuster, 2012, p. 6.

“**The popular conception of free will seems to rest on two assumptions: (1) that each of us could have behaved differently than we did** in the past, **and (2) that we are the conscious source of most of our thoughts and actions in the present.** As we are about to see, however, both of these assumptions are false.”

**Neg: Definitions of Freedom to Do Otherwise**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 13-14.

“But **doesn’t freedom also require alternative paths into the future, and hence the freedom *to do otherwise?*** How do classical compatibilists account for freedom to do otherwise? They begin by defining freedom to do otherwise in terms of the same conditions as 1 and 2. **You are free to do otherwise than take the bus if (1) you have the power or ability to *avoid* taking it, which entails (2) that there are also no constraints preventing you from *not* taking the bus, if you wanted to (no one is holding a gun on you, for example, forcing you to get on the bus.) Of course, an absence of constraints preventing you from doing otherwise does not mean you will actually do otherwise.** But, for classical compatibilists, the freedom to do otherwise means that you *would* have done otherwise (nothing would have stopped you) *if* you had wanted or desired to do otherwise. **And they argue that if the freedom to do otherwise has this *conditional* or *hypothetical* meaning (you *would*…, *if* you wanted to), then freedom to do otherwise would also be compatible with determinism.** For it may be that you *would* have done otherwise *if* you had wanted to, even though you did not in fact want to do otherwise, and even if what you wanted to do was determined.”

**Neg: Souls Not Required for Free Will**

Eddy Nahmias, Associate Professor in the Department of Philosophy and the Neuroscience Institute at Georgia State University, published August 13, 2012, Big Questions Online, https://www.bigquestionsonline.com/2012/08/13/does-contemporary-neuroscience-support-challenge-reality-free-will/

“How might neuroscience fit into the story I am telling?  **Most scientists** who discuss free **will say** the story has an unhappy ending—**that neuroscience shows free will to be an illusion.  I call these scientists “willusionists.”** (Willusionists include Sam Harris, Jerry Coyne, Jonathan Bargh, Daniel Wegner, John Dylan Haynes, and as suggested briefly in some of their work, Stephen Hawking and Richard Dawkins.) **Willusionists say that neuroscience demonstrates that we are not the authors of our own stories but more like puppets whose actions are determined by brain events beyond our control.**  In his new book [*Free Will*](http://www.samharris.org/free-will)*,* Sam **Harris says, “This [neuroscientific] understanding reveals you to be a biochemical puppet.”** Jerry **Coyne asserts** in a [*USAToda*y column](http://www.usatoday.com/news/opinion/forum/story/2012-01-01/free-will-science-religion/52317624/1): “**The ineluctable scientific conclusion is that although we feel that we’re characters in the play of our lives**, rewriting our parts as we go along, **in reality we’re puppets performing scripted parts written by the laws of physics.”**”

Eddy Nahmias, Associate Professor in the Department of Philosophy and the Neuroscience Institute at Georgia State University, published August 13, 2012, Big Questions Online, https://www.bigquestionsonline.com/2012/08/13/does-contemporary-neuroscience-support-challenge-reality-free-will/

“But **there is no reason to define free will as requiring this** dualist picture.  Among philosophers, very few develop theories of free will that **conflict with a naturalistic understanding of the mind—free will requires choice and control, and for some philosophers, indeterminism, but it does not require dualism.**  Furthermore, studies on ordinary people’s understanding of free will show that, while many people believe we have souls, most do not believe that free will requires a non-physical soul.  And when presented scenarios about persons whose decisions are fully caused by earlier events, or even fully predictable by brain events, most people respond that they still have free will and are morally responsible[.](http://www.thephilosophersmagazine.com/TPM/article/view/15359/12081%20)   These studies strongly suggest that what people primarily associate with free will and moral responsibility is the capacity to make conscious decisions and to control one’s actions in light of such decisions.”

**Neg: A Soul Does Exist and Creates Free Will**

NewsCorp Australia, published October 31, 2012, http://www.news.com.au/lifestyle/quantum-scientists-offer-proof-soul-exists/story-fneszs56-1226507452687

“**A PAIR of world-renowned quantum scientists say they can prove the existence of the soul.** American Dr Stuart **Hameroff and** British physicist Sir Roger **Penrose developed a quantum theory of consciousness asserting that our souls are contained inside structures called microtubules which live within our brain cells.** Their idea stems from the notion of the brain as a biological computer, "with 100 billion neurons and their axonal firings and synaptic connections acting as information networks". Dr Hameroff, Professor Emeritus at the Departments of Anesthesiology and Psychology and Director of the Centre of Consciousness Studies at the University of Arizona, and Sir Roger have been working on the theory since 1996. **They argue that our experience of consciousness is the result of quantum gravity effects inside these microtubules - a process they call orchestrated objective reduction** (Orch-OR). **In a near-death experience the microtubules lose their quantum state, but the information within them is not destroyed. Or in layman's terms, the soul does not die but returns to the universe.** Dr Hameroff explained the theory at length in the Morgan Freeman-narrated documentary Through the Wormhole, which was recently aired in the US by the Science Channel. The quantum soul theory is now trending worldwide, thanks to stories published this week by The Huffington Post and the Daily Mail, which have generated thousands of readers comments and social media shares. **"Let's say the heart stops beating, the blood stops flowing, the microtubules lose their quantum state," Dr Hameroff said. "The quantum information within the microtubules is not destroyed, it can't be destroyed, it just distributes and dissipates to the universe at large.** 'If the patient is resuscitated, revived, this quantum information can go back into the microtubules and the patient says "I had a near death experience".' **In the event of the patient's death, it was "possible that this quantum information can exist outside the body indefinitely - as a soul".**”

Dr. Robert Lanza, Psychology Today, published December 21, 2011, https://www.psychologytoday.com/blog/biocentrism/201112/does-the-soul-exist-evidence-says-yes

“**The idea of the soul is bound up with the idea of a future life** and our belief in a continued existence after death. **It's said to be the ultimate animating principle by which we think and feel, but isn't dependent on the body.** Many infer its existence without scientific analysis or reflection. **Indeed, the mysteries of birth and death, the play of consciousness during** [**dreams**](https://www.psychologytoday.com/basics/dreaming) **(or after a few martinis), and even the commonest mental operations – such as imagination and** [**memory**](https://www.psychologytoday.com/basics/memory) **– suggest the existence of a vital life force – an *élan vital* – that exists independent of the body.** Yet, the current scientific paradigm doesn't recognize this spiritual dimension of life. **We're told we're just the activity of carbon and some proteins; we live awhile and die. And the universe? It too has no meaning. It has all been worked out in the equations – no need for a soul. But biocentrism – a new ‘theory of everything' – challenges this traditional, materialistic model of reality.** In all directions, this outdated paradigm leads to insoluble enigmas, to ideas that are ultimately irrational. But knowledge is the prelude to [wisdom](https://www.psychologytoday.com/basics/wisdom), and soon our worldview will catch up with the facts. Of course, most spiritual people view the soul as emphatically more definitive than the scientific concept. It's considered the incorporeal essence of a person, and is said to be immortal and transcendent of material existence. But **when scientists speak of the soul (if at all), it's usually in a materialistic context, or treated as a poetic synonym for the mind. Everything knowable about the "soul" can be learned by studying the functioning of the brain. In their view,** [**neuroscience**](https://www.psychologytoday.com/basics/neuroscience) **is the only branch of scientific study relevant to understanding the soul.**”

Dr. Robert Lanza, Psychology Today, published December 21, 2011, https://www.psychologytoday.com/blog/biocentrism/201112/does-the-soul-exist-evidence-says-yes

“**Many scientists dismiss the implications** of these experiments, **because until recently, this observer-dependent behavior was thought to be confined to the subatomic world.** However, **this is being challenged** by researchers around the world. In fact, just this year **a team of physicists** (Gerlich et al, Nature Communications 2:263, 2011) **showed that quantum weirdness also occurs in the human-scale world. They studied huge compounds composed of up to 430 atoms, and confirmed that this strange quantum behavior extends into the larger world we live in.** Importantly, **this has a direct bearing on the question of whether humans** and other living creatures **have souls. As Kant pointed out over 200 years ago**, everything we experience – including all the colors, sensations and objects we perceive – are nothing but representations in our mind. **Space and time are simply the mind's tools for putting it all together. Now, to the amusement of idealists, scientists are beginning dimly to recognize that those rules make existence itself possible. Indeed, the experiments above suggest that objects only exist with real properties if they are observed.** The results not only defy our classical [intuition](https://www.psychologytoday.com/basics/intuition), but suggest that a part of the mind – the soul – is immortal and exists outside of space and time.”

Scott Calef, Professor of Philosophy at Ohio Wesleyan University, The Internet Encyclopedia of Philosophy, published 2002, http://www.iep.utm.edu/dualism/

“Another argument for dualism claims that **dualism is required for free will**. If dualism is false, then presumably materialism, the thesis that humans are entirely physical beings, is true. (We set aside consideration of *idealism*—the thesis that only minds and ideas exist). If materialism were true, then every motion of bodies should be determined by the laws of physics, which govern the actions and reactions of everything in the universe. But **a robust sense of freedom presupposes that we are free, not merely to do as we please, but that we are free to do otherwise than as we do. This, in turn, requires that the cause of our actions not be fixed by natural laws. Since, according to the dualist, the mind is non-physical, there is no need to suppose it bound by the** [**physical laws**](http://www.iep.utm.edu/lawofnat) **that govern the body. So, a strong sense of free will is compatible with dualism but incompatible with materialism.** Since freedom in just this sense is required for moral appraisal, the dualist can also argue that materialism, but not dualism, is incompatible with ethics. (Taylor, 1983, p. 11; cf. Rey, 1997, pp. 52-53). This, the dualist may claim, creates a strong presumption in favor of their metaphysics.”

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 40-41.

“**The most obvious extra-factor** strategy **that comes to mind when people think about** how to make sense of libertarian **free will involves a dualism of mind and body** (such as that of Rene Descartes.) **If the “mind” or “soul” were distinct from the body, it would be outside the physical world and its activity would not be governed by laws of nature** that govern physical events. **If, in addition, a disembodied mind or soul could interact with the physical world by influencing the brain**, as Descartes imagined, **then the mind or soul would** be the “extra factor” libertarians need to **explain free choice.** Whatever could not be fully explained by the activity of brain or body might be explained by the activity of the mind or soul. **For such a dualist solution to the free will problem to work, the physical world would have to cooperate, allowing some indeterminism in nature, perhaps in the brain. It may be true that quantum jumps or other undetermined events in the brain would not by themselves amount to free choices. But undetermined events in the brain might provide the “leeway” or “causal gaps” in nature through which an extra factor, such as an immaterial mind or soul, might intervene in the physical world to influence physical events.** **Those who take this dualist approach could** thus accept the Indeterminist Condition in a qualified form: they could **say that free agents are able to choose or choose otherwise**, all past physical circumstances remaining the same (because physical circumstances are the kind that are governed by the laws of nature). But the activity of the agent’s mind or soul would not be among the physical circumstances and would not be governed by the laws of nature; and the activity of an immaterial mind or soul could account for why one choice was made rather than another. **Thus free choices would not be arbitrary, random, or inexplicable after all; nor would they occur merely by chance or luck**, even though it might look that way, if one just described the physical world.”

**Neg: Nahmias’ Objection to Harris**

Sam Harris, Co-founder and CEO of Project Reason, *Free Will*, Simon & Schuster, 2012, p. 41-42.

“Writing for *The New York Times*, the philosopher Eddy **Nahmias criticized arguments of the sort that I have presented here: “Many philosophers, including me, understand free will as a set of capabilities for imagining future courses of action, deliberating about one’s reasons for choosing them, planning one’s actions in light of this deliberation and controlling actions in the face of competing desires. We act of our own free will to the extent that we have the opportunity to exercise these capacities,** without unreasonable external or internal pressure. We are responsible for our actions roughly to the extent that we possess these capacities and we have opportunities to exercise them.”

**Neg: Human Agents are a Single Unit**

Sam Harris, Co-founder and CEO of Project Reason, *Free Will*, Simon & Schuster, 2012, p. 20-22.

