Sentencing Enhancement and the Crime Victim's Brain

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Criminal offenders who inflict serious bodily injury to another in the course of criminal conduct are typically sentenced more harshly than those who do not cause such injuries. But what if the harm caused is "mental" or "psychological" and not "physical"? Should the sentencing enhancement still apply? Federal and state courts are already wrestling with this issue, and modern neuroscience offers new challenges to courts' analyses. This Article thus tackles the question: In light of current neuroscientific knowledge, when and how should sentencing enhancements for bodily injury include mental injuries?

The Article argues that classification of "mental" as wholly distinct from "physical" is problematic in light of modern neuroscientific understanding of the relationship between mind and brain. There is no successful justification for treating mental injuries as categorically distinct from other physical injuries. There is, however, good reason for law to treat mental injuries as a unique type of physical injury. Enhancement of criminal penalties for mental injuries must pay special care to the causal connection between the offender's act and the victim's injury. Moreover, it is law, not science, that must be the ultimate arbiter of what constitutes a sufficiently bad mental harm to justify a harsher criminal sentence, and of what evidence is sufficient to prove the mental injury.

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INTRODUCTION

Sentencing enhancements are factors that can lead to more severe punishment for an offender. One of the most common enhancements is a penalty for the infliction of serious bodily injury to another in the course of criminal conduct. The justification is straightforward: offenders who cause more significant harm to others ought to be treated more harshly than those who do not.

But what if the harm caused is "mental" or "psychological" and not "physical"? Should the sentencing enhancement still apply? Federal and state courts already wrestle with this issue, and modern neuroscience offers new challenges to courts' analyses. This Article thus tackles the question: In light of current neuroscientific knowledge, when and how should sentencing enhancements for bodily injury include mental injuries?

The Article argues that classification of "mental" harms as wholly distinct from "physical" harms is problematic in light of modern neuroscientific understanding of the relationship between mind and brain. There is no successful justification for treating mental injuries as *categorically* distinct from other physical injuries. To do so would be to perpetuate an archaic dualist view of the mind that few, if any, studying the brain would endorse.

There is, however, good reason for law to treat mental injuries as a

unique type of physical injury. Specifically, I argue that enhancement of criminal penalties for mental injuries must pay special attention to the (perhaps tenuous) causal connection between the offender's act and the victim's injury. Moreover, I argue that it is law, not science, that must be the ultimate arbiter of what constitutes a serious enough mental harm to justify a harsher criminal sentence, and of what evidence is sufficient to prove the injury.

Determining when and how much to punish offenders requires consideration of the harms inflicted or intended. To the extent that neuroscience better illuminates—and eventually can measure those harms more accurately—it can contribute to more precise, just, and evidence-based enhancements for harms to others. Increased attention to the crime victim's brain can enable improvements to criminal sentencing enhancement.

The Article proceeds in four Parts. Part I introduces some of the ways in which a bodily injury determination affects criminal sentencing enhancements. Part II presents the current scientific consensus that substance dualism is no longer a tenable theory, but also argues that the mind-brain relationship remains poorly understood. Part III proposes a way forward, noting a series of issues to consider. Part IV offers a short discussion of the need for neurolaw scholarship that more carefully examines the crime *victim's* brain.

I. BODILY INJURY AND SENTENCING ENHANCEMENT

The concept of bodily injury, as distinct from "mental" or "psychological" injury, is pervasive in law.[1] In criminal sentencing

1. Francis X. Shen, *Mind, Body, and the Criminal Law*, 97 MINN. L. REV. 2036, 2044 (2013). As discussed in the Appendix to *Mind, Body, and the Criminal Law*, many of the contexts in which the bodily injury question is litigated have been civil. *See e.g.*, Dov Fox & Alex Stein, *Dualism and Doctrine*, 90 IND. L.J. (forthcoming 2015) (discussing how a mind-body dualism approach informs the doctrines of harm, compulsion, and intentionality while arguing against this approach); Brian D. Shannon, *The Brain Gets Sick, Too—the Case for Equal Insurance Coverage for Serious Mental Illness*, 24 ST. MARY'S L.J. 365, 366 (1993) (exploring the practices of insurance companies with respect to mental illnesses as well as the judicial and legislative response); Stacey A. Tovino, *All Illnesses Are (Not) Created Equal: Reforming Federal Mental Health Insurance Law*, 49 HARV. J. ON LEGIS. 1, 2 (2012) [hereinafter Tovino, *All Illnesses Are (Not) Created Equal*] (proposing reform of federal health insurance law by removing statutory and regulatory provisions that allow for unequal physical and mental health insurance benefits); Stacey A. Tovino, *Neuroscience and Health Law: An Integrative Approach?*, 42 AKRON L. REV. 469, 489 (2009) (discussing differences between mental and physical conditions in health insurance plans); Alan Palmer Jacobus, *The Bodily Injury Concept in Liability Policies Revisited, 30 Years On*, A.B.A. SEC. LITIG. (2013), *available at* http://www.americanbar.org/content/dam/aba/administrative/litigation/materials/2013_insurance_coveragelitigationcommittee/p_1_bodily_injury_concept.authcheckdam.pdf (describing the concept of "bodily injury" in insurance coverage litigations).

specifically, courts are faced with the challenge of determining what constitutes "bodily" injury, or serious/great/substantial "bodily" injury, for the purpose of sentencing enhancement.[2]

To understand how courts address such questions, it is useful to begin with the recognition that two distinct elements must be met to determine that a given injury is a serious bodily injury. First, the injury must be "serious," as opposed to non-serious. Second, the injury must be "bodily," as opposed to non-bodily. Consider these two factors in a two-by-two typology, as I do in Table 1, leaves us with four possible types of injury, only one of which will produce a criminal sentencing enhancement for serious bodily injury:

1. A serious bodily injury is both serious and bodily. Only this type of injury can result in a serious bodily injury sentencing enhancement. See quadrant 1 in Table 1.
2. A serious non-bodily injury is distinguishable from #1 because, although serious, it is not deemed an injury to the body. See quadrant 2 in Table 1.
3. A non-serious bodily injury is distinguishable from #1 because, although affecting the body, the harm is not deemed sufficiently bad. See quadrant 3 in Table 1.

   4.A non-serious, non-bodily injury is distinguishable from #1 because it is neither a serious injury nor an injury to the body. See quadrant 4 in Table 1.

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2. Tracy A. Bateman, Annotation, *Sufficiency of Bodily Injury to Support Charge of Aggravated Assault*, 5 A.L.R.5th 243, § 2[a] (1992); *see, e.g.*, Robert A. Mikos, *"Eggshell" Victims, Private Precautions, and the Societal Benefits of Shifting Crime*, 105 MICH. L. REV. 307, 333 (2006) (arguing that the law is "less precise when it comes to grading and punishing an offense according to the degree of psychological harm inflicted (though the law clearly does take such harm into consideration)."); Richard C. Valuntas, *Is That a Serious Bodily Injury? Analysis of Forced Blood Draws Under F.S. § 316.1933(1)*, FLA. B.J., June 2003, at 84, 84 (discussing whether the forced drawing of blood is serious bodily injury); Y. F. Chiang, Annotation, *What Is "Harm" within Provisions of Statutes Increasing Penalty for Kidnapping Where Victim Suffers Harm*, 11 A.L.R.3d 1053, §2[a] (1967) (discussing the nature and severity of injury). Courts have had to determine whether the transmission of HIV/AIDS and pregnancy resulting from rape constitute bodily injury. *See, e.g.*, People v. Cross, 190 P.3d 706, 708–09 (Cal. 2008) (determining whether a pregnancy and subsequent abortion is serious bodily injury); Alan Stephens, Annotation, *Transmission or Risk of Transmission of Human Immunodeficiency Virus (HIV) or Acquired Immunodeficiency Syndrome (AIDS) As Basis for Prosecution or Sentencing in Criminal or Military Discipline Case*, 13 A.L.R.5th 628, §§ 5–10 (1993) (analyzing cases that determine whether prosecution is properly based on defendants' contraction of HIV/AIDS). For analysis of this issue, see generally Khiara M. Bridges, *When Pregnancy Is an Injury: Rape, Law, and Culture*, 65 STAN. L. REV. 457 (2013); Sabrina Bonanno, Comment, *Pregnancy As a Result of Unlawful but Non-Forcible Sexual Conduct Is Not a Form of Great Bodily Injury*, 44 NEW ENG. L. REV. 193 (2009); Lauren Hoyson, Note, *Rape Is Tough Enough Without Having Someone Kick You from the Inside: The Case for Including Pregnancy As Substantial Bodily Injury*, 44 VAL. U. L. REV. 565 (2010).

My chief concern in this Article is the distinction between types #1 and #2: by what criteria is an injury deemed to be a *bodily* injury? To be sure, however, it is also vexing to know the difference between #1 and #3: when is a change in the victim's body is sufficient to constitute the requisite level of severity intended by the statute—for instance, was the injury "serious," "great," or "substantial"?[3]

Table 1. A Typology of Injury

Quadrant 1: Serious bodily injury	**Quadrant 2: Serious non-bodily injury**
Explanation: The injury is deemed both serious and bodily. The criminal sentencing enhancement may apply. Example: Victim has a broken leg.	Explanation: The injury is deemed serious, but not a bodily injury. The criminal sentencing enhancement may *not* apply. Example: *Caudillo*, *Garcia* hold that serious mental injury is not "bodily".
Quadrant 3: Non-serious bodily injury	**Quadrant 4: Non-serious, non-bodily injury**
Explanation: The injury is deemed bodily, but non-serious. The criminal sentencing enhancement may *not* apply. Example: Victim has a minor scratch that heals quickly.	Explanation: The injury is deemed neither bodily, nor serious. The criminal sentencing enhancement may *not* apply. Example: Victim has very minimal economic loss.

Because it is only in Quadrant 1 where a stiffer penalty will be recommended or required, the pertinent question is: When should a victim's harm be placed in Quadrant 1? Between Quadrants 1 and 3, the distinction is purely one of severity. For instance, when does a bruise or swelling constitute a substantial bodily injury?[4] These can be difficult determinations, but seem similar to the difficult line drawing inherent in so many areas of the law.

3. In instances where the enhancement applies if bodily injury is inflicted, the question becomes whether there was an "injury."

4. For a discussion of this issue, see State v. Clark, 772 P.2d 263, 266–67 (Idaho Ct. App. 1989); State v. Whaley, 389 N.W.2d 919, 926 (Minn. Ct. App. 1986).

The line between Quadrants 1 and 2, however, invites a more fundamental, conceptual consideration: What do we mean when we use the word "bodily" or "physical"? I address this question throughout this Article, but first let us see why sentencing practice requires such a determination.

In the United States Sentencing Guidelines ("Guidelines"), and in many state guidelines and statutes, the recommended sentences for offenders are more severe when they cause some requisite amount of *bodily* injury to another human in the course of their crime. In the Guidelines, for instance, such enhancements apply for minor assault,[5] aggravated assault,[6] stalking, or domestic violence,[7] and kidnapping, abduction, and unlawful restraint.[8]

In these, and in many other instances, the Guidelines advise stiffer penalties for offenders who inflict bodily injury upon another person.[9] The magnitude of this increased penalty is potentially quite great. For instance, the Guidelines recommend a sentence of fifteen to twenty-one months for aggravated assault (for an offender with no criminal

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5. U.S. SENT'G COMM'N, U.S. SENTENCING GUIDELINES MANUAL § 2A2.3(b)(1) (2013) [hereinafter U.S. SENTENCING GUIDELINES MANUAL]. The base offense level is four, but "[i]f (A) the victim sustained bodily injury, increase by 2 levels; or (B) the offense resulted in substantial bodily injury to an individual under the age of sixteen years, increase by 4 levels." *Id.*

6. *Id.* § 2A2.2. The base offense level of Aggravated Assault is fourteen, *id.* § 2A2.2(a), but "[i]f the victim sustained bodily injury, increase the offense level according to the seriousness of the injury," with bodily injury adding three levels, serious bodily injury adding five, and permanent or life-threatening bodily injury adding seven. *Id.* § 2A2.2(b)(3). There are even allowances for more fine-combed gradations. The Guidelines instruct that if the injury is more than bodily injury but less than serious bodily injury, then the sentencing judge must add four levels. *Id.* § 2A2.2(b)(3)(D). The Guidelines also instruct that if the degree of injury is greater than serious bodily injury, but not life threatening, then the sentencing judge must add six levels. *Id.* § 2A2.2(b)(3)(E).

7. *Id.* § 2A6.2. The base offense level is eighteen, but if the offense involved "bodily injury" there is an increase of two levels. *Id.* § 2A6.2(b)(1). This is one of several aggravating factors:

> If the offense involved one of the following aggravating factors: (A) the violation of a court protection order; (B) bodily injury; (C) possession, or threatened use, of a dangerous weapon; or (D) a pattern of activity involving stalking, threatening, harassing, or assaulting the same victim, increase by 2 levels. If the offense involved more than one of these aggravating factors, increase by 4 levels.

Id.

8. *Id.* § 2A4.1. The base offense level is thirty-two, *id.* § 2A4.1(a), but there is (A) an increase of four levels if "the victim sustained permanent or life-threatening bodily injury," or (B) an increase of two levels if "the victim sustained serious bodily injury;" and "if the degree of injury is between that specified in subdivisions (A) and (B)" an increase of three levels. *Id.* § 2A4.1(b)(2).

9. This type of enhancement emerges from the goal of the United States Sentencing Commission to achieve "proportionality in sentencing through a system that imposes appropriately different sentences for criminal conduct of differing severity." *Id.* ch. 1, subpt. A1.3.

history).[10] A bodily injury enhancement pushes that range to twenty-one to twenty-seven months, and a serious bodily injury enhancement all the way to thirty to thirty-seven months.[11] Whiles judges can depart from the recommended range, the range is likely to affect the sentence and thus the bodily injury determination can play a great role in the assignment of the sentence.[12] Because sentencing can be affected by whether a victim's harms are considered "bodily," then it is important to know what harms will (and will not) be included in this category.[13]

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10. *See id.* ch. 5, pt. A at 395 tbl. The Guidelines include a "Sentencing Table" that recommends a sentencing range (in months) based on previous criminal history and "offense level." Separate provisions of the Guidelines assign an offense level for particular offenses, and enhancements can increase the offense level. Once the offense level is determined, that can be combined with the individual's criminal history to arrive at the recommended sentence.

