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# Neuroscience and Institutional Choice in Federal Sentencing Law

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## COMMENT

### Neuroscience and Institutional Choice in Federal Sentencing Law

Advances in functional Magnetic Resonance Imaging (fMRI) have shed light on how the human brain operates in different decisionmaking contexts, including legal ones.<sup>1</sup> In roughly the past five years, legal scholars have begun incorporating fMRI evidence into scholarship on criminal responsibility, evidence, health law, employment law, and various other fields.<sup>2</sup> In this Comment, I consider the implications of a recent fMRI study, *The Neural Correlates of Third-Party Punishment*,<sup>3</sup> for sentencing law and institutional choice. One neuroscience study will never resolve the extended debate on federal sentencing, but this Comment uses *The Neural Correlates of Third-Party Punishment* as a jumping-off point to demonstrate that evidence from neuroscience is relevant—to criminal sentencing specifically and to institutional choice analysis generally.

In *The Neural Correlates of Third-Party Punishment*, Joshua Buckholtz et al. (“Buckholtz”) describe the results of a recent neuroimaging study in which

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1. See Joshua J. Knabb et al., *Neuroscience, Moral Reasoning, and the Law*, 27 BEHAV. SCI. & L. 219, 219 (2009).
  2. See Stacey A. Tovino, *Functional Neuroimaging and the Law: Trends and Directions for Future Scholarship*, AM. J. BIOETHICS, Sept. 2007, at 44 (reviewing law and neuroscience scholarship). Examples include Henry T. Greely, *Neuroscience and Criminal Justice: Not Responsibility but Treatment*, 56 U. KAN. L. REV. 1103 (2008); Henry T. Greely & Judy Illes, *Neuroscience-Based Lie Detection: The Urgent Need for Regulation*, 33 AM. J.L. & MED. 377 (2007); Charles N.W. Keckler, *Cross-Examining the Brain: A Legal Analysis of Neural Imaging for Credibility Impeachment*, 57 HASTINGS L.J. 509 (2006); Stephen J. Morse, *Brain Overclaim Syndrome and Criminal Responsibility: A Diagnostic Note*, 3 OHIO ST. J. CRIM. L. 397 (2006); and O. Carter Snead, *Neuroimaging and the “Complexity” of Capital Punishment*, 82 N.Y.U. L. REV. 1265 (2007).
  3. Joshua W. Buckholtz et al., *The Neural Correlates of Third-Party Punishment*, 60 NEURON 930 (2008).

subjects were scanned while evaluating culpability and determining appropriate punishments in hypothetical criminal cases. Buckholtz found that different brain regions were involved in these two tasks: subjects used their right dorsolateral prefrontal cortices to determine culpability and their socio-affective brain networks (particularly the right amygdala) to assign appropriate sentences.<sup>4</sup> In plainer English, this finding means that subjects used brain regions associated with impersonal judgment and classically cognitive tasks to make culpability determinations, but they used brain regions associated with social-emotional processing and rapid stimulus response to make punishment decisions.<sup>5</sup> In more legal terms, then, the Buckholtz study has found something akin to a neural correlate for the bifurcation of the criminal trial into culpability and sentencing phases.<sup>6</sup>

Part I of this Comment explains the significance of these results and shows how the Buckholtz study relates to other scholarship on cognitive function and legal decisionmaking. Part II points to real-world correlates of this study in the history and characteristics of federal sentencing. Finally, Part III suggests how this evidence might bear on federal sentencing law, and particularly on institutional choice within sentencing. Specifically, the Buckholtz study, viewed in conjunction with other research, raises the possibility that criminal sentencing is a quintessentially legal realist domain in which “hunches” and intuition determine outcomes.<sup>7</sup> If this is the case, then judges may not have specialized sentencing expertise, and we should reconsider what each institutional actor—judges, juries, Congress, and the Sentencing Commission—can contribute to sentencing decisions. The Sentencing

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4. *Id.* at 932-34.

5. See Joshua Greene & Jonathan Haidt, *How (and Where) Does Moral Judgment Work?*, 6 TRENDS COGNITIVE SCI. 517, 521 tbl.1 (2002).