“**Compatibilists like** my friend Daniel **Dennett insist that even if our thoughts and actions are the product of unconscious causes, they are still *our* thoughts and actions.** Anything that our brains do or decide, whether consciously or not, is something that *we* have done or decided. **The fact that we cannot always be subjectively aware of the causes of our actions does not negate free will - because our unconscious neurophysiology is just as much “us” as our conscious thoughts are.** Consider the following, from Tom Clark of the Center of Naturalism: “**Harris is of course right that we don’t have conscious access to the neurophysiological processes that underlie our choices. But**, as Dennett often points out**, these processes are as much our own, just as much part of who we are as persons, just as much *us*, as our conscious awareness. We shouldn’t alienate ourselves from our own neurophysiology** and suppose that the conscious self, what Harris thinks of as constituting the *real* self (and as many others do perhaps) is being pushed around at the mercy of our neurons. Rather, **as identifiable individuals we consist (among other things) of neural processes, some of which support consciousness, some of which don’t.** So it isn’t an illusion, as Harris says, that we are authors of our thoughts and actions; **we are not mere witnesses to what causation cooks up. We as physically instantiated persons really do deliberate and choose and act, even if consciousness isn’t ultimately in charge.** So the feeling of authorship and control is veridical. Moreover, the neural processes that (somehow - the hard problem of consciousness) support consciousness *are* essential to choosing, since the evidence strongly suggests they are associated with flexible action and information integration in service to behavior control. But **it’s doubtful that consciousness (phenomenal experience) per se adds anything to those neural processes in controlling action. It’s true that human persons don’t have contracausal free will. We are not self-caused little gods. But we are just as real as the genetic and environmental processes which created us and the situation in which we make choices.** The deliberative machinery supporting effective action is just as real and causally effective as any other process in nature. So we don’t have to talk *as if* we are real agents in order to concoct a motivationally useful illusion of agency, which is what Harris seems to recommend we do near the end of his remarks on free will. **Agenthood survives determinism, no problems.**”

**Neg: Kant and Noumenal Selves**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 42-43.

“Some libertarians concede that libertarian free will is, and must always remain, mysterious. As noted earlier, Immanuel **Kant thought libertarian free will was necessary to make sense of morality and true responsibility. But** Kant also held that **a libertarian freedom could not be understood in theoretical or scientific terms. Science and reason,** said Kant, **can tell us only the way things *appear* to us in space and time - the world of *phenomena*. But science and reason cannot tell us about the way things are in themselves - the *noumena*.** Thus, **when scientists try to explain why an agent makes one free choice rather than another, if they are biochemists or neurologists, they will appeal to prior states and processes of the agent’s brain and body, which appear to us in space and time. If the scientists are psychologists, they will appeal to prior states and processes of the agent’s mind which**, according to Kant, **appear to us in time, but not space. But in either case, the scientists will fail** to explain why one free choice occurs rather than another. For, if the choices are undetermined, it seems that the occurrence of one free choice rather than another cannot be adequately explained by prior states and processes of any kinds, physical or mental.”

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 43-44.

“Yet, we also know **Kant thought we had to believe in libertarian free will even if science could not explain it. Such a free will was presupposed by our *practical* reason, and, in particular, by our moral life.** When we deliberate in practical life about whether to keep a promise to a friend, Kant reasoned, **we must presuppose we can keep the promise *or* break it and that it is “up to us” what we do. If we did not believe this, deliberating would make no sense. But if we can keep the promise or break it, then the law governing our behavior is a moral law** (“You ought to keep your promises”) that we can choose to follow *or* violate. **Kant believed that being governed by such a moral “law” is quite different from being governed by scientific “laws” of nature.** Laws of nature are imposed upon us from outside and we cannot choose whether or not to obey them. By contrast, **to act in accordance with a moral law is to be, in Kant’s terms, *self-legislating* or *autonomous*** (from the Greek *auto* [self] and *nomos* [law]). **It is to be governed by a law we give to ourselves, a law we can choose to obey or not obey.** Kant held that in our practical moral lives, we must suppose ourselves to be self-legislating or autonomous beings. **Such *autonomy* - which amounted to *free will* for him - is not compatible with being governed by scientific laws of nature.**”

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 43-44.

“As a result, **there is a difference** (and a tension) **in Kant’s view between our *practical* or moral reasoning, which requires that we believe in libertarian free will, and our *theoretical* or scientific reasoning, which cannot explain this freedom.** Kant tried to lessen this tension by claiming that **science and reason describe the self only as it appears to us in space and time (the phenomenal self), not the self or person as it is “in itself” (the noumenal self). Our real or noumenal selves can be free**, he argues, **because they are not subject to the constraints of space and time or the laws of nature.** But when science and reason try to explain *how* the noumenal self can be free, the inevitably look for physical, psychological, or social causes of our behavior; and then the scientists are describing only the self as it appears to us, the phenomenal self, not the noumenal or real self. **Indeed, anything we might say *about* this noumenal self - about its states or activities - would be describing its physical, psychological, or social circumstances, hence would be describing the phenomenal, not the real, self.** The **noumenal self is thus the** “extra **factor**” in Kant’s theory **that** is supposed to **account for free will.** But we cannot say *how* it does so. If free will were the product of a noumenal self in Kant’s sense, it would indeed be a mystery.”

**Neg: Compatibilism - Proving Determinism Merely Begs the Question**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 10.

“It is difficult not to be influenced by these scientific developments, which we can read about in the newspapers every day. To be sure, **these newly discovered influences on our behavior do not prove** definitively **that we lack free will. There may still be some leeway for us to exercise our free will in the midst of all the biological, psychological, and social influences upon us.** But these new scientific developments in fields other than physics do show why worries about the determinism *of human behavior* persist in contemporary debates about free will, despite indeterministic developments in physics. And **continuing worries about determinism of human behavior make the second pivotal question** we are going to address (in the next chapter) **all the more important, namely the Compatibility Question: does determinism really conflict with free will or are the two compatible? If there is really no conflict between free will and determinism, as many modern thinkers believe, then we do not have to worry about all these new scientific threats to our freedom**. For we could still be free and responsible, even if determinism should turn out to be true.”

**Neg: Compatibilism only Option. Indeterministic Conceptions of Free Will Fail**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 15-16.

“But **compatibilists are aware that many persons are not going to be satisfied with this account of free will as mere unconstrained choice or decision.** So they have a second response. **If you are still not satisfied** with the above account of freedom of will, **then it is no doubt because you are thinking of free will in some further sense than simply the ability to choose or decide *as* you will without constraint. You must be thinking of freedom of will in something like the ‘deeper’ sense of free will** of chapter 1 - **as a kind of ultimate control over what you will or want in the first place**: A control incompatible with your will’s being determine by any events in the past over which you did not have control. Now we compatibilists obviously can’t capture *that* deeper sense of freedom of will, no matter what we do, because it is incompatible with determinism. But, as compatibilists, we believe that **any so-called deeper freedom of the will - or any kind of free will that requires indeterminism - is incoherent anyway. No one *could* have a freedom of will of such a deeper kind.**”

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 16.

“Why do compatibilists believe that any kind of deeper freedom of will that requires indeterminism must be incoherent? Well, **if determinism means (as it does): *same past, same future*, then the denial of determinism - indeterminism - must mean: *same past, different possible futures*.** (Think of the garden of forking paths in chapter 1.) But if that is what indeterminism means - same past, different possible futures - indeterminism has some odd consequences regarding free choices. **Consider Molly again deliberating about whether to join the law firm in Dallas or the one in Austin. After much thought, let us say, Molly decided that the Dallas firm was a better one for her career plans and she chose it. Now if her choice was undetermined, she might have chosen differently (she might have chosen the Austin firm instead), *given the same past*** - since that is what indeterminism requires: same past, different possible futures. But **note what this requirement means in Molly’s case: exactly the same prior deliberation, the same thought processes, the same beliefs, desires, and other motives (not a sliver of difference!)** that led to Molly favoring and choosing the Dallas firm *might have issued in her choosing the Austin firm instead.* **That scenario makes no sense,** say compatibilists. **It would be senseless and irrational for Molly to choose the Austin firm, given exactly the same set of motives and prior process of reasoning that *in fact* led her to believe the Dallas firm was the better one for her career. To say that Molly “could have chosen otherwise” in these circumstances must mean something else**, say compatibilists - **something like** the following: ***if* Molly had had *different* beliefs or desires, or had reasoned differently, or *if* other thoughts had entered her mind before she chose the Dallas firm, *then* she might have come to favor the Austin firm instead and chosen it.** But this more sensible interpretation  of “could have done otherwise” say compatibilists, means only that Molly would have done otherwise, if things had been different - if *the past had been different in some way*. **And such a claim,** they insist **does not conflict with determinism. In fact, this interpretation of “could have chosen otherwise” perfectly fits with the classical compatibilists’ *conditional* or *hypothetical* analysis** - “Molly could have chosen otherwise” means “She *would* have chose otherwise, *if* she had wanted to (if her mind-set had been different in some way.)” And such a hypothetical interpretation of “could have done otherwise” is, as we have seen, compatible with determinism.”

**Neg: Compatibilism - Determinism is not Constraint**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 18.

“1. “**Don’t confuse *determinism* with *constraint, coercion,* or *compulsion*.**” Freedom *is* the opposite of constraint, coercion, and compulsion compatibilists insist; but it is not the opposite to determinism. **Constraint, coercion, and compulsion act *against* our wills, preventing us from doing or choosing what we want. By contrast, determinism does *not* necessarily act against our wills; nor does it always prevent us from doing what we want**. Causal determinism, to be sure, *does* mean that all events follow from earlier events in accordance with the invariable laws of nature. But, say compatibilists, **it is a mistake to think that the laws of nature *constrain* us.** According to A. J. Ayer (a noted twentieth-century compatibilist), many **people** think freedom is inconsistent with determinism because they **have a mistaken image of natural causes or laws of nature “overmastering” us, forcing us against our wills. But, in fact, the existence of laws of nature indicates that only certain events follow others according to regular patterns. To be governed by laws of nature is not to be in chains.**”

**Neg: Compatibilism - Causation does not constrain our wills**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 18-19.

“2. “**Don’t confuse *causation* with *constraint***.” Compatibilists also insist that **it is constraints, not mere *causes* of any kind, that undermine freedom. Constraints *are* causes but they are causes of special kinds: impediments or hindrances to doing what we want, such as being tied up or paralyzed.** Not all causes are impediments to freedom in this sense. In fact, **some causes, such as muscular strength or inner strength of will, actually *enable* us to do what we want. It is therefore a mistake to think that actions are unfree simply because they are caused.** Whether actions are free or not depends on the *kinds* of causes they have: some causes enhance our freedom, while other causes (i.e. constraints) hinder our freedom. **It is a further mistake**, say compatibilists, **to think that, when we act or choose freely in accordance with our wills, our actions are entirely *uncaused*. To the contrary, our free actions are cause by our characters and motives; and this state of affairs is a good thing.** For if actions were not caused by our characters and motives, we could not be held responsible for the actions. They would not be *our* actions. **This point was made** in a well-known passage **by perhaps the most influential classical compatibilist, David Hume**: “Where [actions] proceed not from some *cause* in the character and disposition of the person who performed them, they can neither redound to his honor, if good; nor infamy, if evil. … The person is not answerable for them; and as they proceeded from nothing in him that is durable and constant … it is impossible he can, upon their account, become the object of punishment or vengeance.” Classical compatibilists follow Hume in saying that **responsible actions cannot be uncaused; such actions must have the right kinds of causes - causes that come from inside our selves and express our characters and motives, rather than causes imposed upon us against our wills.** It is a mistake to think that free will and determinism are not compatible because free actions should be uncaused. **Free actions are *unconstrained*, not *uncaused*.**”

**Neg: Compatibilism - Nature is not an Agent**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 19.

“3. **“Don’t confuse *determinism* with *control* by other agents.**” Compatibilists can concede (and often do concede) that it *does* count against our freedom if we are controlled or manipulated by other *persons*. That is why sci-fi utopias, like *Brave New World* and *Walden Two*, where people are controlled by behavior engineers or neurochemists, seem to undermine  human freedom. But compatibilists insist that **determinism by itself does not necessarily imply that any other persons or agents are controlling our behavior or manipulating us. Nature by itself “does not control us” says compatibilist Daniel Dennett, since nature is not an agent. What is objectionable about control by other agents, Dennett argues** - whether they are behavioral engineers or con men - **is that other persons are using us as means to their ends, lording it over us and making us conform to their wishes. We resent this kind of interference. But merely being determined does not imply that any other *agents* are interfering with us or using us in this way.** So compatibilists can reject Brave New World and Walden Two scenarios, says Dennett, without giving up their belief that determinism is consistent with freedom and responsibility.”