11. *Id.*

12. Although they at times employ different nomenclature, many states—either through a system of sentencing guidelines or through particular state statutes prescribing penalties for particular types of offenses—employ a similar logic to the Federal Guidelines. In Minnesota, for instance, severity levels for numerous offenses are increased if there is infliction of great or substantial bodily harm. The Minnesota Sentencing Guidelines state that: "[t]he severity of the sanction should increase in direct proportion to an increase in offense severity or the convicted felon's criminal history, or both." MINN. SENT'G GUIDELINES COMM'N, MINN. SENTENCING GUIDELINES & COMMENTARY § 1(A)(2) (2013). Examples for bodily harm enhancements include enhancements for Malicious Punishment of Child, False Imprisonment, Criminal Abuse of Vulnerable Adult, and many others. *See id.* § 5(A). In addition, there are other ways in which the victim's brain is indirectly accounted for through aggravating factors. Aggravating factors in Minnesota include: "(1) The victim was particularly vulnerable due to age, infirmity, or reduced physical or mental capacity, and the offender knew or should have known of this vulnerability. (2) The victim was treated with particular cruelty for which the individual offender should be held responsible." *Id.* § 2(D)(3)(b).

13. It is beyond the scope of my considerations here, but another, indirect, means by which the victim's psychological harms can impact sentencing is through the emotions it invokes in the decision-maker rendering the sentence. There is a sizeable empirical literature on the effects of victim impact statements on sentencing, and a sizeable normative literature on whether such statements should be included. For a review, e.g., Janice Nadler & Mary R. Rose, *Victim Impact Testimony and the Psychology of Punishment*, 88 CORNELL L. REV. 419, 433–37 (2003) (summarizing empirical results, and presenting results of an original experiment, on the effects of victim impact statements on sentencing); *see also* Jeremy A. Blumenthal, *Affective Forecasting and Capital Sentencing: Reducing the Effect of Victim Impact Statements*, 46 AM. CRIM. L. REV. 107, 124 (2009) (reporting the results of two experiments suggesting that victim impact statements increase the imposition of capital sentences because of a perception of prolonged emotional harm). *But see* Paul G. Cassell, *In Defense of Victim Impact Statements*, 6 OHIO ST. J. CRIM. L. 611, 634–36 (2009) (presenting empirical evidence that victim impact statements do not affect sentence severity in either capital or non-capital cases); Julian V. Roberts, *Listening to the Crime Victim: Evaluating Victim Input at Sentencing and Parole*, 38 CRIME & JUST. 347, 373–75 (2009) (concluding that there is no aggregate effect on sentencing from victim impact statements). On the normative questions, see, e.g., Susan Bandes, *Empathy, Narrative, and Victim Impact Statements*, 63 U. CHI. L. REV. 361, 390–410 (1996) (applying normative analysis to conclude that victim impact statements should be suppressed); John H. Blume, *Ten Years of* Payne*: Victim Impact Evidence in Capital Cases*, 88 CORNELL L. REV. 257, 280–81 (2003) (discussing how victim impact statements may allow for racial bias to influence sentencing);

A. What Injuries Are Considered "Bodily"?

On May 2, 1975, Daniel Caudillo forcibly kidnapped and raped a young woman in California.[14] He was subsequently found guilty of a series of offenses, including kidnapping, forcible rape, and first-degree robbery.[15] On appeal, Mr. Caudillo argued, amongst other things, that: "the evidence showing that he raped the victim twice, sodomized her and compelled her several times to orally copulate him [was] insufficient to support the jury's finding that he inflicted 'great bodily injury' upon the victim."[16] Whether or not he inflicted great bodily injury would determine whether his sentence would be enhanced under the first-degree robbery statute.[17] The logic of the argument was, in effect: there might have been great injury, but it was not great *bodily* injury.

The California Supreme Court was persuaded. Writing en banc, the court held that the phrase "great bodily injury" required a showing of "significant or substantial physical injury" and further observed, "we are aware of no principle of statutory interpretation that would permit the legislative language—great bodily injury—to be construed as including a rape victim's psychological and emotional trauma."[18]

Many in the California legislature were not pleased with the *Caudillo* decision. One particular newspaper article captured the sentiment well with its observation: "[r]ape committed in the course of burglary gets the assailant a lighter sentence under California law than if he broke the arm of his victim."[19] The California legislature subsequently amended

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Jonathan H. Levy, Note, *Limiting Victim Impact Evidence and Argument After* Payne v. Tennessee, 45 STAN. L. REV. 1027, 1030 (1993) (discussing the constitutional limitations to victim impact statements and proposing a two-prong test for victim impact statement admissibility).

14. People v. Caudillo, 580 P.2d 274, 276 (Cal. 1978) (en banc). Caudillo was overruled by People v. Martinez, 973 P.2d 512, 535 (Cal. 1999). However, Martinez was superseded by statute in a later California case, People v. Robertson, 146 Cal. Rptr. 3d 66 (Ct. App. 2012).

15. *Id.*

16. *Id.* at 281.

17. As described in a footnote by the *Caudillo* court:

> At the date of the offenses involved herein, Penal Code section 461 provided . . . [that] . . . in any case in which defendant committed burglary and in the course of commission of the burglary, with the intent to inflict such injury, inflicted great bodily injury on any occupant of the premises burglarized, such fact shall be charged in the indictment or information and if found to be true by the jury, upon a jury trial, or if found to be true by the court, upon a court trial, or if admitted by the defendant, defendant shall suffer confinement in the state prison from 15 years to life.

Id. at 281 n.5 (internal quotation marks omitted).

18. *Id.* at 286.

19. *Rape Penalties Less: Legislature May Stiffen Laws to Help Protect Women*, LODI NEWS-SENTINEL, July 29, 1978, at 5.

the relevant statutes to define rape and forcible sodomy as great bodily injuries.[20]

In an Arizona case similar to *Caudillo*, *State v. Garcia*, four young men were convicted of sexual assault and aggravated assault of a twenty-one-year-old college student.[21] The victim was walking home from a bus stop when the defendants offered her a ride and subsequently raped her.[22] Eventually, she was able to escape.[23] After their conviction, the defendants appealed the charge of aggravated assault.[24]

In Arizona, to be guilty of aggravated assault, the defendants must have caused "serious physical injury." The statutory definition of serious physical injury read at the time: "'Serious physical injury' includes physical injury that creates a reasonable risk of death, or that causes serious and permanent disfigurement, serious impairment of health or loss or protracted impairment of the function of any bodily organ or limb."[25] Employing this definition, the court ruled that the victim had not experienced serious physical injury. Instead, it held:

> At trial, the state argued that the victim received a serious physical injury within the meaning of the statute because her mental or emotional health was seriously impaired. The evidence does show that the experience was emotionally traumatic for her. However, the plain meaning of the statute does not include injuries which are solely mental or emotional. While "health" in the phrase "serious impairment of health," § 13–105(29), might be defined to include mental or emotional health, when read in conjunction with § 13–105(24), it is clear that the legislature intended to limit the statute to impairments of physical health. See also *State v. Rossier*, 175 Conn. 204, 397 A.2d 110 (1978), where the Connecticut Supreme Court refused to find a serious physical injury under a similar statute where the assault victim's injuries consisted primarily of emotional trauma.[26]

Caudillo and *Garcia* usefully illustrate what can result when mental injuries are categorically excluded from the bodily injury category.

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20. JACQUELINE R. BRAITMAN & GERALD F. UELMEN, JUSTICE STANLEY MOSK: A LIFE AT THE CENTER OF CALIFORNIA POLITICS AND JUSTICE 192–93 (2013). The Law and Order Campaign Committee used *Caudillo* to challenge Chief Justice Bird's re-election. *Id.*

21. State v. Garcia, 673 P.2d 955, 957 (Ariz. Ct. App. 1983).

22. *Id.*

23. *Id.*

24. *Id.*

25. *Id.* at 958.

26. *Garcia*, 673 P.2d at 958. Other state courts also arrived at the same conclusion in similar cases in this earlier era. *E.g.*, State v. Rossier, 397 A.2d 110, 112 (1978) ("[T]he evidence of physical injury—which consisted primarily of testimony relating to emotional trauma precipitated by the incident—was simply not sufficient to support the jury's implicit conclusion that the physical injury sustained by [the victim] was 'serious' under the statutory definition.").

B. Statutory Definitions

One way by which legislatures have tried to address the scope of the term "bodily" in bodily injury is by crafting a legal definition. Yet—as I have shown in previous work—wording and interpretations of those definitions vary widely.[27] Court interpretations of bodily injury provisions have at times relied upon (mistaken) assumptions about what lay understanding of the term means.[28] Contemporary lay views about the concept of bodily injury, as distinct from mental injury, are contested and in flux. For instance, my study found that when lay subjects were asked to categorize Post-Traumatic Stress Disorder ("PTSD") by injury type, the subjects were split: 27% thought PTSD is probably or definitely bodily injury, 25% chose maybe, 25% chose probably not, and 22% chose definitely not.[29]

Some policymakers have attempted to explicitly broaden the definition of what constitutes great or serious bodily injury. For instance, in the Federal Sentencing Guidelines, "serious bodily injury" is defined as follows:

> "Serious bodily injury" means injury involving extreme physical pain or the protracted impairment of a function of a bodily member, organ, or mental faculty; or requiring medical intervention such as surgery, hospitalization, or physical rehabilitation. In addition, "serious bodily injury" is deemed to have occurred if the offense involved conduct constituting criminal sexual abuse under 18 U.S.C. § 2241 or § 2242 or any similar offense under state law.[30]

The inclusion of "mental faculty" allows for emotional injury (if sufficiently severe) to produce the enhanced penalty.[31] And, as the

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27. I examined the bodily injury definitions of all fifty states previously. Shen, *supra* note 1, at 2121–58 tbl.A2.

28. *Id.* at 2101.

29. *Id.* at 2041.

30. U.S. SENTENCING GUIDELINES MANUAL, *supra* note 5, § 1B1.1 cmt. n.1(L).

31. An example is *United States v. Knott*, No. 98-41462, 1999 WL 707866, at *1 (5th Cir. 1999) (per curiam). In *Knott*, a defendant was convicted of robbing the local post office, and in the course of the robbery assaulting the postmaster. *Id.* The presentence report assigned the defendant a four-level enhancement on the grounds that the victim postmaster experienced serious bodily injury. *Id.* On appeal, the defendant argued that the postmaster was not seriously injured. *Id.* The appellate court found that:

> It is not controverted that following the robbery, the postal employee (1) suffered from nightmares and panic and anxiety attacks; (2) was taking anti-depressants; (3) was receiving mental health counseling; and (4) was unable to return to work. The employee was ultimately diagnosed as suffering from Post Traumatic Stress Disorder (PTSD) and her prognosis was "guarded."

Id. On these facts, and relying on *United States v. Reed*, 26 F.3d 523, 530–31 (5th Cir.1994) (holding that post traumatic stress disorder could be a "serious bodily injury" for purposes of § 2B3.1(b)(3)(B)), the appellate court affirmed the enhancement. *Id.*; *see* United States v. Spinelli,

"deeming" provision in the definition provides, in some instances this severity will simply be deemed to have occurred.[32]

C. Enhancement for Extreme Psychological Injury

In addition to the inclusion of "mental faculty" within the definition of serious bodily injury, the Guidelines allow for an upward departure when "a victim or victims suffered psychological injury much more serious than that normally resulting from commission of the offense."[33] An illustration of an application of this provision comes from a 2001 fraud case, *United States v. Jarvis*, involving John Jarvis, a financial fraud artist whose clients lost $880,000.[34]

Jarvis participated in two fraudulent investment schemes, and his victims included several retirees, whose entire life savings were lost.[35] The sentencing judge justified a harsher sentence in part on the grounds that the offender had caused extreme psychological injury to his victims.[36] The sentence was affirmed on appeal, and the appellate court

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352 F.3d 48, 57 (2d Cir. 2003) ("[E]motional injury can result in 'loss or substantial impairment of the function of a . . . mental faculty' that is sufficient to warrant a four-level enhancement."); United States v. Lowe, 145 F.3d 45, 53 (1st Cir. 1998) (concluding that a victim's impairment of mental faculties constituted a serious bodily injury).

32. The deeming provision, however, is not straightforward. In the commentary to the federal guideline just quoted, it is noted that "for purposes of this guideline, 'serious bodily injury' means conduct other than criminal sexual abuse, which already is taken into account in the base offense level." U.S. SENTENCING GUIDELINES MANUAL, *supra* note 5, § 2A3.1 cmt. n.1. It is unclear what the "conduct" of the base level offense—criminal sexual abuse—is. For instance, consider an offender who holds down his victim, forces vaginal intercourse, and then walks away. What if, as a result of that forced intercourse, there is permanent damage of the victim's reproductive organs? The commentary suggests that—despite the devastating, life-changing consequences—such damage would not warrant a sentencing enhancement (because the offender's conduct was solely the *actus reus* of the criminal sexual abuse). Indeed, in *United States v. Guy*, the Eighth Circuit found that "[b]ecause the Commission placed this exclusion in the commentary to § 2A3.1, the deeming provision in Application Note 1(j) cannot be used to enhance a sentence for criminal sexual abuse." 282 F.3d 991, 996 (8th Cir. 2002).

33. U.S. SENTENCING GUIDELINES MANUAL, *supra* note 5, § 5K2.3. The Guidelines continue:

> The extent of the increase ordinarily should depend on the severity of the psychological injury and the extent to which the injury was intended or knowingly risked. Normally, psychological injury would be sufficiently severe to warrant application of this adjustment only when there is a substantial impairment of the intellectual, psychological, emotional, or behavioral functioning of a victim, when the impairment is likely to be of an extended or continuous duration, and when the impairment manifests itself by physical or psychological symptoms or by changes in behavior patterns. The court should consider the extent to which such harm was likely, given the nature of the defendant's conduct.

Id.

34. United States v. Jarvis, 258 F.3d 235, 236–37 (3d Cir. 2001).

35. *Id.* at 237–38.

