

# 16 Free Will Requires Determinism

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The will is infinite, and the execution confined...  
the desire is boundless, and the act a slave to limit.

—William Shakespeare, *Troilus and Cressida*, III.  
ii.75–77

In the textbook of my first introductory psychology class there was, in chapter 1, a simple equation:

Behavior = Heredity + Environment + ?

The question mark, it was suggested, might include such things as chance, acts of God, and free will. Chance would make regular reappearances in my psychological studies. Acts of God and free will, on the other hand, were rarely if ever mentioned. One could assume only that if these were real influences on behavior, they were beyond the ken of psychology, and psychology would therefore go about its business as if they didn't matter, assuming (and demonstrating, as psychology's explanatory and predictive powers grew) that they had at most a very limited influence on human behavior.

Until then, I had never really thought much about free will, and this equation troubled me enough to set in motion a now almost 4-decade-old struggle to make sense of it. The redoubtable B. F. Skinner (the most influential living psychologist when I was an undergraduate) rather directly, and the rest of psychology somewhat less directly, seemed to deny the possibility of free will. But

even those who might have been more amenable to a belief in free will, such as the humanistic psychologists of the late 1960s, seemed to suggest (in agreement with the equation) that free will belonged, together with chance and possible acts of God, in the unpredictable, nondeterministic part of any account of human behavior.

Since the quantum revolution, few scientists believe that the world is totally deterministic. But if, at any moment, anything could happen—which is another way of saying that the past has no control over the present and future—then any kind of prediction or control, or even understanding, would be impossible. Psychology can proceed only to the extent that the universe is deterministic. So psychologists rather naturally attend to those aspects of human behavior that follow (or that they assume follow) discernible cause-and-effect logic.

To avoid possible confusion, I should make clear the definition of determinism I will be using in this chapter. Determinism is a theory or belief that events, including acts of the will, occurrences in nature, and social or psychological phenomena, are causally determined by preceding events and natural laws. Determinism assumes that all events in the universe, including all the things that happen in human minds, follow laws of causality.

It is hard to see how free will could be part of a deterministic universe (or could exist in that part of the universe—the deterministic part—that psychologists try to understand). Philosophers use the term *incompatibilism* to describe the belief that free will and determinism are incompatible. Incompatibilism claims that if the universe is deterministic, then we can't have free will. Unfortunately, there's no easy way out of this situation, because you can't get back free will just by arguing against determinism. The opposite of determinism is indeterminism, and (as I will discuss shortly) indeterminism is *totally* incompatible with any notion that we are in control of what we do.

I alluded to quantum mechanics earlier and to the chance, probabilistic, and ultimately indeterminate nature of the subatomic world of quarks and of the strange forces that affect these almost infinitely tiny building blocks of the universe. Determinism can adjust for quantum uncertainty because at the level we can observe phenomena—the level where we live, the world of things we can perceive without splitting atoms—all of these tiny chance effects tend to disappear, sort of like the way different parts of an algebra equation often cancel each other out. But it's nonetheless true that, over time, those tiny subatomic indeterminacies can add up and result in truly random events in the macroscopic world in which we live. And this accumulation of random events, though its overall effect is small, makes it impossible, in principle, for anyone to predict the future with complete accuracy, no matter how all-knowing that person might be.

But adding chance to the mix doesn't rescue free will from determinism. One can argue that because our brains are made of subatomic particles that are subject to chance events, and because this means that it is impossible to determine precisely what we will think or how we will behave, determinism has been

defeated. This is correct: At least to a small degree, according to our current best scientific understanding, our universe is indeed indeterminate.

That said, it's important to understand that the distinction between determinism and indeterminism is really not so much an either-or question as it is a matter of degree. At the level we are able to notice effects—at the level of readily observable events—the little bit of randomness that quantum mechanics tells us about makes almost no discernible difference in our lives, and its effects on our will and on the decisions we make are at most slight. There may indeed be rare moments of seeming randomness that result, down the road, in huge differences in our lives, as was exemplified in the wonderful movie *Sliding Doors* a few years ago. In that movie, the main character (played by Gwyneth Paltrow) rushes to catch a train as the doors are closing, and we are shown the very different ways her life plays out both in a world in which she makes the train and one in which she just misses it, a kind of chance event that has widespread ramifications.