**Neg: Compatibilism - Determinism is not Fatalism**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 19-20.

“4. **“Don’t confuse *determinism* with *fatalism*.**” This is one of the most common confusions in free will debates. **Fatalism is the view that whatever is going to happen, is going to happen, *no matter what we do*. Determinism alone does not imply such a consequence. What we decide and what we do make a difference in how things turn out - often an enormous difference - even if determinism should be true.** This important point was made by another influential classical compatibilist, John Stuart Mill: **A fatalist believes** … not only that whatever is about to happen will be the infallible result of causes that precede it [which is what determinists believe], but moreover **that there is no use in struggling against it; that it will happen however we may strive to prevent it.** … [Thus, fatalists believe that a man’s] character is formed *for* him, and not *by* him; therefore his wishing it was formed differently is of no use; he has no power to alter it. This is a grand error. He has, to a certain extent, a power to alter his character. Its not being, in the ultimate resort, formed for him, is not inconsistent with its being, in part, formed *by* him as one of the immediate agents. His character is formed by his circumstances … but his own desire to mold it in a particular way is one of those circumstances, and by no means the least influential.”

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 20.

“**Determinism, Mill is saying, does not imply that we have no influence on how things turn out, including the molding of our characters.** We obviously do have such an influence, and determinism alone does not rule it out. Believing in fatalism, by contrast, can have fatal consequences. A sick man may excuse himself for not seeing a doctor saying: “If your time is up, it doesn’t matter what you do about it.” Or a soldier may use a familiar line for not taking precautions: “There’s a bullet out there with your name on it. When it comes, you will not be able to avoid it, no matter what you do.” Mill is saying that such fatalist claims to not follow merely from determinism. To think they do is a “grand error.” The claims of the sick man and the soldier are in fact examples of what the ancient philosophers called the “lazy sophism” (“sophism” meaning a fallacy of reasoning). The proper answer to the sick man and the soldier would be, “*Whether* your time is now up may depend in great part on whether you see a doctor; and *whether* any bullet out there right now has your name on it may depend on what precautions you take. So instead of sitting around and doing nothing, see a doctor and take precautions.” This is the response that compatibilists, such as Mill, would give the “lazy sophism.” **Believing that determinism is compatible with freedom, they would say, should not make you a fatalist. Indeed this belief should convince you that your life is to some extent in your own hands, since how you deliberate can still make a difference in your future, even if determinism should turn out to be true.**”

**Neg: Compatibilism - Determinism doesn’t make us robots or animals**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 20-21.

“5. “**Don’t confuse *determinism* with *mechanism*.**” **Another common confusion**, according to compatibilists, **is to think that if determinism were true, we would all be machines, running mechanically, like watches, robots, or computers. Or alternatively, we would be like amoebae or insects and other lower creatures responding automatically, and with a fixed set of responses, to the stimuli of our environment.** But, compatibilists insist, **none of these consequences follows from determinism either.** Suppose it should turn out that the world is determined. There would still be an enormous difference between human beings, on the one hand, and amoebae and insects, or machines and robots, on the other. **Unlike machines (even complex machines like computers) or robots, we humans have an inner conscious life of moods and feelings, and we react to the world accordingly. And unlike amoebae, insects, and other such creatures, we do not just react to the environment instinctually and in automatic ways. We reason and deliberate, question our motives, reflect on our values, make plans about the future, reform our characters, and make promises to others that we then feel obligated to keep.** Determinism does not rule out any of these capacities, say compatibilists, and they are the capacities that makes us free and responsible beings, capable of moral action - as machines and insects are not. **Determinism does not necessarily imply mechanical, inflexible, or automatic behavior either. Determinism is consistent with a whole spectrum of complexity and flexibility of behavior in living things**, from the simplest amoeba all the way to human beings. The complexity and degrees of freedom of creatures in the world, from amoebae to humans, might differ incredibly, yet all these properties might be determined.”

**Neg: Free Will as Capacity to Understand Options**

Stephen Cave, Ph.D Cambridge University, author, The Atlantic, published June 2016, http://www.theatlantic.com/magazine/archive/2016/06/theres-no-such-thing-as-free-will/480750/

“**Philosophers** and theologians **are used to talking about free will as if it is either on or off;** as if our consciousness floats, like a ghost, entirely above the causal chain, or as if we roll through life like a rock down a hill. **But there might be another way of looking at human agency.Some scholars argue that we should think about freedom of choice in terms of our very real and sophisticated abilities to map out multiple potential responses to a particular situation.** One of these is Bruce Waller, a philosophy professor at Youngstown State University. In his new book, *Restorative Free Will*, he writes that **we should focus on our ability, in any given setting, to generate a wide range of options for ourselves, and to decide among them without external constraint.** For Waller, **it simply doesn’t matter that these processes are underpinned by a causal chain of firing neurons.** In his view, **free will and determinism are not the opposites they are often taken to be; they simply describe our behavior at different levels.** Waller believes his account fits with a scientific understanding of how we evolved: Foraging animals—humans, but also mice, or bears, or crows—need to be able to generate options for themselves and make decisions in a complex and changing environment. Humans, with our massive brains, are much better at thinking up and weighing options than other animals are. Our range of options is much wider, and we are, in a meaningful way, freer as a result. **Waller’s definition of free will is in keeping with how a lot of ordinary people see it. One 2010 study found that people mostly thought of free will in terms of following their desires, free of coercion (such as someone holding a gun to your head).** As long as we continue to believe in this kind of practical free will, that should be enough to preserve the sorts of ideals and ethical standards examined by Vohs and Baumeister.”

**Neg: Indictment of Libet Experiments**

Eddy Nahmias, Associate Professor in the Department of Philosophy and the Neuroscience Institute at Georgia State University, published August 13, 2012, Big Questions Online, Emphasis Original https://www.bigquestionsonline.com/2012/08/13/does-contemporary-neuroscience-support-challenge-reality-free-will/

“But **willusionists** also **argue that neuroscience challenges free will by challenging this role for consciousness in decision-making and action.  Research by** Benjamin **Libet, and more recently by** neuroscientists such as John Dylan **Haynes, suggests that activity in the brain regularly precedes behavior**—no surprise there!—**but *also* precedes our conscious awareness of making a decision to move.**  For instance, **in one study neural activity measured by fMRI provided information** about which of two buttons people would push **up to 7-10 seconds before they were aware of deciding** which to push.”

Eddy Nahmias, Associate Professor in the Department of Philosophy and the Neuroscience Institute at Georgia State University, published August 13, 2012, Big Questions Online, Emphasis Original https://www.bigquestionsonline.com/2012/08/13/does-contemporary-neuroscience-support-challenge-reality-free-will/

**“If such early brain activity always completely determines what we do before our conscious thinking ever comes into the picture, then this would suggest we lack free will**, because our conscious thinking would happen too late to influence what we did—an audience rather than author.  **But the data does *not* show that brain activity occurring *prior to awareness* completely causes all of our decisions.**  In the study just described, **the early brain activity correlates with behavior at only 10% above chance.  It is not surprising that our brains prepare for action ahead of time** and that this provides some information about what people will do.”

Alfred Mele, William H. and Lucyle T. Werkmeister Professor of Philosophy at Florida State University, published May 6, 2014, Big Questions Online, https://www.bigquestionsonline.com/2014/05/06/what-are-implications-free-will-debate-individuals-society/

“**One major plank in a well-known neuroscientific argument for the nonexistence of free will is the claim that participants in various experiments make their decisions unconsciously. In some studies, this claim is based partly on EEG readings (electrical readings taken from the scalp). In others, fMRI data** (about changes in blood oxygen levels in the brain) **are used** instead. In yet others, with people whose skulls are open for medical purposes, readings are taken directly from the brain. The other part of the evidence comes from participants’ reports on when they first became aware of their decisions. **If the reports are accurate (which is disputed), the typical sequence of events is as follows: first, there is the brain activity the scientists focus on, then the participants become aware of decisions (or intentions or urges) to act, and then they act, flexing a wrist or pushing a button, for example. A second plank in the argument is the theoretical premise that in order for free will to be involved in decision making, the decision needs to be made consciously.** Unconscious decisions aren’t up to us and therefore don’t display free will. So far, then, we have the following two propositions: 1. In various experiments, participants decide unconsciously. 2. Only consciously made decisions can be freely made. How do we get from here to the conclusion that free will doesn’t exist? A common response is a third proposition: 3. The way participants decide in these experiments is the way people always decide. If 1 and 3 are both true, and if the way the participants decide is *unconsciously*, we have the result that people always decide unconsciously. **There are several problems with the argument.** I’ll discuss just two of them. **Participants in these experiments are instructed to perform a simple action whenever they want and then report on when they first became aware of an urge, intention, or decision to perform it.** In some studies, they are told to flex their right wrist – or click a key on a keyboard – whenever they want. In others, they have the option of pressing either of two buttons whenever they want. **Nothing hangs on when they flex or click or which button they press. Any decisions participants make about these simple actions are arbitrary. In fact, participants are instructed to be spontaneous rather than think about what to do.** The discerning reader will have noticed something interesting already. **The instructions participants receive place conscious reasoning about what to do out of bounds. The experimental setting is very different from a situation in which you’re carefully weighing pros and cons before making a difficult decision – a decision about whether to change careers, for example, or about whether to ask for a divorce. It would not be at all surprising if your conscious reasoning made it highly probable that you would *consciously* make any decision you made.** At any rate, **in light of salient differences** between an arbitrary unreflective selection of a moment to act or a button to press, on the one hand, and a choice about a momentous matter made after painstaking conscious reflection, on the other, **we can’t be confident that all decisions are made in the same way.**”

Alfred Mele, William H. and Lucyle T. Werkmeister Professor of Philosophy at Florida State University, published May 6, 2014, Big Questions Online, Emphasis Original https://www.bigquestionsonline.com/2014/05/06/what-are-implications-free-will-debate-individuals-society/

“The problem just described pertains to proposition 3. Here’s a problem for proposition 1. **The data are consistent with** – that is, do not contradict – **the following hypothesis: the brain activity that experimenters are measuring** several hundred milliseconds or several seconds in advance of the action **gives rise to additional brain activity that *is* a conscious decision, and that conscious decision plays a part in producing the action** – the flexing, clicking, or pressing. **There is no good reason to believe that the early brain activity** (measured in seconds with fMRI and in milliseconds in the other studies) **is correlated with a *decision* that is made – unconsciously – at that time. The data leave it open that any actual decision is made much closer to the time of action; indeed, they leave it open that decisions are made around the time participants say they are conscious of making them**, often around 200 milliseconds (two tenths of a second) before muscle motion.”