36. *Id.* at 237. In this case, the judge also relied on a provision, in effect at the time, relating

quoted extensively from the sentencing judge's discussion of the psychological harm caused by the fraud scheme. It stated:

> [D]efendant's victims include blue collar workers who had worked hard and saved many years to be able to enjoy their retirement. . . . Due to the defendant's conduct, many of his victims will be forced to live their retirement years in destitution. Defendant has taken away the security and comforts that his victims' lifetime of hard work would have otherwise provided them. Defendant intentionally took money from people whom he knew to be of or near advanced age and who were uneducated investors, convincing them to hand over their entire life savings and retirement funds.
>
> Defendant's actions resulted in foreseeable psychological harm, severe emotional trauma, and involved the knowing endangerment of the solvency of one or more of his victims.
>
> Mr. and Mrs. Nathan Hager are currently on depression medication and see a mental health professional in order to deal with their losses. . . .
>
> There is a distinction between defrauding a thirty-year old of his life savings and defrauding a sixty-year old of his life savings. Defendant could foresee the unlikelihood of his victims recouping their loss. . . .
>
> In over twenty years as a judge on the bench, this is one of the most egregious cases of fraud that this Court has seen. . . .
>
> While the victim of any fraud would certainly experience emotional distress upon the realization that their money was gone, the psychological harm caused by defendant was much more serious than that which would normally be experienced by a fraud victim. To steal the means by which persons worked to support themselves in their retirement years, to take the money that an elderly couple realized at the sale of their largest asset, the family home, to take a couple's savings at the same time they are forced to bury their only child, to take an elderly woman's savings meant to secure a funeral for her disabled son, subjected the defendant's victims to psychological injury which exceeds that which could be expected in a run of the mill fraud case.[37]

The appellate court agreed that "'Jarvis' fraudulent scheme caused several victims to suffer severe emotional trauma sufficient to justify an upward departure for conduct outside the heartland of the fraud

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specifically to fraud cases: "[s]pecifically mentioned as factors outside the heartland of the fraud guideline are 'reasonably foreseeable . . . psychological harm or severe emotional trauma' and the 'knowing endangerment of the solvency of one or more victims.'" *Id.* at 239 (quoting U.S. SENTENCING GUIDELINES MANUAL, *supra* note 5, § 2F1.1 cmt. n.11(c), n.11(f) (deleted)).

37. *Id.* at 240–41 (alteration in original).

sentencing guideline."[38] The *Jarvis* case is an example of how emotional harms can be directly linked to a sentencing enhancement.

The *Caudillo* and *Garcia* rape cases and the *Jarvis* fraud case usefully illustrate the core concern of this Article: When, and under what circumstances, should psychological harms to crime victims play a role in sentencing an offender? To answer this question, we should think first about the question: Is "mental" stuff distinct from "physical" stuff? The next Part addresses this question.

II. THE DEATH OF DUALISM & LAW'S HARD PROBLEM

For centuries, thinkers have debated the relationship between mind and body, a relationship known in academic circles as the "mind-body" problem.[39] The theory that "mental" substance is something wholly different from "bodily" substance is known as "substance dualism," because it posits that there are dual types of substances in the universe.[40] The French mathematician and philosopher René Descartes famously made the case for substance dualism, also known as "Cartesian dualism."[41] Descartes's theory was held in high regard for many years.

Today, however, this is no longer the case. To see how far substance dualism has fallen, one can simply open an introductory psychology textbook. One example is *Introduction to Psychology*, a widely adopted

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38. *Id.* at 241.

39. *See* JAAK PANKSEPP, AFFECTIVE NEUROSCIENCE: THE FOUNDATIONS OF HUMAN AND ANIMAL EMOTIONS 336 app. C (1998) ("The dilemma this debate embodies is as old as our ability to speak . . . ."); WILLIAM R. UTTAL, DUALISM: THE ORIGINAL SIN OF COGNITIVISM 246–56 (2004) (discussing the history of modern dualism, its influence on philosophy, psychology, and the mind-body problem).

40. The form of dualism I discuss here, Cartesian dualism, is one of several types of dualism. "Property dualism," advanced by some philosophers, holds that mental properties and physical properties are not the same. *See* Michael Pauen, *Painless Pain: Property Dualism and the Causal Role of Phenomenal Consciousness*, 37 AM. PHIL. Q. 51, 51 (2001) ("[A] distinction between mental and neural properties can be made without a commitment to substance- or event-dualism. These properties may be instantiated by one single physical event and the distinction between them can be maintained even if it turns out that there are strict correlations between certain mental and neural properties."). My concern in this Article is not whether a distinction can be made between mental and physical (indeed I argue later that they can and should be distinguished), but whether that distinction can be sustained on Cartesian dualist grounds.

41. *See* MARLEEN ROZEMOND, DESCARTES'S DUALISM 1 (1998) ("Most interpreters believe that the claim that mind can exist unextended or the claim that it can exist without body is central to this argument, and many equate Cartesian dualism with these claims."). In this Article, I refer to substance dualism and Cartesian dualism to mean the same thing, but philosophers of mind draw a finer distinction. "Substance dualism is also often dubbed 'Cartesian dualism', but some substance dualists are keen to distinguish their theories from Descartes's." Howard Robinson, *Dualism*, STAN. ENCYCLOPEDIA PHIL § 2.3 (2012), *available at* http://stanford.library.usyd.edu.au/entries/dualism/.

textbook now in its tenth printing that is frequently used in Advanced Placement Psychology classes. In the very first module of the textbook, students learn about the "the mind-brain problem."[42] Here's what they are told:

> Given that we live in a universe of matter and energy, what, if anything, is the mind? And why does consciousness exist? The philosophical question of how experience relates to the brain is the mind-brain problem (or mind-body problem). One view, called dualism, holds that the mind is separate from the brain but somehow controls the brain and therefore the rest of the body. However, dualism contradicts the law of conservation of matter and energy, one of the cornerstones of physics. . . . If the mind isn't composed of matter or energy, it can't do anything. For that reason, nearly all brain researchers and philosophers favor monism, the view that conscious experience is inseparable from the physical brain. That is, mental activity is brain activity.[43]

The textbook's author, psychologist James Kalat, goes on, in the next paragraph, to discuss Positron-Emission Tomography scan ("PET scan") images of a human brain (with an accompanying graphic with illustrative PET scan images). The author also writes: "[y]ou might ask: Did the brain activity cause the thoughts, or did the thoughts cause the brain activity? Most brain researchers reply, 'Neither,' because brain activity and mental activity are the same thing."[44]

The view presented in Kalat's introductory textbook accurately reflects the scientific consensus that dualism is no longer a viable theory. Consider these snippets:

- "The modern science of mind proceeds on the assumption that the mind is simply what the brain does. . . . We scientists take the mind's physical basis for granted." – Neuroscientist Joshua Greene [45]

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42. JAMES W. KALAT, INTRODUCTION TO PSYCHOLOGY 5 (Linda Ganster et al. eds., 10th ed. 2014). The textbook is a mainstream book, and has been adopted in both advanced high school courses and in introductory college courses. The author, psychologist James Kalat, served from 2007–2011 on the Advisory Panel for the American Psychological Association's National Standards for High School Psychology Curricula.

43. *Id.* at 5–6 (emphasis omitted).

44. *Id.* at 6. Kalat's book is not an outlier in its coverage of brain science. Official guidance from the College Board, the organization tasked with administering the advanced placement ("AP") tests that so many high school students take, suggests that AP Psychology should include instruction on the biological bases of behavior. The College Board also suggests that AP Psychology teachers "may wish to begin by investigating how researchers have studied the brain, including current brain imaging techniques." KRISTIN H. WHITLOCK, AP PSYCHOLOGY TEACHER'S GUIDE 6 (2008).

45. Joshua D. Greene, *Social Neuroscience and the Soul's Last Stand*, *in* SOCIAL NEUROSCIENCE: TOWARD UNDERSTANDING THE UNDERPINNINGS OF THE SOCIAL MIND 263

- "The idea of mind as distinct in this way from the brain, composed not of ordinary matter but of some other, special kind of stuff, is *dualism*, and it is deservedly in disrepute today . . . . [D]ualism is to be avoided *at all costs*." – Philosopher Daniel Dennett[46]
- "[T]he theory that mind and brain are separable is untenable . . ." – Neuroscientist David Redish[47]
- "Dualistic views on human nature, often associated with Descartes, rarely gain proponents among brain scientists." – Neuroscientists Jacek Debiec & Joseph E. LeDoux[48]
- "[M]ost neuroscientists are not terribly interested in the old mind-body debates. Most thinkers are satisfied to believe that mind is simply the brain in action . . . mind emerges as naturally from brain functions as digestion emerges from normal gastric processes." – Neuroscientist Jaak Panksepp[49]
- "Substance dualism is no longer considered a respectable philosophical position today." – Philosopher Neil Levy[50]
- "[W]e must admit that dualism is dead." – Professor of Law and Biology Owen Jones[51]

These quotations could go on for some time, but the point is clear: in the scientific community, substance dualism has been thoroughly rejected.

This is not to say that the dualism conversation is entirely over.[52]

(Alexander Todorov et al. eds., 2011). Greene argues that:

> Officially, we scientists already know (or think we know) that dualism is false and that we are simply complex biological machines. But insofar as we know this, we know this in a thin, intellectual way. We haven't *seen* the absence of the soul. Rather, we have inferred its absence, based on the available evidence and our background assumptions about what makes one scientific theory better than another. But to truly, deeply believe that we are machines, we must see the clockwork in action. We've all heard that the soul is dead. Now we want to see the body. This is what modern neuroscience promises to deliver, and it is no small thing.

Id. at 264.

46. DANIEL C. DENNETT, CONSCIOUSNESS EXPLAINED 33, 37 (1991).

47. A. DAVID REDISH, THE MIND WITHIN THE BRAIN 159 (2013).

48. Jacek Debiec & Joseph E. LeDoux, *Conclusions: From Self-Knowledge to a Science of the Self*, 1001 ANNALS N.Y. ACAD. SCI. 305, 310 (2003).

49. PANKSEPP, *supra* note 39, at 336.

50. Neil Levy, *Neuroethics and the Extended Mind*, *in* THE OXFORD HANDBOOK OF NEUROETHICS 285, 286 (Judy Illes & Barbara J. Sahakian eds., 2011).

51. Owen D. Jones, *Law, Emotions, and Behavioral Biology*, 39 JURIMETRICS J. 283, 289 (1999).

52. Some have argued that in fact there is an implicit, or covert dualism operating in the analysis of many neuroscience studies. *See* M. R. BENNETT & P. M. S. HACKER, HISTORY OF COGNITIVE NEUROSCIENCE 241 (2012) ("The greatest figures of the first two generations of twentieth-century neuroscientists, e.g. Sherrington, Eccles and Penfield, were avowed Cartesian dualists. The third generation retained the basic Cartesian structure, but transformed it into brain-body dualism: substance-dualism was abandoned, but structural dualism retained. For neuroscientists now ascribe much the same array of mental predicates to the brain as Descartes

For instance, in contrast to the scholarly consensus, much of the general public retains a dualist view of the world.[53] Scholars also continue to explore why we are intuitive dualists, why we behave like dualists, and whether this is a problem.[54] In addition, despite a strong majority rejecting the theory, Cartesian dualism still has some proponents.[55] One of the last prominent brain scientists to enthusiastically defend dualism was the late Nobel Laureate John Eccles, who, along with Karl Popper, wrote *The Self and Its Brain* in 1977.[56] This view enjoyed some support and in 2007 philosopher John Searle observed that "dualism has gradually come to seem intellectually respectable again."[57] Searle wrote an essay to (once again) affirm dualism's "incoherence."[58] Searle reaffirms the view—supported by a wide cast

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ascribed to the mind, and conceive of the relationship between thought and action, and experience and its objects, in much the same way as Descartes—essentially merely replacing the mind by the brain. The central theme of our book was to demonstrate the incoherence of brain/body dualism, and to disclose its misguided crypto-Cartesian character."). While an interesting hypothesis, this is beyond the scope of the present Article, and has little bearing on the central claim being made here about sentencing enhancements. *See, e.g.*, Yuri I. Arshavsky, *"Scientific Roots" of Dualism in Neuroscience*, 79 PROGRESS IN NEUROBIOLOGY 190 (2006) (arguing that a "covert dualism" is embraced by many in the neuroscience community).

53. *See* Athena Demertzi et al., *Dualism Persists in the Science of Mind*, 1157 ANNALS N.Y. ACAD. SCI. 1, 1 (2009) ("[S]urveys of highly educated samples have suggested that 'dualistic' attitudes toward the mind–brain relationship remain very common.").

54. *See* PAUL BLOOM, DESCARTES' BABY: HOW THE SCIENCE OF CHILD DEVELOPMENT EXPLAINS WHAT MAKES US HUMAN xiii (2004) (arguing that "[b]abies are natural-born dualists"); *cf.* MICHAEL GAZZANIGA, HUMAN: THE SCIENCE BEHIND WHAT MAKES US UNIQUE 246–75 (2008) (discussing why humans act like dualists).

55. *E.g.*, Robinson, *supra* note 41, § 1.2 ("[A]lthough dualism has been out of fashion in psychology since the advent of behaviourism (Watson 1913) and in philosophy since Ryle (1949), the argument is by no means over. Some distinguished neurologists, such as Sherrington (1940) and Eccles (Popper and Eccles 1977) have continued to defend dualism as the only theory that can preserve the data of consciousness. Amongst mainstream philosophers, discontent with physicalism led to a modest revival of property dualism in the last decade of the twentieth century."); *see also* Patricia Smith Churchland, *The Significance of Neuroscience for Philosophy*, 11 TRENDS IN NEUROSCIENCE 304, 305 (1988) ("Notwithstanding its many difficulties, predilection, if not argument, for dualism remains remarkably widespread.").

56. KARL POPPER & JOHN ECCLES, THE SELF AND ITS BRAIN (1977).

57. John R. Searle, *Dualism Revisited*, 101 J. PHYSIOLOGY-PARIS 169, 170 (2007).

58. *Id.* Searle made clear that even if one rejects a reductionist account of consciousness, it is still the case that "the reason that consciousness can function causally in a 'physical' world is that it has physical properties. Every conscious state is realized in a certain physical structure in the brain and has the conscious powers of all of these physical structures." *Id.* at 176. Searle argues that neither materialism nor dualism is tenable:

> [C]onsciousness [is] causally reducible but not ontologically reducible to neuronal processes. It is causally reducible, because there is nothing going on which cannot be causally accounted for by neuronal processes. But the causal reduction does not lead to an ontological reduction because consciousness has a first-person or subjective ontology, and for that reason cannot be reduced to something that has a third-person or objective ontology. If you try to make the reduction you leave something out, namely

of brain researchers—that dualism is no longer a tenable theory.[59]

A. Law's Hard Problem

If substance dualism is dead, then how are we to understand the relationship between mind and brain? The short answer is we don't know. At least not yet. There are, of course, many theories about how mind and brain relate and scholars in neuroscience, philosophy, law, and related disciplines are testing and revising those theories.[60] One central debate is the extent to which mental states "reduce" entirely to physical brain states.[61] Solving the mind-brain quandary is so difficult

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the subjectivity of consciousness.

