COGNITIVE SCIENCE

the world without free will

What happens to a society that believes people have no conscious control over their actions?

By Azim F. Shariff and Kathleen D. Vohs

IN BRIEF

In the past decade an increasing number of neuroscientists and philosophers have argued that free will does not exist. Rather we are pushed around by our unconscious minds, with the illusion of conscious control.

In parallel, recent studies suggest that the more people doubt free will, the less they support criminal punishment and the less ethically they behave toward one another.

But science-informed doubt of free will could actually help us improve our legal system by focusing less on doling out jail time solely for the sake of retribution and more on discouraging further crime.

Illustration by Kyle Bean

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IN JULY 2008 RETIRED STEELWORKER BRIAN THOMAS AND HIS WIFE, CHRISTINE, DROVE their camper van to a small seaside village in Wales. Disturbed by men on motorbikes performing loud stunts, the couple relocated to the parking lot of a nearby inn. Later that night Thomas dreamed that one of the bikers had broken into the van. As he slept, he confused his wife with the imaginary biker and strangled her to death. That is how he told the story, anyway.

The next year a jury had to decide whether Thomas was guilty of murder. He had been prone to sleepwalking since childhood, the jury learned. An expert psychiatrist explained that Thomas was not aware of what he was doing when he choked his wife and that he had not consciously chosen to attack her. Thomas went free.

Such cases force people to consider what it means to have free will. During sleepwalking the brain clearly can direct people's actions without engaging their full conscious cooperation. Recently an increasing number of philosophers and neuroscientists have argued that—based on a current understanding of the human brain—we are all in a way sleepwalking all the time. Instead of being the intentional authors of our lives, we are simply pushed around by past events and by the behind-the-scenes machinations of our unconscious minds. Even when we are wide awake, free will is just an illusion.

Philosophers with this viewpoint argue that all organisms are bound by the physical laws of a universe wherein every action is the result of previous events. Human beings are organisms. Thus, human behavior results from a complex sequence of cause and effect that is completely out of our control. The universe simply does not allow for free will. Recent neuroscience studies have added fuel to that notion by suggesting that the experience of conscious choice is the *outcome* of the underlying neural processes that produce human action, not the cause of them. Our brains decide everything we do without "our" help—it just feels like we have a say.

Not everyone agrees, of course, and debates over the existence of free will continue to rage. The two of us, however, are intrigued by a related question of equal importance: What happens when people's belief in free will—justified or not—is shaken? What does a post–free will society, or rather a post–belief in free will society, look like? Our research into this issue offers inklings of an answer, some of which are disturbing. In particular, we see signs that a lack of belief in free will may end up tearing social organization apart.

EXONERATION FOR CRIMINALS

SOME OF OUR EXPERIMENTS have, however, hinted at a more benign outcome, implying that a society that abandoned its belief in free will would be less punitive than our world is today. In survey research, we found that the more people doubt free will, the less they favor "retributive" punishment—punishment meted out not primarily to deter future crime but rather to make individuals suffer for their transgressions. Yet what people believed about free will did not diminish support for "consequentialist" punishment, which abandons the notion of comeuppance and focuses instead on the most effective ways to discourage crime and rehabilitate perpetrators. In effect, free will skeptics treat people who break the law as they would viruses, raging floods or other natural phenomena: they want to protect themselves against further harm but have no desire to seek vengeance.

A subsequent investigation reached a similar conclusion. Half of our participants read a book excerpt arguing that a rational view of human beings leaves no room for free will. The other half read a passage from the same book that was unrelated to free will. As we expected, the first group became more doubtful of free will's existence. All the participants subsequently read a story about a hypothetical man convicted for killing someone in a bar fight. The story made it clear that imprisonment would not help reform him. Those who had been exposed to arguments against free will recommended half as much time in prison as did volunteers in the other group.

In follow-up experiments, we discovered that it was not even necessary to explicitly mention free will to change the way people think about it and, consequently, how they decide appropriate punishment for a crime. After reading glossy popular science magazine articles describing the neural mechanisms that underlie human actions—with no overt mention of free will—people viewed an imaginary criminal as less culpable than did volunteers who were not exposed to such materials. Participants who read about brain science also recommended about half the prison time for murder. Learning about the brain in a college class appears to have similar effects. A recent experiment by Lisa G. Aspinwall of the University of Utah and her colleagues adds to this line of evidence. They showed that when a mental disorder of a supposed criminal is explained in scientific language as something that essentially takes over a person's brain, judges are especially likely to give a supposed criminal a shorter prison sentence.

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SOCIAL DISORDER

ALTHOUGH INCREASED LENIENCY as a result of doubting free will might be a good thing in many instances, completely abandoning criminal punishment would be disastrous. Such punishment is vital to a well-functioning society. Experimental research by Bettina Rockenbach of the University of Cologne in Germany has shown that although few people like the abstract idea of belonging to a group that punishes its members for wrongdoing, in practice they overwhelmingly prefer it. Rockenbach and her colleagues asked volunteers to play cooperative games and gave them the choice between joining a group that either could or could not punish its members for failing to help out. Initially only a third of the participants chose to join the group that could penalize its members, but after 30 rounds nearly all of them had switched over to the punishing group. Why? Because these experiments confirmed what human societies have found over and over again throughout history: when laws are not established and enforced, people have little motivation to work together for a greater good. Instead they put themselves above everyone else and shirk all responsibility, lying, cheating and stealing their way to societal collapse.