Alfred Mele, William H. and Lucyle T. Werkmeister Professor of Philosophy at Florida State University, published May 6, 2014, Big Questions Online, Emphasis Original https://www.bigquestionsonline.com/2014/05/06/what-are-implications-free-will-debate-individuals-society/

“**The existence of ambitious free will depends on the truth of this assumption. Have neuroscientists shown that the assumption is false? Absolutely not. In the fMRI study** I mentioned, **scientists were able to predict with 60% accuracy, about seven seconds in advance, which button a participant would press next. Obviously, this does not suggest that it was determined which button would be pressed seven seconds before the action. After all, the evidence leaves a 40% chance that the participant would press the other button.** In the study using direct readings from the brain, experimenters were able to predict with 80% accuracy, within a window of a few hundred milliseconds, what time participants would identify as the moment at which they first became aware of their intention to click. The scientists were able to do this about 700 milliseconds in advance of the “awareness” moment participants identified and about 900 milliseconds before the click. **These findings do not support determinism. In fact, they are consistent with the idea that even less than a second before participants click a key it still isn’t settled when they will click next. Believers in ambitious free will thrive on probabilities of action, and that’s exactly what we find in these studies. That we have ambitious free will – at least some of the time – is a definite possibility.** One of the morals of the two books of mine that I mentioned is that neuroscientific studies of decision making leave this possibility wide open, in addition to leaving modest free will intact. This is good news, both for individuals and for society. There is evidence that lowering people’s confidence in the existence of free will increases bad behavior – cheating, stealing, and aggressive behavior. And there is evidence that belief in free will promotes personal well-being. If free will is real, beneficial beliefs in it have the virtue of being true, and it’s always nice when goodness and truth are on the same side. **An important implication of the free will debate** – that is, the actual debate taking place in scientific and scholarly books and articles and in books and articles for the general public – **is that we can easily be misled by scientific findings if we don’t interpret them carefully. When we pay attention to details, we see that the neuroscientific challenge to free will is misguided.**”

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“**The fact that automatic, nonconscious processes are the direct causes of action** (e.g., Libet, 1985, 1999) **seems now well established** and has dealt a severe blow to some theories of conscious free will. **But new theories of action have separated the deciding from the initiating** (Gollwitzer, 1999), **and free conscious choosing may have its main role in the deciding** (deliberative) **stage.** To illustrate, free will would have more to do with deciding (now) to walk to the store when the rain stops (later) than with directing each footstep during the actual trip. **Modern research methods and technology have emphasized slicing behavior into milliseconds, but these advances may paradoxically conceal the important role of conscious choice, which is mainly seen at the macro level** (Donald, 2002).”

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“A starting point for psychology is to identify what aspects of an action make people regard it as free versus unfree. To be sure, some factors can contribute to a mistaken sense of freedom in one’s own action. **Wegner** (2002) **showed that when the thought of an event immediately precedes its actual occurrence, people believe they have caused it, even if in reality they have not.** For example, when participants who were moving a cursor around a computer screen along with someone else (akin to having four hands on the pointer on a Ouija board) heard the name of some image mentioned and then the cursor stopped there 2 s later, they believed that they had intentionally caused the cursor to stop, even though the stopping was actually programmed by the apparatus (Wegner & Wheatley, 1999).**There are several ways to interpret these findings. One is to suggest that all conscious will and volition are illusions**: From the observation that people are sometimes mistaken about conscious will, one could extrapolate that they are always mistaken. **Another is to suggest that people do not have a direct, introspective way of knowing when they initiate action, and so they rely on salient cues to give them the feel and subjective impression of having acted or chosen, and this system of cues can be fooled.**”

**Neg: Consciousness as Evidence of Emergent Free Will**

Eddy Nahmias, Associate Professor in the Department of Philosophy and the Neuroscience Institute at Georgia State University, published August 13, 2012, Big Questions Online, Emphasis Original https://www.bigquestionsonline.com/2012/08/13/does-contemporary-neuroscience-support-challenge-reality-free-will/

“**One reason it is easy to move from the assumption that neural processes cause behavior to the presumption that consciousness does nothing is that neuroscience still lacks a theory to explain how certain types of brain processes** are the basis of conscious or rational mental processes.  **Without such a story in place, it is easy to assume that neuroscientific explanations supersede and bypass explanations** in terms **of** conscious and **rational processes.  But that conclusion is unwarranted.  Explanations in organic chemistry do not explain *away* life; they explain life.**  A more complete scientific theory of the mind will have to explain how consciousness and rationality work, rather than explaining them away.  As it does, **we will come to understand how and when we have the capacities for conscious and rational choice, and for self-control, that people ordinarily associate with free will.**  These are the capacities to reflect on our desires and reasons, to consider which of them we want to motivate us, and to make efforts to act accordingly—or as [Roy Baumeister explained in his recent post](http://www.bigquestionsonline.com/content/can-virtuous-habits-be-cultivated), to habituate ourselves to make choices that accord with our reflectively endorsed goals.**By understanding how the most complex thing in the universe—the human brain—works, we can better understand our capacities to make choices and to control our actions accordingly.**  On this telling of the tale, **neuroscience can help to *explain* how free will works rather than explaining it away.**”

Eddy Nahmias, Associate Professor in the Department of Philosophy and the Neuroscience Institute at Georgia State University, published August 13, 2012, Big Questions Online, Emphasis Original https://www.bigquestionsonline.com/2012/08/13/does-contemporary-neuroscience-support-challenge-reality-free-will/

“**Free will is not all-or-nothing.  It involves capacities that we develop as we mature, but that have limitations.  Recognizing that people have differing degrees of free will can help us better determine when, and to what extent, people are responsible for their actions, and are deserving of praise or blame.**  Indeed, where it really matters—legal responsibility—it is most useful to understand free will as a set of capacities for reasoning and self-control which people possess to varying degrees and have varying opportunities to exercise.”

George Musser, contributing editor at Scientific American, February 6, 2012, https://www.scientificamerican.com/article/quantum-physics-free-will/

“In recent years, **a number of philosophers—notably** Jeremy **Butterfield,** Daniel **Dennett, and** Christian **List—have fleshed out the compatibilist view by distinguishing among levels of description. Human cognition involves different structures than atomic physics and is governed by different laws, so determinism at micro level need not imply determinism at the agential level.** I've outlined these views:”

Timothy O’Connor, Professor of Philosophy at the University of Indiana, published June 3, 2015, Stanford Encyclopaedia of Philosophy, http://plato.stanford.edu/entries/properties-emergent/

“**Emergence is a notorious philosophical term of art.** A variety of theorists have appropriated it for their purposes ever since George Henry Lewes gave it a philosophical sense in his 1875 *Problems of Life and Mind*. **We might roughly characterize the shared meaning thus: emergent entities (properties or substances) ‘arise’ out of more fundamental entities and yet are ‘novel’ or ‘irreducible’ with respect to them. (For example,** it is sometimes said that **consciousness is an emergent property of the brain.)** Each of the quoted terms is slippery in its own right, and their specifications yield the varied notions of emergence that we discuss below. **There has been renewed interest in emergence within** discussions of the behavior of complex systems and **debates over the reconcilability of mental causation, intentionality, or consciousness with physicalism.**”

Timothy O’Connor, Professor of Philosophy at the University of Indiana, published June 3, 2015, Stanford Encyclopaedia of Philosophy, http://plato.stanford.edu/entries/properties-emergent/

“Whether there are any instances of *ontological* emergence is highly controversial. **Some metaphysicians and philosophers of mind contend that there are strong first-person, introspective grounds for supposing that consciousness, intentionality, and/or human agency are ontologically emergent. The intrinsic qualitative and intentional properties of our experience, they suggest, appear to be of a fundamentally distinct character from the properties described by the physical and biological sciences.**[[12](http://plato.stanford.edu/entries/properties-emergent/notes.html#12)] And **our experience of our own deliberate agency suggests a form of ‘direct’, macroscopic control over the general parameters of our behavior that cannot be reduced to the summation of individual causal interchanges** of relevant portions **of the cerebral and motor cortex.**”

**Neg: Argument from the Existence of Human Love**

Bennett Helm, Elijah E. Kresge Professor of Philosophy at Franklin & Marshall College and Principle Investigator of the Love and Human Agency project, published August 19, 2014, Big Questions Online, Emphasis Original https://www.bigquestionsonline.com/2014/08/19/what-role-love-human-freedom/

“As philosophers understand it, **to be an *agent* in general is not merely to be the cause of certain events in the world, as when the wind blows down a tree. Rather, it is to be a certain type of cause, namely one grounded in the reasons the agent has.** In one paradigm case, such a reason will be that the agent perceives that acting in a certain way will help satisfy a desire. Nonetheless, **it should be clear that having a desire is different from having a goal. Heat-seeking missiles and chess-playing computers have goals, and in some sense they “perceive” that acting a certain way—veering left or trading queens—will help them achieve those goals. Yet intuitively missiles and computers do not have desires and act for reasons: they are not genuine agents. The difference**, I believe, **is** that desires (but not mere goals) involve one’s **finding their objects to be *worth* pursuing—involve one’s *caring* about their objects.** Moreover, to care about something in this sense is to be emotionally affected by what happens to it: to be afraid when it is threatened, to be relieved when the threat passes, to be disappointed or angry when it is harmed, and to be joyous when it is benefited. So dogs and cats, but not missiles and computers, are agents because they have emotional capacities that make it possible for them to care about their ends.”

Bennett Helm, Elijah E. Kresge Professor of Philosophy at Franklin & Marshall College and Principle Investigator of the Love and Human Agency project, published August 19, 2014, Big Questions Online, Emphasis Original https://www.bigquestionsonline.com/2014/08/19/what-role-love-human-freedom/

“**In addition to our capacities to value and love and our sense of personal worth, we humans are *free and responsible* agents that can be praised or blamed—held accountable—for what we do.** Now there is a sense in which we praise or blame a dog for doing such things as scaring away an intruder or making a mess on the carpet. In doing so, we seem to be doing two things: (a) identifying him as the cause of the relevant events and (b) rewarding or punishing him as a way of making it more or less likely that he will do it again. This presupposes that there are certain ways we expect the dog to behave, but—and this is the crucial point—these expectations can be arbitrary in that they are ones we simply impose on the dog in a way that need not connected to any broader set of cares or concerns of the dog. In this way, I can train my dog to do a wide range of things from useful tasks to stupid pet tricks. With us humans, things are different. For i**n praising or blaming you I am holding you responsible for upholding or violating a norm that I thereby recognize as binding on us, and I call on you as freely choosing your actions also to recognize both the norm as interpersonally binding and your compliance with or violation of that norm. Indeed, there is a whole range of emotions philosophers call the “reactive attitudes” by which we hold each other responsible to such interpersonal norms. These are emotions like gratitude and resentment (by the “victim” of some wrongdoing or rightdoing), approbation and indignation (by “witnesses” to it), and self-congratulation and guilt (by the “perpetrator”). For example, if you carelessly and without apology step on my foot, I might resent you, a resentment I express by saying, “Hey! Get off my foot!” In thus expressing my resentment, I am calling on you to recognize not just that you have been inconsiderate but also that you (and we more generally) *ought* not to be.** But I am doing something more. I am recognizing you both as having a kind of standing as one of us who are bound by this norm and as having a kind of authority to hold the rest of us responsible to it as well. That is, I am recognizing you as a participant in a certain human community in which we hold each other to certain norms. (Note the contrast between this case and that of a dog that steps on my foot: while I might get angry at the dog, it would seem odd for me to *resent* him or hold him responsible, for the dog is not in this way a participant in human community.) **Moreover, I am demanding that you likewise recognize my authority to hold you responsible (as well as my standing thus to be held responsible by you and others) and so to respond to my blame with apologies or reparations or excuses.**”

Bennett Helm, Elijah E. Kresge Professor of Philosophy at Franklin & Marshall College and Principle Investigator of the Love and Human Agency project, published August 19, 2014, Big Questions Online, Emphasis Original https://www.bigquestionsonline.com/2014/08/19/what-role-love-human-freedom/

“**This depth and richness of human love points to** a third theme of our discussion: **the potentially transformative character of love**. In one way, **the deeply intimate character of** the sort of **personal love** just described **has the power to transform both the lover’s and beloved’s sense of what is important in life and thereby to shape their identities. Yet, as I suggested in the article, love can transform our very capacities for agency themselves.** For **we each come to have the standing to be held responsible and the authority to hold others responsible** — **we come to have this *dignity* as responsible agents** — by being recognized as having such dignity by both ourselves and others. In thus recognizing ourselves and being recognized as participants in a human community, we come to identify (and be identified) with that community itself. Such identificatory concern with the community and with others as its members is what I have called the love of humanity, and it is such love that transforms us into being the potentially responsible human agents that we are. Or so I have claimed.”

