

Do Humans Have Free Will?

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Introduction

If the concern about ethics – how to live one’s life – is to have any meaning, we must assume that we have free will, that we are free to choose one course of action over another or to cultivate one type of character over another. But modern science has seemingly reduced everything to a causally-determined physical matrix in which the present is nothing but an inevitable outcome of the past. This chapter is about how to reconcile the intuition that we are free to choose with the deterministic world view popularized by modern science.

The first thing to note is that scientific discovery no longer supports a wholly-deterministic view of the universe. Ever since the 18th century we have thought the world to be fundamentally physical and causally determined, a Newtonian mechanistic universe in which inert matter is all there is and every change is determined, much like the movement of billiard balls. That view has now been superceded by quantum mechanics, which reveals that at the tiniest, most fundamental level of physical reality things and events are indeterminate; the outcomes of events cannot be predicted in advance, except in statistical terms. Quantum indeterminacy is in play in the neurons of our brains, and hence in our thinking, choosing and acting. I treat this topic in more detail in my paper on [The Quantum Level of Reality](#). Although quantum physics does not prove we have free will, it allows the possibility.

Where people get confused is at the macro level of everyday events. At that level physical causality does apply reliably and the world is rather like a billiard table. We can predict quite accurately how much weight a bridge can hold and how much

tension it will take to snap a cable. We act as if we are free of such constraints when we decide what to do, but we wonder if that freedom is an illusion.

It's not; and this chapter explains why.

A Useless Question

The most cogent statement I have ever found on free will is this:

We need not enter into a philosophical debate between free will and determinism in order to decide how to act. Either we have free will or it is determined that we behave as if we do. In either case we make choices.¹

For purposes of deciding what to do in any given situation or what kinds of habits of character to form, wondering whether we are in fact free to do so is a waste of time. If you believe you have free will, how would your life be different if you became convinced that you don't? If you believe all is determined and you do not have free will, how would your life be different if you were convinced that you do? The fact is, we all act as if we have free will, regardless of what we say we believe about it.

... But An Interesting One

Nevertheless, one wants an explanation that includes both the sense of self-determination that we take for granted in everyday life and the causal regularity that characterizes the physical world we live in. The second most cogent statement I have ever found on free will is this:

A human being is simultaneously a machine and a sentient free agent, depending on the purpose of the discussion, just as he is also a taxpayer, an insurance salesman, a dental patient, and two hundred pounds of ballast on a commuter airplane, depending on the purpose of the discussion.²

There are two ideas here, both important. One, to which I return below, is that different sets of explanatory concepts are applicable in different circumstances. The other is agent causation, the idea that human beings cause things to happen in a different way from physical causality.

Agent Causation

Agent causation is the idea that “agents initiate sequences of events when they act, without the initiation being itself causally determined.”³ Another formulation is this: “Some events are caused, not by other events, but by ... intentional agents.”⁴ Yet another is this: “[A]n action or event is caused by an exertion of power by some agent

¹ Fisher and Ury, *Getting To Yes*, p. 53

² Pinker, *How the Mind Works*, p. 56.

³ Answers.com, “Agent-causation”.

⁴ von Wachter, “Agent Causation”.

with will and understanding.”⁵ “Agent” here has the usual meaning: something, in this case a person, that acts or has the power to act. (The term does not necessarily denote a non-physical entity such as a soul, although it may. I am using it to refer to a person taken as a whole, not an entity somehow above and beyond the sum total of one’s beliefs, desires, dispositions, memories and so forth.) The strong form of agent causation says that an agent can initiate a chain of events without any prior cause. A more reasonable form says that an agent can initiate a chain of events without being completely determined by prior causes, recognizing that things generally have more than one cause.

The theory of agent causation is not that what agents do is uncaused. It is that what causes agents to do things is different from what causes physical objects to do things, and that even so, an agent’s actions cannot be fully predicted. There are ways we try to influence people, but we can only influence, we cannot completely control another person. We can never be sure what somebody will do until they do it. Nor can we be sure what we ourselves will do until we do it. And afterwards we recognize that we could have chosen differently.

This notion is philosophically controversial because it makes agency a different category of causation from ordinary physical causation. It says that there is something about a human being that is more than just physical, chemical and biological reactions. Even if we knew the entire physical history and current state of a person (unlikely as that would be), we could not predict that person’s actions with 100% accuracy. A person is creative, able respond to events in a new way. In any situation the person has the ability to choose, and that choice is itself a determining factor in future events, a factor that is not entirely due to preceding physical events.

This is a problem only if we forget why we are interested in causality in the first place. We want to know what causes events because we want to predict and control them. Physics is, in a sense, the art of telling the future. By understanding what makes things happen, we can design machines to accomplish our goals. We can predict with some confidence that the bridge will carry the intended weight, that the airplane will fly its intended distance at its intended altitude, that the structure will stand in the face of winds of a certain force, etc.