6. The Buckholtz study is one of the first to investigate the neural correlates of *third-party* punishment, which is why I focus on it here. See Buckholtz et al., *supra* note 3, at 931; Ernst Fehr & Urs Fischbacher, *Social Norms and Human Cooperation*, 8 TRENDS COGNITIVE SCI. 185 (2004). There are many more neuroscience studies on *second-party* punishment, usually involving games in which players can punish each other for dishonest or selfish actions (rather than assigning punishment to a distant third party). These second-party punishment studies corroborate Buckholtz's results. For example, subjects demonstrate right dorsolateral prefrontal cortex activation when making culpability decisions in both two-party interactions and third-party analyses. See Buckholtz et al., *supra* note 3, at 936; see also Alan G. Sanfey et al., *The Neural Basis of Economic Decision-Making in the Ultimatum Game*, 300 SCIENCE 1755 (2003) (finding similar activation pattern in a two-party game).

7. See JEROME FRANK, *LAW AND THE MODERN MIND* 104 (1930) (“If the law consists of the decisions of the judges and if those decisions are based on the judge's hunches, then the way in which the judge gets his hunches is the key to the judicial process. Whatever produces the judge's hunches makes the law.”).

Commission and its Guidelines, for example, can be understood as a means of confining intuitive and nonrational sentencing decisions to one decisionmaking body and then applying those decisions equally to all criminal defendants. Section III.B considers the merits of the current advisory Guidelines system when viewed in this light and suggests that the advisory Guidelines may represent a compromise between arbitrary rule-based sentencing and purely intuition-driven sentencing. Section III.B also argues that the Guidelines could execute this compromise more effectively by incorporating empirical evidence about the effects of criminal punishment, rather than merely replacing judicial intuitions with the Commission's intuitions.

### I. THE BUCKHOLTZ STUDY IN CONTEXT

The idea that cognitive processes can be divided into two basic categories – “intuition” and “reason” – is an ancient one. Today, cognitive scientists widely embrace this “dual-process theory” of brain functions, distinguishing quick and associative cognitive processes from slower, more reflective ones.<sup>8</sup> Keith Stanovich and Richard West coined the phrases “System 1” and “System 2” to describe these collections of processes, a convention adopted in this Comment.<sup>9</sup> System 1 processes tend to be automatic, effortless, associative, rapid, and opaque; System 2 processes are generally controlled, effortful, deductive, slow, self-aware, and rule-following.<sup>10</sup> Daniel Kahneman and Shane Frederick have developed a decisionmaking model that describes how the two systems interact: “System 1 quickly proposes intuitive answers to judgment problems as they arise, and System 2 monitors the quality of these proposals, which it may endorse, correct, or override. The judgments that are eventually expressed are called *intuitive* if they retain the hypothesized initial proposal without much modification.”<sup>11</sup> Chris Guthrie, Jeffrey Rachlinski, and Andrew

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8. See Cass R. Sunstein, *Some Effects of Moral Indignation on Law*, 33 VT. L. REV. 405, 409 (2009).
  9. Keith E. Stanovich & Richard F. West, *Individual Differences in Reasoning: Implications for the Rationality Debate?*, in HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT 421, 436 (Thomas Gilovich, Dale Griffin & Daniel Kahneman eds., 2002).
  10. See Daniel Kahneman, *A Perspective on Judgment and Choice: Mapping Bounded Rationality*, 58 AM. PSYCHOL. 697, 698 (2003).
  11. Daniel Kahneman & Shane Frederick, *Representativeness Revisited: Attribute Substitution in Intuitive Judgment*, in HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT, *supra* note 9, at 49, 51.

Wistrich have applied this model to judicial decisionmaking, calling it an “intuitive-override” model of judging.<sup>12</sup>

The Buckholtz study is best understood in the context of this dichotomy. Using fMRI, Buckholtz scanned sixteen participants while they evaluated culpability and determined appropriate punishments in a series of fifty written scenarios.<sup>13</sup> The scenarios varied in the gravity of harm committed by the would-be defendant and in the would-be defendant’s level of culpability; in some cases, participants were aware that mitigating circumstances excused or justified the would-be defendant’s behavior.<sup>14</sup> Subjects rated each scenario on a scale from zero to nine, with zero indicating no punishment and nine indicating extreme punishment.<sup>15</sup> Buckholtz found that the right dorsolateral prefrontal cortex (rDLPFC) was differentially activated based on the would-be defendant’s culpability, with greater activation levels corresponding to more culpability.<sup>16</sup> This result was expected, since the rDLPFC has previously been associated with impersonal moral reasoning and cognition.<sup>17</sup> The rDLPFC activity did not, however, track the magnitude of punishment assigned.<sup>18</sup> Instead, there was a linear relationship between punishment magnitude and activation in brain regions that have been “extensively linked to social and affective processing,” particularly the amygdala.<sup>19</sup> The amygdala is an evolutionarily older part of the brain that is implicated in emotional processing and immediate stimulus response.<sup>20</sup> In the terms of dual-process theory, the Buckholtz study suggests that assigning criminal punishment is an intuitive, System 1-based decision, unchecked by System 2 processes.

