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THE LIMITS OF NEUROLAW

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INTRODUCTION

An old pearl of wisdom holds that there is "nothing new under the sun."[1] For at least the past two decades, scholars and lay people alike have engaged in a gluttonous indulgence on all matters labeled neuroscience. Just about everything that is even tangentially linked with human affairs is reported to have some sort of neuro-salience. From the type of cars we drive[2] and the people we vote for[3] to understanding the roots of moral thought,[4] nothing is safe from the reductions of neuroscience. A liberated hermit who suddenly finds himself connected to the internet one day should be forgiven if he concludes that the answer to the Big Questions of life have already been answered while he was away in solitary contemplation: life is about the brain.

Professor Lamparello suggests that neuroscience can indeed fashion a new view of criminal law for those hapless agents whose brains keep them from controlling themselves. The rigors of neuroscience can be harnessed, according to Lamparello, to

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1 *Ecclesiastes* 1:9 (NIV)

2 *See* Nick Lee, Amanda J. Brodericka, & Laura Chamberlaina, *What is 'Neuromarketing'? A Discussion and Agenda for Future Research*, 63 INT'L J. PSYCHOPHYSIOLOGY 199 (2007).

3 *See* Nicholas O. Rule et al., *Voting Behavior is Reflected in Amygdala Response Across Cultures*, 2 SOC. COGNITIVE & AFFECTIVE NEUROSCIENCE 349 (2010).

4 PATRICIA S. CHURCHLAND, BRAINTRUST: WHAT NEUROSCIENCE TELLS US ABOUT MORALITY (2011).

discriminate agents who pose a significant danger to the public in the future and, consequently, should be committed for care and treatment. In this fashion, the neuroscientist is not just a diagnostician, but also a physician who possess the knowledge and skill to ameliorate the pathologically violent brain. But, in order to accomplish this feat, substantive criminal law should broadly adopt new statutes that will permit the commitment of dangerous future agents after they serve their penal sentences. These new statutes would focus on agents with frontal lobe damage who, despite preserved cognition, display behavioral problems, including problems controlling themselves, and thus are both blameworthy for their criminal conduct yet in need of neurological rehabilitation. In short, they are both bad and mad, and neuroscience can tell us why.

But does neuroscience really offer criminal law a new window of opportunity for reform? And, more broadly, should we readily embrace the promise of a reformed criminal justice system that views crime as a brain disease while retaining its penal power while simultaneously engaging the power of civil commitment? In my view, neuroscience does not offer us anything new that cannot be responsibly incorporated into existing substantive criminal law doctrine. Whether an agent lacks control over his behavior because of a psychological disorder or a neurological injury is a distinction without a difference. Substantive criminal law in most jurisdictions already affords such agents a plea of non-responsibility that is harmonious with the principles of deterrence and deserved punishment. Strangely, Lamparello largely sidesteps this obvious fact and instead draws a line between cognitive and behavioral capacities, which he argues warrants findings of responsibility and civil confinement for potentially dangerous agents. But, of course, civil commitment is already available for agents who are both mentally ill and dangerous, irrespective of their mental state at the time of the crime.

So, what need is there for a new series of statutes imbued with neuro-talk? It is my contention that such statutes are unnecessary and unwise because they so willingly engage the powers of civil commitment for classes of people who society views as both blameworthy and disabled. But we cannot have it both ways. A system that deprives people of their liberty must do so rationally. If

an agent cannot control her conduct, she is deemed not responsible and can be civilly committed because of her disability. We punish people who are blameworthy irrespective of their neurological propensities. The therapeutic lens neuroscience brings to discussions of culpability obscures rather than clarifies.

