

BOOK REVIEW

LAW, MIND AND BRAIN

Michael Freeman and Oliver R Goodenough (eds)

Farnham: Ashgate, 2009, 430p, £70, ISBN-978-0-7546-7013-1 (hbk)

What has come to be known as “Neurolaw” is quickly becoming the fastest-growing “law and” concentration in memory. From blogs, books and conferences, the message is clear: developments in neuroscience have potentially transformative applications in law both at the theoretical level and in institutional contexts. The book under review is the product of a conference held at University College London in 2006. For anyone interested in this field, the book is worth a look, as it contains papers on a wide variety of issues.

There is a real sense in which the interplay between neuroscience and law can be seen as a “law reform” project. To illustrate, consider the role of the American Legal Realists in the history of law reform. The Realists wanted to make law responsive to real world problems. To advance their agenda, the Realists advocated increased use of social science methods to gain greater knowledge of the objects of legal regulation. From the intricacies of banking to the ebb and flow of traffic patterns, the Realists maintained that law should comport with facts on the ground, lest law be irrelevant or worse.

Similarly, one can understand the Neurolaw movement as an attempt to improve law by making it more informed by “the facts”. For Neurolaw, the facts in question are facts about the mind and the brain. A not uncontroversial example is the criminal law (this area accounts for the greatest number of pages in the book under review). A basic premise of criminal law is that, all else being equal, persons are responsible for their criminal behaviour. The law presupposes that we are free agents, capable of making choices about our actions and making us responsible for those actions both civilly (e.g., in tort) or in virtue of the criminal law. But what would happen to the law if it turned out that we are not in fact “free” to decide how to behave? What if neuroscience could show that at all times, actions previously thought to be the product of “free will” are, in fact, the product of causal forces over which we have little or no control? We would, so the argument goes, be forced to change our conception of free will. We would be compelled to alter the very presuppositions upon which civil and criminal liability are constructed.

In the view of some, neuroscience has the capacity to change the way we view a wide variety of legal concepts, not the least of which are free will and responsibility. Technological advances in neuroscience, in particular the development of Functional Magnetic Resonance Imaging (fMRI), provide previously unattainable insight into the workings of the mind and brain. The more we know about the mind and brain, it is argued, the more we will come to understand the nature of human decision-making and the role of causation in the assessment and appraisal of human action.

Now, I just mentioned “the mind and the brain”. Did I mean to suggest that they are the same thing; that one (the mind) is reducible to the other (the brain)? I would prescind from this suggested reductionism for, at a minimum, this move is highly contested and exceedingly controversial. The importance of the distinction between mind and brain lies not in the reductionist impulse but in the presupposition it expresses. The question, “Is the mind reducible to the brain?” identifies one of the most important issues in the burgeoning field of Neurolaw. It is a thoroughly conceptual question because it involves no questions of fact and, more importantly, because it raises issues about how to speak properly about mental events and processes. In short, the issues are philosophical and not empirical.

Despite its merits (to which I shall turn shortly), this volume suffers from a lack of engagement with the most basic theoretical or philosophical questions in the field of Neurolaw. This point is sufficiently important to spell out in more detail. Again, the important distinction is between the empirical (factual) and the conceptual (philosophical).

What is the province of cognitive neuroscience? Let us start with neuroscience. The job of the neuroscientist is to unravel the mysteries of the human nervous system. The cognitive neuroscientist focuses attention on the brain and its capacities. These include, of course, hearing, vision, smell and a wide variety of other matters of sense and volition. The neuroscientist uncovers facts about the neural workings of persons by experiment, which is the primary mode of investigation in neuroscience and, indeed, all the sciences.

Does the neuroscientist tell us what the mind is? Does the neuroscientist perform an experiment to determine whether the mind is distinct from the brain (or related to it)? Neuroscientists do nothing of the sort. Of course, they may presuppose a certain conception of the relationship of mind to brain, but no experiment can confirm that any particular understanding of this relationship is at all correct. But if the neuroscientist does not tell us about the relationship of mind to brain, who does?