Cass Sunstein and his coauthors have described a behavioral phenomenon that corroborates this idea. Based on “mock-juror” experiments, Sunstein et al. (“Sunstein”) argue that punishment decisions are complicated by a “translation

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12. Chris Guthrie, Jeffrey J. Rachlinski & Andrew J. Wistrich, *Blinking on the Bench: How Judges Decide Cases*, 93 CORNELL L. REV. 1, 3 (2007). Guthrie, Rachlinski, and Wistrich argue that “judges generally make intuitive decisions but sometimes override their intuition with deliberation.” *Id.* They apply this model to all judicial decisions, not just criminal sentencing.
  13. Buckholtz et al., *supra* note 3, at 937.
  14. *Id.* at 931.
  15. *Id.* at 937.
  16. *Id.* at 932.
  17. See Greene & Haidt, *supra* note 5, at 519.
  18. Buckholtz et al., *supra* note 3, at 933.
  19. *Id.*
  20. See Jonathan D. Cohen, *The Vulcanization of the Human Brain: A Neural Perspective on Interactions Between Cognition and Emotion*, 19 J. ECON. PERSP. 3, 8–9 (2005).

problem” – a “distinctive problem involved in translating a moral judgment of some kind into the terms made relevant by the legal system, such as monetary penalties, civil fines, or criminal punishment.”<sup>21</sup> Harm and punishment usually do not occur in units that are intuitively commensurable, and no agreed-upon principles dictate how to translate one into the other.<sup>22</sup> As a result, each person assigns punishment based on his or her own hunches, unconstrained by shared principles or rationales. In dual-processing terms, the translation problem results when no System 2 processes standardize erratic System 1 judgments.

Sunstein’s conclusions are consistent with the Buckholtz study’s findings. Both studies suggest that sentencing decisions are less tractable than culpability determinations and that erratic System 1 processes may be to blame. As a result, Sunstein’s behavioral study corroborates Buckholtz’s neuroscience experiments. Buckholtz’s work may reveal the neural correlates of the behavior that Sunstein observes.

## II. REAL-WORLD CORRELATES: FAILURES OF RATIONALITY IN FEDERAL SENTENCING LAW

The previous Part situated the Buckholtz study in the context of other scholarship on legal decisionmaking. This Part argues that the Buckholtz study also has “real-world” correlates: evidence that federal sentencing has, in fact, been intuitively driven rather than rationally derived from stable principles. In addition to corroborating the Buckholtz study, this evidence suggests a few reasons why sentencing is a uniquely System 1-based process, as compared to other areas of law.

The federal judiciary has, for the most part, failed to develop principles or rationales to constrain sentencing discretion. Under the indeterminate sentencing regime of the first three-quarters of the twentieth century, federal trial judges had unusually broad discretion to sentence defendants anywhere within wide statutory ranges.<sup>23</sup> Judges rarely wrote sentencing opinions or explained the reasons for their decisions,<sup>24</sup> and there was no appellate review.<sup>25</sup> Under this regime, sentencing judges exercised their discretion “in the absence

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21. Cass R. Sunstein et al., *Predictably Incoherent Judgments*, 54 STAN. L. REV. 1153, 1155 (2002) (footnote omitted).

22. *Id.* at 1168.

23. KATE STITH & JOSÉ A. CABRANES, *FEAR OF JUDGING* 170-71 (1998).

24. See Nancy Gertner, *From Omnipotence to Impotence: American Judges and Sentencing*, 4 OHIO ST. J. CRIM. L. 523, 528 (2007).

25. See *Dorszynski v. United States*, 418 U.S. 424, 431-32 (1974).

of any rules, standards or criteria for assessing factors pertinent to sentencing determinations.<sup>26</sup> Without any law to apply, trial judges were left “wandering in deserts of uncharted discretion” and produced disparate judgments as a result.<sup>27</sup> Like Buckholtz’s or Sunstein’s subjects, trial judges sentenced intuitively, unconstrained by stable principles or by the need to explain their decisions.