I. NEUROSCIENCE AND FUTURE DANGEROUSNESS

A. Overview

Lamparello begins his ambitious proposal by noting a simple truth: determinations of future dangerousness are a legal necessity. According to Lamparello, the courts have steadfastly maintained that determinations of future dangerousness are relevant and inevitable in formulations of criminal sentencing. Customary explanations hold that in matters of public safety and deterrence, courts are free (and probably obligated) to consider an agent's likelihood of future violence in sentencing calculations. Those agents who are likely dangerous require lengthier terms of incarceration because they are recalcitrant to the conforming social force that is the criminal law. So, too, is future dangerousness relevant in determinations of civil commitment. The landmark case of *O'Connor v. Donaldson* requires a finding of dangerousness in order to deprive a citizen of his liberty due to mental illness.[5] Both civil commitment and penal sanction find future dangerousness relevant, and that relevance is largely grounded in utilitarian notions of public safety and deterrence. In short, we care much about whether our fellow citizens will harm us.

But as Lamparello points out, prediction of future dangerousness is a precarious business. Despite all of the expertise often brought to bear in these cases, behavioral science experts often get the predictions wrong. The well-known dictum that "two out of three" predictions are erroneous is deeply embedded within the vernacular of good mental hygiene lawyers.[6] But that adage is often used too broadly. Predictions of future dangerousness are subject to two limits that often get lost in the rhetoric. First, predictions of future

5 *See* O'Connor v. Donaldson, 422 U.S. 563, 575–76 (1975).

6 *See* Barefoot v. Estelle, 463 U.S. 880, 920 (1983) (Blackmun, J., dissenting).

dangerousness generally become less accurate the further in time the forecast of potential harm is made. Predicting that someone is likely to pose a menace to society tomorrow is much easier than claiming with similar precision that someone will be a risk to society twenty years from now. Second, it is never the case that a behavioral science expert can claim with absolute certainty that someone will reoffend. It may be true that some agents pose a very high likelihood of recidivism, particularly when drug and alcohol abuse are in the picture. But like all practical risk prediction, the question is about thresholds and what amount of risk is deemed unacceptable by society.

In a similar vein, risk prediction in the behavioral sciences has grown and matured. We are no longer bound by experts whose opinion rest on nothing more than armchair instincts as to whether someone posed a danger to himself or others. Behavioral science experts now have a vast sum of empirical literature to draw upon in forming their opinions, in addition to many well-constructed assessment instruments. While not infallible by any means, these resources can provide assurances that risk prediction is not a sheep wandering in the night. There are many points of light that can provide the dedicated and ethical expert with good guidance in formulating opinions.

But Lamparello's criticism of our current state of risk prediction is not without merit. Whenever liberty is in the balance, we should want to maximize, as much as practically possible, the accuracy of our judgments. As surely as behavioral science experts have made mistakes, there are undoubtedly citizens who have been wrongly denied their liberty inasmuch as assuredly there have been victims whose suffering could have been prevented had the predictions by the experts been better. Our desire for improved accuracy understandably leads us to look elsewhere for an approach that lacks the indeterminacies of psychological science. As with so many other areas, neuroscience has promised to fill that void.

B. Promise of Neuroscience

The discipline of neuroscience is broad. It covers all aspects of the brain, from the molecular level to computational models of higher-ordered thinking. There are serious neuroscientists who even

study the relationship between the quantum mechanics of the brain and its structure and function, as well those who study the elusive notion of mental force on those aspects.[7] But the bread and butter of neuroscience as applied to social institutions such as the law is almost exclusively the domain of cognitive neuroscience. And the dominant school of cognitive neuroscience holds to several basic principles that Professor Lamparello readily adopts: all human experiences are reducible, machines such as fMRI can reveal human thought, and predictions about human behavior can be made from the knowledge gained through reduction and technology. It is undoubtedly an appealing view. The lure of cognitive neuroscience is the common desire to understand complexity by way of its elements. To appreciate why people think and act certain ways, the first step is always to ponder the constituent parts: perhaps Joe slammed his book down because Jill was curt to him this morning; but Jill is often curt with Joe, and he does not abuse his books in such a puerile manner—there must be something more to it. Such is how the human mind operates in a world filled with intricacy and fickleness.

