Do I Have Free Will?

Part II: The Challenge from Neuroscience

Last time: The challenge to free will from determinism, reasons to believe determinism, and the consequence argument for incompatibilism.

1. Compatibilist escape routes

A *compatibilist* responds to the challenge from determinism by asserting the *compatibility* of us having free will with our actions being determined by facts beyond our control. The consequence argument pushes the compatibilist into a tight corner. The compatibilist's best bet is to argue that we have been thinking about free will in the wrong way—we *think* it requires that alternative possibilities are open to us, but maybe it doesn't.

Frankfurt (1969): Contrary to popular belief, *moral responsibility* does not require alternative possibilities.

- In a *Frankfurt case* (Frankfurt 1969, p. 835), there is a *backup mechanism* (e.g. a neural implant) that will force an agent to do *X* if it predicts that he will not choose to do *X*, but the agent *does* choose to do *X* and the backup mechanism is never activated.
- Frankfurt says: the agent is still morally responsible for doing *X*, even though he could not have done otherwise.

If moral responsibility doesn't require alternative possibilities, then either free will doesn't require alternative possibilities, or else free will isn't needed for moral responsibility—or both.

2. Free will and second-order desires

Frankfurt's own view is that free will is the freedom to *want what you want to want*:

> "the statement that a person enjoys freedom of the will means . . . that he is free to want what he wants to want. More precisely, it means that he is free to will what he wants to will, or to have the will that he wants. Just as the question about the freedom of an agent's action has to do with whether it is the action he wants to perform, so the question about the freedom of the will has to do with whether it is the will that he wants to have." (Frankfurt 1971, p. 15)

Free will for Frankfurt is a special type of alignment between your "*first-order desires*" (desires for ordinary objects—coffee, happiness, sleep, a job, etc.) and your "*second-order desires*" (desires you have about which first-order desires you want to motivate you).

Frankfurt's proposal has several advantages: it explains the difference between willing and unwilling addicts, it identifies a difference between human agency and agency in (most?) non-human animals, and it makes free will "worth wanting". But does it really escape the challenge from determinism?

3. The challenge from neuroscience

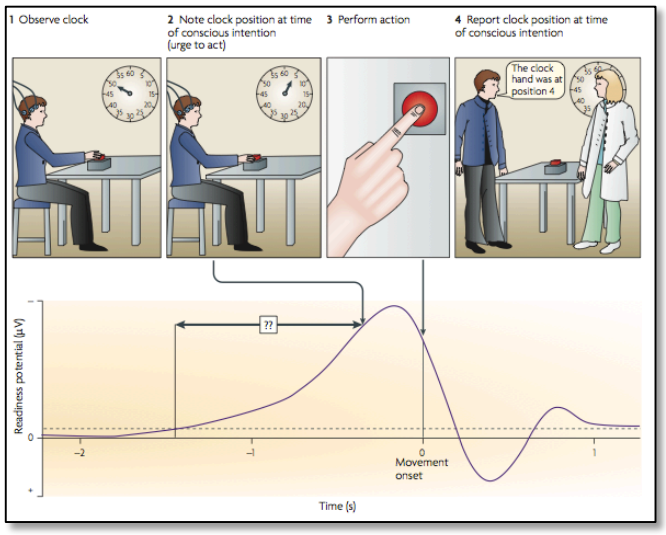
Compatibilist theories of free will often throw out the *alternative possibilities* and *control* components of free will as traditionally understood, but they still hold on to a version of the *origin* component:

> An action is freely willed only if it is *initiated* by the agent's conscious choices, desires and intentions.

Does this have to go too? Recent work in the neuroscience of agency suggests it might. In a famous serious of experiments in the early 1980s, Libet et al. attached electrodes to the heads of subjects and asked them to press a button at a time of their choosing. They then asked subjects to report (with reference to a very

precise clock) when they first became aware of an intention to press the button. They found that a 'readiness potential' arose in the brain about *0.4s* before subjects first became aware of an intention to act.

The study has been replicated several times (Haggard 2008). In an update of Libet's experiments, Soon et al. (2008) asked subjects to a press a button using either their left or right hand. They used fMRI techniques to detect neural activity, allowing them to predict which hand would be used *up to ten seconds* before subjects reported awareness of a conscious choice.



What is the nature of the threat posed by the Libet experiments?

- *Weak version:* Conscious choices, desires and intentions do not *initiate* action. They occur after an action has been unconsciously initiated.
- *Strong version:* Conscious choices, desires and intentions are not even *causally relevant* to action. They are wholly *epiphenomenal* (see Week 4).

4. Free will saved?

Libet: The results can be reconciled with free will, because the subject can consciously choose to '*veto*' the action after the readiness potential has started. However, this does not rule out the possibility that these 'conscious vetoes' are also initiated by unconscious neural activity.

Mele: Libet asked subjects to press the button when they 'felt the urge' to do so. One interpretation of the readiness potential is that it reflects this 'urge' arising. But since an *urge* is not the same thing as an *intention to act on the urge*, the results do not present a serious challenge to free will.

Primary reading:

Libet, Benjamin. 2005. Do we have free will? In Robert Kane (ed.), *The Oxford Handbook of Free Will*. 1st edition.

Further reading (philosophy):

Frankfurt, Harry G. 1969. Alternate possibilities and moral responsibility. *Journal of Philosophy* 66:829-839.

Frankfurt, Harry G. 1971. Freedom of the will and the concept of a person. *Journal of Philosophy* 68:5-20.

Mele, Alfred R. 2011. Free will and science. In Robert Kane (ed.), *The Oxford Handbook of Free Will*. 2nd edition. [first four sections only]

Roskies, Adina. 2006. Neuroscientific challenges to free will and responsibility. *Trends in Cognitive Sciences* 10:419-423.

Further reading (neuroscience):

Haggard, Patrick. 2008. Human volition: towards a neuroscience of will. *Nature Reviews Neuroscience* 9:934-946.

Smith, Kerri. 2011. Neuroscience *vs* philosophy: taking aim at free will. *Nature* 477:23-25.

Soon, Chun Siong, Marcel Brass, Hans-Jochen Heinze and John-Dylan Haynes. 2008. Unconscious determinants of free decisions in the human brain. *Nature Neuroscience* 11:543-545.