Id. at 175.

59. *Id.*

60. *See generally* BRAIN, MIND AND CONSCIOUSNESS IN THE HISTORY OF NEUROSCIENCE (C. U. M. Smith & Harry Whitaker eds., Springer 2014); PATRICIA S. CHURCHLAND, BRAIN-WISE: STUDIES IN NEUROPHILOSOPHY (2002); PATRICIA CHURCHLAND, NEUROPHILOSOPHY: TOWARD A UNIFIED SCIENCE OF THE MIND-BRAIN (1986); OWEN FLANAGAN, THE REALLY HARD PROBLEM: MEANING IN A MATERIAL WORLD (2007); Michael S. Pardo & Dennis Patterson, *Philosophical Foundations of Law and Neuroscience*, 2010 U. ILL. L. REV. 1211 (2010). Other disciplines approach the question differently. *See, e.g.*, TORIN ALTER & ROBERT J. HOWELL, CONSCIOUSNESS AND THE MIND-BODY PROBLEM: A READER 1 (2012) (discussing several different approaches that attempt to reconcile consciousness with physicalism); DENNETT, *supra* note 46, at 431 (describing human consciousness as "a 'virtual machine,' a sort of evolved (and evolving) computer program that shapes the activities of the brain"); JOSEPH LEDOUX, SYNAPTIC SELF: HOW OUR BRAINS BECOME WHO WE ARE 18 (2003) (footnote omitted) ("Neuroscientists, by contrast, typically start with the assumption that the materialist view of the mind-body problem is correct (that the mind is a product of the brain), and then try to understand how the brain makes the mind possible."); TOWARD A SCIENCE OF CONSCIOUSNESS III: THE THIRD TUCSON DISCUSSIONS AND DEBATES (Stuart R. Hameroff et al. eds., 1999) (discussing various theories of consciousness).

61. *See* Churchland, *supra* note 55, at 305 ("Since on balance physicalism appears to be more probable than dualism, in the sense that mental phenomena are probably phenomena of the physical brain, the traditional mind-body problem has been replaced by a different set of problems posed within the physicalist framework."); *see also* CONTEMPORARY DUALISM: A DEFENSE 10–14 (Andrea Lavazza & Howard Robinson eds., 2014) (critiquing materialist concepts of consciousness and advocating for various dualist alternatives). Some take the position that neither dualism nor reductionist materialism are correct. Searle has eloquently summarized this position:

> Materialism says falsely that consciousness, as irreducible, qualitative subjectivity, does not exist. Dualism says falsely that irreducible, subjective, qualitative phenomena are something in addition to, something over and above, the real, physical world. Now I think we can see how to say what is true in both without saying the false part. The world does indeed consist of physical particles in fields of force (or whatever the ultimate entities of the true physics turn out to be). But among the higher level features of these, entirely caused by the behavior of the lower level elements, are consciousness with its qualitative subjectivity. These are causally, but not ontologically, reducible to the behavior of the neuronal substrates. But they are part of the ordinary physical world like any other biological phenomenon.

Searle, *supra* note 58, at 178. Indeed, in a 2010 review article, psychologist Gregory Miller argues that we should "avoid dualism" but also argues against naïve reductionism: "[i]n fact, we

that it has been labeled "the hard problem of consciousness."[62]

While the hard problem for philosophy and neuroscience is accurately specifying the relationship between mind and brain, the hard problem for law is what to do while those other disciplines are sorting everything out. That is, if everyone agrees that dualism it outmoded, but no one yet agrees on what comes next, what can guide the law in its conceptualization of mental and psychological phenomena?[63] The potential consequences of a paradigm shift away from dualism have been discussed in the context of health law[64] and tort law,[65] but have generally been overlooked in the context of criminal sentencing.[66]

My proposed way forward is to balance what is known and unknown about the mind. On one hand, criminal sentencing ought to recognize that mental and psychological injuries are injuries to the physical cells that make up the brain. To reject dualism does not require that criminal sentencing commit itself to any of the theories competing to replace it.[67]

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know little about how or whether neural events drive psychological events, or the converse." Gregory A. Miller, *Mistreating Psychology in the Decades of the Brain*, 5 PERSP. ON PSYCHOL. SCI. 716, 716 (citations omitted). Similarly, philosopher Alva Noë has labeled "Cartesian neuroscience" as the position that "conscious experience is an exhaustively neural phenomenon" and he argues that there is "no empirical support" for this position. ALVA NOË, OUT OF OUR HEADS 173 (2009).

62. David J. Chalmers, *Facing Up to the Problem of Consciousness*, 2 J. CONSCIOUSNESS STUD. 200, 201 (1995).

63. As earlier, I use the words "mental" and "psychological" interchangeably.

64. *See* Tovino, *All Illnesses Are (Not) Created Equal*, *supra* note 1, at 31 (footnote omitted) (noting that courts have had "great difficulty" in deciding "whether a particular insured's illness is physical or mental"). She argues that the tests developed by courts are not adequate. *Id.* at 31–32.

65. *See generally* Jean Macchiaroli Eggen & Eric J. Laury, *Toward a Neuroscience Model of Tort Law: How Functional Neuroimaging Will Transform Tort Doctrine*, 13 COLUM. SCI. & TECH. L. REV. 235 (2012).

66. Though see: Fox & Stein, *supra* note 1, at 17–18 (discussing the constitutional foundation of dualism in criminal sentencing); *cf.* Shen *supra* note 1, at 2047 (recognizing the bodily injury distinctions made in sentencing guidelines).

67. For instance, Pardo and Patterson state that "[t]he dichotomy between dualism and mind-as-brain is a false one." Pardo & Patterson, *supra* note 60, at 1216. Here, I do not argue that criminal sentencing needs to embrace mind-as-brain. I simply argue that criminal sentencing should reject substance dualism. On this, Pardo, Patterson, and I agree. They have written that:

> Any claims based on *substance dualism* for treating mental disorders differently from other physical disorders or for treating mental/ emotional injuries differently from other physical injuries should be rejected. There *may* be good policy reasons for drawing distinctions along these lines—for example, evidentiary considerations or effects on primary (i.e., non-litigation) behavior, in other words, the usual reasons for drawing doctrinal distinctions—but the fact that mental events are not physical events should not be one of them.

Michael Pardo & Dennis Patterson, *Response to Pustilnik, Shen, and Moriarty*, NEUROETHICS & L. BLOG (Mar. 28, 2014, 1:11 AM), http://kolber.typepad.com/ethics_law_blog/2014/03/response-to-pustilnik-shen-and-moriarty-pardo-patterson.html.

The question of whether sentencing enhancements are monist or dualist does not require the resolution of the relative merits of mentalism or some version of reductionism, materialism, physicalism, or determinism.[68]

On the other hand, criminal sentencing should also recognize that the mind-brain relationship remains difficult to understand with precision. An appreciation for the still mysterious complexities of the mind-brain-behavior relationship will help sentencing enhancement avoid what, in a related context, legal scholar Stephen Morse has labeled "neuroarrogance."[69] Although Morse recognizes that "[t]here must be a biological substrate in the brain for all human behaviour," he argues that, "given how little we know about the [mind-brain] and brain-action connection, to claim based on neuroscience that we should radically change our picture of ourselves and our practices is a form of neuroarrogance."[70] I agree. Criminal sentencing, if it is to embrace enhancements for infliction of mental injuries, must recognize that we do not yet understand exactly how mental disorders and psychological harms are caused (nor how they can be effectively treated).

Remaining modest is also consistent with leading scientific views on the present state of knowledge. Consider the views of Thomas Insel, Director of the National Institute of Mental Health. Insel has argued "that what we need conceptually to make progress here is to rethink these [mental] disorders as *brain disorders*."[71] But Insel also emphasizes that we must not rely upon a simplistic notion of the mind-brain relationship: "when we talk about the brain, it is anything but unidimensional or simplistic or reductionistic." Insel describes the brain as

> [A]n organ of surreal complexity, and we are just beginning to understand how to even study it, whether you're thinking about the 100 billion neurons that are in the cortex or the 100 trillion synapses that make up all the connections. We have just begun to try to figure out how do we take this very complex machine that does extraordinary

68. *See* Peter B. Reiner, *The Rise of Neuroessentialism*, *in* THE OXFORD HANDBOOK OF NEUROETHICS 161, 162 (2011) ("There are serious scholars of the mind who heartily reject dualism but nonetheless disagree with neuroessentialist thinking." (citation omitted)).

69. Stephen J. Morse, *Lost in Translation? An Essay on Law and Neuroscience*, *in* 13 LAW AND NEUROSCIENCE: CURRENT LEGAL ISSUES 529, 547 (Michael Freeman ed., 2010).

70. *Id.* at 549, 547.

71. Thomas Insel, *Toward a New Understanding of Mental Illness*, TED (Apr. 2013), http://www.ted.com/talks/thomas_insel_toward_a_new_understanding_of_mental_illness/transcript (emphasis added).

> kinds of information processing and use our own minds to understand this very complex brain that supports our own minds.[72]

While we surely have a long way to go, some progress has been made. Sixty years before Insel's talk, Nobel Laureate and neuropsychologist Roger Sperry observed that, "[a]ny immediate attempt to relate brain processes to psychic experience appears rather discouraging."[73] Sperry, quoting Charles Sherrington (another Nobel Laureate), wrote, "[w]e have to regard the relation of mind to brain as not merely unsolved, but still devoid of a basis for its very beginning."[74] Nearly a century after Sherrington's remarks, the relationship of mind and brain remains unresolved. But we now at least have a foundation for beginning to better understand it.

B. Evidence of Legal Change

How will courts and legislatures react to my proposal that, for criminal sentencing, we include mental injuries as part of the bodily injury category? Likely the response will: we're already starting to do just that. On the policy side, legal scholar Avlana Eisenberg has recently shown that legislatures in the United States are increasingly creating criminal statutes that impose liability for causing another emotional harm.[75]

There have also been many cases where sentences have been enhanced due to victims' mental injuries.[76] For example, in 1990, the North Carolina Supreme Court reviewed a case, *State v. Everhardt*, in which a woman's ex-husband raped her and inserted multiple objects

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72. *Id.*

73. R. W. Sperry, *Neurology and the Mind-Brain Problem*, 40 AM. SCIENTIST 291, 292 (1952).

74. *Id.* at 296. Sperry's view in 1952 was that it was "not a solution we aspire to but only a basis on which to begin." *Id.*

75. Avlana K. Eisenberg, *Criminal Infliction of Emotional Distress*, 113 MICH. L. REV. (forthcoming 2015) (manuscript as of May 15, 2014) (on file with author). Eisenberg argues that rather than "explicitly criminaliz[ing] the infliction of emotional distress," we should instead "identify conduct that causes severe emotional harm and . . . prohibit such behaviors explicitly." *Id.* (manuscript at 54). Eisenberg does not address sentencing enhancement directly, but perhaps would be disappointed with the court's emphasis on the victim's psychological state rather than the offender's conduct. *See, e.g.*, United States v. Dodson, 109 F.3d 486, 489 (8th Cir. 1997); United States v. Perkins, 89 F.3d 303, 308 (6th Cir. 1996) ("[T]he enhancement for causing 'bodily injury' is premised upon a particular result, not the defendant's conduct. It penalizes the defendant based on the severity of the outcome . . . .").

76. Indeed, courts have been increasing sentences for some time based on the emotional or psychological harm caused by the offender. *See, e.g.*, United States v. Rodgers, 122 F.3d 1129 (8th Cir. 1997); State v. Rousseau, 509 So. 2d 281 (Fla. 1987); People v. Burton, 429 N.E.2d 543 (Ill. App. Ct. 1981); People v. Lloyd, 416 N.E.2d 371 (Ill. App. Ct. 1981); Durham v. Indiana, 510 N.E.2d 202 (Ind. Ct. App. 1987).

into her over the course of six nights.[77] The victim testified that, as a result of the abuse, she "felt like [she] was the lowest person on the face of the earth. [She] had no self-esteem, no confidence in [herself]."[78] She was later hospitalized for severe depression, suicidal tendencies, and anorexia.[79]

The defendant appealed his conviction of assault with a deadly weapon inflicting serious injury.[80] The issue on appeal was whether "serious injury" could include mental injury.[81] The court found that "[t]he assaults perpetrated on the victim were, in the main, psychologically torturous in nature, calculated to inflict mental or emotional injury rather than bodily injury."[82]

The court held that:

> While it is possible to consider the injuries suffered by the victim in light of the physical symptoms she suffered in conjunction with her mental illness, as did the Court of Appeals, we instead hold that serious injury, within the meaning and intent of that term as used in N.C.G.S. § 14–32, includes serious mental injury caused by an assault with a deadly weapon.[83]

The court went on to write that, "[t]he compelling evidence of mental injury presented in this case illustrates the observation that 'the mind is no less a part of the person than the body, and the sufferings of the former are sometimes more acute and lasting than those of the latter.'"[84]

Although it could have reached the same result another way, the court directly addressed the problematic dualism animating the appellate court's decision. My suggestion is that more courts adopt a similar approach. In so doing, courts should recognize the two dimensions of the issue (as the North Carolina Supreme Court did). Just because a mental injury is a bodily injury, it does not follow that it is necessarily a *serious* bodily injury. Determining whether it is sufficiently harmful (in this case whether it is "serious") is a separate determination, to be made based on the facts of each case.[85] Courts should also recognize a

77. State v. Everhardt, 392 S.E.2d 391, 391–92 (N.C. 1990).

78. *Id.* at 392.

79. *Id.*

80. *Id.*

81. *Id.* N.C. GEN. STAT. § 14–32(b) provides that "[a]ny person who assaults another person with a deadly weapon and inflicts serious injury shall be punished as a Class E felon." N.C. GEN. STAT. § 14–32(b) (2013).

82. *Everhardt*, 392 S.E.2d at 393.