Professor Lamparello takes the promise of neuroscience at its word. He goes to great lengths to demonstrate that neuroscience has shown that the brains of many of the most salient legal agents in terms of culpability are different from those in the general population. As has been widely reported for many years now, the brains of adolescents appear different upon scientific inspection from those of adults. The conventional argument holds that adolescent brains have not matured and the frontal lobes are not yet sufficiently in control of the emotionally laden amygdala; hence, adolescents cannot be expected to exert masterful control over their impulses.[8] Any parent knows this is surely true. But the real question is why this may be so. Perhaps the teenage brain simply has not learned to inhibit its impulses; maybe insufficient life experiences and responsibilities have yet to do their indelible work of transforming

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7 For a good review, see Jeffery M. Schwartz et al., *Quantum Physics in Neuroscience and Psychology: A Neurophsyical Model of Mind-Brain Interaction*, 360 PHIL. TRANSACTIONS ROYAL SOC'Y B 1309 (2005).

8 *See, e.g.*, Kevin W. Saunder, *Disconnect between Law and Neuroscience: Modern Brain Science, Media Influences, and Juvenile Justice*, 2005 UTAH L. REV. 695 (2005).

the juvenile brain to its less temperamental elder. But the presumption adopted by the majority of neuroscientists is that the teenage brain is incapable of mature ability and therefore, as a class, teenagers lack the brainpower for adult tasks.

This is foundational to understanding how much of the neurolaw discussion takes place. It invariably examines groups of brains and looks for deficits of function. It then concludes that, as a matter of general principle, those agents within the group are incapable of doing something because their brains are abnormal in some fashion. Various studies have suggested that some brains are incapable of empathy,[9] others are unable to comprehend social norms,[10] and still others are powerless to engage in principled moral decision-making.[11] These brains lack capacities of normal function, and future behavior can be modeled upon those greatly diminished or absent functions. In this way, neuroscience is able to make predictions without the need for examinations of individual behavior; rather, forecasts of personal propensities are achieved by mere examination of neuronal tissue. In sum, there is no need to wait until someone acts, because we can define someone as dangerous based simply on a trait that they possess: their dangerous mind. From that, legal prescriptions should follow.

C. Crime and Brain

The ability of neuroscience to make predictions about future conduct by mere inspection of one's physical attributes should be broadly employed by the criminal justice system, under Lamparello's view. And this is no future fantasy that must endure patient progress, as Lamparello assures us that neuroscience has already identified with sufficient certainty the areas of the brain responsible for violence and aggression. According to Lamparello, there is strong evidence that a large percentage of adult criminal populations suffer

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9 *See* Henrik Soderstrom, *Psychopathy and a Disorder of Empathy* 12 EUR. CHILD & ADOLESCENT PSYCHIATRY 249 (2003).

10 *See* S. Berthoz, et al., *An fMRI Study of Intentional and Unintentional (Embarrassing) Violations of Social Norms*, 125 BRAIN 1296 (2002).

11 *See* Michael Koenigs, et al., *Damage to the Prefrontal Cortex Increases Utilitarian Moral Judgments*, 444 NATURE 908 (2007).

from neurological impairment. This is so, apparently, without any large epidemiological surveys to demonstrate that fact. Nonetheless, Lamparello argues that, because certain areas of the brain have been implicated with aggression and violence, we should conduct neurological examinations of adult offenders and civilly commit those who evince disordered brains with those indentified deficits. And like the numerous sexually violent predator statutes, this should happen only after the offender has served her term of incarceration.

Moreover, Lamparello assures us, as a matter of law, we can be confident that such a policy would not transgress current legal precedent because numerous Supreme Court decisions have shown that neurological deficits are relevant in matters of substantive criminal law. What is odd, though, is that the decision Lamparello spends the most time exploring[12] stands for the proposition that neurological impairments should serve as a basis for mitigation of culpability and not for ascriptions of dangerousness based on underdeveloped capacities. Nowhere in the Court's juvenile jurisprudence is there support for the notion that neurological inability should lead to civil confinement. Presumably, this is because, as a matter of policy, the Court views the incapacities of juveniles as transitory and typical. So, perhaps, the Court would take a different view of neurological impairments in adults.