The situation is the same with human beings, but the causes of human behavior are different from what causes the behavior of nonliving things. If we want to predict what a person will do, we consider what they believe to be true and what they want. If we want to influence that person’s behavior, especially if we want their willing cooperation, we influence their beliefs and desires. We can control their behavior by brute physical force of course – by locking them up, say – because people are physical beings; but far more often we use non-coercive measures such as convincing them of certain facts – influencing their beliefs – or changing their desires through enticement, persuasion, cajoling, bribery, offers of exchange, reward or punishment, and many other methods that would have no effect at all on nonliving substances. In other words, we act all the time as if people are free agents with the capacity to choose what they do.

⁵ *Cambridge Dictionary of Philosophy*, p. 15.

We do this for two reasons: because our minds are built this way, and because it works.

Capacities of Mind

Cognitive scientists have identified specific sets of mental modules – similar in function to software modules – that operate in different areas. We have a set of methods to deal with physical objects and another set to deal with agents, and the two are not the same.

Research with very young infants⁶ reveals that people have innate ideas – ideas formed in advance of experience and through which experience is interpreted – about how the physical world works: that an object cannot pass through another object, that objects move along continuous trajectories, that objects are cohesive (their parts move together), that they move each other by contact only, and so forth.⁷

We also have innate ideas about agents: “Agents are recognized by their ability to violate intuitive physics by starting, stopping, swerving, or speeding up without an external nudge, especially when they persistently approach or avoid some other object. The agents are thought to have an internal and renewable source of energy ... which they use to propel themselves, usually in service of a goal.”⁸ This cognitive domain is adapted to understanding and dealing with animals, including humans. Human agents have minds, and we interpret people’s behavior in terms of beliefs and desires.

Agent causation, in other words, is built into the machinery of our minds, presumably for very good evolutionary reasons: our ancestors who thought this way had more offspring than their contemporaries who didn’t.

Interestingly, it may well be that the sense of agent causality is more primordial than that of physical causality. Scholar Robert Wright observes,

Our brain’s capacity to think about causality – to ask why something happened and come up with theories that help us predict what will happen in the future – evolved in a specific context: other brains. When our distant ancestors first asked “Why,” they weren’t asking about the behavior of water or weather or illness; they were asking about the behavior of their peers. ... To answer a “why” question – such as “Why did the thunderstorm come just as that baby

⁶ The methodology is fascinating. Babies can’t talk, but they exhibit interest and boredom by looking at something intently or by looking away. Researchers set up a screen that hides part of the baby’s visual field and allows the baby to see things on either side, such as something sticking out from the left and something sticking out from the right. “It’s especially informative when a screen first blocks part of the infant’s view and then falls away, for we can try to tell what the babies were thinking about the invisible part of their world. If the baby’s eyes are only momentarily attracted and then wander off, we can infer that the scene was in the baby’s mind’s eye all along. If the baby stares longer, we can infer that the scene came as a surprise.” (Pinker, *How the Mind Works*, p. 317.)

⁷ Pinker, *How the Mind Works*, pp. 318-319.

⁸ Pinker, *How the Mind Works*, p. 322.

was being born?” – with anything *other* than a humanlike creature would have been kind of strange.⁹

What Is The Truth?

We have two ways of knowing,¹⁰ both built into our perceptual apparatus. Which one is true? The answer is: both. Both provide useful and accurate ways of understanding, predicting and controlling aspects of reality. They each have their area of application, and humans have used them successfully for hundreds of thousands of years. I treat this topic in my chapter on [Truth](#). By the criteria in that paper, each way of knowing has the following traits:

- It fits the facts of our experience.
- It is internally consistent and is simpler than competing theories.
- It is coherent with everything else we know.
- And it gives us mastery over the realm of experience to which it applies, better than competing theories.

Hence, we are quite justified in treating ourselves and other people as agents with free will, the ability to choose without being fully determined by the past.

Metaphysics

You might question the bit about “coherent with everything else we know.” Agents seem quite different from physical objects. How can both be included in a comprehensive account of everything? One answer is to take agents as a fundamental ontological category, along with and equal in importance to physical objects.¹¹ That is rather a dualistic metaphysics however, strongly reminiscent of the idea that minds are a separate category of existence from bodies, and as such is unsatisfactory. More reasonable is the theory variously called panpsychism, panexperientialism or panprotoexperientialism, which asserts that everything has a mental as well as a physical aspect. As I like to say, everything has an inside and an outside. Please refer to the chapters on [Tao Te Ching Ontology](#) and [Metaphysics, or The Nature of Reality](#). On this view, full human agency as we know it is an elaboration of fundamental properties found at the most elementary level of reality.

Even if one does not wish to embrace such an all-encompassing metaphysics, it is clear that what we know of the physical world does not contradict the assertion that

⁹ Wright, *The Evolution of God*, pp. 468-470.

¹⁰ Actually, we have many more than two. Pinker lists ways of knowing about objects, animate things, natural kinds, artifacts, minds, and social bonds and forces (Pinker, *How the Mind Works*, p. 352) as well as logic, arithmetic and probability. (p. 333) He says “We are all intuitive physicists, biologists, engineers, psychologists, and mathematicians.” (p. 301) My remarks about truth apply to all of them.

