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### Preface to the Paperback Edition of Minds, Brains, and Law: The Conceptual Foundations of Law and Neuroscience

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THE UNIVERSITY OF  
**ALABAMA**  
SCHOOL OF LAW

**Preface to the Paperback Edition of *Minds, Brains,  
and Law: The Conceptual Foundations of Law and  
Neuroscience***

Michael S. Pardo  
Dennis Patterson

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*Preface to the Paperback Edition*

As we write, it has been a year since the publication of *Minds, Brains, and Law*. During that time the topics that occupied us in the book have continued to see increasing attention and discussion. For example, President Barack Obama has announced the “Brain Research through Advancing Innovative Neurotechnologies” (BRAIN) Initiative and has charged the “Presidential Commission for the Study of Bioethical Issues” to address the application of neuroscience to law and other areas.<sup>1</sup> We have been especially fortunate to have attracted the attention of commentators on our book, for whose attention we are most grateful.<sup>2</sup>

One of the central contentions of our book is that the conceptual issues involved in the intersection between law and neuroscience are of paramount importance. This theme resonates with broader discussions of the impact of neuroscience in a variety of fields. For example, Colin McGinn’s reviews<sup>3</sup> of recent books by Jean-Pierre Changeux<sup>4</sup>

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<sup>1</sup> *Presidential Charge to the Commission for the Study of Bioethical Issues* (July 1, 2013), available at: <http://bioethics.gov/sites/default/files/news/Charge%20from%20President%20Obama.pdf>. See also Owen D. Jones et al., *Law and Neuroscience: Recommendations Submitted to the President’s Bioethics Commission*, 12 J. L. & BIOSCIENCES 224 (2014). Another sign of the continuing development of the field of law and neuroscience is the appearance of the first law textbook devoted to the subject. See OWEN D. JONES, JEFFREY D. SCHALL & FRANCIS X. SHEN, *LAW AND NEUROSCIENCE* (2014).

<sup>2</sup> A very careful treatment of our arguments is found in this review by Alexander Guerrero, NOTRE DAME PHILOSOPHICAL REVIEWS: <http://ndpr.nd.edu/news/48119-minds-brains-and-law-the-conceptual-foundations-of-law-and-neuroscience/>. For an informative review essay discussing recent books in the field of neurolaw, including ours, see Gerben Meynen, *Neurolaw: Neuroscience, Ethics, and Law*, 17 ETHICAL THEORY & MORAL PRACTICE 819 (2014).

<sup>3</sup> Colin McGinn, *What Can Your Neurons Tell You?*, N.Y. REV. BOOKS (July 11, 2013), available at: <http://www.nybooks.com/articles/archives/2013/jul/11/what-can-your-neurons-tell-you/?page=2>; Colin McGinn, *Storm Over the Brain*, N.Y. REV. BOOKS (April 24, 2014), available at: <http://www.nybooks.com/articles/archives/2014/apr/24/storm-over-the-brain/>.

and Patricia Churchland<sup>5</sup> illustrate how philosophy is essential to any competent understanding of the role of the brain in explaining human action. We remain steadfast in our contention that conceptual questions about mind and action are necessarily central to any discussion of the wider implications of neuroscientific research.

The last year has provided a number of opportunities for us to discuss our work. We are grateful to Adam Kolber for convening an online discussion of our book on the Neuroethics & Law Blog, to Bebhinn Donnelly-Lazarov for convening a conference on the book at Swansea University School of Law, and to Veronica Rodriguez-Blanco for organizing a symposium on the book in *Jurisprudence*. We thank the participants in each for engaging with our work and for their insightful commentary. Professor Patterson thanks Peterhouse College, Cambridge University, the World Congress for Freedom of Scientific Research, Rome, Italy, and the European Association of Neuroscience and Law for the opportunity to speak further about the issues in this book. Professor Patterson also thanks the European University Institute Research Council for a grant that enables further research on the role of neuroscience in the criminal law. Professor Pardo thanks the University of Maryland, the Petrie-Flom Center at Harvard Law School, and the Massachusetts General Hospital Center for Law, Brain & Behavior for opportunities to further discuss issues at the intersection of law and neuroscience. Professor Pardo also thanks Dean Mark Brandon and the University of Alabama Law School Foundation for generous research support.

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<sup>4</sup> JEAN-PIERRE CHANGEUX, *THE GOOD, THE TRUE, AND THE BEAUTIFUL: A NEURONAL APPROACH* (trans. and rev. by Laurence Garey, 2012).

<sup>5</sup> PATRICIA S. CHURCHLAND, *TOUCHING A NERVE: THE SELF AS BRAIN* (2013).

The claims we make in this book about the importance of conceptual clarity for law and neuroscience have generated reactions from some commentators who have misunderstood the nature of our arguments. These reactions concern the relationship between the conceptual issues we identify and empirical investigations of the brain. In order to clarify this relationship, we want to emphasize two general points, one theoretical and one practical.

First, on the theoretical side, our discussion of conceptual issues does not rely on a particular philosophical theory about the nature of concepts or the ascription of terms related to those concepts. For example, although we refer at times to the “concept” of knowledge and question whether we would “ascribe” knowledge to someone, our concern is with knowledge itself. Our focus on concepts and ascriptions, in other words, is meant to shed light on the phenomena picked out by the concepts and ascriptions. We thus agree with Neil Levy when, in a review of our book, he asserts that various types of behavior help to fix the reference of terms such as “knowing” or “lying.”<sup>6</sup> Levy goes on to argue, however, that when we claim that knowledge is not contained in the brain, we are mistakenly trying to infer “metaphysics from semantics.”<sup>7</sup> We disagree. Of course,

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<sup>6</sup> Neil Levy, *Is Neurolaw Conceptually Confused?*, 18 J. ETHICS 171 (2014). We discuss knowledge throughout the book. The primary discussions are in Chapters One, Three, Four, and Five. We focus in detail on lying and lie detection in Chapter Four; we also discuss the topic in Chapter Six.