In response to criticisms of indeterminate sentencing, in 1984 Congress passed the Sentencing Reform Act (SRA), which created the Sentencing Commission and ultimately resulted in the Sentencing Guidelines.<sup>28</sup> The Guidelines standardized sentencing but did not substantively rationalize it. Among federal judges, focus on the Guidelines’ mechanics crowded out any theorizing about the principles or purposes of sentencing.<sup>29</sup> District court judges still did not write meaningful sentencing opinions,<sup>30</sup> and appellate courts rarely second-guessed sentences determined under the Guidelines.<sup>31</sup> Nor were the Guidelines themselves robustly theorized, or even theorized at all. The SRA failed to adopt any specific philosophy of punishment,<sup>32</sup> leaving it to the Commission to determine what principles should guide sentencing and how those principles should translate into terms of imprisonment. The Commission struggled with this project and ultimately abandoned it, deciding instead to simply average past sentence lengths in creating the Guidelines.<sup>33</sup> The Commission never explained the rationale behind many of its decisions,<sup>34</sup> seemingly because no precise explanations existed. “Punishment,” the Commission ultimately determined, “is more of a blunderbuss than a laser

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26. Douglas A. Berman, *A Common Law for This Age of Federal Sentencing: The Opportunity and Need for Judicial Lawmaking*, 11 STAN. L. & POL’Y REV. 93, 95 (1999).

27. MARVIN E. FRANKEL, CRIMINAL SENTENCES: LAW WITHOUT ORDER 7-8 (1973).

28. See, e.g., S. REP. NO. 98-225, at 41, 49 (1983), reprinted in 1984 U.S.C.C.A.N. 3182, 3224, 3232 (explaining that sentencing reform was necessitated by “unwarranted disparity and by uncertainty,” which were the product of broad discretion in the “absence of a comprehensive Federal sentencing law and of statutory guidance on how to select the appropriate sentencing option”).

29. See Gertner, *supra* note 24, at 533.

30. See Berman, *supra* note 26, at 106.

31. See STITH & CABRANES, *supra* note 23, at 100-02.

32. Instead, the SRA lists four purposes of punishment without acknowledging or resolving the tensions among them: retribution/just deserts, deterrence, incapacitation, and rehabilitation. See 28 U.S.C. § 991(b) (2006).

33. See Stephen Breyer, *The Federal Sentencing Guidelines and the Key Compromises upon Which They Rest*, 17 HOFSTRA L. REV. 1, 17 (1988).

34. See STITH & CABRANES, *supra* note 23, at 69.

beam.”<sup>35</sup> The Commission’s approach and the Guidelines that resulted were a capitulation to the nonrational nature of federal sentencing.

The Guidelines have been advisory since 2005,<sup>36</sup> but sentencing practices have remained largely unchanged.<sup>37</sup> District court judges continue to defer to the Guidelines rather than develop principled sentencing jurisprudence. The courts of appeals now review sentences for substantive reasonableness, but they have struggled to define this standard coherently.<sup>38</sup> The Guidelines themselves remain undertheorized, resembling “administrative *diktats*” more than expertise-based guidance.<sup>39</sup> In the absence of stable principles to guide punishment, political dynamics play a central role in setting criminal penalties. These are the characteristics of an intuitively driven or “realist” body of law, in which individual discretion and political pressure are more outcome-determinative than rule-based, deductive reasoning. Criminal sentencing is a System 1 affair.

### III. IMPLICATIONS FOR INSTITUTIONAL CHOICE

When Congress passed the SRA, it assumed that judges were the weak link in federal sentencing and limited their discretion as a result.<sup>40</sup> The preceding two Parts have suggested, however, that the sentencing decision *itself* might be the problem. Evidence from neuroscience, cognitive science, and the history of federal sentencing indicate that criminal punishment may simply be difficult to rationalize. Under three successive legal regimes—indeterminate sentencing, mandatory Guidelines, and advisory Guidelines—judges, Congress, and the Sentencing Commission have repeatedly failed to articulate principles or

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35. Breyer, *supra* note 33, at 14.