¹¹ See, for example, von Wachter, “Agent Causation,” and “Free Agents as Cause”.

some causes are agential rather than purely physical. Quantum indeterminacy comes into play in the interstices of our neurons such that what happens when one makes a choice cannot be predicted, except in statistical terms, from what has gone before. This does not prove we have free will, but it does remove the stumbling block of hard determinism.

The Choice Event

Agential causation intersects with physical causation – we might say it intervenes in the physical world – when we make a choice. The “choice event”¹² causes a subsequent chain of events that was not wholly caused by prior physical events or by prior mental states of belief and desire. It is where each one of us makes a difference in the world. If we are to know ourselves, as the Oracle at Delphi advised, this would be a good place to investigate.

But what is this choice event? We experience it most starkly when we have conflicting desires or inclinations, each of which is as strong as the others. I am walking and come to a fork in the path. Shall I go to the left or the right? If I much prefer what lies to the left, then the choice is simple; but if I like both, then sometimes even I cannot predict which way I will go. I am traveling and see someone in trouble by the side of the road. I want to help, but I am on my way to an important meeting and do not want to be delayed. My choice in this situation will affect not only the suffering person but also myself, and not just for today. It will affect the content of my character, adding one more reinforcement to my habit of being generous and compassionate or self-centered and uncaring. What happens at times like these, some inconsequential and some momentous?

Choice events are not observable from the outside. They are interior and private to each one of us. If we are truly to know ourselves, we must observe, carefully and without preconception or bias, so far as we are able, what happens when we choose.

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¹² von Wachter, “Free Agents as Cause,” p. 3.

Appendix: Determinism and Prediction

The theory that everything is determined generally entails that future states can be predicted from current or past states of the system under investigation. The possibility of accurate prediction has a distinct bearing on questions of determinism. If something cannot be predicted with accuracy, then it is not determined.

Physical Determinism

A belief that human beings lack free will, that they are determined, can be founded on either of the two forms of causality, physical or agential. Materialists base deterministic beliefs on physical causality, the idea that physical events happen inexorably as a result of prior physical events. Taking human beings to be nothing more than complex aggregations of physical matter, they believe that our sense of free will is illusory, and that all is determined by the past. If we insist that such a view entails that we could fully predict the future, we run into a problem. For any system that engages in substantial interaction with its environment and is complex enough to be interesting, it would be computationally unworkable to predict its future states in their entirety. We might get better and better, of course, but could not achieve 100 percent accuracy. It is in practice impossible fully to predict the future.

Even so, some insist that it could be possible in principle. If we had a powerful enough computer and enough data, they say, we could do it. But, given the openness of systems to external influences, that would mean ultimately we would need to predict the future of the entire universe. To do that would require a computer with a data store larger than all the items we would need to keep track of, hence larger than the universe. Not to mention that the computer itself would presumably be part of the universe and thus would itself need to be modeled. This scenario ends up in absurdity.

At the quantum level the future state of an individual object or event (at that level, the distinction between the two is tenuous at best) is indeterminate; events can be predicted only statistically. However, the statistical predictions are quite accurate and replicable. This leads some materialists, who believe humans to be entirely physical, to assert that human beings are determined because we can predict physical reality with accuracy. This does not hold either. It is equivalent to saying that people are determined because given a population of them we can predict how many will choose one thing over another – to vote Republican or Democrat, say. Or that an individual is determined because over a span of time we can predict how often that person will choose one thing over another – to eat vanilla ice cream or chocolate, for instance. But even given the accuracy of such statistical predictions, we are unable to predict a single instance with certainty. We can't fully predict how a particular person will vote or what food a person will choose at a particular time. The single instance of person or time is analogous to the single photon fired at the photographic plate. We are unable to predict where it will be detected, even though we can predict the statistical aggregate quite nicely. And that is the essential point about agents, that in every moment there is the possibility that they will do something unexpected.

Agent Determinism

There is another form of determinist belief, which is based on agent causality: predestination, the belief that a divine entity has already determined what will happen, and in particular all the choices we will make. Consider the phrase “It is written,” a phrase used in many cultures to express the belief that our choices and our destiny are fated, determined in advance. Writing implies a writer. This view is equally as deterministic as the physical variety in that it asserts that our sense of free will is illusory, but for a different reason. It is because God – a form of agent with much greater powers than human beings have – has already chosen for us.

This is a much more interesting form of determinism, because it leaves open the possibility of something unexpected happening. But it says there is only one agent, not many. If that one agent is taken to be God in the sense of an author or creator of the universe who is in some way separate from or outside of his (or her) creation, then the practical meaning is not much different from physical determinism. In both cases, all is determined and we have no free will.

If God is taken to be the One or Universal Soul of advanced mysticism, however, the situation is different because the Universal Soul is, in this view, the Soul of each one of us. Thus, each one of us could be said to have free will, the power to choose.

If that is so, does the individual taken as individual have any choice? Is it fair or accurate to credit the individual with having made a good choice or blame the individual for having made a bad one? This question is at the heart not only of what makes humans human but of what makes each one of us who we are.

Whether and in what way this is actually the case may not be amenable to rational demonstration. Perhaps, with Wittgenstein, we can only say “Whereof one cannot speak, thereof must one be silent.”

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Revision History

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