**Neg: Freedom Worth Wanting (and Setting Up Molly)**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 6-7.

“To illustrate these conflicts, **suppose Molly has just graduated from law school and has a choice between joining a** large **law firm in Dallas or a** smaller **firm in Austin. If Molly believes her choice is a *free* choice (made “of her own free will”), she must believe both options are “open” to her while she is deliberating. She could choose either one.** (If she did not believe this, what would be the point in deliberating?) But that means she must believe there is more that one possible path into the future available to her and it is “up to her” which of these paths will be taken. **Such a picture of an open future with forking paths - a “garden of forking paths,” we might call it - is essential to our understanding of free will. Such a picture of different possible paths into the future is also essential, we might even say, to what it means to be a person and to live a human life.** But determinism threatens this picture, for it seems to imply that there is really only one possible path into the future, not many. And yet, **first impressions are an unreliable guide on a subject as contentious and difficult as free will. We shall see that many philosophers and scientists, especially in modern times, have argued that, despite appearances to the contrary, determinism poses no real threat to free will, or at least any kind of freedom or free will “worth wanting” (as Daniel Dennett has put it).** The open future or garden of forking paths depicted in figure 1.1 looks convincing, they say, but it hides a multitude of puzzles and confusions.”

Daniel Dennett, Professor of Philosophy at Tufts University, *Intuition Pumps and Other Tools for Thinking*, WW Norton & Company, 2013, p. 373

“Contrary to ancient ideology, **we don’t want our free choices to be utterly uncaused. What we all want, and should want, is that when we act, we act based on good information about the best options available to us.** If only the environment will *cause* us to have lots of relevant true beliefs about what’s out there, and also *cause* us to act on the most judicious assessment of that evidence we could achieve! **That would give us *almost* everything we want as agents - except this: we wouldn’t want the environment to include a manipulative agent that usurps control from us, so we wouldn’t want the environment to make our best moves too obvious to all the other agents out there**, for then they can exploit us, knowing too much about what we want and how much we want it. **So add to our wish list the capacity to keep our thought processes and our decisions to ourselves, even if it means on occasion choosing our second-best option**, just to keep the others off balance (Clegg, 2012, provides a pioneering formal analysis of this.)”

Daniel Dennett, Professor of Philosophy at Tufts University, *Intuition Pumps and Other Tools for Thinking*, WW Norton & Company, 2013, p. 373-374

“**Some people, dimly appreciating the importance of unpredictability, think that “just to be safe” they should hold out for *absolute* unpredictability, which can be achieved only if**, down in the basement of our brains, **matters are physically indeterministic.** Here is how the philosopher Jerry Fodor (2003) once put it with characteristic vividness: **One wants to be** what tradition has it that Eve was when she bit the apple. **Perfectly free to do otherwise. So perfectly free, in fact, that even God couldn’t tell** which way she’d jump. [p. 18] But why does one want this? **Is this absolute unpredictability any better, really, than practical unpredictability?** Many philosophers over several thousand years, have insisted on absolute unpredictability as a condition of genuine free will. Do they know something that we don’t know? If so, they are keeping it a secret. To almost all of them, the idea that free will is incompatible with determinism has seemed too obvious to need an argument. **I say that the burden of proof is on them. Show us why we ought to despair if we can't have *absolute* unpredictability. I’ve shown why we - like evolution itself - are wise to arrange for as much *practical* unpredictability as we can. Tell us, please, why that is not enough.**”

Daniel Dennett, Professor of Philosophy at Tufts University, *Intuition Pumps and Other Tools for Thinking*, WW Norton & Company, 2013, p. 375-376

“**Compare the following two lotteries for fairness. In Lottery A** - for “After” - a**ll the tickets are sold, their stubs are placed in a suitable mixer and mixed**, as randomly as you like, **and then the winning ticket is blindly drawn.** (Most lotteries we encounter are like this.) **In Lottery B** - for “Before” - **the mixing of stubs and the blind drawing of the winner take place *before* the tickets are sold** (and the winning stub is put in a safe), but otherwise the lotteries are conducted the same way. **Someone might think the second lottery is unfair because the winning ticket is determined before people even buy their tickets. One of those tickets is *already* the winner** (even if nobody knows which one); the other tickets are worthless paper, and selling them to unsuspecting people is some sort of fraud. **But in fact both lotteries are equally fair. Everyone who buys a ticket has an equal chance of winning; the timing of the selection of the winner is an utterly inessential feature.** The drawing in most lotteries is postponed until after the sale of the tickets in order to provide the public with firsthand eyewitness evidence that there have been no shenanigans. No sneaky person with inside knowledge has manipulated the distribution of tickets, because the knowledge of the winning ticket did not (and could not) exist in any agent until after the tickets were sold. It is interesting that not all lotteries follow this practice. Publisher’s Clearing House used to mail out millions of envelopes each year that had written on them in bold letters “YOU MAY ALREADY HAVE WON” - a million dollars or some other prize. (The organization now runs its lottery largely online.) These expensive campaigns are based on market research showing that in general people do think lotteries with preselected winners are fair so long as they are honestly conducted. But perhaps people go along with these lotteries uncomplainingly because they get their tickets for free. **Would many people *buy* a ticket in a lottery in which the winning stub, sealed in a special envelope, was known to have been deposited in a bank vault from the outset. People buy scratch tickets by the millions, and whether or not any ticket is a winner is already determined when it is bought. Apparently these people consider themselves to have a real opportunity to win.** I think they are right, but whether they are right or wrong, **their calm conviction that such lotteries are fair, and that they have a real opportunity to win, should undo the confidence of the philosophers** (going back two millennia to Democritus and Lucretius) **who have somehow convinced themselves that no opportunity is a *real* opportunity unless the outcome is undetermined** up to the last instant. These philosophers have maintained **that without a continuing supply of truly random undetermined *branch points* to break up the fabric of causation, there is no possibility of free choices**, no *real* chances to do the right thing.”

Daniel Dennett, Professor of Philosophy at Tufts University, *Intuition Pumps and Other Tools for Thinking*, WW Norton & Company, 2013, p. 375-376

“**To see this more clearly, take the perspective of the programmer who designed program B.** She wants to know if she has uncovered a weakness in B. Here is a game in which not castling cost B the victory; **could B have castled** then? **If all it would take for that to happen was the flip of a single bit in the random-number generator, then perhaps no design improvements are called for. As often as not, in similar circumstances, B will castle, and perhaps that’s as good as anyone could hope for.** A program must always use random numbers now and then (as coin flips) to terminate search and get on with the game, and hence there will always be cases where thanks to the flip, the search stops just this side of discovery. And notice that t**he situation is not improved if we give program B (or program A) a quantum random-number generator, say, a Geiger counter that spews out bits based on the undetermined trajectories of subatomic particles.** Then consider what we would say about B in the case where B doesn’t castle because of a single 0 where a 1 might have been. If the quantum number generator yields a 0, B castles; if it yields a 1, B doesn’t castle. **“B could have castled,” says an observer when the 1 comes up. Yes, but B is no freer for all that. In a series of games in which this sort of opportunity comes us, half the time B will castle and half the time B won’t, whether B’s random-number generator is “genuine” or “pseudo.”** The philosopher David Wiggins (1973, p. 54) once wrote of the “cosmic unfairness” of determinism, but w**hat our intuition** pump about the computer chess tournament **shows is an equal “cosmic unfairness” of indeterminism.** B is “at the mercy of” its random-number generator *or* its psuedo-random-number generator. (So, of course, is A; so are we all.) **There is no reason to prefer the genuinely random-number generator** - unless of course you plan to play chess against an omniscient God who can see into  your pseudo-random-number generator and plan accordingly!”

**Neg: Argument from Quantum Indeterminism**

George Musser, contributing editor at Scientific American, February 6, 2012, https://www.scientificamerican.com/article/quantum-physics-free-will/

“I'll grant that **all this depends on what precisely we mean by “free will.” To me, it is the fact that you make choices.** To others, though, free will involves some inherent unpredictability. In that case, it might well have something to do with the deep laws of nature. **Within quantum mechanics, there are four basic arguments for such a connection: 1. Quantum mechanics is indeterministic, in that the outcomes of measurements are chosen at random from the slate of possibilities.** So, if quantum effects help to shape our conscious choices, they sever the connection between us and the initial conditions of the universe. **2. When we conduct experiments on quantum particles, we exercise our free will**—for example, we make choices about what precisely to ask of the particles. Or at least we think we exercise our free will. How those particles respond can depend on whether we really do. **3.** If you could predict someone’s decisions consistently, you could conclude that he or she lacks free will. To do that, you’d need to take a full brain scan and simulate his or her thought processes. Yet **quantum physics forbids the reliable, nondestructive copying of particles, let alone whole brains.** If you could never observe the loss of free will, then you should doubt whether it is ever really lost. **4. Quantum physics is time-symmetric**, so we are as justified in saying that our choices set the cosmic initial conditions as the other way round.”

George Musser, contributing editor at Scientific American, February 6, 2012, https://www.scientificamerican.com/article/quantum-physics-free-will/

“**Others**, though, do **see a role for quantum indeterminism. They include many of the scientists and philosophers who pioneered quantum mechanics, such as** Max **Born**, Pascual **Jordan, and** Karl **Popper.** Born wrote to Einstein, ”To me a deterministic world is quite abhorrent—this is a primary feeling.” Conversely, Einstein’s preference for determinism may have reflected his thoughts on free will and moral responsibility. He wrote to Indian poet Rabindranath Tagore, ”Leaving aside the inconsistency of such a review, the influence of alcohol and other sharply controllable factors on our thoughts, feelings, and activities, should show very distinctly that determinism does not stop before the majesty of our human will.””

George Musser, contributing editor at Scientific American, February 6, 2012, https://www.scientificamerican.com/article/quantum-physics-free-will/

“**More recently, quantum-gravity theorist** and blogger **Sabine Hossenfelder has offered** some thoughts. In a 2012 paper, she suggests **that there is a third way between determinism and randomness: what she calls “free-will functions,” whose outputs are fully determined but unpredictable.** Only those who know the function know what will happen. **This is distinct from deterministic chaos, in which the function is universally known but the initial conditions are imperfectly known.** My first reaction was that the free-will function is operationally the same as a classical deterministic hidden variable—namely, there is a deterministic description of a system, even if we can’t tell what it is. After chatting with Hossenfelder, I think **her point is that whereas hidden variables are part of the state of the system, the free-will function is part of the laws of nature. It is not a hidden variable, but a hidden law. Nature still meets the definition of determinism—a given state evolves in a definite way—even if the rules guiding evolution are unknowable. The free-will function might not be definable as an equation or algorithm, but would be what theoretical computer scientists call an oracle.** Roger Penrose, too, saw non-algorithmic elements as crucial to conscious experience.”

George Musser, contributing editor at Scientific American, February 6, 2012, https://www.scientificamerican.com/article/quantum-physics-free-will/

“In a talk at the Foundational Questions Institute conference in 2011, **theoretical computer scientist Scott Aaronson offered an operational definition of free will.** Even if the definition doesn’t lend itself to specific experimental tests, **it helps to clarify what it is that we’re talking about. Namely, the definition suggests a new way for quantum physics to underpin free will: because the state of a quantum system cannot be reliably copied—a principle known as the no-cloning theorem—no computer or demon could fully predict your choices, even in principle.**”

Tom Hartsfield, Ph.D Texas University, RealClearScience.com, April 3, 2003 http://www.realclearscience.com/articles/2013/04/03/quantum\_mechanics\_supports\_free\_will\_106499.html

“But **are you prepared to accept that** your mind follows these same rules? That it is a machine which can be completely predicted, like pool balls on a felt table or comets circling a star? That **you don't make choices: the choices are already made by the wiring patterns in your brain, and you just carry them out like a colossally complex adding machine? This is the philosophical endgame of classical physics** (i.e., Newtonian physics) taken to its logical conclusion. **Those who accept this philosophy simply apply physics to the human brain: If we could know all the molecules and cells and what they were doing, we could predict human thought perfectly. In practice, of course, this is** nearly **impossible, but it is philosophically possible.** And chilling. **Then along came quantum mechanics.** **When physicists observed that behavior at the atomic level was fundamentally indeterminate**, the universal validity of classical physics, as well as **philosophical determinism came into question.** **Physicists recoiled at the idea that their science could no longer claim to predict all things with infinite precision. But, that's what quantum mechanics teaches us. We absolutely cannot know exactly how something will turn out before it happens.** Most physicists eventually accepted this idea as an empirical fact of measurement, but assumed that a flaw in quantum mechanics created the uncertainty. Perhaps, with further insight, some "hidden variable" could allow them to predict things with perfect certainty again. But that never happened. **John Bell,** [**in a famous 1964 paper**](http://www.drchinese.com/David/Bell_Compact.pdf)**, forced everyone to reconsider, both scientifically and philosophically, their support for determinism. His famous theorem, Bell's inequality, is an incredibly profound statement. This relatively simple mathematical proof, when applied to experimental results, gives us a choice: We must either give up determinism or give up the existence of an objective reality explained by science and measurable by humans with instruments.** (You can read the gory details about the experiments [here](http://www.upscale.utoronto.ca/PVB/Harrison/BellsTheorem/BellsTheorem.html).) **So if experiments on quantum phenomena are reliable, then Bell concludes that determinism is false.** [**Most physicists agree**](http://www.gizmag.com/confusion-basic-nature-quantum-mechanics/26216/)**.** Essentially, quantum mechanics tells us that there are things which we cannot know about the future, things which are not predetermined but happen with some factor of chance or randomness. **Although many things in the world may be predicted, everything is not predetermined, and our actions do not unfold mechanically in a manner predetermined since the very moment of the Big Bang. Free will is preserved.**”

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 7-8.