It falls to philosophy to explain the puzzle (if, indeed, there is one) of mind and brain. Start with how we use the word “mind”. We say: “I did not have that in mind”, “I don’t mind you doing that”, “He is out of his mind”, and “Mind the gap”. When we look at these locutions, can we say that we presuppose the mind is a thing (i.e. a substance like the brain)? If the mind is a “thing”, then why can we not see it, like we see the brain? If the mind is not a “thing”, can it still be said to “exist” (or, as Descartes thought, to interact with the body)?

Some want to dismiss these questions entirely. That strategy will not work for the simple reason that clarity demands more rigour and more attention be given to these issues. Some of the sorts of things some people say about the brain are:

- the brain thinks, decides, and weighs the options;
- the brain interprets;
- the brain unconsciously follows rules; and
- the brain is the mind and the mind is the brain.

John Mikhail (not a contributor to this volume) has built a research agenda around the idea that we can profitably look at the brain and norms the way Noam Chomsky looks at grammar and language. To pull off such an enterprise, Mikhail has to show that it

makes sense to say that the brain unconsciously follows norms. No experiment is going to tell us what “following a norm” amounts to. In order to run an experiment that asks the question “do people follow norms unconsciously?” you first have to have some notion of what it is to “follow a norm”. Philosophy tells you how to get clear about that and that the idea of “unconscious rule following” makes no sense whatsoever.

I would have liked to see the editors of this volume devote more attention to these sorts of conceptual questions. Now, it is an old adage of book reviewing that it is inappropriate to criticise an author for a book he neither wrote nor intended to write. I will plead guilty but with an explanation. The philosophical issues surrounding the philosophical foundations of neuroscience are well-known and argued by sophisticated philosophers and neuroscientists. In a collection of papers about the application of neuroscience to law, some mention of the conceptual issues is warranted, lest one come away with the impression that everyone is “on board” with the agenda. In fact, even some who are sympathetic (or open) to the use of neuroscientific evidence in law stress the importance of the conceptual issues.

Having said what is not in the book; let me take the remainder of this review to discuss what is in the book. There are sixteen articles and an introduction by the editors. The range and scope of topics is quite wide. Topics include: fMRI technology and the courtroom, juvenile offenders and neuroscience, memory dampening, and an especially interesting article on the question “Why good people steal intellectual property?”

In “Law, Responsibility and the Brain”, Dean Mobbs and others look at a variety of issues surrounding responsibility for criminal behaviour. In their discussion of insanity, they make the point that neuroscience may offer insights into the underlying causes of criminal behaviour. This is true enough. They then suggest that neuroscience may “affect particular trial outcomes” (p 18) in particular the trials of youthful offenders. They are surely right that neuroscience has and will continue to find its way into the courtroom. The key question, of course, is what parameters are courts to use in deciding what evidence to admit and the question whether the admissibility of evidence turns on whether the state or the defendant is proffering the evidence. In this, the authors are surely correct when they write “the goals of science and law are different” (p 21). It is precisely these sorts of policy questions that cry out for normative treatment.

Lisa Claydon takes on the integration of the philosophical and the legal in a chapter devoted to the presuppositions of the criminal law regarding mind and brain. In her view, “[t]he normative structures of the criminal law are problematic” (p 55) owing to “an implicit assumption which underpins the criminal law that mind and brain are separate” (p 55). The problem, Claydon recommends, can be avoided if we “construct a model of human behavior utilizing modern philosophical arguments based on scientific advances” (p 55). Those philosophical arguments come from, among others, Daniel Dennett and John Searle. In her recapitulation of Searle’s analysis of “the gap” between thought and action, Claydon weds Searle’s point of view with Libet’s experiments to draw the conclusion that the law’s presuppositions with respect to “voluntariness” are “actually incorrect” (p 78) and in need of rethinking. Alas, Claydon neither looks at criticisms of Libet (e.g. those of Bennett and Hacker) nor does she suggest how the current state of the law ought to be

restructured, assuming her conclusions regarding choice and free will are indeed correct.

In a characteristically clear and well-developed argument, Adam Kolber considers some of the legal and ethical issues concerning “memory dampening”. Currently, there are sufficiently well-developed drugs to dampen even the most painful of memories. But should such a practice be permitted? Kolber suggests that given the important role of memory in fact-finding and law, careful attention needs to be paid to the scope of permitting such a practice as well as specific contexts in which the practice might be prohibited outright. Sceptical of “broad legal restrictions” on memory-dampening, Kolber suggests “we should have at least a limited right to dampen our memories” (p 233).