But what the court has said is necessary for any civil commitment is a showing of mental illness or abnormality, as well as a showing of dangerousness. Up until *Kansas v. Hendricks*,[13] scholars could debate at the periphery what properly constituted a mental disorder sufficient for commitment, but, by and large, civil commitment was utilized for those with major mental illnesses.[14] All of that changed with *Hendricks*, of course, as the Court reasoned that a volitional impairment linked with past conduct and potential future harm was all that was necessary for civil commitment. Yet, it remains unsettled whether the Court would embrace civil commitment for those who merely have propensities towards aggression and

12 Roper v. Simmons, 543 U.S. 551 (2005).

13 521 U.S. 346 (1997).

14 It is true that many states had enacted sexual psychopath statutes before the modern versions ushered in by *Hendricks*, but there is little evidence that they were widely utilized.

violence.[15] Even by modest estimates, that may include one half of all incarcerated individuals.[16]

According to Lamparello, the whole point behind the civil commitment of these neurologically challenged offenders is public safety and treatment. The first is obvious and is a substantive goal of any civil commitment, irrespective of the past criminal conduct of the agent. We routinely civilly commit people who suffer from major mental illnesses because they pose a danger to themselves or others. Society engages in this deprivation of liberty because we recognize that some people suffer from a disability that renders them irrational or unable to care for themselves at times. The irrationality that accompanies episodes of some major mental illnesses can lead to an agent harming herself or someone else. But the root cause of that harm is generally an inability of the agent to be guided by reason, usually because of grossly disorganized thinking or perceptual disturbances.[17]

The second goal of civil commitment is the guidepost that differentiates it from penal incarceration: treatment. While treatment is not always abundantly provided for those subject to traditional civil commitment, it remains a hallmark goal.[18] Penal incarceration may provide rehabilitation justified on utilitarian grounds, but its socially relevant purpose is to punish those who engage in wrongdoing. In order for civil commitment to live up to its therapeutic justifications, it must make good-faith efforts to provide treatment. While the Supreme Court has largely refrained from outlining what constitutes sufficient treatment for civil commitment purposes, a skeptical view would note that the Court has upheld commitment of a sexually violent predator even when treatment was

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15 Indeed, the court did touch upon this issue in Foucha v. *Louisiana*, 504 U.S. 71 (1992), holding that a state may not detain a dangerous but non-mentally-ill person. The petitioner, Terry Foucha, was found not responsible on burglary charges and was civilly committed. At the time the case arose, Foucha's sole diagnosis was antisocial personality disorder.

16 *See* Seena Fazel & John Danesh, *Serious Mental Disorder in 23 000 Prisoners: A Systematic Review of 62 Surveys*, 359 LANCET 545 (2002).

17 *See* Stephen J. Morse, *Blame and Danger: An Essay on Preventive Detention*, 76 B.U. L. Rev. 113, 123–24, 127 (1996).

18 And constitutionally required. *See* Youngberg v. Romeo, 457 U.S. 307 (1982).

practically nonexistent.[19] As a consequence, whatever treatments might be available for the targets of Lamparello's new statute, the bar is not set particularly high in terms of demonstrable effectiveness.

In some ways, Lamparello's new statute appears to fill a void. Every year, numerous criminal offenders who are very likely to reoffend are released back into the community. Many will only reoffend in a non-violent manner, such as stealing or using drugs, but others will reoffend with violence. If neuroscience can confidently assess and segregate those offenders who pose a risk of future offending by means of their disordered brains, then perhaps civil commitment is in order. But part of the confusion embedded within Lamparello's framework is caused by a failure to define when an agent's lack of control is relevant. Presumably, an enduring neurological injury that is relevant to recidivism and Lamparello's new regime of civil commitment is also applicable to the conduct involved with the commission of the offense, yet Lamparello largely ignores the fact that this legally relevant conduct can be adjudicated under existing substantive criminal law while achieving nearly identical results. Likewise, dispensing with the neuroscience in Lamparello's proposal reveals that it is, in fact, very similar to existing civil commitment statutes, which can do the work without the necessity of new statutory frameworks. Moreover, the focus on volitional impairment reveals that, in many ways, Lamparello's new statute is not about civil commitment but preventive detention. For reasons discussed below, this is both unnecessary and unwise.