83. *Id.*

84. *Id.* (quoting Young v. W. Union Tel. Co., 11 S.E. 1044, 1048 (1890) (internal quotation marks omitted)).

85. The North Carolina Supreme Court noted:

variety of additional concerns, which I address in the next Part.

III. SENTENCING ENHANCEMENTS FOR MENTAL INJURY: ADDRESSING CONCERNS

Sentencing is complex. So too is the neuroscience of mental harms. Recognizing these complexities, I do not attempt here to develop a full-scale set of guidelines for how mental harms inflicted on crime victims should be translated into sentencing enhancements. Moreover, I do not advocate here for any particular level of enhancement or any particular sentencing philosophy. Rather, I suggest a general way forward that is consistent both with the consensus that substance dualism is not tenable, and with the lack of consensus about the exact nature of the mind-brain-behavior relationship. In short, I recommend cautious change.

Other legal scholars have advocated for more revolutionary transformation. For example, law professors Dov Fox and Alex Stein argue that "dualism's pernicious influence should be uprooted by devising policies and rules that cast off its distorting metaphysics," and in its place should be the author's suggested "new understanding of mind and body as conceptually and normatively intertwined."[86] They further argue that courts and legislatures should "expel dualism from our doctrine in favor of this integrated vision of the ways in which people think and act."[87] The problem, at present, is that we do not have sufficient understanding of how the mind and brain are "integrated" (and if "integrated" is even the best word to describe their relationship). The best path forward is thus a middle-ground approach, sensitive to the issues that I lay out below.

It is important to acknowledge as well the stigma of mental injuries and illness. Dualism in theory need not imply different and unequal. But in practice there remains a social belief that mental and physical injuries are not only different—but that "physical" injuries are more "real" and more deserving of compensation.[88] Campaigns have been

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> As we stated in *Boone*, we can offer no "bright line" rule to determine categorically when the acts of a defendant cause mental damage sufficient to support a finding of serious injury. In the context of the felonious assault statute, we have long held that the seriousness of the injury inflicted "must be determined according to the particular facts of each case." The same rule must apply in cases where the serious injury caused by the assault is mental in nature.

Id. (citations omitted).

86. Fox & Stein, *supra* note 1, at 5.

87. *Id.* at 33.

88. *See* Wendy F. Hensel & Gregory Todd Jones, *Bridging the Physical-Mental Gap: An Empirical Look at the Impact of Mental Illness Stigma on ADA Outcomes*, 73 TENN. L. REV. 47, 51 (2005) (footnote omitted) ("Although individuals with physical impairments have also been

underway for decades to reduce the effects of this stigma.[89]

It is the combination of the dualist distinction, *plus* the stigma attached (by others, not the dualist theorists themselves), that makes the dualism debate relevant to criminal sentencing. For instance, one solution might be for the law to jettison entirely the bodily and mental categories, and to consider simply "injury" or "serious injury" as a catch-all.[90] If the law adopted this approach, the dualism debate might be irrelevant because all alleged injuries—whether labeled by a dualist as "mental" or "physical"—would be potentially considered for purpose of sentencing enhancement. But the distinction would still matter *if* (as in current practice) those injuries considered "mental" were considered—but afforded less weight. The philosophical and scientific debates over dualism do not necessitate such treatment of mental injuries—but the practical reality is that the label carries weight.[91] While an alternative path forward would be to eliminate the bodily/mental distinction in law and reduce the stigma, I proceed in this Part under the assumption that—at least for now—the statutory distinction will persist. Given the qualifier "bodily" in bodily injury sentencing enhancements, how should courts interpret it?

A. The DSM as a Guide

The Diagnostic and Statistical Manual of Mental Disorders ("DSM"), published by the American Psychiatric Association ("APA"), is now in its fifth edition ("DSM-V").[92] The DSM is the primary guide for the diagnosis and treatment of mental disorders in the United States, and consequently has been tremendously important to the law.[93] A brief

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the subject of disparaging public opinion, the animus directed at psychiatric impairments is proportionately greater and more pervasive.").

89. Shen, *supra* note 1, at 2061.

90. I have raised this as a possibility previously. *See id.* at 2105.

91. *See* Hensel & Jones, *supra* note 88, at 51 ("The unemployment rate of individuals with mental illness continues to be 'three to five times higher than among those with no psychiatric disorder.'").

92. The DSM was described in 1994 by a *New York Times* article as the "bible" of the psychiatric profession. Daniel Goleman, *SCIENTIST AT WORK: Allen J. Frances; Revamping Psychiatrists' Bible*, N.Y. TIMES, Apr. 19, 1994, http://www.nytimes.com/1994/04/19/science/scientist-at-work-allen-j-frances-revamping-psychiatrists-bible.html. Courts and commentators now routinely describe the DSM as the diagnostic bible. *See, e.g.*, United States v. Harris, No. S192 Cr. 455 (CSH), 1994 WL 683429, at *4 (S.D.N.Y. Dec. 6, 1994) (citing Goleman's article); Rebecca A. Johnson, *"Pure" Science and "Impure" Influences: The DSM at a Scientific and Social Crossroads*, 15 DEPAUL J. HEALTH CARE L. 147, 149 (2013) (calling the DSM "the proverbial 'bible' of mental illness").

93. *See* Douglas A. Hass, *Could the American Psychiatric Association Cause You Headaches? The Dangerous Interaction Between the DSM-5 and Employment Law*, 44 LOY. U. CHI. L.J. 683, 692 (2013) (footnotes omitted) ("Courts, legislators, and government agencies have

review of the development of the DSM, with respect to its discussion of the relationship between the brain and mental disorders, is instructive for thinking about the path forward for mental injury and criminal sentencing enhancements.[94]

In 1952, when the APA published the first edition of the DSM, a distinction was made between "diseases caused by or associated with impairment of brain tissue function" and "disorders of psychogenic origin or without clearly defined physical cause or structural change in the brain."[95] Four decades later, in 1994, when the fourth edition of the DSM was published, the APA officially rejected the "organic"/"inorganic" classification scheme.[96] In the DSM-IV, the APA explained that "[t]he term 'organic mental disorder' is no longer used in DSM-IV because it incorrectly implies that the other mental disorders in the manual do not have a biological basis."[97] The DSM also explained why it retained the word "mental" despite recognition of the biological aspects of mental disorders:

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relied on the DSM-IV as a persuasive text in a range of cases implicating mental illness, from employment discrimination, to criminal law and Social Security disability, and even to health plan administration. Courts have referred to the DSM as a 'nationally recognized directory of mental illness,' a 'reliable text,' and 'specialized literature' with a rigorous process for including mental illnesses."). I focus in this Article exclusively on American courts and the DSM. It would be worthwhile, however, to expand the investigation to examine the use of the International Classification of Diseases (ICD) in cross-national contexts. *See* Robert L. Spitzer & Paul T. Wilson, *A Guide to the American Psychiatric Association's New Diagnostic Nomenclature*, 124 AM. J. PSYCHIATRY 1619, 1619 (1968) ("Beginning before the turn of [twentieth] century, there has been growing interest in developing an international classification of diseases to facilitate communication across national boundaries.").

94. For more extensive treatments of the history of the DSM, see generally Gerald N. Grob, *Origin of DSM-I: A Study in Appearance and Reality*, 148 AM. J. PSYCHIATRY 421 (1991); Johnson, *supra* note 92; James L. Sanders, *A Distinct Language and a Historic Pendulum: The Evolution of the Diagnostic and Statistical Manual of Mental Disorders*, 25 ARCHIVES OF PSYCHIATRIC NURSING 394 (2011); Marcia Angell, *The Epidemic of Mental Illness: Why?*, N.Y. REV. BOOKS, June 23, 2011, at 20; Marcia Angell, *The Illusions of Psychiatry*, N.Y. REV. BOOKS, July 14, 2011, at 20; *DSM: History of the Manual*, AM. PSYCHIATRIC ASS'N, http://www.psychiatry.org/practice/dsm/dsm-history-of-the-manual (last visited Nov. 14, 2014).

95. AM. PSYCHIATRIC ASS'N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS 5 (1st ed., 1952)

96. Psychiatrists had been calling for a change to this terminology for some time. There had been many calls for an end to this distinction. *E.g.*, Robert L. Spitzer, et al., *Now is the Time to Retire the Term "Organic Mental Disorders,"* 149 AM. J. PSYCHIATRY 240 (1992). Spitzer and his colleague open their article with this epigraph: "The antithesis between 'organic' and 'functional' disease still lingers at the bedside and in medical literature, though it is transparently false and has been abandoned long since by all contemplative minds." *Id.* at 240 (quoting S. A. K. Wilson, discoverer of Wilson's disease).

97. AM. PSYCHIATRIC ASS'N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS 10 (4th ed., text rev. 2000) [hereinafter DSM-IV-TR].

> Although this volume is titled the *Diagnostic and Statistical Manual of Mental Disorders*, the term *mental disorder* unfortunately implies a distinction between "mental" disorders and "physical" disorders that is a reductionistic anachronism of mind/body dualism. A compelling literature documents that there is much "physical" in "mental" disorders and much "mental" in "physical" disorders. The problem raised by the term "mental" disorders has been much clearer than its solution, and, unfortunately, the term persists in the title of DSM-IV because we have not found an appropriate substitute.[98]

With the DSM-IV firmly rejecting dualism, and with cognitive neuroscience research advancing, there was some thought that the DSM-V might introduce brain biomarkers to diagnose mental disorders.[99] Such hopes, however, were not realized.[100] Allen Frances, who served as Chair of the DSM-IV Task Force, put it bluntly: "the disappointing conclusion . . . was that there are no biological markers even remotely ready for inclusion in DSM-V."[101]

Why was progress slower than (some) expected? Harvard psychiatrist Steve Hyman, a former director of the U.S. National Institute of Mental Health, reminds us that:

> The substantial gaps in our knowledge of the neurobiology that underlies mental disorders derive in large part from the difficulty of characterizing the circuitry and mechanisms that underlie higher brain function, the complexity of the genetic and developmental underpinnings of normal and abnormal behavioural variation, and the unsatisfactory nature of current animal models of mental disorders.[102]

The challenge of integrating neuroscience more directly into the DSM-V is a different version of the same dilemma that I identified earlier for law: we know that mental phenomena are in part physical

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98. AM. PSYCHIATRIC ASS'N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS xxi (4th ed. 1994) [hereinafter DSM-IV].

99. *See* Allen Frances, *Whither DSM–V?*, 195 BRIT. J. PSYCHIATRY 391, 391 (2009) ("Well before the formal start of work on DSM-V in 2007, the American Psychiatric Association, with support from the National Institute of Mental Health, attempted to develop a research agenda that would support the development of a classification system in psychiatry based on biological markers."); *see also* AM. PSYCHIATRIC ASS'N, A RESEARCH AGENDA FOR DSM-V (David J. Kupfer et al. eds., 2002) (discussing new approaches that can improve the validity of diagnoses in preparation for the start of the DSM-V).

100. *See, e.g.*, David J. Kupfer & Darrel A. Regier, *Neuroscience, Clinical Evidence, and the Future of Psychiatric Classification in DSM-5*, 168 AM. J. PSYCHIATRY 672, 672 (2011) ("In *A Research Agenda for DSM-V* (1), we anticipated that these emerging diagnostic and treatment advances would impact the diagnosis and classification of mental disorders faster than what has actually occurred.").

101. Frances, *supra* note 99, at 391.

102. Steven E. Hyman, *Can Neuroscience Be Integrated into the DSM-V?*, 8 NATURE REVIEWS NEUROSCIENCE 725, 725 (2007).

phenomena, but we do not yet know exactly how. As a result, it is unclear how to proceed. Our previous ways (of substance dualism) are no longer satisfactory—but the present alternatives also seem to be lacking. So how to move forward? Hyman's recommendations for the DSM are instructive in this context as well:

> [I]t will be important to avoid premature inclusion of genetic or neurobiological findings in the DSM, no matter how interesting they are, if they are not adequately replicated or if their relationship to behavioural or disease phenotypes cannot be established with clarity. At the same time, a slavish adherence to the current classification system would impede progress in research that is investigating the aetiology of mental disorders and identifying new treatments for them. . . .
>
> It is probably premature to bring neurobiology into the formal classification of mental disorders that will form the core of the DSM-V. However, it is not too early to use neurobiology as a central tool to rethink the current approach to mental disorders . . . [103]

For law, it will be important to avoid premature integration of neuroscience into determinations of crime victims' psychological harms. But we should also avoid a slavish adherence to old legal doctrine. Moreover, it is not too early to be inspired by neuroscience and to see crime victims' psychological injuries in a new light. Cognitive neuroscience applied to the experiences of crime victims reorients us to focus not on the "type" of harm ("physical" or "mental"), but rather on the severity of the harm and the extent to which the harm was caused by the offender.

B. Proving Psychological Harm

Defining and diagnosing mental disorders is fraught with difficulty. Moreover, there is the always-present possibility of malingering.[104] We also know from case law in the civil contexts that proving mental harm in court is exceedingly difficult.[105]

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103. *Id.* at 729, 731.

104. *See* Eric Y. Drogin, *"When I Said That I Was Lying, I Might Have Been Lying": The Phenomenon of Psychological Malingering*, 25 MENTAL & PHYSICAL DISABILITY L. REP. 711, 711–13 (2001) (defining "malingering" and discussing its use for defendants).

105. *See, e.g.*, Keohane v. Stewart, 882 P.2d 1293, 1305 (Colo. 1994) ("Claims for damages for emotional distress are inherently difficult to prove with certainty, to rebut, and to evaluate."); Adam Tucker, *A Matter of Fairness How Denying Mental-Mental Claims Frustrates the Central Purposes of Workers' Compensation Law*, 31 J. LEGAL MED. 467, 467 (2010) ("It is no secret that American law has been resistant to recognizing the legitimacy of mental injury."); Dianne J. Weaver, *Claims of Mental and Emotional Injuries and Common Tactics Used to Deflate Them*, *in* 2 ATLA ANNUAL CONVENTION REFERENCE MATERIALS, 2 Ann. 2003 ATLA-CLE 1251, 1251 (2003) ("The mental or emotional injuries suffered by plaintiffs are often very debilitating and are

Given these challenges of assessing mental harms in legal settings, what is a court to do?[106] Guidance can be found in *State v. Arnett*, a 2001 Supreme Court of Tennessee case. The defendant in the case was found guilty of two counts of aggravated rape.[107] On appeal, the court had to decide whether the "particularly great personal injuries" enhancement factor could be applied on the basis of a Victim Impact Statement alone (without accompanying expert testimony about the victim's psychological state).[108]

The court started by appropriately observing that "[i]t is axiomatic that enhancement factors may be applied to increase a sentence only if such factors are established by the evidence."[109] The defendant argued that "the ability of a judge, most likely untrained in the field of psychology, to assess the extent of a victim's psychological injury requires the assistance of expert testimony."[110] But the court rejected this claim and instead held that "application of this [sentencing enhancement] factor is appropriate where there is specific and objective

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sometimes more consequential than their physical injuries. However, it is often very difficult to establish that (1) they resulted from the incident underlying the cause of action, and (2) they are real.").