The most theoretically ambitious chapter in this collection is authored by Oliver Goodenough and Gregory Decker. Leading with the provocative title “Why Do Good People Steal Intellectual Property?”, Goodenough and Decker make the strong claim that owing to developments at both the theoretical and conceptual levels, cognitive neuroscience can answer their question. Despite their obvious enthusiasm for cognitive science, the arguments they advance are remarkably weak. Dressing up their views in the language of natural science only serves to undermine their claims.

Goodenough and Decker set the stage for their argument by advancing four theoretical points. They are:

1. Thought is a computational process, made possible by the physical structures and workings of the human brain;
2. Our cognitive processes involve a mix of localised centres, often with particular functions or capacities, and interactions across many areas of the brain;
3. Formal approaches such as game theory are important for understanding the strategic basis of cognition in a social context involving human interaction; and
4. Recognising the multiple inputs that shape our decision-making (e.g. the genetic basis of our brain organisation as well as the ability to create and shape external institutions).

After enumerating the current range of technological tools available to cognitive neuroscientists, Goodenough and Decker take up the question how the brain moves from sensory input to action. The conventional wisdom is that the brain is like the captain of a ship who takes in information from various members of the crew and then “barks out orders”. This “poor model” for what is going on in the brain should, they argue, be replaced by one that sees the brain acting through the use of various processes, including inhibition. What we need to get clearer about, so the authors argue, are the emotions. Cognitive science, they tell us, “is recasting how we think about emotion” (p 354).

Before we come to answering the question regarding intellectual property, we must consider the authors’ methodology for answering their question. Their recommended methodological approach is to “[c]onsider the possible cognitive structures and processes that could be involved in the targeted thought and behaviour and form testable hypotheses concerning these processes” (p 357). Then, empirical research can be done to test the hypotheses. When the results are in they can be used to inform the courts and other bodies about the formulation of legal doctrine.

The question “Why do some people not respect intellectual property?” can be answered by first considering why most people respect other forms of property. It seems that when it comes to “tangible objects such as food, tools, clothing, etc.,” the authors posit the existence of “structures that help us to assign the characteristics or property to those things we recognize as possessions” (p 358). Further, they argue, “recognizing property may well be a capacity, like language, which is supported by particularly suited elements of brain physiology” (p 359). It seems that when it comes to appreciating the importance of intellectual property, our brains simply are not up to the task. What to do?

Now to the law reform aspect of the argument. To gain greater respect for intellectual property, the law needs to “recruit the mental structures of its targeted humans so as to engage their emotional responses around the desired choices” (p 364). Decades of rhetoric surrounding “respect for property” should be abandoned. In its place, the authors recommend “building a law around the idea of respect” (p 364). Once in place, the “jurisprudential hypotheses” can be tested through an “empirical programme” of experimentation. The results will lead to “a doctrinal overhaul of the intellectual property field, particularly in copyright” (p 365).

This may sound like science, but it is no more scientific than metaphysics. Richard Rorty describes the approach taken by other cognitive science enthusiasts as akin to “that taken by the man who searches for his missing keys under the lamp-post, not because he dropped them near there but because the light is better”.¹ As Rorty points out, a result (i.e., the “hypothesis”) like that sought by Goodenough and Decker cannot be “empirical” for a very basic reason: it is difficult to imagine what would disconfirm it. Thus, Rorty:

To say that a mechanism embodies a function is just to say that its behavior can usefully be described in terms of a certain specifiable relation between input and output. Nobody can specify any such relation between the inputs provided by language-teaching adults and the outputs provided by a language-learning child, because they are too various. It would be like trying to specify a relation between the events that occur in the course of learning to ride a bicycle and those that are the actions of the accomplished bicyclist (Rorty, at 222).

The Neurolaw movement has been steadily gaining ground. Now the recipient of foundation money and wide interest from a number of quarters, one can only expect to see increased attention to the role of neuroscience in law and elsewhere. It is owing to this increased attention that those championing the insights of neuroscience for law should take the time to address some of the basic conceptual problems plaguing their enterprise. While there is little attempt at this in this volume, the book warrants attention.

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¹ R Rorty, “The Brain as Hardware, Culture as Software” (2004) 47 *Inquiry* at 221.

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