in focus

Free will vs determinism

Andrew Dunn and **Garry Young** debate whether or not people have free will. (We made them do it)

YES

Yes, we have free will

We can define free will 'as the power to act voluntarily to cause another event, outside the influence of fate or external influence'. The most powerful piece of psychological evidence *against* free will comes from the work of Benjamin Libet.

The Libet experiment

In his experiment, Libet asked participants to make random voluntary wrist movements while he recorded their muscle and brain activity. He also got them to report the position of a hand on a clock-face when they felt the urge to move. He then compared the timing of the wrist movement (action), the clock-hand position (urge), and the brain activity (a motor readiness potential in the pre-motor cortex).

As expected, the readiness potential occurred before (approximately 500 ms before) the start of the movement. But what was unexpected was that the urge to act (as reported by the participant) occurred approximately 200 ms *after* the readiness potential had begun and only 300 ms before the action. In other words, the participants' brain got ready to make the movement before they consciously chose to do so.

This striking finding has been taken to imply that our actions are predetermined; that we have no free will. However, there are a number of reasons why we should question this conclusion.

Not all or nothing

Certainly as biological beings in a physical world we are constrained by the laws of physics. We cannot simply choose to fly out of the window, or become immediately taller just by willing it to happen. We are not free in this extreme libertarian sense. Similarly, while genes, biology, past experience and social pressures influence our judgements about the world and how we respond to it, this does not mean that we are determined to act in fixed, pre-ordered ways. Freedom of will is not dichotomous. There are constraints, but free will is not something we either consciously have or don't have, it is much subtler than that.

References

Libet, B., Gleason, C. A., Wright, E. W. and Pearl, D. K. (1983) 'Time of conscious intention to act in relation to onset of cerebral activity (readiness-potential)', *Brain*, Vol. 106, No. 3, pp. 623–42.

James, W. (1890) *The Principles of Psychology*, Holt.

Spence, S. A. (2009) *The Actor's Brain: Exploring The Cognitive Neuroscience of Free Will*, Oxford University Press.

PsychologyReview*Extras*

Go online (**www.hoddereducation.co.uk/psychologyreviewextras**) for a vodcast giving a personal view of free will.

Conscious and unconscious behaviour

Free will does not have to be conscious. Much of our behaviour is controlled unconsciously (e.g. breathing) or becomes automatic after it has been learned (e.g. walking). But these behaviours can be brought to conscious awareness and controlled as the situation demands (e.g. treading carefully across a cluttered floor).

Making these behaviours automatic is useful because it frees up processing power for things such as planning and decision-making. For example, you don't have to think about every movement involved in treading across a cluttered floor. Rather you choose to cross the room (plan) in response to a stimulus (a door bell), in order to achieve a new goal (see who it is). In doing so, *you* set up a series of potential motor actions, in advance of making them.

What's more, since you are your brain (NB: this is a controversial point — Ed.) it doesn't actually matter if you are consciously aware of this action or not, what matters is the goal. In this sense you have varying degrees of ownership over the plan, only some of which you are conscious of. So in Libet's experiment that feeling of *urge* comes after you have started to act because it is confirmation of *you* having acted out *your* intended plan.

Ultimately there is constraint, but there is no single piece of experimental evidence that positively refutes free will. The real issue is how you define it.

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NO

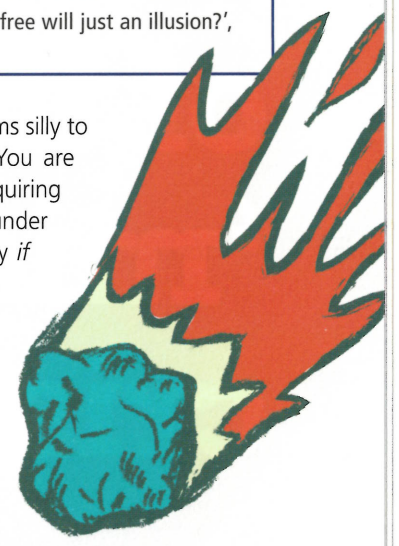
My actions *are* determined. So what?