106. I focus here on the context of a judge determining whether there is sufficient evidence to apply a bodily injury sentencing factor. If bodily injury is an element of the substantive crime itself, then of course it must be proven beyond a reasonable doubt and the normal rules of evidence and proof apply. For instance, in California, the instruction for Great Bodily Injury is as follows:

> If you find the defendant guilty of the crime[s] charged in Count[s] ____ [,] [or of attempting to commit (that/those) crime[s]][or the lesser crime[s] of _____ <*insert name[s] of alleged lesser offense[s]*>], you must then decide whether[, for each crime,] the People have proved the additional allegation that the defendant personally inflicted great bodily injury on _____ <*insert name of injured person*> in the commission [or attempted commission] of that crime. . . . *Great bodily injury* means significant or substantial physical injury. It is an injury that is greater than minor or moderate harm. [Committing the crime of ____ <*insert sexual offense charged*> is not by itself the infliction of great bodily injury.]

ADVISORY COMM. ON CRIM. JURY INSTRUCTIONS, JUDICIAL COUNCIL OF CAL., JUDICIAL COUNCIL OF CALIFORNIA CRIMINAL JURY INSTRUCTIONS 839 (2014).

107. State v. Arnett 49 S.W.3d 250, 253 (Tenn. 2001).

108. *Id.*

109. *Id.* at 260. The court also explained the Tennessee legislature's reasoning for the enhancement:

> While we recognize that all victims of crime, certainly victims of rape, must surely experience mental trauma, we are aware that no two crimes are exactly the same, and no two victims react to this crime in the same manner. Because some victims may suffer even more severe emotional trauma than is normally involved with this offense, our legislature has seen fit to enhance the punishment for those defendants causing "particularly great" psychological injury.

Id.

110. *Id.*

evidence demonstrating how the victim's mental injury is more serious or more severe than that which normally results from this offense."[111] The court went on to state that "[s]uch proof may be presented by the victim's own testimony, as well as the testimony of witnesses acquainted with the victim."[112]

In the case at bar, the court quoted the sentencing judge: the victim "has had to go through many counselors. She has had to take medication. She no longer lives a normal lifestyle as she did prior to [the rape]."[113] In addition, the victim described "how, for over two years after the crimes occurred, she has needed continuous psychological counseling and anti-depressant medication to help her overcome her constant fear of being attacked and to help her function on a daily basis."[114] The Supreme Court of Tennessee was satisfied that the victim's "discussion of the extensive counseling that she has undergone, as well as her need for prescription medication, provides specific and objective evidence of her particularly great psychological injuries."[115]

The *Arnett* case was, in my view, rightly decided with one important caveat. I agree with the proposition that evidence of a crime victim's mental injury may include expert testimony and report, but I argue that such expert evidence should not be a prerequisite to finding the sentencing enhancement. At the same time, however, I would add the caveat (which is not inconsistent with the *Arnett* ruling) that if expert testimony or other medical information is introduced—whether it supports the prosecution or defense—it should not be dispositive. This is consistent with the recognition in the DSM that none of its definitions of mental disorders "adequately specifies precise boundaries for the concept of 'mental disorder.'"[116] If the boundaries of mental disorders are imprecise, the legally defined boundaries of serious and substantial injury are even more fluid. The judge should retain discretion to weigh a variety of evidence from experts and victims, and make a decision in light of the particular facts and circumstances of each case.

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111. *Id.*
112. *Id.*
113. *Id.* at 261.
114. *Id.*
115. *Id.*
116. DSM-IV, *supra* note 98, at xxi. The DSM also makes clear that there is "no assumption that all individuals described as having the same mental disorder are alike in all important ways." *Id.* DSM-V notes that "[a]dditional information is usually required beyond that contained in the DSM-5 diagnostic criteria in order to make legal judgments . . . ." AM. PSYCHIATRIC ASS'N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS 20 (5th ed. 2013) [hereinafter DSM-V].

My proposal, I recognize, rests on a combined faith in the sentencing judge and in those who prepare the presentencing report ("PSR").[117] Further study is needed—and not just for bodily injury enhancement purposes—of the role that neuroscience may play in the creation of the PSR. This is because the PSR is "aptly characterized as 'the single most important document at both the sentencing and correctional levels of the criminal process.'"[118] I have focused primarily on judges in this Article, but it is the combination of judge and courthouse staff (via the PSR) that matters.

My proposal gives the judge and probation staff much discretion. One may, quite understandably, be concerned about how that discretion will be used. For instance, consider the Illinois case of *People v. Burton*.[119] The defendant was found guilty of aggravated incest for having sexual intercourse with his two stepdaughters, ages eight and nine.[120] The judge increased the defendant's sentence in light of his observations that the defendant "obviously injected severe psychological trauma on the victims, a serious psychological trauma which may well be carried with them throughout their lives."[121] Notably, the judge's conclusion about the traumatic effects on the girls "rested solely upon the judge's observation of the victims at trial; no evidence in aggravation was presented at the sentencing hearing concerning the effect of the offenses on the victims."[122]

The defendant argued that this was an abuse of discretion, but the appellate court reasoned that:

> As a human being experienced in seeing people of all ages testify in criminal trials, [the judge] acted quite properly in concluding that the victims' behavior in court was the result of psychological trauma, not just nervousness as defendant suggests. A trial judge is in the best position to evaluate the various circumstances affecting sentencing.[123]

Would the appellate court have said the same thing if, purely on its own observations, the judge had concluded that a crime victim had a deep bruise, invisible to the naked eye, or a hidden fracture of the leg?

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117. Presentencing reports provide for the judge the information required for assigning a criminal sentence, and typically include a sentencing recommendation. *See generally* Gabriel J. Chin, *Taking Plea Bargaining Seriously: Reforming Pre-Sentence Reports After* Padilla v. Kentucky, 31 ST. LOUIS U. PUB. L. REV. 61 (2011).

118. Carol Shockley, *The Federal Presentence Investigation Report: Postsentence Disclosure Under the Freedom of Information Act*, 40 ADMIN. L. REV. 79, 79 (1988).

119. People v. Burton, 429 N.E.2d 543 (Ill. App. Ct. 1981).

120. *Id.* at 545.

121. *Id.* at 547.

122. *Id.*

123. *Id.* (citing People v. Cozzi, 416 N.E.2d 1192 (Ill. App. Ct. 1981)).

Increasing the sentencing discretion of judges carries with it the perils for injustice that have been well recognized. And if we think that judges will systematically abuse their power in this domain—by overinflating victims' psychological harms—then that is a critique to take seriously.

It is also possible, however, that appellate courts can reign in judges who go too far in finding mental injury on shaky evidence.[124] For instance, in a Florida case, *Lumpkin v. State*,[125] a defendant was found guilty of robbery and burglary. He was sentenced to a higher-than-recommended sentence in part because the trial judge found that "the crime created extreme psychological trauma to the victims and their family."[126] The Court of Appeal of Florida reversed, stating that the record contained "no evidence that the psychological trauma experienced by the victims was unusually greater than that normally experienced by the victims of armed robbery, and there was no claim of any resulting physical manifestations."[127] The court went on to state that, "[t]he unsupported comment made in the presentence investigation by the law enforcement officer that 'most of the victims are undergoing psychiatric treatment because of [the robbery]' did not amount to proof beyond a reasonable doubt that the witnesses suffered from psychological trauma as a result of witnessing the crimes."[128]

C. Causation Conundrums

Neuroscience tells us that mental states are brain states. Thus, neuroscience tells us that when a crime victim experiences adverse mental consequences, the victim experiences something physical. But *why* does this particular crime victim have this particular mental experience? Did the offender's act cause it? Reliably answering these questions is tremendously difficult for at least three reasons.

First, as has long been discussed in the tort context, it is difficult to establish a causal relationship between a particular traumatic event and

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124. *See, e.g.*, United States v. Jacobs, 167 F.3d 792 (3d Cir. 1999) (remanding the case to district court for a more detailed explanation as to basis of five-level upward departure imposed on the basis of extreme psychological injury); Sarria v. State, 501 So. 2d 737 (Fla. Dist. Ct. App. 1987) (vacating and remanding the sentence to circuit court, as there was no support for its finding that victim's psychological trauma was greater than that which usually results from the same offenses); Thompson v. State, 793 N.E.2d 1046 (Ind. Ct. App. 2003) (concluding that a prisoner was entitled to resentencing after finding the aggravating circumstances on which trial court relied inappropriate).

125. 510 So. 2d 1164 (Fla. Dist. Ct. App. 1987).

126. *Id.* at 1165.

127. *Id.*

128. *Id.* at 1166.

the resulting mental and emotional harm.[129] For instance, in their expansive volume on psychological knowledge in court, Gerald Young and colleagues ask: "[i]n any individual case, to what degree can presentation be explained by the gamut of factors unrelated to the trauma itself?"[130] Many times the answer may be only to a small degree.[131] In the context of PTSD, "[t]he field has still not evolved to the point where it can apply the study of [population] risk factors to individual cases of PTSD in a systematic manner; that is, it is hard to attribute the 'PTSD' of any single person to the presence of any single risk factor."[132]

Second, we know from scholars in disciplines such as psychology, psychiatry and public health that a traumatic event is *a* cause—but not typically the sole cause—of mental disorders. The onset of major mental disorders is affected by difficult to measure social factors.[133] Consider PTSD. Research confirms what common sense suggests: the likelihood of onset of a disorder like PTSD after a traumatic event is affected by the quality of the post-trauma social support.[134] Moreover, "[t]he psychologist considering issues of causality in a sexual assault disability evaluation may be challenged by a number of issues."[135] This

129. *See generally* John J. Kircher, *The Four Faces of Tort Law: Liability for Emotional Harm*, 90 MARQ. L. REV. 789 (2007).

130. PSYCHOLOGICAL KNOWLEDGE IN COURT: PTSD, PAIN, AND TBI 5 (Gerald Young et al. eds., 2006) [hereinafter PSYCHOLOGICAL KNOWLEDGE IN COURT].

131. *Id.*

132. Gerald Young & Rachel Yehuda, *Understanding PTSD: Implications for Court*, *in* PSYCHOLOGICAL KNOWLEDGE IN COURT, *supra* note 130, at 55, 56–57.

133. Crick Lund et al., *Social Determinants of Mental Health*, *in* GLOBAL MENTAL HEALTH: PRINCIPLES AND PRACTICE 116 (Vikram Patel et al. eds., 2014). Exactly how social factors relate to the onset of mental disorders is still under investigation, and "there is a growing international field of research dedicated to studying the social determinants of mental health . . . ." *Id.*; *see* Carles Muntaner et al., *Socioeconomic Position and Major Mental Disorders*, 26 EPIDEMIOLOGIC REV. 53, 53 (2004) ("A number of reviews published in the late 1990s documented the associations between socioeconomic position (SEP) and specific mental disorders (6–9); in 2003, a comprehensive meta-analysis of the research on SEP and depression (10) concluded that both prevalence and incidence studies show that persons of low SEP (i.e., low educational and low income levels) are at a higher risk of depression.").

134. *See* Emily J. Ozer et al., *Predictors of Posttraumatic Stress Disorder and Symptoms in Adults: A Meta-Analysis*, 129 PSYCHOL. BULL. 52, 54 (2003) (providing statistical analysis on the onset of disorders such as PTSD and possible correlations with environmental factors of the patients).

135. Melissa A. Polusny & Paul A. Arbisi, *Assessment of Psychological Distress and Disability After Sexual Assault in Adults*, *in* PSYCHOLOGICAL KNOWLEDGE IN COURT, *supra* note 130, at 97, 102. "The task of attributing distress and disability with certainty to only one event becomes challenging when the individual has a history of exposure to multiple traumatic events that could potentially lead to the development of a psychiatric condition." *Id.* at 104. In the context of PTSD, "pretrauma, peritraumatic, and posttraumatic factors have emerged as important in influencing the response to trauma." Young & Yehuda, *supra* note 132, at 56.

is of special concern, given that a number of the cases in which sentencing enhancement for mental harms has been employed have involved rape.[136]

Third, in the context of "causing" PTSD and other mental trauma, it can be said that the criminal offender is plausibly an actual cause, but it can also be argued that, depending on the causation theory one applies, the offender was not the proximate (legal) cause. Elsewhere in the criminal law, we typically do not hold offenders liable when we find a superseding cause.[137] Here, courts that apply the bodily injury enhancement in the face of mental injuries will need to carefully consider the causal connection between the offender's acts and the victim's psychological harms. Part of this proximate cause policy analysis will necessarily involve what a reasonable offender would have expected the consequences of his actions to be.

In this way, we can distinguish—for purposes of causation analysis—a sub-optimally functioning brain from a broken leg. When an offender hits a victim's leg with a bat and breaks it, we can be reasonably assured that the offender caused the broken bone. We can also make the presumption that a reasonable offender knows the risks associated with such an act.

We cannot credibly make similar assumptions with all mental harms. Legal scholar Robert Mikos has recognized this issue as an example of eggshell victim cases.[138] How should we apportion punishment when an offender does not know *a priori* whether the victim will have a particularly adverse reaction to the criminal event? Questions such as these will become more paramount if sentencing enhancement is more routinely allowed and encouraged for infliction of mental harms.

D. Mental Injuries and Sentencing Theory

Although not the central aim of this Article, it is useful to consider whether the recommendation here—for recognition of mental injuries as part of the bodily injury enhancement—is consistent with leading punishment theories. There are many varieties of punishment theories,

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136. For a review of additional cases, see generally Licia A. Esposito Eaton, Annotation, *Sufficiency of Allegations or Evidence of Victim's Mental Injury or Emotional Distress to Support Charge of Aggravated Degree of Rape, Sodomy, or Other Sexual Offense*, 44 A.L.R. 5th 651 (1996).