36. See *United States v. Booker*, 543 U.S. 220 (2005).

37. See Gertner, *supra* note 24, at 525.

38. See, e.g., *United States v. Gardellini*, 545 F.3d 1089, 1093 (D.C. Cir. 2008) (observing that appellate courts are rarely able to critically evaluate a district court’s sentencing decision, due to the analytical confusion surrounding federal sentencing). Seven of the twelve circuits have simply adopted a presumption of reasonableness for within-Guidelines sentences. See 3 CHARLES ALLEN WRIGHT, ET AL., FEDERAL PRACTICE AND PROCEDURE § 533 (3d ed. 2010).

39. See STITH & CABRANES, *supra* note 23, at 95.

40. “The present problem with disparity in sentencing,” argued one Senator, “stems precisely from the failure of Federal judges . . . . There is little reason to believe that judges will now begin to do what they have failed to do in the past.” 130 CONG. REC. 976 (1984) (statement of Sen. Laxalt). “[J]udges cannot be trusted. You cannot trust a judge, . . . you must not trust a judge.” *Id.* at 973 (statement of Sen. Mathias paraphrasing the position of SRA’s supporters).



rationales to guide criminal sentencing. The Buckholtz study suggests a reason why, or at least a neural correlate for this history: punishment decisions are affective and intuitive. As Sunstein has proposed, perhaps the “translation problem”—the fundamental incommensurability of harm and punishment—is what makes sentencing so difficult in this regard.<sup>41</sup> This Part considers how these observations might bear on institutional choice in sentencing.

### A. *Judges and Juries*

Institutional choice issues are central to the present debate over federal sentencing.<sup>42</sup> The Guidelines, for example, shifted sentencing decisionmaking away from judges and to a Commission. The Supreme Court’s decisions in *Apprendi*<sup>43</sup> and *Blakely*<sup>44</sup> seemed to shift some sentencing discretion to the jury, and *Booker*<sup>45</sup> reempowered judges. The Buckholtz study raises questions about institutional choice in sentencing, since Buckholtz found something like a neural correlate to the bifurcation of the criminal trial into a culpability phase and a sentencing phase. If we were assigning roles to the judge and jury based on these neural activation patterns alone, then we might consider reversing the current division of labor. Judges are trained to use their prefrontal cortices in accordance with the law and should therefore determine culpability, and jurors could democratize punishment by using their socio-affective brain networks to determine criminal sentences. In other words, if culpability decisions are based on legal reasoning and sentencing decisions are based on gut instincts, then maybe the judge should determine culpability and the jury should set the sentence.<sup>46</sup>

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41. Cf. Erik Luna, *Gridland: An Allegorical Critique of Federal Sentencing*, 96 J. CRIM. L. & CRIMINOLOGY 25, 75 (2005) (“Take, for instance, the crime of rape. Is five years a proper sentence? Fifteen years? . . . The questions presuppose the existence of a metaphysical conversion chart of crime to punishment—a device that does not exist and never will . . .”).
  42. See Paul H. Robinson & Barbara A. Spellman, *Sentencing Decisions: Matching the Decisionmaker to the Decision Nature*, 105 COLUM. L. REV. 1124, 1125-26 (2005).
  43. 530 U.S. 465 (2000) (requiring that the jury find any fact that increases a sentence beyond the statutory maximum).
  44. 542 U.S. 296 (2004) (holding that the Washington state guidelines system violated the Sixth Amendment because sentencing judges could increase sentences above guidelines ranges based on aggravating factors not found by a jury or admitted by the defendant).
  45. 543 U.S. 220 (2005).
  46. A few scholars have made jury sentencing proposals in the past decade (although not based on neuroscience). See, e.g., Morris B. Hoffman, *The Case for Jury Sentencing*, 52 DUKE L.J. 951 (2003); Jenia Iontcheva, *Jury Sentencing as Democratic Practice*, 89 VA. L. REV. 311 (2003) (advocating jury sentencing based on principles of deliberative democracy and legitimacy);

Legal scholars have yet to consider how neuroscience could inform institutional choice, and this simple argument is meant to show what such a project might look like. In reality, the analysis is more complicated because “the same factors that change the ability of one institution across two situations very often change the ability of its alternative (or alternatives) in the same direction.”<sup>47</sup> The problems that plague judicial sentencing would similarly plague jury sentencing. Judges may have no special expertise in System 1-based decisions, but neither do juries. Judges do see many cases and can standardize (if not substantively rationalize) their own sentencing decisions across many criminal defendants.<sup>48</sup> Jury sentencing, by contrast, might be even more disparate than indeterminate judge sentencing: like judges, juries make sentencing decisions intuitively, but unlike judges, juries are under no pressure to standardize sentencing decisions across cases.<sup>49</sup>