II. SUBSTANCE, PROCESS, AND THE CIVIL-CRIMINAL DIVIDE[20]

A. **Non-Responsibility and Commitment**

The prevailing view in neuroscience is that neurological injury is largely permanent and those who suffer from it have enduring deficits. There are notable exceptions to this view, but it is inescapable that the picture of the neurologically impaired defendant

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19 *See* Seiling v. Young, 531 U.S. 250 (2001).

20 This titled is taken from the late William J. Stuntz's excellent essay, *Substance, Process, and the Civil-Criminal Divide*, 7 J. CONTEMP. LEGAL ISSUES 1 (1996).

being painted by most neurolaw scholars is one of defendants who act because of their injury or limitations. Adolescents are said to lack the capacity for cool logic under stress; psychopaths are thought incapable of real empathy. Under Lamparello's view, many adult offenders cannot control their violent tendencies. In the realm of civil commitment, these deficits are relevant insofar as they lead an offender to pose a credible danger to society in the future. But, given the enduring nature of these deficits, they matter in terms of responsibility, as well.

According to Lamparello, the deficits of violent criminal offenders impinge not on cognition but only with their ability to control their behavior. That is, these offenders do not suffer from perceptual abnormalities or irrational thinking; instead they just cannot help themselves. Lamparello argues that, because of this fact, prevailing neuroscience data does not support findings of diminished capacity or incompetency to stand trial, but rather, is only relevant to findings of impairment that warrant civil commitment upon release from penal confinement.

But if an agent truly cannot control his conduct due to an enduring neurological condition, it is highly likely that such a condition is indeed relevant for matters of criminal responsibility. While jurisdictions vary, many subscribe to what is known as the volitional prong of the insanity test. As the Model Penal Code puts it, an agent is not responsible if she, due to mental illness or defect, is unable to conform her conduct to the requirements of the law.[21] The view here is simple: responsible action requires an agent who can reasonably control her conduct. Acts are not morally blameworthy when they are the result of mental illnesses that render an agent unable to control herself, because, presumably, the agent neither could choose otherwise nor was placed in a hard-choice position.

It is not at all clear why Lamparello considers persons who suffer from the neurological injury or deficits he describes are responsible agents in the first place. Suppose adult offender Joe has the impairments that Lamparello believes are critical for civil commitment: he was exposed to numerous environmental harms that

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21 MODEL PENAL CODE § 4.01(1).

resulted in damage to his frontal lobes and amygdala at a young age. As a result, Joe has problems controlling his impulses and has a low tolerance for life's frustrations. He is chronically unemployed and uses drugs and alcohol to moderate his emotions. He is insensitive and lacks plans for the future. One day, Joe is driving down the road when another driver cuts him off. Incensed, Joe speeds up, forces the other driver off the road, gets out of his car and brutally assaults the other driver. Joe is arrested and charged with numerous offenses and sits in jail waiting for trial. Joe knew at the time that he should not assault the other driver, but he claims he just could not help himself. He just snapped.

Joe is the type of agent that Lamparello cares about. All evidence suggests that his cognition was sufficiently intact insofar as he knew that his conduct was wrong at the time of the commission of the offense. He simply is unable to control himself because he lacks the capacity for self-governance that most citizens exercise daily. If released back into the community untreated, Joe poses a danger to the public because of his neuronal propensities. But is Joe properly blameworthy or criminally responsible? Under the various control tests of insanity, Joe should be excused because his lacked the ability to conform his conduct to the requirements of the law. Joe is probably a dangerous fellow but he is also the hapless owner of a defective brain. Under the conventional neurolaw view, he bears no responsibility for his condition and is morally blameless for conduct that he cannot control.