With reference to the Libet study, individual movements must be understood within a wider context — in this case, obeying the experimenter's command to 'move your wrist whenever you feel like it'. Conscious volition (*agreeing* to obey the experimenter's command) therefore plays an important role in causing the individual's wrist movement (Spence 2009).

Choosing to do something else

But why do I agree to obey the experimenter and move my wrist in a seemingly random way? What caused me to decide to go along with the experimenter's wishes, rather than disobey? A simple response is that *I decided*. Proponents of free will refer to this as the *power of origination* (a point I shall return to). A further necessary condition for free will is that the individual could have done something else, all things being equal. So, when having to choose between A and B, if on one occasion I chose A, I could just have easily have chosen B. But does this requirement make sense?

Think about this example. I am asked to choose between A and B and I choose A. I am then asked: Why did you do that? I respond: *Because*.... Whatever I say after 'because...' is my reason for choosing A. I thought about it before making my choice and, as a result of this thought, chose A. Now, imagine I could go back in time and make the choice again, and again, and again, with no memory of having done so previously. Given that nothing has changed, why would I choose anything other than A each time? It seems silly to think that I would choose differently. You are therefore left to question the sense in requiring that I could have chosen differently under exactly the same conditions. Surely, only *if* I had thought about it differently, could I have made a different decision, but why would I think about it differently, all things being equal?



The power of origination

Given this, let us now consider the power of origination (the ability to make a choice). When thinking over whether to choose A or B, what caused *me* to choose A? In other words, what made me think the way I did and not think differently? You might reasonably answer: 'your life experiences' — as in my upbringing, including education and culture, my personality, cognitive abilities, and so on.

To say that these things determined the choice I made does not strike me as unreasonable (nor out of step with psychological research); nor does it make me feel constrained to the point where *I* have no power to choose. I can accept that my choice is determined by the things that have made me the person I am, and so have (in the sense described) caused me to choose what I did because I did not think differently.

A spectrum

Of course, there may be certain influences that compel some people to choose to do certain things, irrespective of any thought, or make them incapable of thinking in a rational way. For example, this could descibe those suffering from obsessive-compulsive disorder, OCD.

William James (1890) draws a distinction between cause and compulsion. What I have described so far could be construed as the two ends of the cause–compulsion continuum. Some influences compel someone to make certain choices (as in the case of someone with OCD), other influences form part of their explanation for why they chose what they did. There is, of course, a large grey area between these two ends of the continuum, and that is what makes the free will–determinism debate so interesting. Where does one draw the line between cause and compulsion?

In the end, then, if it is the case that the decisions I make are determined by those influences that have made me who I am and think the way I do (some of which I am conscious of when I deliberate), then I can live with that. After all, what other causal account could there be for why I do what I do?

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Box 1 Freedom and determinism

The free will–determinism debate — like other philosophical debates — can be pretty tricky to follow. So here is a simple introduction. 'Causal determinism' is the idea that every event, including human choices and behaviours, is determined by prior events. Approaches to psychology are to a greater or lesser extent determinist. The behaviourists — like John Watson and B. F. Skinner — believed that our behaviours are determined by past experiences. This is called 'environmental determinism'. Evolutionary psychologists emphasise 'genetic determinism', the idea that our behaviour is determined by the genetic material we acquired from our forebears.

The major argument against causal determinism is the experience of free will, emphasised in the humanistic approach to psychology. We are all conscious on a moment-to-moment basis of making decisions — this *feels* free. If we really have free will then this is hard to reconcile with determinism. However, determinists suggest that free will is an illusion; we are simply unaware of the environmental and/or genetic influences that shape our decisions.

If this all makes your head hurt, you may be relieved to know that many psychologists believe in 'soft determinism' or 'compatibilism'. This is the view that we choose our actions but that our choices are influenced by past events such as learning experiences or genetic make-up (i.e. the influences that have made me who I am).

Further research

Online video explaining Libet's experiment: **www.tinyurl.com/cfre6p**.

Short BBC video 'The Libet experiment: is free will just an illusion?', **www.tinyurl.com/nftu3lw**.