### B. *The Sentencing Commission and Guidelines*

The evidence described in Parts I and II also sheds light on the role of the Guidelines. The Guidelines may not be well theorized, but they do limit the significance of individual judges’ (idiosyncratic) intuitions.<sup>50</sup> As a result, the Guidelines ensure “equal nonsense for all”<sup>51</sup>: they provide a means of confining intuitive and nonrational sentencing decisions to one decision-making body and then applying those decisions equally to all criminal defendants. In the process, they also create an illusion of rationality and, consequently, legitimacy.

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Adriaan Lanni, Note, *Jury Sentencing in Noncapital Cases: An Idea Whose Time Has Come (Again)?*, 108 YALE L.J. 1775 (1999) (advocating a return to jury sentencing as a better means of incorporating public sentiment into sentencing decisions, given the shift to retributive sentencing).

47. NEIL K. KOMESAR, *IMPERFECT ALTERNATIVES: CHOOSING INSTITUTIONS IN LAW, ECONOMICS, AND PUBLIC POLICY* 23 (1994).
48. Cf. Sunstein et al., *supra* note 21, at 1156–57.
49. In some respects, Congress seems like the ideal candidate to make democratized, intuitive sentencing decisions that are standardized (or at least not incoherent) across many cases. I do not focus on this option here, however, because the well-documented “pathological politics of criminal law” forecloses thoughtful debates about sentencing in Congress. William J. Stuntz, *The Pathological Politics of Criminal Law*, 100 MICH. L. REV. 505 (2001). Senator Kennedy, a leading proponent of the SRA, preferred a Sentencing Commission to Congress for this very reason. See Edward M. Kennedy, *Toward a New System of Criminal Sentencing: Law with Order*, 16 AM. CRIM. L. REV. 353, 380 (1979).
50. Sunstein has also noted this benefit of the Guidelines. See Sunstein et al., *supra* note 21, at 1194.
51. Luna, *supra* note 41, at 81 (citing Albert W. Alschuler, *The Failure of Sentencing Guidelines: A Plea for Less Aggregation*, 58 U. CHI. L. REV. 901, 918 (1991)).

A sentencing judge who conducts intricate Guidelines calculations to determine a criminal sentence appears to be making a scientific, deductive decision.<sup>52</sup> By contrast, the pre-SRA sentencing judge appeared to be making an intuitive decision. In this way, the Guidelines created some external legitimacy for federal sentencing, at the expense of some transparency in how sentencing decisions are made. In reality, the Guidelines themselves are far from scientific, and the Commission never deduced any of its rules from general principles or theories of punishment. Criminal defendants did not receive rationally derived sentences under either regime, but it was much less obvious under the Guidelines.

The Guidelines' severity made their false rationality particularly problematic. Defendants were sentenced by administrative *diktat* to terms of imprisonment that seemed too long to many critics.<sup>53</sup> *Booker* alleviated the worst of this problem by rendering the Guidelines advisory; when judges deviate from the Guidelines now, they generally sentence below them.<sup>54</sup> Federal judges still must go through the motions of calculating Guidelines sentences, however, and most judges still sentence within the ranges they prescribe.<sup>55</sup> These Guidelines calculations perpetuate the illusion of rationality, and the system retains some of the external legitimacy it gained from uniform Guidelines sentencing. The false "science" of the Guidelines is no longer outcome-determinative, though, since the judge can now bring his or her own intuitions to bear on each case.

Judges have not, however, reverted to indeterminate sentencing. The post-*Booker* judge faces a more structured decision than did the pre-Guidelines judge: having calculated the Guidelines sentence, the post-*Booker* judge must at some point determine—yes or no—if the Guidelines range is appropriate for one particular crime and one particular defendant. Sentencing is far more complicated than making this binary choice, but the crucial point is that the Guidelines' very existence imposes some structure on the judge's decisionmaking process. This "yes or no" decision is not as plagued by the "translation problem" that inheres when someone picks a sentence out of thin air. For better or for worse, the Guidelines anchor the judge's sentencing

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52. See STITH & CABRANES, *supra* note 23, at 82.

