

# Can brain scans prove criminals unaccountable?

Rebecca Roache

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## Abstract

Leonard Berlin reports that neuroscientific data play an increasing role in court. They have been used to argue that criminals are not morally responsible for their behaviour because their brains are ‘faulty’, and there is evidence that such data lead judges to pass more lenient sentences.

I raise two concerns about the view that neuroscience can show criminals not to be morally responsible:

(1) That the brains of (say) violent criminals differ from most people’s brains does not straightforwardly show that violent criminals are less morally responsible. Behavioral states arise *inter alia* from brain states, and since violent criminals’ behavioral states differ from those of most people, it is unsurprising that violent criminals’ brains should differ from most people’s brains. This no more shows violent criminals to have diminished moral responsibility than differences between the brains of cheerful and uncheerful people show either group to have diminished moral responsibility.

(2) Those who view brain abnormalities as evidence of reduced moral responsibility rely on the assumptions that people with normal brains have free will and that we know what sorts of brain activity undermine free will. However, both of these assumptions are highly controversial. As a result, neuroscience is not a reliable source of information about moral responsibility.

I conclude that, until we settle whether and under what circumstances brain activity is incompatible with free will, neuroscience cannot tell us anything useful about criminal accountability.

Leonard Berlin (2014) reports that neuroscientific data have been presented in court by lawyers wishing to argue that their clients have reduced or absent moral responsibility for their behaviour because their brain function is impaired. Berlin cites evidence showing that such neuroscientific data can influence judges to pass more lenient sentences, and he anticipates that advances in ‘the neurology of criminal behavior’ may lead courts to view certain criminals as having reduced accountability for their actions. Similarly, an advisor to President Obama recently predicted a surge in the number of US defendants appealing to neuroscientific data in criminal court cases in an attempt to reduce sentences and strike out confessions, and commented that this strategy has already been successful in some cases (Sample 2013).

Berlin, and those whose comments he quotes, note that the neuroscience behind criminal behavior is in its infancy: many of the neuroimaging techniques he considers are experimental or otherwise unproven, and their results subject to interpretation. I wish to raise the additional point that the ability to prove criminals unaccountable on the basis of neuroimaging does not depend merely on our understanding of the brain and the availability of reliable imaging techniques, but also—crucially—on answers to philosophical questions about the relationship between brain activity and free will.

I will give two reasons for believing that brain scans cannot show criminals to be unaccountable, or less accountable. First, even where their brains look and function differently to the brains of normal people—in this context, healthy non-criminals—this does not itself entail that criminals are less morally responsible for their behavior than normal people. Second, since there is substantial disagreement about what neuroscience can *in general* tell us about free will, we should not expect it to tell us anything useful about criminals' free will.

### **(1) Criminal and non-criminal brains**

Psychiatrist and lawyer Professor Nigel Eastman warns us that it is not possible to conclude from a brain scan that an individual has an abnormal brain (Sample 2013). Even setting this worry aside, however—that is, even supposing that it were possible for a brain scan of a certain criminal to show conclusively that her brain differs markedly from most people's brains—this tells us nothing about her accountability for her crime. I take criminal accountability to be the extent to which a criminal is morally responsible for her crime, and I take moral responsibility to presuppose free will. Free will, in this context, is the ability to do otherwise; in particular, the ability to refrain from criminal behavior.

Neuroscientific data showing even marked differences between the brains of criminals and non-criminals should be far from surprising. Criminals—at least violent ones, on whom Berlin and others writing on the topic of neuroscience in the courtroom tend to focus—differ markedly from most people in their behavior. In particular, violent criminals are disposed to behave violently in situations where most of us would not behave violently; this, of course, is why they end up in court. Since behavior arises *inter alia* from brain states, it should not surprise us if the brains of individuals disposed to behave violently differ markedly from the brains of those not so disposed. These brain differences themselves tell us nothing about the extent to which violent criminals are morally responsible for their violent behavior, and thus nothing about the extent to which they can properly be held accountable for their crimes.