For Joe, criminal punishment is not appropriate because all just systems of criminal culpability include desert as a necessary yardstick of punishment. Joe is also not deterrable because his legally relevant conduct is divorced from his cognitive abilities. He very well may require segregation from society for care and treatment because he is neurological infirm, but all jurisdictions that provide for non-responsibility verdicts provide for civil commitment for those who successfully acquire an insanity adjudication. The difficulty in achieving those verdicts has been noted,[22] but whether a

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22 *See* Randy Borum & Solomon M. Fulero, *Empirical Research on the Insanity Defense and Attempted Reforms: Evidence Toward Informed Policy*, 23 L. & HUM. BEHAV. 375, 378 (1999) (noting that the insanity defense is successful in less than a quarter of cases in which it is

neurologically impaired defendant is responsible in the first place is an important question that Lamparello leaves unanswered.

B. Cunning Control

All people lack control in some fashion. For some, lack of control is nothing more treacherous than succumbing to the allure of certain delicious foods or the temptation to gossip about one's neighbor. But the lack of control contemplated by control tests is of another variety. This view holds that some agents cannot control themselves even if the object of their desires is powerfully forbidden or the sanction for violation incredibly severe. Control tests offer a psychological explanation as to why some citizens engage in unlawful conduct without any justifiable explanation. But control tests are notoriously controversial and difficult. We never really know whether someone was unable to exercise control over her conduct at any particular point in time. Likewise, it remains unsettled how much control is necessary for culpability. Since there is little evidence to suggest that an agent can ever be completely out of control, then the important question is what amount of control is required for ascriptions of criminal responsibility.

Those are the deep questions of control tests for insanity claims. For the prescriptions of Lamparello's civil commitment model, we can dispense with normative matters of culpability and focus on control and neurological impairment. But this does not make the task any easier. Despite all of the neuroscience studies on executive function, frontal lobes, and impulsivity, we still have little guidance on who truly lacks control over their conduct. Most people with frontal lobe damage are able to control themselves most of the time despite life's endless challenges. Even those with substantial deficits in frontal lobe functioning can maintain control over the behavior at least some of the time. And, more importantly, most criminal offenders are able to control their conduct nearly all of the time. We simply have no way of knowing which offenders with neurological impairments might pose more control problems than others.[23]

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[23] Lamparello attempts to counter this criticism by suggesting that the lack of precision in determining which neurologically impaired offender is likely to be dangerous is misplaced

Neuroscience thus far does not help matters, since it has not yet answered the question of what neurological finding leads to a sustained inability to exert control over one's own conduct.[24]

Even if neuroscience can someday provide reliable evidence that some adult offenders truly struggle with controlling their behavior to a degree that warrants involuntary commitment, it is worth pondering what sort of treatment might be helpful. While Lamparello claims that effective treatments are already available, he fails to mention even one. This is unsurprising because, absent invasive psychosurgery, we have none. While antipsychotic medications likely provide some relief, this is only because in sufficient doses, these drugs induce sedation and anhedonia to anyone exposed to their side effects. But we have no evidence that the therapeutic effects of these drugs would be beneficial to those with control problems linked with frontal lobe damage.

The most promising treatments for people with antisocial proclivities and brain disorders entail the use of cognitive-behavioral therapy to induce not only changes in thinking patterns, but likely physiological changes in the brain, as well.[25] While the evidence is not without its limitations, it does suggest that the segmenting of cognition from behavior that Lamparello conveniently utilizes is misplaced: there is no wall separating cognition from behavior except in the minds of scholars. Whatever neurological impairment might

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by way of an analogy to smoking: not all smokers develop lung cancer, but we know cancer and smoking is linked. But he fails to complete the analogy: we can reasonably encourage all people to stop smoking because, at most, all that is lost is the pleasure of smoking. For civil commitment, what is lost is the liberty of many nondangerous offenders. That is, many offenders who would *not* be dangerous but have neurological impairment *would be* committed nonetheless. Astonishingly, Lamparello claims that the *complexity* of neuroscience saves the day for such a bright-line rule.