But even if we could overturn determinism by saying we live in a universe determined not by natural laws but by chance, that doesn't help us at all on the question of free will. If my behavior is the result of chance, I'm not in control; chance is (or because chance isn't really an agent, one might simply say that nothing is in control—but, either way, it's clear that I am not in control to the extent that events are "determined" by chance). If the thought that your behavior is the complex result of some combination of all the genetic and environmental influences that have touched you is disturbing and causes you to question free will, then it's unlikely that the idea that your behavior is the result of purely chance events that are totally out of your control will provide any reassurance. We don't want our lives to be a kind of cosmic game of craps, with control given over to the roll of the dice. To whatever extent randomness actually rules in the universe, it effectively excludes that much possibility of control by any of us. So a totally random, indeterminate universe is most definitely a universe without the possibility of free will, and we can be thankful that we do not live in such a universe. If we are to have free will, it will have to come from a deterministic universe, one in which there are causes of behavior.

## HOW WE MAKE DECISIONS

In the one-person play *Defending the Caveman*, the following line, which I am paraphrasing, tends to evoke an initial stunned silence, and then some moans and hisses: "When arguing, women aren't limited by the rules of rational thinking."

The actor then asks people if they agree with this provocative remark. After all the women and most of the men in the audience murmur their disagreement,

he offers to turn it around: “When arguing, women *are* limited by the rules of rational thinking.” Does that make it better? Not really—in fact, I hope it helps us remember that rational thinking is only one way that we think and reason and make sound judgments and decisions. So not being constrained by the rules of rational thinking is a positive thing, not an insult.

Humans are at least *somewhat* rational creatures, however. We are not Spock-like; our rationality has limits, and it is both impeded and, often, assisted by emotions and other human attributes that are not strictly rational. Our reasoning powers are complex and many. The important idea here is a rather obvious one—that we are able to reason, both rationally and in other ways, and our reasoning is part of who we are and how we make decisions. This seems so obvious that one might wonder why I’ve even bothered to mention it, but it’s a necessary piece of my answer to the free will question.

On the TV show *Who Wants to be a Millionaire?*—or, for that matter, on a multiple-choice exam that I might give in one of my classes—as long as one gets the right answer, it doesn’t really matter whether one actually knew the answer or just made a lucky guess because the outcome is the same. But we can also understand that there *is* nonetheless a very important difference. In the same way, choosing a wise course of action because one had good reasons for choosing it is different from choosing a lucky course of action, even though the wise choice and the lucky choice might be the same and have the same effects. We feel that choosing because we have reasons for choosing makes a decision more *our* choice than choosing by flipping a coin.

Humans reason—both rationally and in other ways—and our reasoning influences the decisions we make. When I was in college, psychedelic drugs were very popular. People who used them found their reasoning followed different tracks and resulted in different decisions. Whether their reasoning was impaired or heightened needn’t concern us, nor do we need to judge whether the decisions people made on drugs were better or worse; the important, if obvious, point is that these decisions were *different* from what they would have been had drugs not been involved. Our reasoning and decision-making abilities, whether operating optimally or suboptimally, greatly influence our thoughts and behaviors.

## FREE WILL UNDER DETERMINISM

It doesn’t solve the free will problem, but it’s a step along the way to acknowledge that our reasoning and decision making do influence what we do. It’s part of who we are, it’s part of how we make decisions, and it is a major factor in determining whether we do one thing or another.