Free will skepticism can be dangerous even to a society that has laws, however. Some of our research reveals that such doubt, which weakens a sense of accountability for one's actions, encourages people to abandon existing rules. In studies conducted with Jonathan W. Schooler of the University of California, Santa Barbara, participants who read an anti–free will passage cheated on an academic test—electing to peek at the answers—50 percent more than participants who read a neutral passage. Moreover, in another study where participants were paid for each test question they answered correctly, those who read anti–free will statements claimed they had answered more questions correctly, and accepted payment accordingly, than did other participants.

Equally disturbing for social cohesion, diminished belief in free will also seems to release urges to harm others. One of the admittedly odd ways that psychologists measure aggression in the laboratory is by giving people the opportunity to add hot sauce or salsa to a snack that they know will be served to someone who hates spicy food. Roy F. Baumeister of Florida State University and his colleagues asked a group of volunteers to read arguments for or against the existence of free will before preparing plates of tortilla chips and clearly labeled hot salsa for another volunteer who had rebuffed each group member earlier, refusing to work together with that person. This same aloof individual, the subjects knew full well, was not a fan of spiciness, and the person would have to eat everything that was handed out. Those who had read texts doubting free will's existence used nearly double the amount of salsa.

Neuroscience has revealed that at least one way skepticism about free will erodes ethical behavior is by weakening willpower. Before people make a motion—such as reaching for a cup—a particular pattern of electrical activity known as readiness potential occurs in the brain's motor cortex, which helps to regulate movement. By placing electrodes on the scalp, Davide Rigoni of the University of Padua in Italy and his colleagues showed that diminishing people's belief in free will decreased this electrical activity. In a follow-up study, people whose free will beliefs had been weakened were less able to inhibit impulsive reactions during a computerized test of willpower. The less we believe in free will, it seems, the less strength we have to restrain ourselves from the urge to lie, cheat, steal and feed hot sauce to rude people.

NEW JUSTICE

IF NEUROSCIENCE RESEARCH CONTINUES to degrade people's belief that they have free will, how will society change?

We see three possibilities. History is replete with examples of moral norms evolving with new knowledge of the world. In his recent book *The Better Angels of Our Nature,* Harvard University psychologist Steven Pinker documents a "humanitarian revolution" over the past 300 years in which previously institutionalized practices such as slavery and cruel and unusual punishment became widely reviled as morally abhorrent. Pinker credits the change, in part, to the expanded knowledge of different cultures and human behavior afforded by the Enlightenment's massive increase in literacy, learning and information exchange.

New research unveiling the biological machinery behind human thought and action may prompt a similarly dramatic change in moral views. This is the first possibility. As they have before, changes in moral sentiments may actually help improve the U.S.'s penal system. Currently, criminal punishment is driven primarily by eye-for-an-eye retribution—the kind of punishment favored by people who believe in free will—and, perhaps as a result, is woefully ineffective at deterring future crime. Society should stop punishing people solely for the sake of seeing them suffer and instead focus on the most effective ways to prevent criminal activity and turn past lawbreakers into productive citizens—strategies that become more appealing when people question the reality of free will. Though uncomfortable at times, doubting free will may end up as a kind of growing pain for our society, aligning our moral intuitions and legal institutions with new scientific knowledge and making us stronger than before.

It may not happen that way, though. As our research has suggested, the more people doubt free will, the more lenient they become toward those accused of crimes and the more willing they are to break the rules themselves and harm others to get what they want. Thus, the second possibility is that newfound skepticism of free will may end up threatening the humanitarian revolution, potentially culminating in anarchy.

More likely is the third possibility. In the 18th century Voltaire famously asserted that if God did not exist, we would need to invent him because the idea of God is so vital to keeping law and order in society. Given that a belief in free will restrains people from engaging in the kind of wrongdoing that could unravel an ordered society, the parallel is obvious. What will our society do if it finds itself without the concept of free will? It may well reinvent it. SA

MORE TO EXPLORE

Who's in Charge? Free Will and the Science of the Brain. Michael S. Gazzaniga. Ecco, 2011.

Free Will and Punishment: A Mechanistic View of Human Nature Reduces Retribution. A. F. Shariff, J. D. Greene, J. C. Karremans, J. Luguri, C. J. Clark, J. W. Schooler, R. F. Baumeister and K. D. Vohs in *Psychological Science* (in press).

FROM OUR ARCHIVES

Is Free Will an Illusion? Shaun Nichols; *Scientific American Mind,* November/December 2011.

Free Won't. Michael Shermer; Skeptic, August 2012.

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