137. JOSHUA DRESSLER, UNDERSTANDING CRIMINAL LAW 190 (6th ed. 2012); *see* Richard W. Wright, *The Grounds and Extent of Legal Responsibility*, 40 SAN DIEGO L. REV. 1425, 1467 (2003) ("Legal responsibility properly extends outward along the chain or net of causation only insofar as a sufficient relationship is maintained with the foreseeable risks that made the conduct inconsistent with others' right to equal freedom.").

138. Mikos, *supra* note 2, at 327.

often in great conflict with one another.[139] The dominant types of theory are consequentialist (especially utilitarianism), non-consequentialist (especially retributivism), and hybrid (e.g. expressive) theories that combine elements of both.[140] In her recent article exploring the criminalization of infliction of emotional distress, Avlana Eisenberg asked a similar question and concluded that emotional harm should lead to criminal liability for utilitarian, retributivist, and expressive theories of punishment.[141] I agree.

It is logical that, if one wants to consider the bodily injury caused to the crime victim in the determination of punishment, then mental injuries should be included. If a likely benefit of the punishment is the deterrence of a similar crime in the future, and if the value of that deterrence is in part a function of the injury to be avoided, then we ought to include the expected reduction in mental injury as part of the benefit.[142] Likewise, for those who wish to consider victim harms when punishing according to blameworthiness, why categorically limit those harms to purely "physical" injuries? For balanced, hybrid approaches, such as the "limiting retributivist" theory, consideration of mental harms can help both to set the boundaries of punishment and to aid in fine-tuning for particular offenders.[143]

To be clear, my position is *not* that there necessarily needs to be a

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139. *E.g.*, Erik Luna, *Punishment Theory, Holism, and the Procedural Conception of Restorative Justice*, 2003 UTAH L. REV. 205, 205 (2003) ("Punishment theories brutalize one another, staking out turf on principle and refusing to budge from their respective positions. As a result, the various theoretical camps spend most of their time on three endeavors: demonstrating the superiority of their approach to criminal sanctioning, subjecting all other theories to harsh criticism, and repairing the damage done to their own theory from equally severe attacks.").

140. *See id.* at 208 ("Punishment theories generally can be separated into a handful of philosophical camps—consequentialist (or teleological) theories, nonconsequentialist (or deontological) theories, and mixed (or hybrid) theories that contain both consequentialist and nonconsequentialist elements.").

141. *See* Eisenberg, *supra* note 75, at 4 ("Utilitarian theory is premised on maximizing welfare; one reason why limiting *physical* harm is important is because of its *emotional* consequences. Under a retributive theory, morally blameworthy conduct should be punished, and to knowingly or recklessly inflict emotional harm on another person is morally blameworthy. And expressive theory prioritizes sending a message of solidarity with victims and rectifying a moral imbalance, which would favor taking emotional harm seriously and standing by victims of emotional abuse.").

142. Note that whether we think the sentencing enhancements will actually deter the future behavior is a separate question. My point is that *if* we expect deterrence, the value of that deterrence ought to include the reduction in both bodily and mental injuries.

143. *See* RICHARD S. FRASE, JUST SENTENCING: PRINCIPLES AND PROCEDURES FOR A WORKABLE SYSTEM 80–106 (2013) (reviewing various hybrid theories' reconciliation of different punishment goals); NORVAL MORRIS, MADNESS AND THE CRIMINAL LAW 160–68 (1982) (discussing how mental illness aggravates punishment and how limiting retributivist theory offers a more nuanced approach).

bodily injury enhancement. My point is that *if* there is a bodily injury enhancement, I see little reason for punishment theory to disallow the enhancement for the infliction of mental injuries.[144]

To further illustrate, I examine one of the most influential works on harm in the allocation of criminal punishment: a four-volume work by philosopher Joel Feinberg.[145] Feinberg takes as his starting point the harm principle.[146] Harm is defined as a setback to "interests," where "interests" are those interests that affect another's welfare.[147] Criminalization is appropriate where there is a setback to interest *and* some "wrongfulness" (i.e. violation of another's rights that is not justified).[148] My argument here is that, in some instances, mental injuries should count as harms that involve setbacks to welfare interests.

Although Feinberg does not discuss this issue directly, my proposal would likely be consistent with his approach. Feinberg recognizes that "[n]ot everything that we dislike or resent, and wish to avoid, is harmful to us."[149] In listing examples of such unpleasant, but not "harmful" experiences, Feinberg includes unhappy mental states such as disappointment, hurt feelings, and shame.[150] But he also includes physical pain "at a readily tolerable level," and bodily discomfort, amongst others.[151] Thus, Feinberg's principle for line drawing is not

144. It should be acknowledged that my cursory investigation here is not definitive. I would be very pleased to see a philosopher do the question justice in a longer treatment.

145. This builds on a discussion of mine in Shen, *supra* note 1, at 2110. *See generally* 1 JOEL FEINBERG, THE MORAL LIMITS OF THE CRIMINAL LAW: HARM TO OTHERS (1984) [hereinafter FEINBERG, 1984]; 2 JOEL FEINBERG, THE MORAL LIMITS OF THE CRIMINAL LAW: OFFENSE TO OTHERS (1985); 3 JOEL FEINBERG, THE MORAL LIMITS OF THE CRIMINAL LAW: HARM TO SELF (1986); 4 JOEL FEINBERG, THE MORAL LIMITS OF THE CRIMINAL LAW: HARMLESS WRONGDOING (1988). Feinberg's treatment of Mill's harm principle has been described as "the most extensive and influential analysis." Frederick Schauer, *On the Relation Between Chapters One and Two of John Stuart Mill's* On Liberty, 39 CAP. U. L. REV. 571, 574 n.15 (2011). For a critique of Feinberg's harm principle, see R. A. Duff, *Harms and Wrongs*, 5 BUFF. CRIM. L. REV. 13 (2001) (critiquing Feinberg's Harm Principle).

146. FEINBERG, 1984, *supra* note 145, at 36 ("[T]he harm principle as a guide to the moral limits of the criminal law does not license liability for acts that tend to cause only nonharmful wrongs. It is more obvious still that no plausibly interpreted harm principle could support the prohibition of actions that cause harms without violating rights, for example setbacks to interests incurred in legitimate competitions, or harms to the risk of which the 'victim' freely consented. The sense of 'harm' as that term is used in the harm principle must represent the overlap of senses two and three: only setbacks of interests that are wrongs, and wrongs that are setbacks to interests, are to count as harms in the appropriate sense.").

147. *Id.* at 34.

148. *Id.* at 36.

149. *Id.* at 45.

150. *Id.*

151. *Id.*

coterminous with a physical/mental divide.[152]

Feinberg later emphasizes that there are legally protected *interests*, and that we can think of criminal law as prohibiting certain types of impairments of interest. He gives as an illustrative example, the case of a child who was kidnapped but soon rescued. Feinberg notes that we might say at that time, "'*X* was found unharmed,' the implication being that *X* suffered no *bodily* harm."[153] We might also later say that "'*X* was not harmed by the experience,' by which it is at least implied that *X* suffered no *psychological* harm."[154] Feinberg goes on to note how—even in this case where no "harm" may have occurred, at least as defined a certain way—there has been an impairment of the child's ability to pursue his welfare interests.[155] For our purposes here, the important point is that the notion of "interest" is even less constrained than the categories "bodily" and "psychological."

Feinberg's work has not been without criticism. Philosopher Antony Duff argues, amongst other things, that Feinberg does not go far enough in identifying those "modes of conduct that deny or radically fail to respect the humanity of those against or on whom they are perpetrated."[156] Duff's proposed alternatives to Feinberg's theory

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152. That said, Feinberg writes at times with a physical/mental distinction in mind. He recognizes that "mental pains" are "hurts" but "only by courtesy of metaphor." *Id.* at 46. Feinberg later addresses the question head on: "whether, in applying the harm principle, we should permit coercion designed to prevent mental stress merely, when the distress is not likely to be followed by hurt or harm of any other kind." *Id.* at 48. Feinberg's answer is that:

> [T]he hurt is serious enough if and only if it is either a symptom of a prior or concurrent harm of another order (as a pain in the arm may be the result and sign of a broken bone) or else it is in itself the cause of a consequential harm (e.g. mental breakdown) of another order.

Id. Notably, Feinberg's answer emphasizes the order (i.e. severity) of the harm, not necessarily the type of harm.

153. *Id.* at 52.

154. *Id.*

155. *Id.* at 52–53.

156. Duff, *supra* note 145, at 44. Duff explains:

> To explain why violations of autonomy should be criminal, even if they do not fall under the Harm Principle, we must see them as denials of, or serious failures to respect, the humanity of their victim (or else we cannot understand why autonomy should be so important). But if we then recognize the inadequacy of a Kantian conception of humanity, which focuses only on our autonomy as formally rational beings, and develop a richer conception that does justice to the morally significant aspects of our nature as social, embodied and impassioned beings, we will see that there are more ways to deny or radically fail to respect humanity than by violating autonomy. We will then also see that we therefore have good reason—reason of the same kind as we have to criminalize violations of autonomy—to criminalize other modes of conduct that deny or radically fail to respect the humanity of those against or on whom they are perpetrated.

Id.

would not touch upon the issue of my central concern: whether infliction of mental injuries should be categorically excluded when determining criminal sanctions.

Another critique of Feinberg's work comes from scholars Andrew von Hirsch and Nils Jareborg.[157] Von Hirsch and Jareborg have proposed a "living standard" conception of harm in which punishment severity considers the reduction in living standard experienced by the crime victim. Von Hirsch and Jareborg allow for emotional states to be considered as part of the assessment of whether, and how much, a victim's living standard has been reduced by a criminal act.[158]

In sum, if one believes that we should use physical injury as a factor in sentencing, then we have precisely the same reason to allow mental injury to be a factor. Physical injury is relevant because it is a kind of harm, and mental injuries can also be harms. Thus, if physical injuries are relevant, so too are mental injuries.

E. What No Neuroscience Can Do

I have argued that if a criminal sentence can be enhanced on a finding that the offender caused the victim some level of bodily injury, then neuroscience gives us very good reason not to exclude mental injuries from that category of "bodily" injuries. But no neuroscience finding can tell us whether we should have such a bodily injury enhancement in the first place. Nor can neuroscience tell us whether that enhancement should be for an extra hour, day, month, or year in jail. Even if the next edition of the DSM contains a biomarker for a particular mental disorder, and even if somehow it can be established that an individual was the primary cause of that mental disorder, it still has no direct bearing on whether that individual is guilty of a criminal offense, and if so, what his sentence should be.

Neuroscience can be (and is) used for normative purposes in law, but the neuroscientific results themselves are neutral with respect to one's

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157. Andrew von Hirsch & Nils Jareborg, *Gauging Criminal Harm: A Living-Standard Analysis*, 11 OXFORD J. LEGAL STUD. 1 (1991). I cite here from an updated version of the study, which appears as: ANDREW VON HIRSCH, ANDREW ASHWORTH & NILS JAREBORG, *Gauging Crime Seriousness: A 'Living Standard' Conception of Criminal Harm*, *in* PROPORTIONATE SENTENCING: EXPLORING THE PRINCIPLES 186 (Oxford Univ. Press 2005).

158. They do recognize, however, a problem similar to the proximate causation issue raised before. Von Hirsch & Jareborg, *supra* note 157, at 23. Von Hirsch and Jareborg write that "[a] variety of emotional states justifiably flow from being criminally victimized," but also that "[o]ther emotional states may flow from criminal victimization, but with less good reason." *Id.* While it's unclear what counts as a "good" versus a "less good" reason, presumably the analysis would involve asking whether an offender could have reasonably foreseen the emotional harm caused by the criminal act. *Id.*

aims for the criminal justice system. Scientists can, do, and surely will continue to inform legal judgments. But demarcating criminal from non-criminal behavior, and assigning criminal sentences, should remain in the hands of the law. The goal of neurolaw should be to inform, not mandate, how democratically elected policymakers, judges, and lawyers construct and run the justice system. As I describe in the next Part, neurolaw can improve the information it provides by paying increased attention to the crime victim's brain.

IV. NEUROLAW AND THE CRIME VICTIM'S BRAIN

The intersection of brain science, law, and public policy has captured the imagination of scholars and practitioners.[159] In less than ten years we have seen the creation of the MacArthur Foundation Research Network on Law and Neuroscience (2007),[160] the University of Pennsylvania's Center for Neuroscience and Society (2009),[161] the Initiative on Neuroscience and Law: NeuLaw at Baylor College of Medicine (2009),[162] the Neuroscience and Public Policy Program at the University of Wisconsin–Madison (2011),[163] the Massachusetts General Hospital Center for Law, Brain and Behavior (2012),[164] Harvard Law

159. For general introductions to law and neuroscience, see generally OWEN D. JONES, JEFFREY D. SCHALL & FRANCIS X. SHEN, LAW AND NEUROSCIENCE (2014) (casebook on law and neuroscience introducing the field); Oliver R. Goodenough & Micaela Tucker, *Law And Cognitive Neuroscience*, 6 ANN. REV. L. SOC. SCI. 61 (2010) (review essay on law and neuroscience); Henry T. Greely & Anthony D. Wagner, *Reference Guide on Neuroscience*, *in* FED. JUDICIAL CTR., REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 747 (3d ed. 2011) (guide for judges on issues related to neuroscientific evidence likely to be proffered in court); Francis X. Shen, *The Law and Neuroscience Bibliography: Navigating the Emerging Field of Neurolaw*, 38 INT'L. J. LEGAL INFO. 352 (2010) (providing a bibliography of publications at the intersection of neuroscience and law); O. Carter Snead, *Neuroimaging and the "Complexity" of Capital Punishment*, 82 N.Y.U. L. REV. 1265 (2007) (exploring the use of neuroscientific evidence by capital defendants); Stacey A. Tovino, *Functional Neuroimaging and the Law: Trends and Directions for Future Scholarship*, 7 AM. J. BIOETHICS 44 (2007) (discussing the intersection of law and neuroscience across a variety of legal domains).

160. MACARTHUR FOUND. RESEARCH NETWORK ON LAW & NEUROSCIENCE, http://www.lawneuro.org/index.php (last visited Nov. 14, 2014). The Research Network (2011–present) built upon "Phase I" of the MacArthur Foundation's investment, the Law and Neuroscience Project (2007–2011). *History: Phase I (2007-2011)*, MACARTHUR FOUND. RESEARCH NETWORK ON LAW & NEUROSCIENCE, http://www.lawneuro.org/history.php (last visited Nov. 14, 2014).