“**Many people wonder why worries about determinism persist today, when universal determinism is no longer accepted even in the physical sciences**, which were once the strongholds of determinism. In the eighteenth century, a great physicist, the Marquis de Laplace, imagined that a superintelligent being (often called Laplace’s Demon), knowing all the physical facts about the universe at one moment and applying Newton’s laws of motion, could know everything that is going to happen in the future, down to the minutest detail. This Laplacian or Newtonian vision of universal physical determinism was taken for granted by many scientists and philosophers until the end of the nineteenth century, but it can no longer be taken for granted today. **You are probably familiar with the claim that modern quantum physics has introduced indeterminism or chance into the physical world. Much of the behavior of elementary particles, it is said, from quantum jumps in atoms to radioactive decay, is not precisely predictable, and can be explained only by statistical, not deterministic, laws. We are also told that the uncertainty and indeterminacy of this world of quantum physics, according to the standard view of it, is not due to our limitations as knowers, but to the unusual nature of elementary particles themselves, such as protons and electrons, which have both wavelike and particle-like properties. No superintelligence** (not even God perhaps) **could know the exact positions and momenta of all the particles of the universe at a given moment because the particles do not *have* exact positions and momenta at the same time** (the Heisenberg uncertainty principle); **hence their future behavior is not precisely predictable or determined.**”

Nick Herbert, author, Elemental Mind: Consciousness and the New Physics, Penguin, 1993, p. 4.

“**Three features of quantum theory are especially suggestive for understanding how mind might enter matter at the quantum level.** Coincidentally, these three features - **randomness, thinglessness, and interconnectedness** - were precisely the features that Albert Einstein, one of quantum theory’s founding fathers, found so bizarre that he could not accept them. These three Einstein-abhorred features, however, have continued to play an important role in quantum thinking; **quantum connectedness in particular has been securely confirmed by recent experiments motivated by the theorem of Irish physicist John Bell.** *Elemental Mind* makes a plausible case from biological, psychological, and parapsychological evidence that **these three features of matter are the external signs of** three basic features of mind: **free will**, essential ambiguity, and deep psychic connectedness.”

**Neg: Argument from the Lack of Scientific Consensus**

Jonathan Schooler, Professor of Psychological and Brain Sciences at the University of California Santa Barbara, published August 12, 2013, Big Questions Online, Emphasis Original https://www.bigquestionsonline.com/2014/05/06/what-are-implications-free-will-debate-individuals-society/

“**Too often scholars treat the topic of free will as if there currently exists a single indisputably “correct” perspective. However, the sheer variety of accounts of whether and how our choices control our actions demonstrates that this issue is far from resolved. Given this lack of consensus, each one of us is faced with deciding for ourselves where we stand on an issue that may have important consequences for how we lead our lives.** Increasing evidence suggests that people’s views about free will bear on their pro-social behaviors, sense of personal control, and general well being. Indeed, while more research is needed, science will likely determine which beliefs about free will are maximally functional long before it discerns which beliefs are correct.”

Jonathan Schooler, Professor of Psychological and Brain Sciences at the University of California Santa Barbara, published August 12, 2013, Big Questions Online, Emphasis Added https://www.bigquestionsonline.com/2014/05/06/what-are-implications-free-will-debate-individuals-society/

“Personally, **I find all three of the major conceptualizations of free will lacking, which contributes to my belief that neither logic nor science currently requires me to abandon a concept that I find quite useful. Hard determinism’s assumption**, as endorsed by Crick, **that free will is an illusion, seems the most straightforward way of reconciling the experience of free will with current scientific views of cause and effect. However, there is much we still do not understand about** the underpinnings of **science, and *a complete absence of free will is very difficult to square with the seemingly self-evident experience of personal control.* Compatibilism ’s assumption** (alluded to just above) **that genuine free will can exist in an entirely deterministic universe is by far the** [**most popular view among modern philosophers**](http://philpapers.org/surveys/results.pl)**.** However, it is very difficult for me to gain an intuitive understanding of how our decisions can be in any real sense free if they are the unavoidable consequence of deterministic and potentially random processes. **The Libertarian view that conscious intent somehow transcends the causal chain of physical events most closely resonates with my personal experience**, but it is difficult (though perhaps not impossible) to imagine how this might happen. **The lack of a fully satisfying conceptualization of free will leads me to conclude that all three major views are contenders**, but I yearn for the formulation of other accounts that could be more readily reconciled with both logic and experience. Given this quandary, each of us is faced with deciding the matter for ourselves. The conclusion we draw will depend on our personal predispositions and for many be informed by logic and scientific evidence.”

**Neg: The Epistemological Problem of Induction (A.K.A “Science Can’t Prove Anything”)**

Brenden Shea, Professor Rochester Community and Technical College Minnesota Center for Philosophy of Science, Published 2015, Internet Encyclopaedia of Philosophy, http://www.iep.utm.edu/pop-sci/#SH2d

“**Popper argues that there are in fact two closely related problems of induction:** *the logical problem of induction* and the psychological problem of induction*.* The first problem concerns the possibility of justifying belief in the truth or falsity of general laws based on empirical evidence that concerns only specific individuals. **Popper holds that Hume’s argument concerning this problem “establishes for good that all our universal laws or theories remain forever guesses, conjectures, [and] hypotheses”** (1974, p. 1019). However, Popper claims that while a successful prediction is irrelevant to confirming a law, **a failed prediction can immediately falsify it. On Popper’s view, then, observing 1,000 white swans does nothing to increase our confidence that the hypothesis “all swans are white” is true; however, the observation of a single black swan can, subject to the caveats mentioned in previous sections, falsify this same hypothesis.**”

Myles Udland, Writer for Business Insider, published November 25, 2014 http://www.businessinsider.com/nassim-talebs-black-swan-thanksgiving-turkey-2014-11

“**A Black Swan is an event or occurrence** — a tail event, as Taleb would call it — **that is so remote that it is completely unforeseen.** (In fairness, SocGen doesn't call these "potential Black Swans," simply calling this their "Swan Chart," but the "potential" phrase gets thrown around a lot, and a chart with pictures of black swans makes pretty clear what the firm is intimating.) **The famous example Taleb uses in his book is the Thanksgiving turkey. "Consider a turkey that is fed every day," Taleb writes. "Every single feeding will firm up the bird's belief that it is the general rule of life to be fed every day by friendly members of the human race 'looking out for its best interests,'** as a politician would say. **"On the afternoon of the Wednesday before Thanksgiving, something *unexpected* will happen to the turkey. It will incur a revision of belief."** Here's Taleb's famous chart. This is basically the book's entire message wrapped up in one graphic. The problem that Taleb is really attacking in his book is forecasting, particularly economic forecasting, and the practice of using past events to predict the future.  **Using inductive reasoning to forecast future events poses, for Taleb, not just something potentially useless or wrong, but something that actually has negative value. "Consider that [the turkey's] feeling of safety reached its maximum when the risk was at the highest!" Taleb writes. "But the problem is even more general than that; it strikes at the nature of empirical knowledge itself. Something has worked in the past, until — well, it unexpectedly no longer does, and what we have learned from the past turns out to be at best irrelevant or false, at worst viciously misleading."** And *this* is really what the problem of Black Swans is all about.  It isn't that we can't know the future, but that we delude ourselves into thinking we can, making forecasts about events that are inherently unforecastable and giving us false belief about what can or will or might happen in the future.”

Daniel Dennett, Professor of Philosophy at Tufts University, *Intuition Pumps and Other Tools for Thinking*, WW Norton & Company, 2013, p. 69-70

“It’s time to erect some staging before proceeding in our quest to understand what meanings are. Here is a thinking tool that provides a valuable perspective on so many issues that is should be in everybody’s kit, but so far it hasn’t spread far from its home in philosophy. The philosopher Wilfrid Sellars devised it in 1962 to clarify thinking on what science shows us about the world we live it. **The *manifest* image is the world as it seems to us in everyday life, full of solid objects, colors and smells and tastes**, voices and shadows, plants and animals, and people and all their stuff: **not only tables and chairs, bridges and churches, dollars and contracts, but also such intangible things as songs, poems, opportunities, and free will. Think of all the puzzling questions that arise when we try to line up all those things with the things in the *scientific* image: molecules, atoms, electrons, and quarks and their ilk.** Is anything *really* solid? The physicist **Sir Arthur Eddington wrote**, early in the twentieth century, **about the “two tables,” the solid one of everyday experience and the one composed of atoms, widely separated in mainly empty space, more like a galaxy than a piece of wood. Some people said that what science showed was that *nothing was really solid,* solidity was an illusion, but Eddington knew better than to go that far. Some people have said that color is an illusion.** Is it? **Electromagnetic radiation in the narrow range that accounts for human vision** (the range in between infrared and ultraviolet) **is not made of little colored things**, and atoms, even gold atoms, aren’t colored. **But** still, color is not an illusion in the sense that matters: **nobody thinks Sony is lying when it says that its color televisions show the world of color, or that Sherwin-Williams should be sued for fraud for selling us** many different colors in the form of **paint. How about dollars? These days the vast majority** of them aren’t made of silver or even paper. They **are *virtual*, made of information**, not material, just like poems and promises. **Does that mean that they are an illusion? No, but don’t hunt for them among the molecules.**”

Daniel Dennett, Professor of Philosophy at Tufts University, *Intuition Pumps and Other Tools for Thinking*, WW Norton & Company, 2013, p. 70

“Sellars (1962, p. I) famously said, “The aim of philosophy, abstractly formulated, is to understand how things in the broadest possible sense of the term hang together in the broadest possible sense of the term.” That is the best definition of philosophy I have ever encountered. **The task of figuring out how to put all the familiar *things* in our manifest image into registration with all the relatively unfamiliar *things* of of the scientific image is not a job that scientists are especially well equipped to do.** Please tell me, Dr. Physicist, just what a *color* is. Are there any colors according to your theory? **Dr. Chemist, can you provide the chemical formula for a *bargain*? Surely (ding!) there are bargains. What are they made of?** Hmm. Maybe there aren’t any bargains, not really? But then **what’s the difference - the *chemical* difference? - between something that is a bargain and something that only seems to be a bargain?** We could go on in this vein, looking at a host of puzzles that only philosophers have tried hard to resolve, but instead, let’s step back, as Sellars invites us to do, and look at the fact that there are these two remarkably different perspectives on the world. Why are there two? Or are there many? Let’s try to answer this question by starting in the scientific image and seeing if we can spot the emergence of the manifest image from that vantage point.”