To illustrate this point, consider an analogy. Given that behavior arises *inter alia* from brain states, it should not surprise us if the brains of cheerful people—that is, people disposed to behave cheerfully—turn out to differ markedly from the brains of uncheerful people, yet we would hardly take such differences themselves to provide any insight into the extent to which people in either group are morally responsible for their actions.<sup>1</sup> [end of page 35]

In general, in order to draw conclusions about criminal accountability from brain scans of criminals, we need a robust account of what sort of brain activity is compatible with free will and what sort undermines free will. Armed with such an account, drawing conclusions about free will from brain scans would be a relatively simple matter, provided that the data produced were sufficiently fine-grained. Formulating a philosophically uncontroversial such account according to which criminals are less free than other people, however, is far from being a simple matter. This is not to deny that there may be wider philosophical agreement about some cases than about others; philosophers might be inclined to agree, for example, about cases where there is a strong correlation between neuroscientific data and behavioral outcomes. A man whose paedophilia appeared and disappeared along with his brain tumour may be an example of such a case (Sample 2013). However, even striking neuroscientific data may have no

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<sup>1</sup> My argument here is analogous to one given by Julian Savulescu (2010).

obvious relevance to explaining behavior, as Stephen Morse (2014) cautions us in this issue. In such cases, it is far from clear that there are *any* uncontroversial conclusions to draw about free will. This leads us to the second reason for doubting that brain scans can show criminals to be unaccountable.

## **(2) Free will and neuroscience**

Those who believe that abnormal neuroscientific data can show criminals to be less accountable depend on two controversial assumptions: that people with normal neuroscientific data have free will, and that we know what sorts of brain activity undermine free will. Both of these assumptions are contested in the scientific and philosophical literature.

Some claim that neuroscientific discoveries show that *nobody* has free will. The neuroscientist Benjamin Libet (1985) showed that conscious decisions to act are preceded by brain activity. He argued that this brain activity causes action: our conscious decisions (and therefore, according to him, free will) play no causal role in initiating action. Recent studies report similar results (e.g. Soon et al. 2008, Fried et al. 2011), which raises the worry that our intentions are mere rationalisations, rather than causes, of our actions (Wegner and Wheatley 1999). Many take such findings to undermine the belief that we have free will (e.g., Pinker 2002, Smith 2011). If science really has shown that nobody is free, then scanning the brains of criminals in an attempt to prove them unaccountable is a waste of time.

However, many dispute the implications of Libet's findings for free will. Daniel Dennett (2012) questions why we should take freedom to be threatened by the discovery that one's own brain activity causally influences one's actions when freedom is generally seen as compatible with certain external causal influences such as advice from others. Walter Glannon (2005) observes that freedom may not be all-or-nothing, so its absence under certain conditions—such as during an experiment—would not show that we *never* have it. And Alfred Mele (2007) argues that the pre-action brain activity Libet detected could indicate an urge rather than a decision to act; since not all urges result in action, Libet has not shown that the conscious decision to act is causally irrelevant to action. These objections demonstrate that the issue of what conclusions we can *in general* draw about free will from neuroscientific data is a highly contested issue; given this, we can hardly expect neuroscientific data about criminals to tell us anything reliable about their free will.

## **(3) Conclusion**

For practical, legal purposes there is a case for treating people as free despite the existence of disagreement between and among philosophers and neuroscientists about whether any of us is free. With this default assumption in mind, it is open to lawyers to demonstrate reduced accountability in individual cases. When such demonstrations appeal to familiar influences—such as coercion, poverty, illness, indoctrination—judges and juries, like the rest of us, have intuitions on which they can draw, sometimes with expert guidance, to assess the effect of these influences on free will. On the other hand, when such demonstrations refer to data about which ordinary people have no reliable intuitions, and which require expert scientific interpretation, and when that expert scientific interpretation makes unjustified philosophical assumptions about what those data entail about freedom, neuroscience in the courtroom is more likely to mislead than to inform.

Does this mean that neuroscience can never tell us anything useful about criminal accountability? No. What it means is that, in order for neuroscience to provide insight into the extent to which criminals act freely, and therefore the extent to which they are morally responsible and accountable for their actions, what is required is not merely more sophisticated scanning techniques and a better understanding of brain function. These scientific advances must go hand-in-hand with improved philosophical insight into, and consensus about, the link between brain activity and free will.

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