But in a deterministic universe, our reasoning, although it influences our decisions and actions, is also itself determined by things that have come

before—by what we know, by the people we’ve known, by some genetic factors that influence how we go about reasoning, and by many other such things that have gone into making us who we are. So we do use reasoning, and the reasoning we do *does* help determine what we decide to do from moment to moment; but that reasoning ability and the ways we exercise it remain, in a deterministic universe, subject to natural, physical laws, even if those influences are so well hidden in a zillion brain synapses that we could never see exactly how it works or predict in advance what decision is sure to result in any given situation.

Does the fact that who I am at any moment in time commit me to acting in a certain way eliminate my free will? I suppose that depends on what we mean by free will. When Martin Luther declared his disagreement with certain Church teachings, he said, “Here I stand. I can do no other.” Did he mean that he had no control over his actions? Of course not. If he had had reason to believe that by holding back, or by making a different set of objections, he might somehow end all human suffering, then I’m fairly confident that he would have done something different. But, given the situation that he found himself in, and given the kind of person he was with the kinds of beliefs and understandings that he had, he—the person he was—could do no other. Doing anything else would have been untrue to himself.

Free will means having the power to do different things, and to choose to do what makes most sense at the moment. It means we will choose what it is most in our natures at any moment to do. Are those choices caused? Certainly. They are caused by a combination of our natures—who we are at that moment, something that has been shaped by both genes and experiences—and the actual constraints of the situation in which we find ourselves. We can know that whatever a person is doing at any moment, it is in accord with that person’s nature and with the situation in which he finds himself, however he came to have his particular nature and to be in that particular situation.

Each of us has many courses of action that are possible in the sense that they are within our power—we *could* do them if we choose to do so—but we act only in ways that accord with our natures, at any moment in time and in any given situation, by making the particular choices we make. Free will doesn’t mean doing things that make no sense. Free will means that your thinking, reasoning, emotions, personality, memories, goals, decision-making strategies, and everything else that makes you who you are actually *matter*. Are our lives and choices therefore predictable? Well, given even small amounts of quantum uncertainty, no, not in perfect detail; but, in a larger sense, yes. All of us are, in general, fairly predictable, which is a good thing if you think about the amount of predictable cooperation that is necessary for us to do things like drive cars on roads used by other drivers. And most of the decisions we make seem to make sense, and are in that sense predictable in terms of who we are and what our goals and desires and skills and attitudes and beliefs happen to be. But can

I know what those decisions will be without going through the kinds of reasoning, emoting, thinking, and other behaviors that constitute the way I make decisions? No, it's simply impossible. No one will ever be able to have that kind of foreknowledge.

So we do have free will in a deterministic universe. Indeterminism, on the other hand, makes free will impossible, because random events by definition cannot be under our control. To the extent that determinism is true, we humans do indeed have something that we all innately feel and believe that we have: free will. In this most important sense, determinism makes free will possible and meaningful.

Some might argue that this isn't *truly* free will. It is true that no one has created himself *ex nihilo*, and if we trace back the cause-and-effect chain to its beginning, one can argue that it began even before one's birth. If one wants the kind of free will that denies cause and effect, a free will that would disengage one's past from the present, then one is seeking either randomness or supernatural intervention, not free will. But if who a person is (her personality, cognitive abilities, beliefs, ideas, emotions, memories, wishes, thinking styles, etc.) is to have power over what she does—and isn't this what we really mean by free will?—then the only kind of free will that is coherent is deterministic free will.

Determinism makes free will possible. It also makes psychology possible. If psychological events were not determined—caused—by antecedent events, psychology could make no sense. We have a lot for which to thank determinism, both as psychologists and as free will—possessing humans.

## ACKNOWLEDGMENTS

I have discussed free will for many years, with almost anyone who would share her ideas or listen to mine, and there isn't enough space here to thank all those many friends and acquaintances individually. I'm sure many of those people will recognize their influence in what I've written here, and I also wish to thank those whose attempts to persuade me to different viewpoints have left less obvious traces.

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More recently, during a sabbatical semester spent at Yale, I had the good fortune to audit a course on early modern philosophy taught by Keith DeRose. He was very tolerant of my many questions about free will and directed me

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