Daniel Dennett, Professor of Philosophy at Tufts University, *Intuition Pumps and Other Tools for Thinking*, WW Norton & Company, 2013, p. 355-356

“**The chasm between the manifest image and the scientific image is at its most treacherous when the topic is free will.** Like the questions of what color is, what it *really* is, and what dollars are, *really,* when you get right down to it the question of whether free will will is an illusion or something we actually have invites us to use the scientific image to investigate this issue, which is posed in the traditional terms of the manifest image. And the invitation has been enthusiastically accepted in recent years. **There has been quite a chorus of eminent scientists saying, point blank, that free will is an illusion**: neuroscientists Wolf Singer, Chris Frith, and Patrick Haggard; psychologists Paul Bloom and Daniel Wegner; and a few rather well-regarded physicists, Stephen Hawking and Albert Einstein**. Could so many brilliant scientists be wrong? Many** - not all, and maybe not most - **philosophers say yes. They say this *is* a job for philosophy!** Are they right? I think so. **The scientists have typically been making a rookie mistake: confusing the manifest image with what we might call the *folk ideology* of the manifest image.** The folk ideology of color is, let’s face it, bonkers; color just isn’t what most people think it is, but that doesn’t mean that the manifest world doesn’t really have any colors; it means that colors - real colors - are quite different from what most folks think they are. The folk ideology of consciousness is also bonkers - resolutely dualistic and mysterian; if *that* were what consciousness had to be, then Wright would be right (see p. 313); we’d have to say that consciousness doesn’t exist. But we don’t have to treat consciousness as “real magic” - the kind that doesn’t exist, made of wonder tissue; we can recognize the reality of consciousness as a phenomenon by acknowledging that folks don’t yet have a sound ideology about it. Similarly, **free will isn’t what some of the *folk ideology* of the manifest image proclaims it to be, a sort of magical isolation from causation.** I’ve compared free will in this sense to levitation, and one of the philosophical defenders of this bonkers version has frankly announced that a free choice is a “little miracle.” I wholeheartedly agree with the scientific chorus that *that* sort of free will is an illusion, **but that doesn’t mean that free will is an illusion in any morally important sense. It is as real as colors, as real as dollars.**”

**Neg: Answer to van Inwagen’s Consequence Argument**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 26-27.

“**The consequence argument** is a powerful argument for the incompatibility of free will and determinism, and it has swayed many persons. But it **is also a controversial argument** and has generated much debate. As you would expect, compatibilists and soft determinists reject the Consequence Argument. They must reject it or their views would be refuted in one fell swoop. But **where do compatibilists and other critics of the Consequence Argument think it goes wrong**, if it goes wrong at all? **Most critics of the argument tend to focus on the crucial expression “There is nothing we can now do to change…” which appears in many steps of the version of the Consequence argument** presented in section 2. This expression contains the word “can” - one of the most difficult words in the language to interpret. **Talking about what persons “can” (and “cannot”) do is talking about their *powers* or *abilities*. So how you interpret person’s powers and abilities has an obvious bearing on the Consequence Argument.** For example, compatibilist **critics of the Consequence Argument** often **argue that if you interpret terms like “can,” “power,” and “ability” in the *hypothetical* way proposed by classical compatibilists, the Consequence Argument will fail.** As we saw in chapter 2, according to classical compatibilists, **to say “You *can* (or you have the *power* or *ability*) to do something” means there are no *constraints* or *impediments* preventing you from doing it, so that “You *would* do it, *if* you chose or wanted to do it.**”

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 27-28.

“Note that **making this hypothetical claim does not imply that Molly could have *changed* the past or the laws of nature from what they actually were. The hypothetical claim merely means that no constraints or impediments would have prevented her from acting differently, *if she had chosen or wanted differently***; and this may well be true even though she did *not* in fact choose or want differently. In other words, **with ordinary everyday actions, such as raising one’s hand or getting on a bus**, there may *sometimes* be constraints preventing us from doing them or doing otherwise (we may be tied up, paralyzed, or coerced). But **often there may be no** such **constraints preventing us from doing these everyday things; and so we could have done them if we wanted. By contrast, there are *always* constraints preventing us from changing the past or the laws of nature. As a result, the *premises* of the Consequence Argument come out *true* on the compatibilist hypothetical analysis of “can”:** Molly *cannot* change the past or the laws of nature, even if she wants to. **But the *conclusion* of the Consequence Argument comes out *false*:** Molly *can* nonetheless sometimes do otherwise than she actually does (e.g. do otherwise than raise her hand), in the hypothetical sense, because nothing *would* have prevented her, if she had wanted to. **So, on the hypothetical analysis, the Consequence Argument would have true premises but a false conclusion, and it would be an invalid argument.**”

**Neg: Leibniz on Deliberation as Prior Constraint**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 36.

“At this point, some **defenders of indeterminist freedom appeal to** the claim of eighteenth-century philosopher Gottfried **Leibniz, that prior reasons or motives need not determine choice or action, they may merely “incline without necessitating.”** For example, **Mike’s reasons for wanting to vacation in Colorado** (he likes skiing and wants to meet friends there) **might “incline” him to choosing Colorado over Hawaii. But these reasons do not “necessitate” or determine that he will choose Colorado.** Similarly his reasons for favoring Hawaii (he also likes beaches and surfing) incline him towards Hawaii without determining that choice.”

**Neg: Event-Causal Libertarianism**

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 64-65.

“Now one could imagine that **some of these various thoughts, memories, and imagined scenarios that come to mind during our deliberations are undetermined and arise by chance** and that **some of these “chance selected considerations” might make a difference in how we decide. If this were to happen** in Mike’s case, **the course of** his **deliberation**, hence his choice, **would be undetermined** and unpredictable. A Laplacian demon could not know in advance which way Mike would go, even if the demon knew all the facts about the universe prior to Mike’s deliberation, for these facts would not determine the outcome. **Yet Mike would still have control over his choice in a certain sense. He could not control all the thoughts and imagined scenarios that come to mind by chance. But he would be in control of how he reacted to those thoughts and imaginings once they did occur. And his choice** of Hawaii in the end **would be perfectly rational, not arbitrary**, if the weight of all the considerations that did come to mind (some of them by chance) weighed in favor of Hawaii. **In this way, choices could thus be controlled and rational even though indeterminism was involved in the deliberations leading up to them.**”

Robert Kane, University Distinguished Teaching Professor at the University of Texas at Austin, *A Contemporary Introduction to Free Will*, Oxford University Press, 2005, p. 65.

“**A view of this kind is called** *causal indeterminism* or ***event-causal libertarianism*, for it allows that our thoughts, images, memories, beliefs, desires, and other reasons may be causes of our choices or actions without necessarily determining choices and actions**; and yet this view does not postulate any extra kind of agent-causation either. Two philosophers who have suggested causal indeterminist views of this kind (without endorsing them), Daniel Dennett and Alfred Mele, argue that **a view of this kind would give libertarians at least some of the important things they demand about free will. Such a view, for example, provides for an “open future,” such as we think we have when we exercise free will. We would not have to think that our choices and the future direction of our lives had been decided long before we were born.** Nor would it be possible for behavioral engineers to completely control our behavior as in Walden Two or for Laplacian demons to know what we were going to do, if chance considerations might enter our deliberation.”

**Neg: Determinism does not conform to Scientific Method**

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“Many psychologists disdain the idea of free will, for several reasons. First, some think that **in order to be a scientist it is necessary to believe in determinism, because a scientist studies causality and cannot tolerate or accept exceptions. Second, and related to the first, free choice (especially the full, extreme case of total freedom) cannot** seem to **be explained in scientific terms. Causality is how the human mind generally (and the scientific mind particularly) understands events, and there is no way to explain a free action causally.** In other words, even if free will exists, **there is no use in scientists talking about it, because there would be no replicable patterns of behavior.** (On this I disagree most emphatically—see below.) **Third,** and perhaps more formidably, **plenty of research has by now shown that people are sometimes mistaken when they believe their actions to be free, insofar as factors outside their awareness do exert a causal influence on them** (e.g., Bargh, 1994; Wegner, 2002; Wilson, 2002).”

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“Meanwhile, there are several objections to the determinists too. **To require scientists to believe in determinism seems unwarranted. After all, the deterministic hypothesis—that every event is fully and inevitably caused by prior events** and nothing else than what happened was ever possible—**is itself unproven and even unprovable, so it requires a big leap of faith.** **Determinism is also contrary to everyday experience** (in which people do make choices, and they believe subjectively that more than one outcome is possible). **Moreover, to say that scientific data and especially psychological data point to determinism is itself severely overstated. Most psychological experiments demonstrate probabilistic rather than deterministic causation**: A given cause changes the odds of a particular response but almost never operates with the complete inevitability that deterministic causality would entail. These objections do not disprove determinism, but they certainly raise questions. **It seems unreasonable to** require that every scientist must **believe something that is unproven, unproveable, contrary to daily experience, and incongruent with our data.**”

**Neg: Free Will supported by Observation**

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“**A further objection to determinism is the observation that freedom and choice are woven deeply into the fabric of human relations and activities.** If freedom and choice are completely illusions—if the outcome of every choice was inevitable all along—why must people agonize so over decisions? Why do they argue and strive so much for the right to decide (that is, for power and liberty)? Why has so much political, economic, and social struggle been aimed at increasing freedom if freedom is just an illusion? **The presence versus absence of choice, control, autonomy, and freedom has been shown to be a significant causal factor in many aspects of human life, including dissonance and consistency** (Linder, Cooper, & Jones, 1967), **reactance** (Brehm, 1966), **stress and coping** (Glass, Singer, & Friedman, 1969), **and motivated performance** (Ryan & Deci, 2000). Moreover, with few circumscribed exceptions, **people almost always prefer freedom and are better off with it**—and seemingly not just because the lack of freedom prevents them from securing tangible rewards. It is not as if people would be fine with slavery or prison if only the food were better. Countless people have risked and sacrificed their lives in fighting to achieve and defend freedom, and it is very difficult to find historical instances of uprisings or wars based on a demand for less freedom. Laypersons may not understand the concept of free will in the same way as philosophers and scientists, but they use ‘‘freedom’’ to denote some psychological phenomena that are powerful and important.”

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“**Shifts in the social distribution of causality and agency are important to people, and these correspond to social phenomena that people have encountered for millennia.** Power, for example, confers on one person the right to make decisions that may affect others (e.g., Keltner, Gruenfeld, & Anderson, 2003), and the long history of power struggles can be viewed as being about who gets to choose. **Studies by Brehm** (1966) and his colleagues **have** also **shown that people are very sensitive to having their freedom of choice restricted by others. When an option is taken away from them, they respond by desiring that option more, by trying actively to reassert that freedom and take that option, and even by aggressing against whomever restricted their freedom. Such patterns seem hard to reconcile with the view that all free will and choice (in every sense) are illusions**: Why would people care so much about something that is entirely inconsequential?”

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“**Another approach to understanding what people mean by free will is to have participants rate how free a** stimulus **person’s actions are.** Stillman, Sparks, Baumeister, and Tice (2006) had participants rate scenarios that varied systematically along several dimensions. **Participants rated people’s actions as freest when their choices were made after conscious deliberation, when their actions went against external pressure rather than going along with it, and when people acted against their short term self-interest. Thus conscious, rational choice and self control seem to be integral parts of what people perceive as free.** When people wrote autobiographical accounts of their own acts that felt free or unfree, pursuing long-term personal goals was central to the feeling of freedom. The difference suggests that people see free will in others as useful for restraining their socially undesirable impulses, but in themselves they see free will in the sustained pursuit of (enlightened) self-interest. **As Dennett** (1984, 2003) **has argued, free will is hardly worth having unless it helps you get something you want.**”

**Neg: Free Will as Emergent from Evolution**

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“**A scientific approach to free will should perhaps start with the view that freedom of action evolved as a new, more sophisticated form of controlling behavior. Its two components, self-control and rational intelligent choice, conferred important advantages by enabling the human animal to function within a cultural society. Recent evidence about ego depletion and glucose dynamics suggests that this new, freer form of action control is biologically expensive, which may help explain why free will is only used occasionally.** Nonetheless, even its occasional use may contribute greatly to increasing the flexibility and adaptive diversity of human behavior.”