24 I concede that neuroscience can answer this question in the extreme case, such as Kluver-Bucy Syndrome, but these cases are exceedingly rare and do not justify wide application of neuroscience in the criminal justice system. Additionally, even in the extreme cases, the agent is able to control herself at least some of the time, and therefore, complete lack of control is not evident.

25 *See* D.A. ANDREWS & JAMES BONTA, THE PSYCHOLOGY OF CRIMINAL CONDUCT (5th ed. 2010). The neuroplastic effects of psychotherapy have been noted in numerous studies. For a review, see Mario Beauregard, *Mind Does Really Matter: Evidence From Neuroimaging Studies of Emotional Self-Regulation, Psychotherapy, and Placebo Effect*, 81 PROGRESS NEUROBIOLOGY 218 (2007).

touch upon behavior invariably taps cognition. People might say that they cannot control themselves, but most can and do; control comes not from exogenous pharmaceuticals but from contemplation and perseverance.

C. The Breadth of Neurocommitment

The Supreme Court has firmly held that civil commitment requires proof of both mental illness and dangerousness.[26] Even under the nebulous sexual predator statutes, the court has carefully articulated that civil confinement is not appropriate for agents who have mere predispositions toward violence; rather, the risk of violence must be connected with past acts and a mental condition that predisposes an agent to act with violence.[27] But the court has also shown great skepticism with respect to giving deference to professional mental health experts' determinations of what qualifies as a legally relevant mental impairment.[28] Brushing aside nearly universal condemnation of the Kansas definition of "mental abnormality" in the *Hendricks* case, the Court has steadfastly reserved judgments about who qualifies as mentally disordered in legal matters to the states.[29]

As a consequence, states are free to adopt very broad definitions of mental impairment for matters of civil commitment. Accordingly, the definition proposed by Lamparello might pass constitutional muster. As offered by Lamparello, an offender could be subjected to civil commitment proceedings upon release from prison if the state can prove by clear and convincing evidence that the offender "(1) has not been successfully treated while incarcerated; (2) is likely to commit another violent offense upon release . . .; and (3) lacks volitional control and thus continues to have difficulties with impulse

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26 O'Connor v. Donaldson, 422 U.S. 563 (1975).

27 Kansas v. Hendricks, 521 U.S. 346, 357 (1997).

28 Kansas v. Crane, 534 U.S. 407, 407–08 (2002) ("States retain considerable leeway in defining the mental abnormalities and personality disorders that make an individual eligible for commitment; and psychiatry, which informs but does not control ultimate legal determinations, is an ever-advancing science, whose distinctions do not seek precisely to mirror those of the law").

29 *Id.*

control."[30] While Lamparello's proposal does not explicitly say so, presumably the impulse difficulties at issue are related to the offender's propensity for violent acts.[31] But the statute lacks an identifiable mental illness or abnormality as a basis for the commitment—after all, what exactly is wrong with these folks? Do they suffer from Violent Volitional Impairment Disorder? In all likelihood, every offender "continues to have difficulties with impulse control."[32]

Of course, that could be easily fixed by the addition of some legislatively crafted diagnostic disorder within the statute. But the hard part is providing a rational and coherent justification for who is covered and why. As Professor Morse has aptly explained, volitional impairment statutes at issue in cases like *Hendricks* are notoriously circular and incoherent.[33] How do we know if someone has the disorder? If the answer is, "because they have a biological propensity to break the law," then we are no further away from the Court's concern that "mere predisposition to violence"[34] is insufficient for commitment.[35] Appealing to biological causes is unhelpful since all behavior involves biology; brain imaging can only tell us that there is a biological component—something we knew all along. What we presumably care about is whether the agent lacks the capacity for reasoned decision making when under the demands of daily life. For this, we must look toward conduct. But here, the only conduct at issue is a propensity for future violence. More importantly, no person "lacks volitional control"[36] in any meaningful sense; people have varying levels of control over their impulsive desires, which are dependent on their environment and the choices they make within it.