53. See, e.g., Justice Anthony M. Kennedy, Speech at the American Bar Association Annual Meeting 4 (Aug. 9, 2003), available at [http://www.supremecourt.gov/publicinfo/speeches/viewspeeches.aspx?Filename=sp\\_08-09-03.html](http://www.supremecourt.gov/publicinfo/speeches/viewspeeches.aspx?Filename=sp_08-09-03.html) ("Our resources are misspent, our punishments too severe, our sentences too long.").

54. See U.S. SENTENCING COMM'N, 2009 SOURCEBOOK OF FEDERAL SENTENCING STATISTICS tbl.N (2010), available at <http://www.ussc.gov/ANNRPT/2009/SBTOCo9.htm>.

55. See *id.*

decision, in two senses: the numbers themselves provide a starting point, and the decisionmaking process is more concrete and standardized.

Admittedly, an arbitrary anchor does not seem like the ideal way to make a decision about an individual defendant's liberty. Improving the Guidelines would mitigate this concern, and evidence from Parts I and II of this Comment has implications for how the Commission might do so. If sentencing is inherently difficult to rationalize, then deriving specific terms of imprisonment from abstract legal principles may never happen. A commission focused on this approach will inevitably throw up its hands, just as the Sentencing Commission did in promulgating the first set of Guidelines.<sup>56</sup> Instead, the Commission might turn to empirical evidence on sentencing and criminality in formulating a new set of Guidelines—for example, evidence about recidivism rates, the costs of imprisonment, and the effects of punishment on crime rates and the prison population.<sup>57</sup> Empirical evidence could anchor the Commission to something other than its own intuition, much as the Guidelines anchor judges, providing a System 2-based override of System 1-based sentencing decisions. Guidelines based on empirical evidence would also provide judges with new information, rather than merely replacing the judge's intuition with the Commission's intuition.

If the Guidelines were more compelling, then using them to structure judicial sentencing might provide a compromise between the false rationality of the mandatory Guidelines regime and the unchecked power of judicial intuitions in the indeterminate regime. This compromise will never be as satisfying as a robustly theorized law of sentencing would be. As Kate Stith and Karen Dunn have observed, “[N]o one would, as an original matter, devise [the] Rube Goldberg system” we currently have.<sup>58</sup> If a robustly theorized law of sentencing is impossible, however, then perhaps we have stumbled into an acceptable compromise.

## CONCLUSION

This Comment has extrapolated from a recent neuroscience study to suggest that criminal punishment may be a quintessentially legal realist

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56. See Breyer, *supra* note 33, at 17.

57. The Virginia Criminal Sentencing Commission has adopted a comparable approach. See, e.g., VA. CRIMINAL SENTENCING COMM'N, A DECADE OF TRUTH-IN-SENTENCING IN VIRGINIA (2004).

58. Kate Stith & Karen Dunn, *A Second Chance for Sentencing Reform: Establishing a Sentencing Agency in the Judicial Branch*, 58 STAN. L. REV. 217, 226 (2005).

domain—an area of law in which intuition does far more work than stable legal principles do. One project, which Congress undertook in the SRA and which other commentators have discussed,<sup>59</sup> is to find new ways to rationalize sentencing. This Comment has considered the possibility that sentencing will never lend itself to rationalization and has begun to analyze our sentencing institutions in this light. From that perspective, the Guidelines provide a means of standardizing the intuition behind criminal sentences, and the advisory Guidelines system works as a compromise between arbitrary rule-based sentencing and purely intuition-driven sentencing. In addition to its implications for federal sentencing, this Comment has demonstrated that evidence from neuroscience can bear on institutional choice analysis more generally.

This Comment is not meant to provide a final verdict on the merits of the Guidelines or the post-*Booker* system. The benefits of our widely criticized federal sentencing regime do become clearer, however, in light of evidence from neuroscience. *Booker* created a somewhat awkward compromise between the Guidelines and judicial discretion. If sentencing is a System 1 affair, then a compromise may be the best that we can do. Perhaps not coincidentally, *Booker*'s author, Justice Breyer,<sup>60</sup> was a member of the original Sentencing Commission that drafted the first Guidelines. Justice Breyer's experience on the Commission convinced him that in sentencing "the best is the enemy of the good."<sup>61</sup> *Booker* may represent the same conclusion.

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59. See, e.g., Berman, *supra* note 26 (advocating the development of a "common law" of sentencing).

60. See 543 U.S. 220 (2005).

61. See Breyer, *supra* note 33, at 2.