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“**Several recent authors have argued that human freedom of action is a product of evolutionary processes** (e.g., Dennett, 2003). I proposed that **the defining thrust of human psychological evolution was selection in favor of cultural capability** (Baumeister, 2005). That process might well have included a new, different way of controlling behavior, whose purpose was enabling the beast to function in a complex, information-based society. **The hallmarks of this new form of behavioral control include personal responsibility, conscious deliberation, invoking abstract rules and principles to guide actions, autonomous initiative, and a capacity to resist urges that have earlier evolutionary roots but that may be incompatible with civilized life** (e.g., eating any food you find when hungry, including what is on the plates of other restaurant patrons). Whether **this pattern** will satisfy the various theological and philosophical definitions of free will is hard to say, but it **could well correspond to what ordinary people mean when they speak of free action.**”

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“The previous section noted that free will has to be useful for benefiting the person. **Evolution has favored animals with psychological processes insofar as those processes help them pursue their goals.** A more intelligent animal, for example, may be better able to find food and reproduce than a less intelligent one. **In human cultural life, however, there is sometimes a tradeoff between short-term and long-term goals, and much of the success of the human species is based on our ability to sacrifice short-term goals for the long-term ones, as in delay of gratification** (Mischel & Ayduk, 2004). For example, taking someone else’s food may bring short-term benefits, but if it leads the other group members to imprison or expel the person, it could be self-defeating in the long run. H**ence free will may be most useful in fostering the pursuit of enlightened self-interest.** Were evolution working instead to enable the human animal to pursue what it wants right now to maximum effect, it might have promoted physical strength, speed, and ferocity rather than brainpower and social skills. But to succeed and live harmoniously in a cultural group, the animal is best served by being able to inhibit its impulses and desires. **Perhaps ironically, free will is necessary to enable people to follow rules.**”

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“Let me **focus briefly on two of the most important phenomena that are associated with the concept of free will: self-control and rational intelligent choice.** The cultural-animal argument has the following assumptions. First, **self-control and smart choice are much more highly developed in humans than in other animals and thus are among the most distinctively human traits. Second, these traits are highly conducive for living in a cultural society.** Third, these traits are probably interrelated in the sense of sharing some inner processes and mechanisms, which suggests that one evolved first and the other piggy-backed on the first one’s system. **My** speculative **evolutionary scenario is that self-control evolved first, because it is useful already in merely social** (as opposed to cultural) **groups.** For example, it would be natural for hungry animals to eat food that they see and want, but in many social groups the alpha male would beat up any other who tries to take his food or usurp his other prerogatives. Therefore, in order to live in social groups, animals must develop the capacity to restrain their impulses and bring their behavior into line with externally imposed constraints. **Moving from social to cultural groups substantially increases the importance of following rules, including moral principles, laws, commands, religious prescriptions, norms, and customs. Rational intelligent choice, then, evolved later than self-control and was even more distinctively associated with culture. Culture is based on information, and the large amount of information in a culture creates great opportunities for reasoning powers to sort through it and draw action-relevant conclusions. Human decision making is far more complex and varied than that in other species.** As Searle (2001) pointed out, rationality is widely regarded as a central human trait, but not all have noticed that **rationality entails at least some limited concept of free will—at least to the extent that one can alter one’s behavior on the basis of that reasoning.** Put another way, self-control gives the capacity to alter your behavior to conform to the group’s rules, and rationality enables you to work out your own rules and then behave accordingly. **This line of thought fits the view of free will as a sometime thing. People are incompletely rational and self-controlled. They have the capacity for acting for acting rationally and exerting self-control, but they only use it sometimes.** This suggests the capacity is limited.”

**Neg: Ego Depletion Supporting Evolutionary Argument**

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“**Our research on ego depletion provides one way to understand why free will is at best an occasional phenomenon.** In testing several competing theories about self-regulation, **we consistently found that people performed relatively poorly at almost any self-control task if they had recently performed a different self-control task** (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Muraven & Baumeister, 2000). **The implication is that some resource is used up by the first act of self-control, leaving less available for the second. Choice may also deplete the same resource. Vohs et al.** (2006) **found that making a series of choices led to poorer self-control on subsequent, unrelated tasks, as compared with just thinking about items or answering questions about them without making choices among them.** The fact that effortful choice uses the same resource as self-control links the two main forms of free will and supports the idea that they share a common underlying mechanism. **Thus, the traditional concept of ‘‘willpower’’ does appear to be a useful metaphor, insofar as both self-control and rational choice rely on some kind of power. To move beyond metaphor, Gailliot et al.** (2007) **began studying blood-glucose dynamics. Glucose is a chemical in the bloodstream that is the fuel for brain (and other) activities. Although all brain processes use glucose, some use much more than others, and self-control is a likely candidate to be one of these more expensive processes.** Gailliot et al. (2007) found that **acts of self-control caused reductions in the levels of glucose in the bloodstream, and that low levels of blood glucose after initial acts of self-control were strongly correlated with poor self-control on subsequent tasks.** Moreover, experimental administrations of glucose counteracted some of the ego-depletion effects. That is, drinking a glass of lemonade with sugar enabled people to perform well at self-control even if they had recently gone through a depleting exercise of self-control. Lemonade made with a sugar substitute (thus not furnishing glucose) had no effect.”

Roy F. Baumeister, Professor of Psychology at Florida State University, “Free Will in Scientific Psychology,” Journal of the Association of Psychological Science, 2008, volume 3, issue 1, page 14

“These findings suggest that **human evolution developed a second, new, and expensive way of controlling action. It involved using relatively large quantities of the body’s caloric energy to fuel complex psychological processes. If the cultural-animal argument is correct, then these processes should have improved biological success by enabling people to behave in more advantageous ways.** Ample evidence confirms that this second executive mode of action control has adaptive benefits and that when its resources are depleted or inadequate, behavior is less successful. **Nondepleted persons outperform ego-depleted ones at making effective and unbiased decisions** (Amir, Dhar, Pocheptsaya, & Baumeister, 2007), **at logical reasoning and intelligent thought** (Schmeichel, Vohs, & Baumeister, 2003), **and at active coping with unexpected setbacks** (Vohs & Baumeister, 2006). Self-control has multiple benefits, and people who are high on the trait end up more successful in work and school, are more popular and better liked, have healthier and more stable relationships, commit fewer crimes, and have less psychopathology (Duckworth & Seligman, 2005; Gottfredson & Hirschi, 1990; Mischel, Shoda, & Peake, 1988; Tangney, Baumeister, & Boone, 2004). And as for following rules generally, there is some cross-cultural evidence that countries with higher rule of law report significantly higher subjective well-being (Veenhoven, 2004).”

**Neg: The Multiverse**

George Dvorsky, Contributing Editor at Gizmodo, “If this theory is correct, we may live in a web of alternate timelines” Gizmodo 7/24/13 <http://io9.gizmodo.com/if-this-theory-is-correct-we-may-live-in-a-web-of-alte-896376482>

“Essentially, **Everett’s big idea was the suggestion that the entire universe is quantum mechanical in nature** — and not just the spooky phenomenon found at the indeterministic microscopic scale. **By bringing macroscale events into the picture, he upset the half-century’s worth of work that preceded him. The two different worlds, argued Everett, can and *must* be linked.** No doubt, the problem that quantum mechanics presents is the realization that we appear to live in a deterministic world (i.e. a rational, comprehensible world) that contains some non-deterministic elements. **Everett worked to reconcile the micro with the macro by making the case that no arbitrary division needs to be invoked to delineate the two realms. He considered the universal wavefunction — a mathematical list of every single configuration of a quantum object**, like a hydrogen atom. It’s a description of every possible configuration of every single elementary particle in the universe (that’s a big list). **What Everett did was apply Schrodinger’s wavefunction equation to the *entire* universe — which is now known as the Everett Postulate: All isolated systems evolve according to the Schrodinger equation.**”

George Dvorsky, Contributing Editor at Gizmodo, “If this theory is correct, we may live in a web of alternate timelines” Gizmodo 7/24/13 <http://io9.gizmodo.com/if-this-theory-is-correct-we-may-live-in-a-web-of-alte-896376482>

“For example, **in the case of Schrödinger's cat, it’s not *both* alive and dead when not observed. Instead, a version of it ceases to exist, while another lives on in an alternative timeline.** As another example, one version of you will stop reading my article at this exact point, while another version will continue to the very end. **There may even be an evil version of you somewhere. So long as it’s probable — and that it doesn’t violate physical laws at the macro-scale — a new version of the universe, and all that’s within it — will be created.** In turn, those will continue to branch off based on the new contingencies contained therein. But Everett-worlds in which probability breaks down can never be realized, and by consequence, never observed. **So what appears to be a single individual living from moment to moment is actually a perpetually multiplying flow of experiences; there is not just one timeline. Instead, there are many, many worlds.** This means that all possible alternative histories and futures are real. This also means that there could be an infinite number of universes — and that everything that could have possibly happened in our past has in fact happened in the past of some other worlds.”

George Dvorsky, Contributing Editor at Gizmodo, “9 weirdes implications of the Multiple Worlds Interpretation” Gizmodo 3/23/15 <http://io9.gizmodo.com/the-9-weirdest-implications-of-the-many-worlds-interpre-1692618056>

“But **as MWI expert Michael Clive Price points out, while all decisions are realized, some are realized more often than others. In other words, each branch of a decision has its own "weight"** that's enforcing the usual laws of quantum statistics. Also, **the MWI would imply a certain indeterminism to existence, albeit in an unintuitive way. Whenever we ask ourselves, "Could I have chosen a different course of action?," the MWI would strongly imply that the answer is most definitely yes.** What's more, not only could you have chosen a different course of action, **an alternate version of you actually did!** As for why you chose differently, or why you fared a certain way on a test or sporting event, it all boils down to how the quantum events affected objects at the classical scale — including the cogitations of your brain.”

George Dvorsky, Contributing Editor at Gizmodo, “If this theory is correct, we may live in a web of alternate timelines” Gizmodo 7/24/13 <http://io9.gizmodo.com/if-this-theory-is-correct-we-may-live-in-a-web-of-alte-896376482>

“**Back in the 1950s, a Princeton undergraduate by the name of Hugh Everett III embroiled himself in the wonderful and wacky world of quantum physics.** He became familiar with the ideas of Niels Bohr, Heisenberg, and Schrödinger, and studied under Robert Dickie and Eugene Wigner. Then, in 1955, he began to write his Ph.D. thesis under the tutelage of John Archibald Wheeler. **In 1957, he published his paper** under the name, "Quantum Mechanics by the Method of the Universal Wave Function.” Eventually, after further edits and trimming, it was re-published under the name, “Wave Mechanics Without Probability.” **And though he referred to his theory as the “relative state formulation,” it was rebranded as the Many Worlds Interpretation (MWI) by Bryce Seligman in the 60s and 70s.** But like so many seminal theories in science, Everett’s idea was scorned. So scorned, in fact, that he gave up physics and went to work as a defense analyst and consultant. **Now, some 60 years later, his radical idea lives on among a small — but growing — subset of physicists.** In a recent poll of quantum physicists,some 18% of respondents said they subscribe to the MWI (as compared to the 42% who buy into the dominant Copenhagen Interpretation).”

George Dvorsky, Contributing Editor at Gizmodo, “If this theory is correct, we may live in a web of alternate timelines” Gizmodo 7/24/13 <http://io9.gizmodo.com/if-this-theory-is-correct-we-may-live-in-a-web-of-alte-896376482>

“**Everett also argued that the measurement of a quantum object doesn’t force it into one comprehensible state or another. Instead, it causes the universe to split, or branch off**, for each possible outcome of the measurement; **the universe literally splits into distinct worlds to accommodate every single possible outcome.** And interestingly, Everett’s idea allows for randomness to be removed from quantum theory, and by consequence, all of physics (thus making physicists very happy).”

George Dvorsky, Contributing Editor at Gizmodo, “If this theory is correct, we may live in a web of alternate timelines” Gizmodo 7/24/13 <http://io9.gizmodo.com/if-this-theory-is-correct-we-may-live-in-a-web-of-alte-896376482>

“**According to Everett, a “world” is a complex, causally connected sub-system that doesn’t significantly interfere with other elements of the grander superposition.** These “worlds” can be called “universes,” but "universe" tends to describe the whole kit-and-kaboodle. Needless to say, i**t's a metaphysical theory that dramatically alters our understanding of the universe and our place in it. If true, the universe is comprised of an ever-evolving series of timelines that branch off to accommodate *all* possibilities.** Subsequently, it means that a version of you — or what you think is you — is constantly branching off into other alternate histories.”