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30 Adam Lamparello, *Using Cognitive Neuroscience to Predict Future Dangerousness*, 42 COLUMBIA HUM. RTS. L. REV. 481, 532 (2011).

31 *See id.*

32 *Id.*

33 Stephen J. Morse, *Fear from Danger, Flight from Culpability*, 4 PSYCHOL. PUB. POL'Y & L. 250, 260 (1998).

34 Kansas v. Hendricks, 521 U.S. 346, 357 (1997).

35 *See* Kansas v. Crane, 534 U.S. 407, 413 (2002); *Hendricks*, 521 U.S. at 358.

36 Adam Lamparello, *Using Cognitive Neuroscience to Predict Future Dangerousness*, 42 COLUMBIA HUM. RTS. L. REV. 481, 532 (2011).

What is lurking beneath the formalities of the proposed statute is the ambition of most strands of neurolaw: to make neuroscience indispensible to legal decision making. In many respects, it seems quite reasonable to examine the brains of offenders in search of abnormalities that can be linked to their legally relevant conduct. If an offender has some frontal lobe disorder, and studies show that frontal lobe disorder is somehow linked with aggression and violence, then it seems perfectly sensible to commit them in order to prevent future tragedies.

But this trajectory invariably leads us down the road of examining and classifying brain differences and engaging the power of law before any conduct has occurred. This enterprise is not really about care and treatment but preventive detention. It is an old maxim that the law does not punish mere thoughts—acts are required. But the promise of neuroscience to tell us that certain citizens are predisposed to act in certain ways is nearly irresistible. Professor Lamparello's statute limits itself to violent offenders, but there are few reasons to be so constrained. While the Supreme Court has limited civil commitment to individuals with mental disorders who are dangerous to themselves or others, we have little guidance whether the court would find objectionable a statute that would impose significant and indefinite probation for juvenile delinquents or petty criminals whose brains also display abnormalities. Legislatures could easily craft statutes, which declared such persons as dangerous, but mentally abnormal offenders in need of confinement and treatment. More broadly, there is little reason to believe that neuroscience would not touch on most legal issues involving the capacity of legal agents. Would a lack of neuroability for warmth and caring be relevant to adoption and child custody proceedings? If the technology could demonstrate a link between pituitary function and human bonding, then surely it is relevant under a neurolaw lens.

The issue, though, is beyond relevance. Parental warmth, remorse, and the ability to control oneself are personal capacities that indeed are relevant to the law. They have been for a very long time. The law has traditionally accounted for these characteristics by examining someone's conduct, even when making predictions about the future. Whether an offender poses a risk to the community is

measured by past acts and not their physical attributes. Even in the traditional civil commitment realm, mental illness alone is not synonymous with dangerousness. The problem with most neuroscience-based approaches to questions of legal salience is not one of relevancy but purpose. Professor Lamparello's proposal, like much neurolaw talk these days, seeks to invoke the power of law for who we are, not what we do. In matters of substantive criminal law, we should endeavor to restrain the power of law to act based on the mere fact that we were born with our predetermined dispositions. Propensities are not destinies, and we are free to act against our urges, whatever biological liabilities may encumber us. Freedom should mean at least that much.

CONCLUSION

The challenge for any scholar who desires to incorporate science into law is how to do so without upending the foundational walls upon which law rests. For substantive criminal law, that task must include dealing fully with the doctrine of responsibility and the normative values of liberty and fairness. Since criminal law represents the zenith of law's power, caution should prevail when the technology of science is utilized to further deprivations of liberty. Professor Lamparello has made a noteworthy stab at the truly vexing problem of incorporating neuroscience responsibly into our criminal justice system, but ultimately his proposal is inconsistent with established principles of fairness and justice.