161. *Welcome to the Center for Neuroscience and Society*, UNIV. PA. CTR. FOR NEUROSCIENCE & SOC'Y, http://neuroethics.upenn.edu/ (last visited Nov. 14, 2014).

162. NEULAW.ORG, http://www.neulaw.org/ (last visited Nov. 14, 2014).

163. *Welcome to the Neuroscience & Public Policy Program*, UNIV. WISC.–MADISON NEUROSCIENCE & PUBLIC POL'Y, http://npp.wisc.edu/ (last visited Nov. 14, 2014).

164. MASS. GEN. HOSP. CTR FOR L., BRAIN & BEHAVIOR, http://clbb.mgh.harvard.edu/ (last visited Nov. 14, 2014).

School's Project on Law and Applied Neuroscience (2014),[165] and the Stanford Program in Neuroscience and Society (2014).[166] A large number of additional centers and institutes have sponsored programs on neurolaw topics.[167]

Other indicators also suggest growth: scholarship at the intersection of law and neuroscience is increasing rapidly,[168] an increasing number of students are being exposed to neurolaw,[169] the first Law and Neuroscience textbook has been published,[170] thousands of judges and lawyers have been exposed to neuroscience through conferences and continuing legal education programs,[171] and multiple websites make neurolaw news available to the interested public.[172]

Amidst the flurry of neurolaw activity, much has been made of the implications of cognitive neuroscience for criminal law.[173] Some neuroscientists have argued that the criminal justice system should employ a neurobiological framework and revisit its traditional notions of blame and punishment.[174] Legal scholars have argued in response

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165. This is a partnership between the Massachusetts General Hospital Center for Law, Brain and Behavior and the Petrie-Flom Center for Health Law, Biotechnology, and Bioethics at Harvard Law School. *CLBB and Harvard Law School Announce "Joint Venture in Law and Neuroscience;" Pain Fellow*, MASS. GEN. HOSP. CTR FOR L., BRAIN & BEHAVIOR, http://clbb.mgh.harvard.edu/clbb-and-harvard-law-school-announce-joint-venture-in-law-and-neuroscience-pain-fellow/ (last visited Nov. 14, 2014).

166. *SPINS – The Stanford Program in Neuroscience and Society*, STAN. NEUROSCIENCES INST.. https://neuroscience.stanford.edu/initiatives/spins-stanford-program-neuroscience-and-society (last visited Nov. 14, 2014).

167. *Neurolaw Conferences*, MACARTHUR FOUND. RESEARCH NETWORK ON LAW & NEUROSCIENCE, http://www.lawneuro.org/conferences.php (last visited Nov. 14, 2014).

168. *See* Shen, *supra* note 159, at 352–53 (discussing the rapid growth of neurolaw and providing several studies elaborating on this growth).

169. *See* JONES, SCHALL & SHEN, *supra* note 159 (the first neurolaw coursebook)

170. *Id.*

171. *The MacArthur Foundation Research Network on Law and Neuroscience: History: Phase I (2007-2011)*, VAND. UNIV. SCH. L., http://www.lawneuro.org/history.php (last visited Nov. 14, 2014).

172. *The MacArthur Foundation Research Network on Law and Neuroscience: External Links*, VAND. UNIV. SCH. L., http://www.lawneuro.org/links.php (last visited Nov. 14, 2014). Francis X. Shen, *Keeping Up With Neurolaw*, 50 COURT REV. 104 (2014) (providing a summary of neurolaw resources and noting a number of websites disseminating information on law and neuroscience.)

173. *See, e.g.*, A PRIMER ON CRIMINAL LAW AND NEUROSCIENCE (Stephen J. Morse & Adina L. Roskies eds., 2013); Gideon Yaffe, *Neurological Disorder and Criminal Responsibility*, *in* 118 THE HANDBOOK OF CLINICAL NEUROLOGY: ETHICAL AND LEGAL ISSUES IN NEUROLOGY 345 (James L. Bernat & Richard Beresford eds., 2013).

174. *See* Robert M. Sapolsky, *The Frontal Cortex and the Criminal Justice System*, 359 PHIL. TRANSACTIONS: BIOLOGICAL SCI. 1787, 1794 (2004). *See generally* Joshua Greene & Jonathan Cohen, *For the Law, Neuroscience Changes Nothing and Everything*, 359 PHIL. TRANSACTIONS: BIOLOGICAL SCI. 1775 (2004).

that neuroscience does not pose such a significant challenge to criminal responsibility.[175]

Examining the criminal offender's brain, both to explain criminal behavior and to decide upon appropriate blame and punishment, has been a focus of both contemporary neurolaw scholarship[176] and earlier inquiry.[177] In the context of criminal sentencing, scholars have examined, amongst other things, how brain images affect criminal sentencing,[178] whether adolescents should be treated differently on account of their still-developing brains,[179] and how criminal psychopaths might be different from other criminal offenders.[180]

I have noted before that "[d]espite the increased attention to neuroscience and criminal law, comparatively little scholarship has examined the possible effects of neuroscientific evidence on our understanding of the crime victim's brain."[181] This remains true

175. *See generally* Stephen J. Morse, *Avoiding Irrational Neurolaw Exuberance: A Plea for Neuromodesty*, 62 MERCER L. REV. 837 (2011); Stephen J. Morse, *Mental Disorder and Criminal Law*, 101 J. CRIM. L. & CRIMINOLOGY 885 (2011); Stephen J. Morse, *Neuroimaging Evidence in Law: A Plea for Modesty and Relevance*, *in* NEUROIMAGING IN FORENSIC PSYCHIATRY: FROM THE CLINIC TO THE COURTROOM 341 (Joseph R. Simpson ed., 2012); Michael S. Pardo & Dennis Patterson, *Philosophical Foundations of Law and Neuroscience*, 2010 U. ILL. L. REV. 1211.

176. *See, e.g.*, ADRIAN RAINE, THE ANATOMY OF VIOLENCE: THE BIOLOGICAL ROOTS OF CRIME (2013); Amanda C. Pustilnik, *Violence on the Brain: A Critique of Neuroscience in Criminal Law*, 44 WAKE FOREST L. REV. 183 (2009); Adam B. Shniderman, *No Such Thing as a Sure Thing: Neuroscience, the Insanity Defense, and Sentencing Mitigation*, JURY EXPERT, Feb. 2014, at 11; O. Carter Snead, *Cognitive Neuroscience and the Future of Punishment*, *in* CONSTITUTION 3.0: FREEDOM AND TECHNOLOGICAL CHANGE 130 (Jeffrey Rosen & Benjamin Wittes eds., 2011).

177. *See, e.g.*, VERNON H. MARK & FRANK R. ERVIN, VIOLENCE AND THE BRAIN 6, 155 (1970); NICOLE RAFTER, THE CRIMINAL BRAIN 40 (2008). The *Los Angeles Times* heralded Mark and Ervin's book as "the first publication accessible to lay audiences that deals squarely with the biological basis of violent behavior." Kenneth Klivington, *The Biological Basis of Violent Behavior*, L.A. TIMES, Nov. 22, 1970, at Q67. For brief discussion of this history, see generally Francis X. Shen, Commentary, *An Online Symposium on The Anatomy of Violence*, WASH. INDEP. REV. OF BOOKS (Feb. 6, 2014), http://www.washingtonindependentreviewofbooks.com/features/symposium-on-emthe-anatomy-of-violence-em-by-adrian-raine

178. Michael J. Saks et al., *The Impact of Neuroimages in the Sentencing Phase of Capital Trials*, 11 J. EMPIRICAL LEGAL STUD. 105, 122–26 (2014).

179. *See, e.g.*, Richard J. Bonnie & Elizabeth S. Scott, *The Teenage Brain: Adolescent Brain Research and the Law*, 22 CURRENT DIRECTIONS IN PSYCHOL. SCI. 158, 158–61 (2013); Alexandra O. Cohen & B.J. Casey, *Rewiring Juvenile Justice: The Intersection of Developmental Neuroscience and Legal Policy*, 18 TRENDS IN COGNITIVE SCI. 63, 63–65 (2014); Kevin W. Saunders, *The Role of Science in the Supreme Court's Limitations on Juvenile Punishment*, 46 TEX. TECH. L. REV. 339, 359–67 (2013).

180. Nathaniel E. Anderson & Kent A. Kiehl, *Functional Neuroimaging and Psychopathy*, *in* HANDBOOK ON PSYCHOPATHY AND LAW 131, 131 (Kent A. Kiehl & Walter P. Sinnott-Armstrong eds., 2013).

181. Shen, *supra* note 1, at 2058.

today.[182] There is, however, much room for integration with scholarship in the civil context. Scholars have examined neuroscience and tort law, with attention paid to both emotional and mental harms.[183] Scholars have also examined the legal implications of the neuroscience of pain.[184] Further, brain-injury lawyers have developed robust and productive relationships with the medical community, and regularly integrate neuroscience when they make the case for their injured clients.[185] Neuroscience has also been used in insurance claims, to argue that mental illness is indeed physical (and thus should be covered by the insurance policy).[186]

Given this constellation of practice and scholarship—with a primary focus on the victim's harms in tort law and insurance law, and a primary focus on the offender's brain in criminal law—more synergy seems valuable. For criminal law, additional attention to the crime victim's

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182. I am unfamiliar of anything published recently that fills this gap. In 2011, I speculated that "one future possibility is that neuroscience offers us more effective ways to communicate the long-lasting and often-devastating effects of crime on the brains of crime 'victims.'" Francis X. Shen, *Law and Neuroscience: Possibilities for Prosecutors*, 33 CDAA PROSECUTOR'S BRIEF 17, 23 n.41 (2011). But, I have yet to see evidence of this happening.

183. *See, e.g.*, Jean Macchiaroli Eggen & Eric J. Laury, *Toward a Neuroscience Model of Tort Law: How Functional Neuroimaging Will Transform Tort Doctrine*, 13 COLUM. SCI. & TECH. L. REV. 235 (2012); Betsy J. Grey, *Neuroscience and Emotional Harm in Tort Law: Rethinking the American Approach to Freestanding Emotional Distress Claims*, *in* LAW AND NEUROSCIENCE: CURRENT LEGAL ISSUES 203 (Michael Freeman ed., 2010); Betsy J. Grey, *Neuroscience, Emotional Harm, and Emotional Distress Tort Claims*, 7 AM. J. BIOETHICS 65 (2007); Francis X. Shen, *Monetizing Memory Science: Neuroscience and the Future of PTSD Litigation*, *in* MEMORY AND LAW 325 (Lynn Nadel & Walter Sinnott-Armstrong eds., 2013); Shaun Cassin, Comment, *Eggshell Minds and Invisible Injuries: Can Neuroscience Challenge Longstanding Treatment of Tort Injuries?*, 50 HOUS. L. REV. 929 (2013); Roland Nadler, To Heal or Not to Heal? Towards A Neuroethical Mitigation Doctrine in Tort Law 1 (2014) (unpublished manuscript) (on file with author).

184. *See, e.g.*, Howard Fields, *Can Neuroscience Identify Pain?*, *in* A JUDGE'S GUIDE TO NEUROSCIENCE 32 (2010); Adam J. Kolber, *Pain Detection and the Privacy of Subjective Experience*, 33 AM. J.L. & MED. 433 (2007); Adam J. Kolber, *The Experiential Future of the Law*, 60 EMORY L.J. 585 (2011); Amanda C. Pustilnik, *Pain as Fact and Heuristic: How Pain Neuroimaging Illuminates Moral Dimensions of Law*, 97 CORNELL L. REV. 801 (2012); Amanda C. Pustilnik, *Painful Disparities, Painful Realities* (U. Md. Legal Stud. Res. Paper No. 2014-18, 2014), *available at* http://digitalcommons.law.umaryland.edu/cgi/viewcontent.cgi?article=2449&context=fac_pubs.

185. *See, e.g.*, Robert P. Granacher, *Commentary: Applications of Functional Neuroimaging to Civil Litigation of Mild Traumatic Brain Injury*, 36 J. AM. ACAD. PSYCHIATRY L. 323 (2008); Robert P. Granacher, Jr., *Traumatic Brain Injury*, *in* NEUROIMAGING IN FORENSIC PSYCHIATRY: FROM THE CLINIC TO THE COURTROOM 43 (Joseph R. Simpson ed., 2012); Shana De Caro & Michael V. Kaplen, *Traumatic Brain Injury: Detecting, Defining, Litigating*, N.Y. L.J., July 28, 2011, at 4, 4; Donald J. Nolan & Tressa A. Pankovits, *High-Tech Proof in Brain Injury Cases: New Developments in Biomechanical Animation and Brain Imaging Can Help Jurors 'See' the Damage Caused by Head Trauma*, TRIAL, June 1, 2005, at 26, 27.

186. Tovino, *All Illnesses Are (Not) Created Equal*, *supra* note 1, at 31–35.

brain will allow the law to better address the causation, evidentiary and related normative issues sketched out in this Article. Neuroscience can be harnessed to inform the legal assessments of both offenders and victims in the criminal and civil justice systems.[187]

CONCLUSION

DSM-V describes itself as "a 'living document,' adaptable to future discoveries in neurobiology."[188] If criminal sentencing is to be adaptable to future neuroscientific discoveries, attention must be paid both to the neuroscience underlying criminal behavior and to the focus of this Article: neuroscience that may one day explain the varied, and sometimes devastating, psychological consequences of crime victimization. This Article argues that when calculating the optimal punishment based on victim harm, there is no scientifically justifiable reason to categorically exclude mental harm from the equation. The Article also argues, however, that these types of brain injuries should be treated differently, with special attention paid to causation and evidentiary issues. In short, the criminal justice system should treat mental injuries for what they are: brain injuries. Injuries to the brain are physical and often exceedingly complex. Sentencing enhancement policies should reflect both realities.

187. Neuroscience can also help us to learn about the legal decision-makers in these systems. For an excellent example of this type of work, see, e.g., MORRIS B. HOFFMAN, THE PUNISHER'S BRAIN: THE EVOLUTION OF JUDGE AND JURY (2014) (exploring the psychology and neuroscience of legal actors responsible for the punishment of criminals).

188. DSM-V, *supra* note 116, at 13.