

# My brain made me do it

## What does free will look like if neuroscience has anything to do with it?



Who's the puppet master?  
Photo: flickr user \_mill56

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**W**hat led you to read this article? Did you choose to? More importantly, could you have done otherwise? This concept of free will has been one of the longest and most profound philosophical topics since the dawn of consciousness, with no truly satisfying conclusion. Are we simply pre-determined machines?

It certainly feels as though we have free choice, but that does not necessarily break us free from the illusion. So even if you 'decide' to read no further, you still do not escape the problem! The undoubted sensation of free choice stems from an instinctual dichotomy within humans. How often have you explained a hangover with a phrase like "My brain's not working today"?

This linguistic distinction is of course harmless, but it reveals the common human trait of creating a barrier between "my brain" or "my body" and "me." This dichotomy, this sense of an "I" or a "self" set apart from the brain and body, is an ingrained feature of human thought. It is what we call consciousness, and this notion of some controller or driver at the helm – the ghost in the machine – is what defines our feeling of free choice and the set of assumptions that naturally follow.

Yet 'free will' is coming under closer scrutiny beneath the microscope of neuroscience and advances in the science of decision-making, with potentially seismic implications for our legal system and its underlying principle of moral responsibility.

First of all, however, the notion of consciousness as something distinct from the functions of the brain has been discredited as an illusion, a construct. Functional Magnetic Resonance Imaging (fMRI) technology has allowed neuroscientists to study the human mind while it makes ostensibly free decisions. Rather than one area of the brain 'controlling' the operations, scientists discovered that different areas of the brain are independently responsible for varying aspects of decision-making. The "self" or the "I" is an illusion created by the brain.

Arguably more important, however, are the advances neuroscientists have made in their predictive power over their subjects' decision-making. This is where we truly waded into the territory of free will. Most neuroscien-

tists are deterministic – the nature of causality that leads from one occurrence to the next. Why did you eat today? Because you were hungry. Why were you hungry? Because you were biologically determined to feel hunger when your body needs food. And so on goes the infinite regress of reductionism. So to what extent did you actually choose to eat in the first place?

These similar chemical and biological impulses in the brain have been studied by neuroscientists, with the suggestion that our decisions could themselves be caused, rather than freely chosen. In a much-cited experiment from the 1980s, neuropsychologist Benjamin Libet managed to record brain activity several hundred milliseconds before people expressed their conscious intention.

"Several hundred milliseconds?" you may fairly scoff. Well, in 2008, using far superior technology, these results were proved and enhanced. Berlin-based neuroscientist John-Dylan Haynes measured his subjects' brain activity whilst they made "free" decisions whether to press a button with their left or right hand. Haynes discovered that he would be able to predict the decision, by looking at the brain scans, a full 6-7 seconds before the conscious decision was made. Count that in your head now and suddenly it feels like a very long time. In other words, he found that the conscious decision was subverted by the subconscious brain activity, and thus in many cases the 'conscious' decision was irrelevant. It was a 'decision' made after the 'fact'.

It is already established that many processes in the brain occur automatically and without involvement of our consciousness. This is usually beneficial, preventing our mind from being overloaded by simple routine tasks. But when it comes to decisions we normally assume to be made by our conscious mind, this assumption does not fit the experimental results.

Haynes himself admitted that "I find it very difficult to deal with this. How can I call a will 'mine' if I don't even know when it occurred and what it has decided to do?"

Before I spark a whole host of existential crises, it must be said that free will has not yet been destroyed. The predictive power of these tests are not 100% and more complex decision-making than choosing left or right cannot yet be fully predicted despite promising research elsewhere. The fact that decisions are unconsciously 'prepared' before we are aware does not also explain whether these decisions can be reversed by "ourselves." Yet does our shrinking concept of free will simply reside in what we cannot

yet explain?

It appears that whatever concept we had of free will may have been massively overstated, which implies drastic ramifications for our legal system and the idea of moral responsibility. Already we have grounds for 'diminished responsibility' and occasionally frivolous legal defences of childhood trauma or experience. These exceptions are accepted in law. Thus how do we define moral responsibility if we diminish the belief in absolute free will? Surely biological determinism cannot hold up as a justified legal defence. "It wasn't me it was my brain." Further questions arise in conjunction with our increasing knowledge of specific brain areas and injuries, such that an injury in one area may diminish the capacity for traits such as empathy or forethought.

As British neuroscientist Professor Haggard puts it, "What happens if someone commits a crime, and it turns out that there's a lesion in that brain area? Is that person responsible? Is the damage to the machine sufficient for us to exempt them from that very basic human idea that we are responsible for our actions?"

If you believe in determinism, or indeed in the physical laws that electrical and chemical events in the brain obey, then it logically progresses that it could not have been another way. Even critics citing the randomness of quantum activity hit a brick wall, for how much freedom of choice does pure randomness even offer you?

In terms of our legal system, could we ever remove the fundamental principle of moral responsibility? Surely not. Certainly a murderer is still a murderer no matter what the explanatory cause, and moral responsibility remains distinct from being a danger to society. I'm also not necessarily saying that free will does not exist, but we must nevertheless be prepared to adapt its traditional connotation in the face of neuro-scientific advances. The more we know about the brain and thus 'ourselves,' the more we may have to accept that we are not as in control as our illusory sense will have us believe.

However, try to maintain this in the real world and you may come unstuck. Being aware of the illusion cannot break you free of it. If doing something is predetermined, so is doing nothing. So where does that leave us within this cyclical arrangement? You have to subscribe to the illusion of free will regardless. Perhaps with this in mind, you'll understand why Professor Haggard prefers to "keep my personal and professional lives pretty separate." 🐼