<sup>7</sup> *Id.* at 176. In this context, the metaphysical aspect is what knowledge actually consists in, and the semantic aspect is when and under what circumstances speakers would ascribe knowledge to themselves and others. Levy’s point, as we understand it, is that speakers might be mistaken about the nature of knowledge and so their ascriptions might be an unreliable guide to its nature. We do not take issue with this. Our objection is to claims that purport to be measuring knowledge but, because of conceptual confusion, are measuring something else (or nothing at all). As Levy’s point about fixing references makes clear, in order to reveal something about knowledge, one first has to pick out knowledge to investigate and not something else. We think Levy would concede, for example, that an experiment purporting to discover that “knowledge” really consists in “false beliefs unsupported by any evidence” would no longer be measuring the same phenomena that we normally refer to as “knowledge” or that which is studied by epistemologists. This would not necessarily be a critique of the experiment, if for example, the experiment

empirical investigation into the neural correlates underlying genuine cases of knowledge (and non-knowledge) may reveal new insights into, and perhaps lead to revisions in how we understand, the nature of knowledge. In any event, we do not take issue with this possibility, or with similar claims about any of the other issues we discuss in the book. Rather, our arguments about knowledge (similar to other arguments in the book) concern neurolaw claims that rely on confused conceptions by presupposing, for example, that knowledge is a brain state and that it does not require truth, epistemic justification, or depend on other conditions external to the brain.<sup>8</sup> Because of these external conditions, however, two people may have the same brain states and yet one has knowledge while the other does not.<sup>9</sup> Therefore, knowledge is not a brain state. Interestingly, Levy appears to agree with us on this conclusion. He writes in a footnote: “knowledge cannot be a brain state because knowledge is a relation between a subject and a state of the world.”<sup>10</sup>

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was clear about using “knowledge” in a specialized way; but confusion would arise if the experiment purports to illuminate actual cases of knowledge.

<sup>8</sup> In arguing that knowledge is not in the brain, we do not rely on any particular theory of knowledge. Rather, we make use of some of the great (and relatively uncontroversial) insights of modern epistemology: namely, that whether someone has knowledge depends on conditions external to the person (and, *a fortiori*, the person’s brain). If two people can have the same true beliefs, the same perceptual experiences, access to the same evidence, and similar underlying brain states—yet one person can have knowledge while the other does not—then knowledge is not in the brain. Differences regarding truth-value, external epistemic justification, and Gettier conditions each demonstrate that knowledge depends on more than the person (and the brain). See generally Jonathan Jenkins Ichikawa & Mathias Steup, *The Analysis of Knowledge*, in STANFORD ENCYCLOPEDIA OF PHILOSOPHY (2012); Edmund Gettier, *Is Justified True Belief Knowledge?*, 23 ANALYSIS 121 (1963).

<sup>9</sup> Or the same person on two separate occasions. Consider the following example. Suppose someone is driving along a highway and sees a barn (a real barn) and asserts, “There’s a barn.” Hours later, the same person sees what he perceives to be a similar looking barn and again asserts, “There’s a barn.” Unbeknownst to the driver, however, the second time he is in Fake Barn County, where they make barn facades along the highway to trick passing motorists. See Alvin I. Goldman, *Discrimination and Perceptual Knowledge*, 73 J. PHIL. 771 (1976). Our driver, let us assume, has similar perceptual experiences both times and forms similar underlying brain states. Yet, in the first scenario he has knowledge, and in the second he does not. Thus, knowledge is not his brain states, which, by hypothesis, were the same. Again, to be clear, this is not to deny that in some cases there may be neurological differences between cases of knowing and non-knowing.

<sup>10</sup> Levy, *supra* note 6, at 176 n.4.

Indeed, this is precisely the point of some of our critique. In our view, Levy is therefore correct to point out that it is potentially misleading to presuppose knowledge is a brain state.<sup>11</sup> Moreover, we do not think that Levy is erroneously attempting to infer metaphysics from semantics when he points this out. Instead, he is illustrating a reason why, because of *conceptual confusion*, an empirical claim that purports to be about knowledge may fail.

This takes us to our second point. Nothing in this book argues, nor do we mean to imply or suggest, that empirical investigation of the brain cannot inform the mental categories and behavior that matter for law. As a field of inquiry, neurolaw is not conceptually confused—but some of the claims and arguments within its domain are confused and fail for that reason. Neuroscientific investigations that are free from conceptual errors may contribute in a variety of ways to improve the law. These investigations may provide strong evidence on a factual issue on which the law depends (and this evidence may be better than conventionally available evidence on the issue); they may provide greater understanding of the processes and sub-personal mechanisms underlying legal categories to perhaps better align legal doctrine with its underlying normative goals and values; or they may reveal that a legal category is hopelessly confused and ought to be abandoned. But the likelihood of each contribution, we contend, is increased when the empirical investigations avoid conceptual confusion. For this reason, we maintain that philosophy can contribute to each of these projects. This book defends and, if we are successful, vindicates that modest claim.

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<sup>11</sup> This mistaken presupposition, made by some in the neurolaw literature, is one our analysis reveals.

